MINUTES OF MEETING
BETWEEN THE JAPANESE EVALUATION TEAM
AND THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE UNITED MEXICAN STATES
ON THE JAPANESE TECHNICAL COOPERATION FOR
THE NATIONAL CENTER FOR ENVIRONMENTAL
RESEARCH AND TRAINING (PHASE II-EXTENSION) PROJECT

The Japanese Evaluation Team (hereinafter referred to as "the Team"), organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Junsaku Koizumi, visited the United Mexican States from December 2 to 14, 2001 for the purpose of evaluating jointly with the Mexican authorities concerned the achievement of the Japanese Technical Cooperation Program regarding the National Center for Environmental Research and Training (Phase II-Extension) Project (hereinafter referred to as "the Project") during the period of extension with regard to the Minutes of Meeting signed on August 16, 2000 by the Japanese Consultation Team and the Mexican authorities concerned.

During its stay in the United Mexican States, the Team exchanged points of views and had a series of discussions about the evaluation of the Project with the Mexican authorities concerned. As a result of the discussions, both sides mutually agreed upon the matters referred to in the document attached hereto.

This document is prepared in duplicate in English and Spanish languages, each text being equally authentic. In case of any divergence of interpretation, the English text shall prevail.

Mexico, D.F., December 13, 2001

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Team Leader
Japanese Evaluation Team,
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Agency
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President
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ATTACHED DOCUMENT

JOINT EVALUATION REPORT
ON
THE NATIONAL CENTER
FOR ENVIRONMENTAL RESEARCH AND TRAINING
(PHASE II-EXTENSION) PROJECT
IN
THE UNITED MEXICAN STATES

December 13, 2001

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1. INTRODUCTION

1-1 Purpose of Evaluation

The National Center for Environmental Research and Training (Phase II-Extension) Project started on July 1, 2000 as a Japanese technical cooperation program for the purpose of enabling the National Center for Environmental Research and Training (hereinafter referred to as "CENICA") to conduct research, analysis, and training relevant to environmental protection.

Six months prior to the Project completion, the Team, which consists of five members, and the Mexican authorities concerned have jointly assessed the achievements of the Project plan drawn up in the Minutes of Meeting signed on August 16, 2000 between the Japanese Consultation Team and the Mexican authorities. This work included evaluation of the achievement of Purpose as well as Relevance, Effectiveness, Efficiency, Impact, and Sustainability of the Project, and preparation of an evaluation report to the Mexican and Japanese government authorities concerned.

1-2 Schedule of the Team

Date		Schedule
Dec. 2	Sun.	The Team arrive in Mexico City
3	Mon.	Visit to JICA Office Mexico Visit to Ministry of Foreign Affairs Visit to Japanese Embassy in Mexico
4	Tues.	Visit to Metropolitan Environmental Commission Visit to National Institute of Ecology (INE) Visit to National Autonomous University of Mexico(UNAM) Visit to Ecology Commission of Mexican Industrial Chambers Confederation
5	Wed.	Visit to Federal District Government Visit to Metropolitan Autonomous University (UAM) Visit to Environmental and Natural Resources Ministry (SEMARNAT)
6	Thurs.	Visit to General Direction of Environmental Health, Health Ministry Visit to General Direction for Comprehensive Management of Pollutants of Management for Environmental and Natural Resources Ministry Deputy Ministry (SEMARNAT) Visit to General Direction of Research in Urban, Regional, and Global Pollution
7	Fri.	At CENICA: Research. interview and discussion with the Japanese experts and the Mexican counterparts.
8	Sat.	Review research results and write the Minutes draft
9	Sun.	Review research results and write the Minutes draft
10	Mon.	Visit to Minister of SEMARNAT and INE's President
11	Tues.	At CENICA: Writing / reviewing of the Minutes draft
12	Wed.	Joint Committee
13	Thurs.	Signing of the Minutes Reception
14	Fri.	Report to JICA Office Report to Japanese Embassy Depart Mexico

1-3 List of Personnel Visited by the Team

Japanese Embassy in Mexico

Mr. Kazuhiro Fujimura

Mr. Satoru Uozumi

JICA Mexico Office

Mr. Koji Kawai

Mr. Hidemitsu Sakurai

Mr. Suguru Nakane

Ministry of Foreign Affairs

Ms. Cristina Ruiz Ruiz

Environmental and Natural Resources Ministry (SEMARNAT)

Mr. Víctor Lichtinger Waisman

Mr. Raul E. Arriaga Becerra

Mr. Carlos Pérez Torres

National Institute of Ecology (INE)

Mr. Exequiel Ezcurra

Mr. Adrián Fernández Bremauntz

Metropolitan Autonomous University (UAM)

Mr. Eduardo Carrillo Hoyo

Metropolitan Environmental Commission

Mr. Adolfo Mejía Ponce De León

National Autonomous University (UNAM)

Ms. Irma Rosas Pérez

Ecology Commission of Mexican Industrial Chambers Confederation

Mr. Raul Tornell Cruz

Federal District Government

Mr. Víctor Hugo Paramo Figueroa

General Direction of Environmental Health, Health Ministry

Mr. Carlos Santos Burgoa

1-4 Evaluators

1-4-1 Japanese Side

(1) Junsaku Koizumi Team Leader	Special Technical Advisor JICA
(2) Kiyotaka Matsuba Technical Evaluation Hazardous Waste	Deputy Director Environmental Cooperation Office Global Environment Bureau Ministry of the Environment
(3) Masami Mizuguchi Technical Evaluation Air Pollution	Senior Advisor (Environment) Institute for International Cooperation JICA
(4) Akiko Komori Evaluation Planning	Staff of the Second Technical Cooperation Division Social Development Cooperation Department JICA
(5) Mitsue Mishima Evaluation Analysis	Manager Planning Department Overseas Project Management Consultants, Ltd.

1-4-2 Mexican Side

(1) Victor Javier Gutierrez Avedoy	General Director General Direction of The National Center for Environmental Research and Training INE
(2) Adrián Fernández Bremauntz	General Director General Direction of Urban, Regional and Global Pollution Research INE
(3) Carlos Pérez Torres	Director General Direction of Comprehensive Management of Pollutants, Deputy Ministry of Management for the Environmental Protection SEMARNAT
(4) Eduardo Carrillo	Secretary Iztapalapa Campus Metropolitan Autonomous University (UAM)

1-5 Methodology of Evaluation

The evaluation was jointly conducted by the Japanese and Mexican sides in terms of the achievement of the Project as well as five evaluation criteria which are (i) Relevance, (ii) Effectiveness, (iii) Efficiency, (iv) Impact and (v) Sustainability. The following references were used in order to evaluate the Project:

(1) Record of Discussions (R/D) signed on June 30, 2000.
(2) The Minutes of Meeting signed on August 16, 2000, and other documents agreed upon or accepted in the course of the implementation of the Project
(3) The questionnaire applied to the Japanese experts and the Mexican counterparts concerned.
(4) The hearing from the Japanese experts and the Mexican counterparts concerned.
(5) The Project Design Matrix (PDM) (**ANNEX I**)

2. BACKGROUND AND SUMMARY OF THE PROJECT

2-1 Background

In the United Mexican States, industrial and economic development as well as population increase have caused environmental issues such as air pollution by exhaust gas from vehicles and hazardous waste from factories, soil erosion and disruption of the natural environment, and it has become necessary to actively deal with these environmental problems.

Under these circumstances, the Mexican government sought to establish a center to conduct research, analysis, and training relevant to environmental protection, as well as to provide information on environmental matters, and requested a project-type technical cooperation to the Japanese government in December 1993. Mexican political background had contributed a lot to this movement. North American Free Trade Agreement (NAFTA) became effective in January 1994. As a member of NAFTA, Mexico had to consider the international standards as the basis of its national activities. In the field of environment, various associated activities of government and private entities were effected by regulations based on international standards. To cope with the situation, Mexican government had to consider how to establish effective environmental administration.

Japanese government dispatched a preliminary survey team in March 1994, and an implementation study team in March 1995. Since the change of the Mexican government in 1994 was accompanied with administrative reform, the technical cooperation was carefully divided into two phases.

The Phase II-Extension of the technical cooperation started with the signing of the R/D in June 2000. The term of cooperation is until June 2002.

2-2 Summary of the Project

Based upon the master plan prepared in the R/D signed on June 30, 2000, the following major actions have been implemented to achieve the purpose.

- The management of CENICA is improved
- Operation and management of the monitoring stations and the laboratory are strengthened.
- Technical information related to the establishment of the environmental protection standards is provided to the relevant Mexican authorities.
- Knowledge and techniques of federal government officials, local authorities and industry personnel on environmental protection are improved.
- The role of CENICA in data collection and publications related to environmental matters is improved.

3. ACHIEVEMENT OF THE PROJECT

3-1 Achievement of Input

Inputs from the Japanese side were: (details are shown in **ANNEXII-1, 3～5)**

(i) Long-term experts:

5 experts were dispatched.

(Chief advisor, Coordinator, Senior advisor, experts on air pollution, environmental analysis, and hazardous waste management)

(ii) Short-term experts.

8 experts were already dispatched and two more experts are planned to be dispatched in 2002.

(iii) Counterpart training in Japan

8 counterparts were accepted for training in Japan and one more counterpart is planned to be accepted in 2002.

(iv) Equipment donation

41,737,000 yen (Apr. 2000～Mar. 2002)

(Equipment: Software/meters for Air Pollution Analysis and Carbon Analyzer etc.)

Inputs from the Mexican side were: (details are shown in **ANNEX II-2, II-5)**

(i)Counterpart personnel necessary for the Project

54 personnel (As of Nov. 2001)

(ii)Necessary budget for the operation of CENICA.

14,477,000 pesos (equivalent to 219,681,000 yen)

3-2 Achievement of Activities

Refer to **ANNEX III**.

3-3.Achievement of Project Output

Refer to **ANNEX IV**

4. EVALUATION (Refer to **ANNEX V**)

4.1 Relevance

The Project was necessary to attain planned outcomes. The Project is relevant to current policy in the Mexican government and the Japanese government development policy. The "National Development Plan 2001-2006" by the current Mexican government states the promotion of scientific and technical research in relation to the environmental issues. CENICA's activities are also in line with the "National Program of Natural Resources and Environment 2001–2006" by SEMARNAT. The Project is also relevant to the Japanese Official Development Assistance (ODA) policy in Mexico, because the environment-related project is one of the prioritized areas.

Regarding the needs of target group (i.e. CENICA), the Project generally met them, since more than 80 % of the total questionnaire survey respondents answered the Project met their needs. Moreover, the information was disseminated by means of seminars/training courses by CENICA for governmental officers and others, therefore, there is an effect on persons outside of CENICA.

4-2. Effectiveness

The Project objective "Structures and activities of the National Center for Environmental Research and Training (CENICA) are strengthened" was overall achieved or will be achieved by the end of the Phase II-Extension period.

In terms of structure, CENICA has become one of the General Directorates in INE. Along with this organizational reform (Current organization chart in **ANNEX VI**), flexibility in budget management was enhanced and the number of personnel was increased from 34 to 54 (as of Nov. 2001). Personnel increased at all level of the work position (such as director, sub-director, including administrative staff and researchers) and all departments.

Number of research activities are 20 in total during the Phase II-Extension period (refer to **ANNEX VII**). Total 13 publications (including 3 CDs) were issued only for the extension period until November 2001, whereas 9 publications were there before the beginning of the Phase II-Extension (refer to **ANNEX VIII**). CENICA held 53 seminars/training courses from July 2000 to December 2001, about 3 events per month on average (refer to **ANNEX IX**). A total number of attendants was approx. 1,500 persons. The link with external organizations has been developed as in the list of related organization (refer to **ANNEX X**). Some of them are under the cooperation agreement. As for CENICA's involvement in

policy formulation, it has been more and more encouraged during the extension period.

In questionnaire survey, about 90 % of respondents answered that they think they attained or will attain high (more than 80%) or medium (50- 80%) level of achievement of the project objective. Most of them also think the Project contributed to enhance their technical skills. Among three cooperation areas such as air pollution, hazardous waste, and laboratory, laboratory section's achievement is relatively low according to hearing from all personnel in CENICA and Japanese long-term experts. In general, however, considering the achievement of activities and outputs, technical skill of personnel in CENICA has been enhanced.

There are some items that are in the middle of preparation such as formulation of mid-term plan, laboratory accreditation, and resource/document room. Examining the work progress, most probably these will be finished or almost completed by the end of Phase II-Extension period. As for the mid-term plan, it is planned to complete by early 2002 and will be put it into practice. CENICA is currently preparing the application for laboratory accreditation in Mexico (NMX-EC-025, equivalent to ISO-G-025) and will apply for the accreditation by Entidad Mexicana de Acreditación (EMA) by December 2001. It is expected to acquire the accreditation by the end of Phase II-Extension period.

Given all these empirical evidences, the role of CENICA is getting more and more important in Mexico. Effectiveness of the project will thus reach at considerable level by the end of Phase II-Extension.

4-3. Efficiency

For the Japanese side, generally, the timing of input was as scheduled and its content was adequate except for the delay in dispatching long-term expert in hazardous waste area. Equipments donated by Japan have been utilized adequately in general.

For the Mexican side, in terms of personnel assignment of counterparts the number of counterparts has increased by the Mexican government efforts against the tendency of decreasing number of total personnel in INE. However, the number of personnel is still not sufficient to meet the increasing demand for CENICA. Disbursement of local cost was sometimes delayed in the beginning of the year (for 3-4 months on average).

4-4. Impact

There was some impact in utilizing CENICA's information, although it is not still enough to meet all demands or necessities for the research and training in current situation. It is early to evaluate the impact, however, we can see the work done by CENICA has penetrated into the Mexican society gradually and steadily since CENICA is a public institution to present their work from the viewpoint of unbiased status. During the extension period only, for example, total 9 norms in hazardous waste area were established with collaboration by CENICA (refer to **ANNEX XI**). In 2002, 13 issues in air pollution and 3 issues in hazardous waste area will be reviewed with initiative by CENICA. Other than these works, CENICA has participated in some meetings in relation to formulation or modification of standard

regulations.

CENICA does not only collaborate with external organizations, but also CENICA just initiated to propose actively the review or modification of the regulations with scientific analysis/evidence to determine the policy or regulations. In this regard, it is necessary to take time to have a further impact on the Mexican society.

4-5. Sustainability

(1) Institutional aspect

Through organization reforms, CENICA is more consolidated in comparison with the situation before Phase II-Extension. There is (and most probably will be by the end of current Mexican government) policy support by the Mexican government. Turnover of personnel at management level (upper from sub-director) was seen due to the change of the Mexican government in December 2000, some new personnel were just posted, therefore, organizational viability is still unknown but it seems to be in the right track according to hearing from staff of CENICA. Considering the fact that increases in activities requested inside the government and in collaboration works with external organizations, CENICA has to make efforts in increasing budget and number of staff and in planning and coordination of the work for being self-sustainable.

(2) Financial aspect

Uncertainty in the timing and amount of budget allocation of the Mexican government might impede self-sustainability, however, there are some efforts made to ascertain self-sustainability. During the Phase II-Extension, the Japanese side tended to decrease financial support gradually from the Japanese side and switch it to input from the Mexican side. For this year, CENICA requested more than two times as much as the amount of budget to prepare for the end of the project. There are increasing collaborative researches or works in which budget shares with external organizations by developing the link with external organizations for the period. With these efforts, there is some financial viability in CENICA although there is sometimes difficulty in governmental budget allocation and disbursement timing.

(3) Technical aspect

Technical skills of air pollution area are more advanced compared to those of others because of prioritized area in environmental issues in Mexico since the beginning of the 1990's, while other areas such as hazardous waste and laboratory analysis started relatively behind of air pollution. These two areas, however, made remarkable progress during the extension period. The activities and research requested to CENICA have more developed than planned. In this aspect, CENICA have required to develop further technical skills amid increasing demands and expectation from related organizations.

5. CONCLUSION

5-1. Results of Evaluation

- The Project has been confirmed to be proceeding smoothly as a whole and the capability of CENICA has been enhanced steadily.
- The contribution of the Japanese experts and the efforts by the Mexican counterparts themselves have been clearly confirmed through the facts that CENICA is highly evaluated by relevant internal and external institutions such as SEMARNAT, INE, Health Ministry, Federal District Government and UAM etc., which the Team conducted interviews with, and CENICA is very active in researching and training in terms of air pollution prevention, hazardous waste and analytical activities.
- The position of CENICA has been significantly enhanced by the organizational upgrade from the semi-Directorate to the General Directorate, the increased number of staff, the increased allocation of the budget and well-established equipment, etc.
- However, Mexico is still facing various types of environmental problems such as air pollution, hazardous waste, etc. These problems require CENICA more practical and sophisticated technology, equipment and skills to help the federal government, local authorities and private enterprises to solve actual environmental problems.
- Now, CENICA is expected to make utmost efforts for self-sustainability.

5-2 . Recommendations

(1) Information sharing and equal opportunity for training

For further organizational development, it is necessary to have further information sharing among staff and areas. It is also advisable that the result of researches/analysis should be compiled to make them public. To provide an equal opportunity for all staff in their training is also important to enhance the ability of each staff.

(2) Number of Staff, Budget and Space

Considering the necessity of further development of research activities, the number of staff and the amount of budget are relatively in short. It is necessary to increase them and enlarge the space for operation.

(3)Budget constraints

It is desirable to promote the disbursement of local cost by the Mexican government more smoothly.

5-3. Mexican side's request to Japan after the Phase II-Extension

The Mexican side explained the necessity of JICA's cooperation to be continued to CENICA in order

to consolidate CENICA as the highest level of national investigation and training institution in the field of air pollution, hazardous waste, and chemical analysis in Mexico, and also as a core institution in Central America and Caribbean countries.

In order to achieve the objectives mentioned above, the Mexican side strongly requested to the Team the implementation of the following technical cooperation areas which were already submitted to the Japanese government in August, 2001 through the diplomatic channel:

(1) To continue the Project support with three Japanese long term experts in air pollution analysis, hazardous wastes, and chemical analysis; also the donation of complementary equipment.
(2) To develop skills in persistent organic pollutants analysis through the donation of the laboratory equipment and the support from Japanese experts, and
(3) To conduct a training course on management of solid and hazardous wastes as well as toxic and bio-cumulative substances for Central America and Caribbean countries.

The Team, showing its understanding to the Mexican requests, suggested that it is very difficult to meet all Mexican needs under the current Japanese financial situation.

However, considering the important role of CENICA to be played, the Team expressed to convey what the Mexican side requested to the Japanese authorities concerned, and furthermore, the Team also explained that if Japan's cooperation is to be continued, it will contribute to its further development and sustainability.

5-4. Lessons Learnt

(1) Dispatch period of short-term expert

It is desirable to prolong the dispatch period of short-term expert at least for two months. A month or less is insufficient to carry out technology transfer under the circumstances of different language, style of life and different level of ability, etc.

(2) Counterpart training in Japan

The counterpart training in Japan is a good opportunity to experience the team-working spirit. It enhances counterparts' awareness that he/she is an important member of the project.

Project Design Matrix (PDM)

National Center for Environmental Research and Training (Phase II-Extension) Project

Period : July 1, 2000 to June 30, 2002 **Target Group : CENICA**

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal To improve the ability of environmental protection in the United Mexican States.	- Several regulations, guidelines and official standards are reviewed according to the General Law for Ecological Equilibrium and environmental Protection.	- Comprehensive Report (White Book) or official reports from the Secretaries and agencies involved. - Comprehensive Report (White Book) or official reports on environmental status issued by state and municipal governments.	- Environmental pollution prevention has a high priority status among the national policies of the Mexican government.
Project Purpose Structures and activities of the National Center for Environmental Research and Training (CENICA) are strengthened.	- the number of personnel is increased and the roles of each area are defined. - the laboratory is accredited in Mexico. - Results of research and training activities are integrated.	- Activity reports corresponding to several years. (Annual reports among others). - Record of personnel arrangement classified by department, type of work, and title. - Assessment of CENICA's performance done by stakeholder institutions (survey/interview).	- Participants to the training courses hold appropriate positions at the stakeholder institutions. - Environmental information obtained by CENICA is utilized to develop programs to reduce environmental pollution.
Outputs of the Project 1. The management of CENICA is improved.	1-1. Mid-term plan is defined and the activities are implemented strategically. 1-2. Information from each area are shared and feedback is done on activities in a reciprocal manner. 1-3. Activities are coordinated with external institutions.	1.-Organization chart, internal guidelines on working topics -Mid-term activities plan. _List of budget and personnel assigned. -Personnel assessment performed with surveys and interviews. -Record on the activities done under cooperation with the external institutions.	- The significance and role of CENICA as an environmental research institute is recognized among the environmental agencies of Mexico.
2. Operation and management of the monitoring stations and the laboratory are strengthened.	2-1. The capacity to manage analytical data is increased. 2-2. The entire staff has the understanding on safety procedures at the laboratory and on the waste treatment requirements, and works accordingly. 2-3. The entire lot of equipment are operated and used appropriately.	2.- The status on the arrangement of results from the analytical assignments and experiments. - Assessments on the staff through surveys and questionnaires. - Records on the operating log of the equipment. - Operation manuals	
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities..	3-1. Guidelines for sampling and analysis are established for environmental pollutants. 3-2. The state of air pollution in Mexico City and at the main cities of the country are known. 3-3. Technological transfer to establish and to review several standards related to air pollution is implemented. 3-4. Guidelines for sampling and analysis of hazardous wastes are developed. 3-5. Technological support for hazardous waste treatment is implemented. 3-6. The working network with external institutions is strengthened.	3.- Guideline proposal regarding air pollution. - Analytical results of the mechanisms for air pollution formation. - Analytical results of the air pollutants characterizations. - Results of the assessment of health effects - Results of information provided for establishment and review of air pollution standards, and the results of participation on the standards working committees - Results of information provided for establishment and review of hazardous waste standards, and results of participation on the standards working committees. - Records of survey related to appropriate way of treatment of hazardous waste. - Results of information provided to governmental offices on appropriate way of treatment of hazardous wastes. - Results of activities for the Mexican waste management network REMEXMAR.	

4. Knowledge and techniques of federal government officials, local authorities and industry personnel on environmental protection are improved.	4-1. Training events are systemized. 4-2. Participants are evaluated and progress is followed.	4.- Implementation plan for training events. - Training results (number of events and of participants) - List of participants - Survey on the participants - Information provided to the requests from participants.	
5. The role of CENICA in data collection and publications related to environmental matters is improved.	5-1. Human resources and their capabilities of related institutions are known. 5-2. Mutual exchange of requested information with environmental institutions is possible. 5-3. Information access and provision system is consolidated.	5.- List of books and references collected. - Frequency of utility of the book collection assessed through record of requests from external users. - Frequency and scope of publications such as scientific reports and papers. - Results on information sessions done with related institutions. - Results of information exchange with related institutions.	
	Contributions Mexican Part 1. Counterpart personnel needed for the Project. 2. Necessary budget for the operation of CENICA.	Japanese Part 1. Long term experts (5 experts/year) Chief advisor, Coordinator, Senior advisor, experts on air pollution and hazardous waste management 2. Short term experts. According to needs. 3. Acceptance of participants in training events. 4. Equipment donation.	- Counterpart staff remains in CENICA (Or support for CENICA's operation from outside orginzation). - Trainees from related institutions participate on the training course and seminars. Preliminary Conditions - Appropriate budget is provided for operating costs of CENICA. (or supports CENICA's activity) - Appropriate number of staff is allocated to CENICA.

Activities
1-1. To formulate the mid-term action plan (five years).
1-2. To formulate the mid-term plan for the counterpart personnel allocation.
1-3. To formulate the mid-term plan for revenue and expenditure.
1-4. To expand and clarify scope of responsibility of each deputy director with delegation of authority.
1-5. To strengthen management meeting.
1-6. To build a system of considering research plan and reporting on results.
1-7. To implement cooperative activities and information exchange with relevant organizations.
2-1. To keep collected data in useful condition at any time.
2-2. To prepare manuals for safety measures to handle dangerous chemicals and to clarify responsible persons.
2-3. To prepare manuals for treatment of hazardous waste discharged from the laboratory and to clarify responsible persons.
2-4. To allocate responsible persons for equipment management and to manage maintenance and supplement of expendables according to a register.
3-1. To formulate guidelines concerning sampling and analysis of air pollutants.
3-2. To analyze air pollution trend.
3-3. To study on air pollution formation mechanism through vertical observation of air pollution.
3-4. To analyze and evaluate volatile organic compounds.
3-5. To evaluate personal exposure.
3-6. To evaluate suspended particulate matter.
3-7. To evaluate hazardous air pollutants.
3-8. To provide technical information about draft and revision of norms for air pollution prevention through participation in working groups.
3-9. To collect information of analysis methods through practice with several equipment for preparation of analysis guidelines including sampling and pretreatment of hazardous waste.
3-10. To analyze field samples and to evaluate analytical data of hazardous waste.
3-11. To establish classification method for CRETI.
3-12. To provide technical information about draft and revision of norms for hazardous waste through participation in working groups.
3-13. To support for administration on appropriate treatment for hazardous waste.
3-14. To support for strengthening hazardous waste management capacity through REMEXMAR activities.
4-1. To make plans and implement training courses in the fields of air pollution, hazardous waste and support for industry.
4-2. To strengthen administration of the training section.
4-3. To carry out evaluation and follow-up for attendants in training courses through providing information.
5-1. To acquire information about human resources in relevant institutions.
5-2. To set up practical liaison meeting regularly with relevant institutions.
5-3. To establish network with relevant institutions for information exchange.
5-4. To obtain relevant domestic/foreign information regularly.
5-5. To prepare means to deliver basic information of CENICA.

List of Japanese Experts

NAME	FIELD	PERIOD
LONG-TERM EXPERTS		
Mr. Kazuo Ishii	Chief Advisor	29/06/2000 – 30/06/2002
Mr. Akio Kamiya	Senior Advisor	12/06/2000 – 30/06/2002
Mr. Seiji Ikeda	Environmental Analysis	15/05/2000 – 30/06/2002
Mr. Chiaki Izumikawa	Hazardous Waste	07/09/2000 – 30/06/2002
Mr. Tetsuya Igarashi	Coordination	16/08/1999 – 30/06/2002
SHORT-TERM EXPERTS		
Mr. Mitsuo Hashimoto *	Hazardous Waste	13/03/1999 – 30/06/2000
Mr. Tsuneaki Maeda *	Volatile Organic Compounds in Automatic Sampling System	18/03/1999 – 01/04/2000
Ms. Akiko Kida *	Hazardous Waste Classification and Characteristic Analysis	08/05/2000 – 20/05/2000
Mr. Shinji Wakamatsu	Air Pollution	08/10/2000 – 28/10/2000
Mr. Ikuo Tamori	Industrial Pollution Control	02/04/2001 – 13/04/2001
Mr. Wataru Oki	Analysis of Hazardous Waste	05/04/2001 – 17/06/2001
Mr. Hitoshi Ohya	Recycling for Hazardous Waste	30/07/2001 – 24/08/2001
Mr. Yasushi Matsufuji	Final Disposal	02/08/2001 – 11/08/2001
Mr. Shinya Suzuki	Final Disposal	02/08/2001 – 11/08/2001
Mr. Masahiko Saito	Analysis on Air Pollution Monitoring	03/09/2001 – 21/09/2001
	Study on Mechanism of Three Dimension of Air Pollution	22/09/2001 – 15/10/2001
Mr. Osamu Yamaguchi	Hazardous Waste Treatment	22/10/2001 – 09/11/2001
Mr. Hiroyuki Chino	Soil Remediation	02/2002 –/03/2002 (Plan)
Mr. Shinji Iwamoto	Suspended Particulate Matter	02/2002 – /03/2002 (Plan)

* Dispatched before the Phase II-Extension period

List of Counterparts

As of Nov. 2001

No.	Name	Area of Specialization	Level
1	Mr.VICTOR JAVIER GUTIERREZ AVEDOY	Principal	The General Director
2	Ms. ALMA DELIA NAVA MONTES	Direction	General Director Assistant
3	Mr. GUSTAVO SOLORZANO OCHOA	Hazardous wastes and environmental Laboratory	Director
4	Ms. BEATRIZ CARDENAS GONZALES	Air quality and atmospheric Monitoring	Director
5	Mr. SALVADOR BLANCO JIMENEZ	Air quality research	Sub director
6	Mr. JOSÉ ZARAGOZA AVILA	Atmospheric Monitoring	Sub director
7	Mr. JOSÉ JUAN FELIPE ANGELES GARCIA	Air quality	Head of department
8	Mr. OSCAR FENTANES ARRIAGA	Air quality	Head of department
9	Ms. CARMEN ALEJANDRA SANCHEZ SOTO	Air quality	Head of department
10	Mr. HÉCTOR ELIK VELASCO SALDAÑA	Air quality	Head of department
11	Ms. ROSA MARIA BERNABE CABANILLAS	Air quality	Head of department
12	Mr. ALEJANDRO GARCIA FRAGOSO	Atmospheric Monitoring	Technician
13	Ms.SUSANA HERNANDEZ MILLAN	Atmospheric Monitoring	Technician
14	Ms.NOEMI MENDOZA CRUZ	Atmospheric Monitoring	Assistant
15	Ms. CARLOS BALTASAR ROSALES	Atmospheric Monitoring	Technician
16	Mr. MARIO FLORES GALARZA	Atmospheric Monitoring	Technician
17	Mr.GERMAN TAPIA ENRIQUEZ	Hazardous wastes	Sub director
18	Ms. MA. LAURA FRANCO GARCIA	Hazardous wastes	Head of department
19	Ms. GRACIELA GRE. RAMOS RODRIGUEZ	Hazardous wastes	Head of department (Studying in Japan 09/2001-)
20	Ms. ANABELL ROSAS DOMINGUEZ	Hazardous wastes	Head of department
21	Ms. ANGELICA PEÑA LUNA	Hazardous wastes	Head of department
22	Ms. TANIA LORENA VOLQUE SEPULVEDA	Training and environmental diffusion	Sub director
23	Ms. CONCEPCIÓN REYES MARTINEZ	Training and environmental diffusion	Head of department
24	Mr. ALEJANDRO DE LA ROSA PÉREZ	Training and environmental diffusion	Head of department
25	Ms. ELVAGRIS SEGOVIA ESTRADA	Training and environmental diffusion	Head of department
26	Ms. DIANA FLOR DE PERAL RODRIGUEZ HERNANDEZ	Training and environmental diffusion	Head of department
27	Mr. OSCAR NOEL GONZALEZ CORTES	Training and environmental diffusion	Assistant of documental center
28	Mr. DUSTANO ALANIS ROSALES	Training and environmental diffusion	Assistant of documental center
29	Ms.TERESA ORTUÑO ARZATE	Laboratory	Sub director
30	Ms. MA. EMMA NANCY BUENO LOPEZ	Laboratory	Head of department
31	Ms. MA. DEL CARMEN GUTIERREZ C.	Laboratory	Head of department
32	Mr. ARTURO ROMERO SORIANO	Laboratory	Head of department
33	Mr. FRANCISCO MANDUJANO	Laboratory	Head of department
34	Ms. ANA MARÍA MALDONADO C.	Laboratory	Head of department
35	Ms. PAOLA JOHANNA SALGADO FIGUEROA	Laboratory	Head of department
36	Mr. ADRIÁN DIAZ RAMOS	Laboratory	Head of department
37	Mr. JOSE DAVID SEPULVEDA SANCHEZ	Laboratory	Advisor
38	Ms. ANA LILIA MAGDALENO GUTIERREZ	Laboratory	Technician
39	Ms. ZENAIDA MUNIVE COLIN	Laboratory	Technician
40	Ms. LAURA GONZALEZ RIOS	Laboratory	Technician
41	Ms. SARA RAMIREZ VALLEJO	Laboratory	Technician
42	Ms. ISABEL ROMERO TERAN	Laboratory	Technician
43	Mr. HÉCTOR GARCIA ROMERO	Laboratory	Technician
44	Ms. JOSEFINA MACHUCA RUARO	Support Laboratory	Assistant
45	Ms. AGUEDA GARCIA RAMIREZ	Support Laboratory	Assistant
46	Ms. MAGDALENA MINOR MACHUCA	Support Laboratory	Assistant
47	Mr. VICTOR MANUEL NORIEGA CORONA	Administration	Administrative Coordinator
48	Ms. CONCEPCIÓN DONATO CASTILLO	Administration	Administrative assistant
49	Mr. JAVIER ZAVALA VAZQUEZ	Administration	Administrative assistant
50	Ms. MA. CRISTINA GUTIERREZ NAVA	Administration	Administrative assistant
51	Ms. NOEMI TORRES LUNA	Secretary	Administrative assistant
52	Ms. FLORENCIA FLORES RAMIREZ	Secretary	Administrative assistant
53	Mr. MAURICIO VELAZQUEZ SANCHEZ	Driver	Administrative assistant
54	Mr. EDUARDO DEUSTUA SALAZAR	Driver	Administrative assistant

Training of Counterparts in Japan

NAME	FIELD	PERIOD	TITLE
JFY 2000			
Adrián Fernández B. *	Environmental Policy and Administration for Environmental Center	07/05/2000–17/05/2000	General Director of Research on Urban, Regional and Global Pollution, National Institute of Ecology
Ma. Emma Nancy Bueno López	Hydrocarbons Assessment Methodologies	15/05/2000–15/07/2000	Head of Department (Environmental Analysis)
Ana María Maldonado C.	Analitical Methods for Hazardous Waste and Hydrocarbons in Air Quality	25/07/2000–17/09/2000	Head of Department (Environmental Analysis)
Víctor Javier Gutiérrez Avedoy	Management of the CENICA and Environmental Research and Training	28/02/2001–09/03/2001	General Director of National Center for Environmental Research and Training
JFY 2001			
Ma. Laura Franco García	Catalytic Science	21/05/2001–22/11/2001	Head of Department (Hazardous Waste)
Ana Lilia Magdaleno Gutiérrez	Sampling & Analysis of Hazardous waste	31/05/2001–04/08/2001	Technician (Hazardous Waste)
Oscar Fentanes Arriaga	Environmental Policy	10/07/2001–28/08/2001	Head of Department (Air Pollution)
Graciela Gpe. Ramos Rodríguez	Resource Recycling Engineering	08/09/2001–	Head of Department (Hazardous Waste)
Héctor García Romero	Analytical Techniques of Hazardous waste	17/10/2001–14/12/2001	Technician (Hazardous Waste)
Ma. Del Carmen Gutiérrez C.	Chemical Analysis of Hazardous Pollutants	02/2002–03/2002 (Plan)	Head of Department (Environmental Analysis)

* Dispatched before the Phase II-extension period

List of Equipment

FY2000 Carried Equipment

2001-11

No.	Item No.	Equipment	Q'ty	Purpose	Maker	Type	Situation
1	KEIKO-00 001	Pump	5	Sampling pump of a large volume air	GL Science	SP-7 3008-75110	OK
2	KEIKO-00 002	Mini-Pump	1	Sampling pump of small volume air	Sibata Kagaku	MP-303CFT 8086-303	OK
3	KEIKO-00 003	Teflon Tube	2	Teflon tubing to gather air gas		F8008-04/16×50m	OK
4	KEIKO-00 004	Tetrapack	50	The resin bags to take air gas and bring it		10L	OK
5	KEIKO-00 005	Computer	1	A computer to accumulate and evaluate data	IBM	ThinkPad i Serise 1400	OK
6	KEIKO-00 006	Vinyl Bag	50	The resin bags to take air gas and bring it		10L	OK
7	KEIKO-00 007	Sampling Tube	10	Vinyl tubing to sample air gas		10m	OK
8	KEIKO-00 008	Pump	2	Sampling pump to correct air gas		DA-30S	OK
9	KEIKO-00 009	Transformer	2	A equipment to change voltage		15A	OK
10	KEIKO-00 010	Teflon Tube	2	Teflon tubing to sample air gas		6-7mm,3-4mm×5m	OK

FY2000 Donated Equipment

2001-11

No.	Item No.	Equipment	Q'ty	Purpose	Maker	Type	Situation
1	KYOYO-00 001	SOFT WARE	1	Correction and evaluation of monitoring station data in Mexica country	EME ERRE	IASCA-101	OK

FY2001 Carried Equipment

2001-11

No.	Item No.	Equipment	Q'ty	Purpose	Maker	Type	Situation
1	KEIKO-01 001	Technical Books	11	Essential books to transfer technique			OK
2	KEIKO-01 002	Gas Detector Set(1Pump,47Tube)	1	A glass instrument to detect gases by mannual	Gastec		OK
3	KEIKO-01 003	Technical Books	14	Essential books to transfer technique			OK
4	KEIKO-01 004	Consumption	13	The Essential expendables to conduct analysis	Guilson・Iwaki		OK
5	KEIKO-01 005	Reagent	9	The essential eagents to analyze	Kanto Kagaku		OK
6	KEIKO-01 006	CHELATE	4	The cheleting agent to study toxic wastes	MIYOSHI,KURITA,NKK		OK
7	KEIKO-01 007	Technical Books "BUNSEKI"	30	Essential magazines to transfer technique	Nihon Bunseki Kagakukai		OK
8	KEIKO-01 008	PCBoard	2	The attached partes of computer			OK
9	KEIKO-01 009	Jar Tester(with Transformer)	1	A equipment for water analysis	Asahi	ARS-236S	OK
10	KEIKO-01 010	Gas Detector Set(1Pump,18Tube)	1	A glass instrument to detect gases by mannual			OK
11	KEIKO-01 011	Metan Gas Detector	1	A glass instrument to detect methane gas by mannual			OK
12	KEIKO-01 012	Column	2	The removing columns of each compnent for gas chromatography	JB・Frontier Lab.		OK
13	KEIKO-01 013	Pyranometer・Data Logger	1	An equipment to determine solar radiation volume	Eikou	MS402・MP075	OK
14	KEIKO-01 014	Pole・Stand	1	A stand for establishment of pyranometer	Eikou	PM-010・PO-030	OK
15	KEIKO-01 015	NOx Sampler	20	The tools to determine NOx by passive sampler	Ogawa	OG-KN-S	OK
16	KEIKO-01 016	Shelter	10	The tools to determine NOx by passive sample	Ogawa	OG-KN-SH	OK
17	KEIKO-01 017	FilterPaper	2	Sampling filter for passive sampler	Ogawa	OG-KN-9,514A	OK
18	KEIKO-01 018	TPX Tube	2	The expendables for gas test tubing	Maruemu	PX-16L	OK
19	KEIKO-01 019	Connecter	2	An connector fo gas chromatography	Tamaya	TD-3～105	OK
20	KEIKO-01 020	Compound Gauge	1	Pressure watchmeter	Nissin	8L	OK
21	KEIKO-01 021	Sample Splitter	1	A part of taking gas	Maruto	C07-3	OK
22	KEIKO-01 022	Evaporate dish Pt-10%Rh	2	An evaparating dish			OK

FY2001 Donated Equipment

2001-11

No.	Item No.	Equipment	Q'ty	Purpose	Maker	Type	Situation
1	KYOYO-01 001	CARBON ANALYZER	1	An instrument to analyze carbon components	DRI	4000	OK
2	KYOYO-01 002	Calorie meter	1	An instrument to analyze carbon components			
3	KYOYO-01 003	Wet High Intention Magnetic Separator	1	An instrument to determine calorific power			
4	KYOYO-01 004	Flotator	1	An instrument to separete some matters			
5	KYOYO-01 005	Tube Furnace	1	To get data of residue ash			
6	KYOYO-01 006	PH meter	3	An instrument to determine ph values in water sample	CORNING	440	OK
7	KYOYO-01 007	Balance(6100g)	1	To weigh the weight of test sample	SARTORIUS	BP6100	OK
8	KYOYO-01 008	Automatic Analyser	1	To observe air pollution by installing in mobile car			
9	KYOYO-01 009	Ultra Sonic Bath	1	An instrument to extract toxic substances			
10	KYOYO-01 010	Water Bath(6L・14L・26L)	3	To remove toxic substances from soil			
11	KYOYO-01 011	Autosamplar for ionic cromatography	1	To enter samples into ion chromatography automatically	DIONEX	AS50	OK
12	KYOYO-01 012	Balance	1	To weigh the weight of test sample			
13	KYOYO-01 013	Sunshine Sensor type BF2	1	An instrument to determine sunshine volume			
14	KYOYO-01 014	Consumption		Articles of consumption for many studies			

Operational Budget of CENICA

1. JICA (Japanese Side) (¥1,000)

JFY	Equipment	Administration	Events	Total
1997	175,800	6,881	1,266	183,947
1998	195,000	8,446	1,975	205,421
1999	95,000	13,520	0	108,520
2000*	11,009	10,569	635	22,213
2001*	31,728	11,200	0	42,928
Total	508,537	50,616	3,876	563,029

1) JFY is Japanese fiscal year (from April to March).
2) The amount of 2001is a plan.
*Including period for the PhaseII-Extension

2. INE (Mexican Side) (¥1,000)

MFY	Personal Expenses	Facilities	Telephone and Fax	Events	Others	Total
1997	17,143	6,857	1,714	3,429	857	30,000
1998	21,412	3,824	3,059	6,882	10,706	45,883
1999	48,483	6,464	1,164	808	8,081	65,000
2000*	69,316	563	2,089	2,747	14,285	89,000
2001*	88,977	4,803	2,168	3,249	31,484	130,681
Total	245,331	22,511	10,194	17,115	65,413	360,564

1) MFY is mexican fiscal year (from January to December).
2) The amount of 2001 is a plan.
*Including period for thePhaseII-Extension

Achievement of Activities
National Center for Environmental Research and Training (Phasell-Extension) Project
July 1, 2000 to June 30, 2002

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
1. The management of CENICA is improved.	1.1 To formulate the mid-term action plan (for five years)	- Establish main areas of activity for CENICA. (Improve research, training and laboratory systems.) - Create an implementation schedule for the main areas or activity. - Formulate a contribution plan based on the above implementation schedule.	- Formulate the action plan and train the counterparts to independently manage GENICA in line with the action plan.	- Results of the design of the action plan - Comparison of the progress of activities to the action plan	• The mid-term action plan is still in the process of formulation. However, the final version will be produced by the end of the cooperation period.
	1.2 To formulate the mid-term plan for counterpart personnel allocation		- Make efforts to increase the number of counterpart personnel in line with the action plan.	- List of staff allocated to CENICA	• The mid-term plan for counterpart personnel allocation is still in the process of formulation. However, the final version will be produced by the end of the cooperation period.
	1.3 To formulate the mid-term plan for revenue and expenditure		- Make efforts to insure independent income in line with the action plan.	- Results of audit (revenues and expenditures)	• The mid-term plan for the revenue and expenditure is still in the process of formulation. However, the final version will be produced by the end of the cooperation period.
	1.4 To expand and clarify scope of responsibility of each deputy directors with delegation of authority		- Conduct activities in line with the Program in all areas and under the responsibility of each deputy director and with the coordination of the Adjoint General Director of CENICA.	- Internal regulations specifying work loads for each deputy director and their responsibilities	• It has been difficult for the Japanese side to pursue this activity due to the fact that in Mexico society, orders come from top down, and not vice versa. Although planned activity is not fully achieved, every deputy director was advised to implement Plan of Activities for their field that are in accordance with the project's Plan of Activities.
	1.5 To strengthen management meeting		- Conduct regular meetings of the Executive Committee, which will consist of Japanese experts, the Adjoint General Director and the deputy directors.	- Number of Executive Committee meetings - Summaries of meetings	• The goal for this activity is achieved. Consequently, members' report on general approach is conducted with project C/Ps' attendance.
	1.6 To build a system of considering research plan and reporting on results		- Establish a mechanism allowing each department to plan its own workload and to report their results effectively within CENICA.	- Clarification of level to which information will be shared among personnel - Summary of meeting	• This goal is not fully achieved. Even though the project has been conducting weekly meetings, it is necessary to consider ways to improve the communication network within every CENICA department.
	1.7 To implement of cooperative activities and information exchange with relevant organizations		- Establish a channel of cooperation with external institutions and offer mutual assistance when necessary.	- Results of cooperation with other institutions - Records of the visits to CENICA by other institutions	• The project shared information and exchanged views with related organizations when necessary. As a result, CENICA has contacted nearly 90 organizations/network (refer to ANNEX X) and conducted cooperative activities with some of them. • Thus, it can be evaluated that the planned activity is fulfilled. However, the project needs to further engage in cooperative activities with other organizations.

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
2. Operation and management of the monitoring stations and the laboratory are strengthened.	2.1 To keep collected data in useful condition at any time	- Standardize collection and preservation of data.	- Make it possible to identify the following: tests, research, joint research, classification of accepted projects as well as initiation date (acceptance) and delivery date, name and amount of samples, assessment parameters, analytical equipment used, goals of the analytical program, pretreatment methods, bibliographies of references, technician who performed the analysis and technician in charge.	- Table of parameter codes	· For data collection and management, it is decided that the original data be preserved by the head of the department and laboratory deputy directors manage the data.
		- Make data readily available whenever needed.		- Reports on the results of data assessment - Result records	· For the quick and easy access to collected data, measurement code list and inventory for the analysis result report were made.
	2.2 To prepare manuals for safety measures to handle dangerous chemicals and to clarify responsible persons	- Implement the activities of the laboratory in a safe manner, under the supervision of a responsible technician.	- Implement procedures to reduce risk, identifying the different properties of chemicals such as inflammability, toxicity (skin tissue, mucous membranes, chronic poisoning, acute poisoning) odor, reactivity and radioactivity.	- Storage status by dangerous material	· In order to maintain the laboratory in safe, handling manual for various dangerous chemicals was made.
		- Determine classification and storage procedures for chemicals according to their hazardous properties and develop a manual for handling them.	- Acceptance of samples with highly dangerous properties in an appropriate manner based on the judgement of the technician in charge from the Safety Committee.	- Inventory of dangerous materials	· Chemicals were classified into four categories: combustible, explosive, poisonous, and reactive. Then, each chemical's hazardous properties were determined, and handling manual was made.
		- Develop procedures for handling hazardous samples. - Establish a system and rules to prevent accidents caused by gasses stored at high pressure and/or fires resulting from the continuous operation of equipment as well as to avoid leakage of toxic substances and chemicals.	- Establish necessary procedures for safety, accident prevention and safe handling of chemicals.	- Label indicating continuing operation - List of persons in charge of management of chemicals, electricity and gasses - Summaries of Safety Committee - Procedure manuals	· Manual for handling hazardous samples is still under consideration. · In order to prevent accidents caused by gasses stored at high pressure and fires resulting from the continuous operation of equipment, and to avoid leakage of toxic substances, in-house seminars were held several times.
	2.3 To prepare manuals for treatment of hazardous waste discharged from the laboratory and to clarify of responsible persons	- Produce manuals to establish a methodology to classify and recover as well as treat and dispose of strong toxic chemicals such as organic and chlorinated solvents, acid and alkaline liquids, residues from examined samples, etc.	- Store and treat liquids used at the laboratory according to instructions on the safe handling of chemicals issued by the technician in charge. Label them with the necessary data such as type of waste, source area date of reception. - Store and treat very hazardous toxic wastes safely so as to prevent loss or contamination.	- Records of treatment of hazardous wastes - Manual for treatment of hazardous wastes generated by the laboratory	· In order to treat hazardous waste discharged from the laboratory and clarify responsible person, manual was made and a responsible person was decided.
	2.4 To allocate responsible persons for equipment management and to manage maintenance and supplement of expendables according to a register	- Allocate technicians (head technician and assistant) responsible for - Provide OJT for 2-3 technicians to operate the equipment.	- Staff responsible for the maintenance and control of equipment will identify the intended use, and well as the content and operation of each piece of equipment and check the maintenance status and management of consumables in line with the management manual.	- Results of OJT on main equipment - Records of management & maintenance of main equipment - List of technicians in responsible for management & maintenance of main equipment (main tech. in charge & assistants)	· Register was made in order to manage equipment and expendables. However, responsible people for the main equipment management are still under consideration. · OJT to operate the equipment was provided.

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	3.1 To formulate guidelines concerning sampling and analysis of air pollutants	- Collect sampling and analysis information for air pollution assessments from several countries. - Formulate guidelines and establish appropriate methodologies for Mexico.	- Establish guidelines for sampling and analysis of environmental pollutants.	- Results of establishment of guidelines for sampling and analytical methods	· Guidelines for sampling and analytical methods of Japan and the U.S. were obtained. · As a result, the project is prepared to establish guidelines.
	3.2 To analyze air pollution trend	- Install an atmospheric monitoring station in an INE building. - Introduce software to analyze data generated at the air pollutant monitoring stations established in INE and CENICA's buildings. - Publish the results of air quality assessments via reports and Internet.	- Develop the capacity to compare and analyze air pollution data. - Clarify the status and trends regarding air pollution in the major cities of Mexico.	- Yearly reports on status of air pollution in Mexico - Information shown on CENICA's Internet home page	· An atmospheric monitoring station was installed in INE building. (2000/11/15) · Installed software to analyze data that are obtained from the monitoring stations. (2000/9/5) · Evaluation results were collected in annual report, and was published (2001/11/15). The Internet homepage is still under construction · The Japanese short-term expert transferred technology regarding air pollution trend analysis took place. (2001/9/3~10/12)
	3.3 To study on air pollution formation mechanism through vertical observation of air pollution	- Evaluate wind speed and direction of upper atmospheric layer using a pilot balloon system. - Study the meteorological phenomena and air pollutants such as ozone, NOx and hydrocarbons by measuring vertical dispersion and changes by geographical zone and season using a captive balloon system. - Observe changes due to location and season.	- Develop the ability to understand three-dimensional behavior and formation mechanisms of air pollution in relation to horizontal evaluations.	- Results of measurements taken with pilot balloon - Results of vertical dispersion measurements taken with captive balloon - Report on air pollutant formation mechanisms	· Using pilot balloon system, the evaluation on wind speed and direction of upper atmospheric layer was started. (2000/4/10) This project has been conducting for one year and half. · Using captive balloon system, the study on meteorogical phenomena and air pollutants were started. (2000.10.19) This project has been conducting for one year. · The above studies were done in several places for six months to one year time period. · Invited Mr. Wakamatsu who transferred technology in the field of air pollution formation mechanism. (2000/10/8~29)
	3.4 To analyze and evaluate volatile organic compounds	- Assess the vertical dispersion of volatile organic compounds using canisters. - Analyze and identify air pollution conditions at sites of the same height, such as streets, gasoline stations, industrial and residential zones and hill slopes.	- Make it possible to assess in three dimensions, the actual state of air pollution by volatile organic compounds in relation to studies performed at 3-3, detecting the pollution sources. - Develop the capacity to assemble historical air pollution data and to assess and identify trends and provide information to relevant Mexican institutions.	- Report on evaluation of state of air pollution by volatile organic compounds	· During the experiment of captive balloon, volatile organic compounds up until the height of 200m were measured. (2000/10/19 started) · The measurement of volatile organic compounds has been conducted continuously for two years at CENICA. · Air pollution conditions at different sites of the same height (1999/8/9 started) were identified, and the data analysis was reported at the international conference. (2001/4/19, held in Cuba)

ANNEX III

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	3.5 To evaluate personal exposure	- Simultaneously evaluate NOx, SOx and O3 in microenvironments (indoor and outdoor) in residences, offices, schools, commutation vehicles, etc. using passive samplers and analyzing the results. These studies will be conducted in coordination with the Health Secretariat of Mexico. - Install passive samplers next to monitoring stations to assess their accuracy. - Analyze and evaluate the relationship between environmental measurements carried out at CENICA and epidemiological studies conducted by the Health Secretariat.	- Develop the capacity to collect and analyze data obtained over the past 3 years on NOx, ozone and SOx by area and population (children, adults) through the use of passive samplers and their relationship with epidemiological studies performed by the Health Secretariat. - Establish procedures for the use of passive samplers and use them in multiple ways.	- Report on results of assessment	· In coordination with Health Ministry, the project conducted simultaneous evaluation of the main air pollutants at several sites. The data obtained from the evaluation was analyzed in the published report. · Stationed passive samplers were placed next to monitoring stations and assessed their accuracy. (2001/6/21) · As a result of the above activity, the procedures for the use of passive samplers were established and to use them in multiple ways became possible.
	3.6 To evaluate suspended particulate matter	- Study the classification and morphology of particles in the environment and their chemical composition by means of an electron microscope. - Undertake studies on particles smaller than 2.5 microns in the major cities of Mexico and perform chemical analysis on them. - Undertake regional studies of the air concentrations of carcinogenic compounds (PAH, POP's). - When it is possible to evaluate environmental emissions from known sources, provide results to relevant institutions.	- Develop the capacity to identify, analyze and assess the actual state of air pollution due to suspended particles in the environment.	- Report on results of assessment	· Using an electron microscope, particles in the environment were measured. · A lot of investigations of PM10 and PM2.5have been conducted. · Acid rain monitor was started at 5 sites in Mexico City(1999/5/1) · Study on measurement of PAH was started. (2001/1/11) · The measurement of environmental emissions from known sources will be conducted next March.
	3.7 To evaluate hazardous air pollutants.	- Investigate methods of testing for hazardous environmental pollutants in the USA, Japan and the EU, etc.	- Develop guidelines for sampling and analysis methodologies for toxic pollutants which reflect the results.	- Report of assessment surveys	· Information on methods of testing hazardous environmental pollutants in the U.S. and Japan were gathered. · The presentations on hazardous air pollutants were conducted. · As a result, new criteria for Ozone was determined (2001/7/31) and new regulation for PM will be published officially next January.
	3.8 To provide technical information about draft and revision of norms for air pollution prevention through participation in work groups	- Review and analyze air pollution standards in other nations and provide information and make recommendations information and suggestions to the Standardization Committee.	- Provide information related to formulation and review of air pollution norms.	- Reports on information provision - Reports of committee participants - List of collected documents	· Obtained and analyzed air pollution standards in the US and Japan. Shared information and made suggestions in the Standardization Committee. · As a result, new criteria for Ozone were determined. (2001/7/31)

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	3.9 To collect information of analysis methods through practice with several equipment for preparation of analysis guidelines including sampling and pretreatment of hazardous waste.	- Collect and arrange information related to analytical methodologies for the sampling and pretreatment of chemicals and waste samples (pesticides, solvents, heavy metals, etc.) which could be used to characterize hazardous waste.	- Organize information on sampling, pretreatment and analytical methodologies to formulate guidelines and procedures for the characterization of hazardous waste.	- List of information on sampling and pretreatment of hazardous waste - List of information regarding analytical methodologies for hazardous waste and use of equipment - Reports on activities to develop guidelines for hazardous waste assessment	• Such documents and references as Practical Training Reports of Oaxaca Research Institute are collected and applied for research.
	3.10 To analyze field samples and to evaluate analytical data of hazardous waste	- Establish an analytical system for the assessment and analysis of data obtained related to the analysis of representative samples of hazardous waste such as ashes, sludges and leachates. - With regard to priority substances, a series of representative samples will be assessed according to certified analytical methodologies. These samples will include agri-chemicals and pesticides, spent solvents, heavy metals, etc.	- Create an analytical system for representative samples of hazardous wastes and foster basic functions related to evaluation and analysis of analysis results. These results will be useful in establishing guidelines on sampling assessment and interpretation of other waste.	- Report on sampling and pretreatment of hazardous waste - Report of results of analytical Report of results of analysis using equipment analysis methods for hazardous materials	• Ashes sampled in the field are used to analyze heavy metals and the results of their evaluation was presented at the conference of Mexican Chemical Technology.
	3.11 To establish classification method for CRETI	- Undertake sampling and analytical identification of hazardous waste using the CRETI (corrosivity, reactivity, toxicity and inflammability) tests of leachates generated at the elution probe reactor. - Develop a manual for the equipment used for CRETI tests. - Collect and organize information to establish a method to establish CRETI classification methods (methods for identification of hazardous wastes and simplified field methodologies etc., based on classification methods and generation sources used for hazardous wastes in other countries).	- Develop the capacity to assess hazardous waste based on CRETI. - Develop a manual for CRETI testing. - Provide information in order to establish characterization methodologies for hazardous waste for CRETI.	- Testing manual for CRETI tests using equipment - List of information on hazardous waste characterization	- CRETI method was established, and further improvement is currently being made. It is in the final stage.

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
4. Knowledge and techniques of federal government officials, local authorities and industry personnel on environmental protection are improved.	4.1 To make plans and implement training courses in the fields of air pollution, hazardous waste and support for industry		- Conduct training courses in the areas of air pollution, hazardous waste and support to industry in line with the action plan.	- Reports on training courses provided	· The number of training courses done in the field of air pollution, hazardous waste, and laboratory evaluation are as follows: Total: 53 times Air pollution: 16 Hazardous waste: 28 Laboratory and others: 9
	4.2 To strengthen administration of the training section	- Strengthen the training section of CENICA.	- Provide government training courses at federal, state and local levels as well as to industry.	- Table of personnel allocated to CENICA by each department	· The planned goal was successfully fulfilled. There were only 2 personnel in the training section in 2000, but the number increased to 5 in 2001.
	4.3 To carry out evaluation and follow-up for attendants in training courses through providing information	- Create lists of participants and attendees of training courses.	- Establish an information network among participants and attendees of the training courses.	- List of attendees of courses - Results of information provided	· The planned activity was partially achieved. The list of trainees was made, but the feedback and training evaluation from the trainees were not conducted for all courses.
5. The role of CENICA in data collection and publications related to environmental matters is improved.	5.1 To acquire information about human resources in relevant institutions		- Make it possible to define institutions where information is collected according to topics of interest.	- Table of personnel allocated to relevant institutions	· The planned activity was successfully achieved. See ANNEX IX
	5.2 To set up practical liaison meeting regularly with relevant institutions		- Share environmental information with relevant institutions.	- List of participants to programmed liaison meetings with relevant institutions - Minutes of meetings attended	· There had been regular meetings on formulating waste standards among the related organizations. In the area of air pollution, meetings have been taking place when considered necessary.
	5.3 To establish network with relevant institutions for information exchange		- Make information exchange with relevant institutions and provision of references available at any time.	- Results of exchange of information with relevant institutions	· Activities related to REMEXMAR and REPAMAR were conducted. These activities are crucial in establishing information exchange network between and among related organizations.
	5.4 To obtain relevant domestic / foreign information regularly	- Prepare bibliographies and publications on environmental topics.	- Organize the library in order to make allow it to be used more effectively.	- Library organizational status - List of collection of books and publications - Register of control of books and publications	· Resource room (library-to-be) is being prepared. However, it is necessary to ensure that budgets for resource planning and organizing continues to be allocated.
	5.5 To prepare means to deliver basic information of CENICA	- Publish and deliver the annual report of CENICA's activities and research to the relevant institutions. - Establish a CENICA Internet home page in order to publish information on activities and research. - Creation of visual materials to be used for the introduction of CENICA to be distributed to relevant institutions.	- Make the information collected and generated by CENICA available to the public.	- Annual report of activities and research studies - Publication of scientific papers using information obtained from CENIA - Display of CENICA's activities on the Internet home page - Creation of documents to show CENICA's activities in visual format	· Pamphlet on CENICA was remodeled. The video introducing CENICA is being produced. Internet homepage is currently under construction.

Achievement of Project Output
the National Center for Environmental Research and Training (Phase II-Extension) Project
Period: July 2000 - June 2002

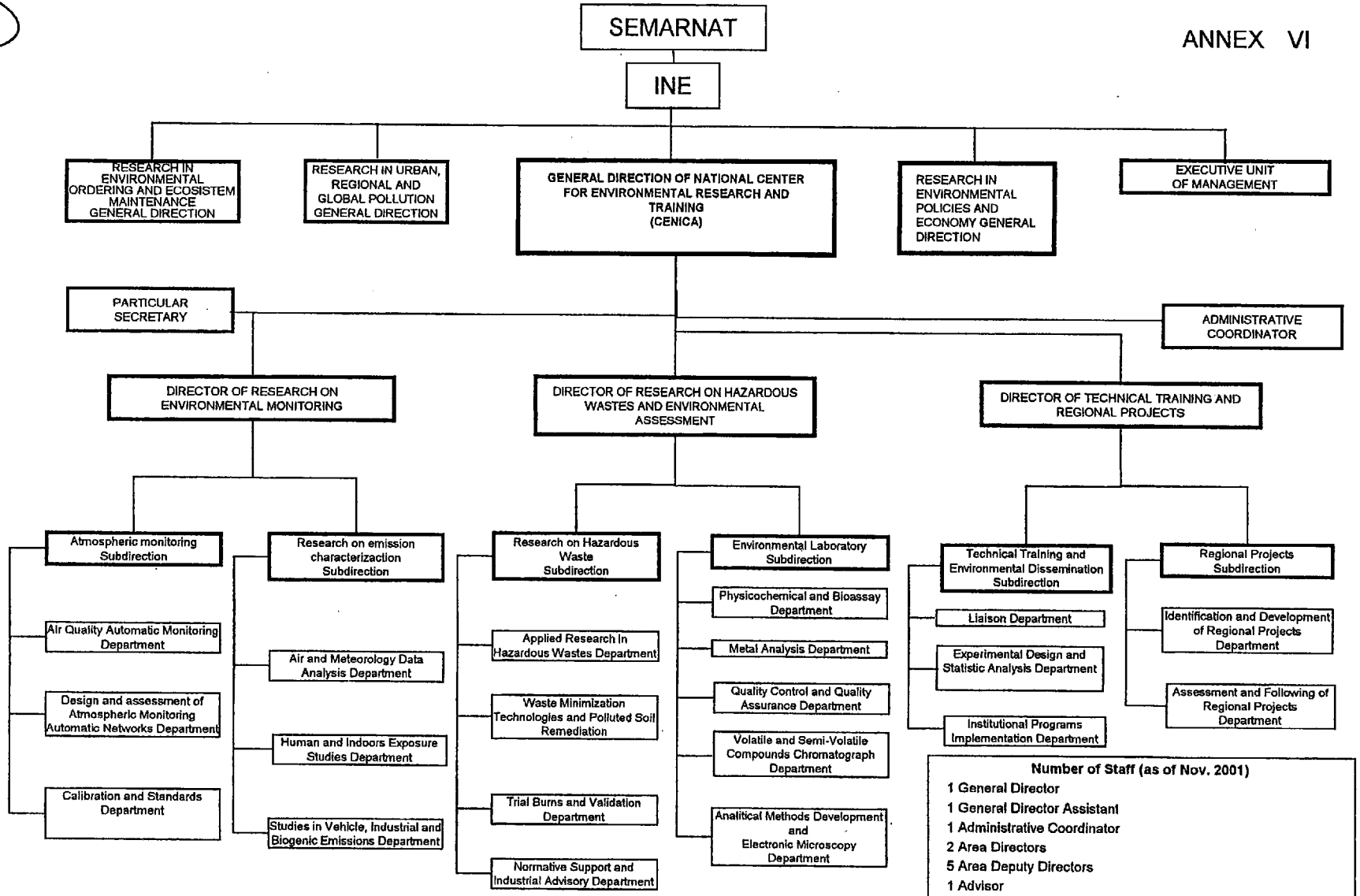
Project Purpose	Structures and activities of CENICA are strengthened. (CENICA's support activities toward federal government, local authorities, and enterprises regarding environmental protection are enriched)			
	Project Output	Section in Charge	Target Item	Level of achievement of Phase II-Extension
1	The management of CENICA is improved.	Administration	1.1 To formulate the mid-term action plan (for five years) 1.2 To formulate the mid-term plan for counterpart personnel allocation 1.3 To formulate the mid-term plan for revenue and expenditure 1.4 To expand and clarify scope of responsibility of each deputy directors with delegation of authority 1.5 To strengthen management meeting 1.6 To build a system of considering research plan and reporting on results activities of the Project 1.7 To implement of cooperative activities and information exchange with relevant organizations	B
2	Facilities and equipment necessary for environmental research and training are effectively used by counterpart personnel.	Laboratory	2-1. To keep collected data in useful condition at any time. 2-2. To prepare manuals for safety measures to handle dangerous chemicals and to clarify responsible persons. 2-3. To prepare manuals for treatment of hazardous waste discharged from the laboratory and to clarify responsible persons. 2-4. To allocate responsible persons for equipment management and to manage maintenance and supplement of expendables according to a register.	A
3	Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	Air Pollution	3-1. To formulate guidelines concerning sampling and analysis of air pollutants. 3-2. To analyze air pollution trend. 3-3. To study on air pollution formation mechanism through vertical observation of air pollution. 3-4. To analyze and evaluate volatile organic comopounds. 3-5. To evaluate personal exposure. 3-6. To evaluate suspended particular matter. 3-7. To evaluate hazardous air pollutants. 3-8. To provide technical information about draft and revision of norms for air pollution prevention through participation in working groups.	A
		Hazardous Waste	3-9. To collect information of analysis methods through practice with several equipment for preparation of analysis guidelines including sampling and pretreatment of hazardous waste. 3-10. To analyze field samples and to evaluate analytical data of hazardous waste. 3-11. To establish classification method for CRETI 3-12. To provide technical information about draft and revision of norms for hazardous waste through participation in working groups. 3-13. To support for administration on appropriate treatment for hazardous waste. 3-14. To support for strengthening hazardous waste management capacity through REMEXMAR activities.	A
4	Knowledge and techniques of federal government officials, local authorities and industry personnel on environmental protection are improved.	Training	4-1. To make plans and implement training courses in the fields of air pollution, hazardous waste and support for industry. 4-2. To strengthen administration of the training section. 4-3. To carry out evaluation and follow-up for attendants in training courses through providing information.	A
5	The role of CENICA in data collection and publications related to environmental matters (particularly air pollution and hazardous waste) is improved.	Common (Information management)	5-1. To acquire information about human resources in relevant institutions. 5-2. To set up practical liaison meeting regularly with relevant institutions. 5-3. To establish network with relevant institutions for information exchange. 5-4. To obtain relevant domestic/foreign information regularly. 5-5. To prepare means to deliver basic information of CENICA.	B

A: Project output will be generally attained during the Phase II-Extension period.
B: Project output will not be attained satisfactorily during the Phase II extension period in spite of the performance of the activities.
C: The level of attainment of the project output will be low during the technical transfer period, reflecting the poor performance of the activities.
D: Almost nothing has been attained regarding project output, because very few activities have been performed up to now.

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	3.5 To evaluate personal exposure	- Simultaneously evaluate NOx, SOx and O3 in microenvironments (indoor and outdoor) in residences, offices, schools, commutation vehicles, etc. using passive samplers and analyzing the results. These studies will be conducted in coordination with the Health Secretariat of Mexico. - Install passive samplers next to monitoring stations to assess their accuracy. - Analyze and evaluate the relationship between environmental measurements carried out at CENICA and epidemiological studies conducted by the Health Secretariat.	- Develop the capacity to collect and analyze data obtained over the past 3 years on NOx, ozone and SOx by area and population (children, adults) through the use of passive samplers and their relationship with epidemiological studies performed by the Health Secretariat. - Establish procedures for the use of passive samplers and use them in multiple ways.	- Report on results of assessment	· In coordination with Health Ministry, the project conducted simultaneous evaluation of the main air pollutants at several sites. The data obtained from the evaluation was analyzed in the published report. · Stationed passive samplers were placed next to monitoring stations and assessed their accuracy. (2001/8/21) · As a result of the above activity, the procedures for the use of passive samplers were established and to use them in multiple ways became possible.
	3.6 To evaluate suspended particulate matter	- Study the classification and morphology of particles in the environment and their chemical composition by means of an electron microscope. - Undertake studies on particles smaller than 2.5 microns in the major cities of Mexico and perform chemical analysis on them. - Undertake regional studies of the air concentrations of carcinogenic compounds (PAH, POP's). - When it is possible to evaluate environmental emissions from known sources, provide results to relevant institutions.	- Develop the capacity to identify, analyze and assess the actual state of air pollution due to suspended particles in the environment.	- Report on results of assessment	· Using an electron microscope, particles in the environment were measured. · A lot of investigations of PM10 and PM2.5have been conducted. · Acid rain monitor was started at 5 sites in Mexico City(1999/5/1) · Study on measurement of PAH was started. (2001/1/11) · The measurement of environmental emissions from known sources will be conducted next March.
	3.7 To evaluate hazardous air pollutants.	- Investigate methods of testing for hazardous environmental pollutants in the USA, Japan and the EU, etc.	- Develop guidelines for sampling and analysis methodologies for toxic pollutants which reflect the results.	- Report of assessment surveys	· Information on methods of testing hazardous environmental pollutants in the U.S. and Japan were gathered. · The presentations on hazardous air pollutants were conducted. · As a result, new criteria for Ozone was determined (2001/7/31) and new regulation for PM will be published officially next January.
	3.8 To provide technical information about draft and revision of norms for air pollution prevention through participation in work groups	- Review and analyze air pollution standards in other nations and provide information and make recommendations information and suggestions to the Standardization Committee.	- Provide information related to formulation and review of air pollution norms.	- Reports on information provision - Reports of committee participants - List of collected documents	· Obtained and analyzed air pollution standards in the US and Japan. Shared information and made suggestions in the Standardization Committee. · As a result, new criteria for Ozone were determined. (2001/7/31)

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
3. Technical information related to the establishment of the environmental protection standards is provided to relevant Mexican authorities.	3.9 To collect information of analysis methods through practice with several equipment for preparation of analysis guidelines including sampling and pretreatment of hazardous waste.	- Collect and arrange information related to analytical methodologies for the sampling and pretreatment of chemicals and waste samples (pesticides, solvents, heavy metals, etc.) which could be used to characterize hazardous waste.	- Organize information on sampling, pretreatment and analytical methodologies to formulate guidelines and procedures for the characterization of hazardous waste.	- List of information on sampling and pretreatment of hazardous waste - List of information regarding analytical methodologies for hazardous waste and use of equipment - Reports on activities to develop guidelines for hazardous waste assessment	- Such documents and references as Practical Training Reports of Oaxaca Research Institute are collected and applied for research.
	3.10 To analyze field samples and to evaluate analytical data of hazardous waste	- Establish an analytical system for the assessment and analysis of data obtained related to the analysis of representative samples of hazardous waste such as ashes, sludges and leachates. - With regard to priority substances, a series of representative samples will be assessed according to certified analytical methodologies. These samples will include agri-chemicals and pesticides, spent solvents, heavy metals, etc.	- Create an analytical system for representative samples of hazardous wastes and foster basic functions related to evaluation and analysis of analysis results. These results will be useful in establishing guidelines on sampling assessment and interpretation of other waste.	- Report on sampling and pretreatment of hazardous waste - Report of results of analytical Report of results of analysis using equipment analysis methods for hazardous materials	- Ashes sampled in the field are used to analyze heavy metals and the results of their evaluation was presented at the conference of Mexican Chemical Technology.
	3.11 To establish classification method for CRETI	- Undertake sampling and analytical identification of hazardous waste using the CRETI (corrosivity, reactivity, toxicity and inflammability) tests of leachates generated at the elution probe reactor. - Develop a manual for the equipment used for CRETI tests. - Collect and organize information to establish a method to establish CRETI classification methods (methods for identification of hazardous wastes and simplified field methodologies etc., based on classification methods and generation sources used for hazardous wastes in other countries).	- Develop the capacity to assess hazardous waste based on CRETI. - Develop a manual for CRETI testing. - Provide information in order to establish characterization methodologies for hazardous waste for CRETI.	- Testing manual for CRETI tests using equipment - List of information on hazardous waste characterization	- CRETI method was established, and further improvement is currently being made. It is in the final stage.

Outputs of the Project	Activities of the Project	Specific Activities	Goals to be Met by the End of Extension Term of Phase II of the Project	Means for Verification of the Satisfaction of the Goals	Main Achievements
4. Knowledge and techniques of federal government officials, local authorities and industry personnel on environmental protection are improved.	4.1 To make plans and implement training courses in the fields of air pollution, hazardous waste and support for industry		- Conduct training courses in the areas of air pollution, hazardous waste and support to industry in line with the action plan.	- Reports on training courses provided	· The number of training courses done in the field of air pollution, hazardous waste, and laboratory evaluation are as follows: Total: 53 times Air pollution: 16 Hazardous waste: 28 Laboratory and others: 9
	4.2 To strengthen administration of the training section	- Strengthen the training section of CENICA.	- Provide government training courses at federal, state and local levels as well as to industry.	- Table of personnel allocated to CENICA by each department	· The planned goal was successfully fulfilled. There were only 2 personnel in the training section in 2000, but the number increased to 5 in 2001.
	4.3 To carry out evaluation and follow-up for attendants in training courses through providing information	- Create lists of participants and attendees of training courses.	- Establish an information network among participants and attendees of the training courses.	- List of attendees of courses - Results of information provided	· The planned activity was partially achieved. The list of trainees was made, but the feedback and training evaluation from the trainees were not conducted for all courses.
5. The role of CENICA in data collection and publications related to environmental matters is improved.	5.1 To acquire information about human resources in relevant institutions		- Make it possible to define institutions where information is collected according to topics of interest.	- Table of personnel allocated to relevant institutions	· The planned activity was successfully achieved. See ANNEX IX
	5.2 To set up practical liaison meeting regularly with relevant institutions		- Share environmental information with relevant institutions.	- List of participants to programmed liaison meetings with relevant institutions - Minutes of meetings attended	· There had been regular meetings on formulating waste standards among the related organizations. In the area of air pollution, meetings have been taking place when considered necessary.
	5.3 To establish network with relevant institutions for information exchange		- Make information exchange with relevant institutions and provision of references available at any time.	- Results of exchange of information with relevant institutions	· Activities related to REMEXMAR and REPAMAR were conducted. These activities are crucial in establishing information exchange network between and among related organizations.
	5.4 To obtain relevant domestic / foreign information regularly	- Prepare bibliographies and publications on environmental topics.	- Organize the library in order to make allow it to be used more effectively.	- Library organizational status - List of collection of books and publications - Register of control of books and publications	· Resource room (library-to-be) is being prepared. However, it is necessary to ensure that budgets for resource planning and organizing continues to be allocated.
	5.5 To prepare means to deliver basic information of CENICA	- Publish and deliver the annual report of CENICA's activities and research to the relevant institutions. - Establish a CENICA Internet home page in order to publish information on activities and research. - Creation of visual materials to be used for the introduction of CENICA to be distributed to relevant institutions.	- Make the information collected and generated by CENICA available to the public.	- Annual report of activities and research studies - Publication of scientific papers using information obtained from CENIA - Display of CENICA's activities on the Internet home page - Creation of documents to show CENICA's activities in visual format	· Pamphlet on CENICA was remodeled. The video introducing CENICA is being produced. Internet homepage is currently under construction.



Number of Staff (as of Nov. 2001)

1 General Director
1 General Director Assistant
1 Administrative Coordinator
2 Area Directors
5 Area Deputy Directors
1 Advisor
20Heads of Deparment (Including one staff studying in Japan)
10 Technicians
11 Assistants
2 Chauffeurs
54 TOTAL

CENICA'S ORGANIZATION CHART

List of Research Activities (July 2000–June 2002)

Area	Topic	Content	Responsible CENICA	Period	Place	collaboration with	Report	Observations
Air Quality	Hidrocarbons especiation in the southeast of Mexico Valley	To determine in a continuous way the presence of 13 hydrocarbons in the southeast area of Mexico City	Emma Bueno, Victor Gutiérrez	1998 to the present	D.F.		yes	It is a permanent activity
Air Quality	Analysis of samples coming from the monitoring web of suspended particles from many places in the national territory	To identify the morphology and chemical composition of particles in air samples on diverse places of the country	José Sepúlveda, Salvador Blanco	In 00 –dic 00	Several places on the country		Yes	Finished
Air Quality	Characterization of suspended particles by electronic microscopy scanning and spectrometry coupled to the microscopy	To identify the morphology and chemical composition of particles in air samples from the ZMCM	José Sepúlveda Salvador Blanco	Sep'01-Dic'01	D.F.		Partially	Not concluded
Air Quality	Personal exposition in-doors to 10 microns and 2.5 microns particles	To determine the typical concentrations of particles suspended in-doors on the Mexico city and metropolitan zone To estimate the relative impact from the sources To study the PM2.5/ PM10 ratio well as their differences in chemical composition	Salvador Blanco, Felipe Angeles, Oscar Fentanes	Sea 00-dic00	D.F	CONSERVA-GDF	yes	finished
Hazardous wastes	Treatment research for the remediation of polluted soils	To identify and to adapt technologies and biotechnologies for the	Laura Franco	In 00 to nov 01	D.F.	UAM-I	Yes	

Area	Topic	Content	Responsible CENICA	Period	Place	collaboration with	Report	Observations
	with hydrocarbons	remediation of polluted soils with hydrocarbons						
Air Quality	Evaluation of benzene in the atmosphere of the south area of Mexico City	To identify the concentrations of benzene in the atmosphere of the south area of Mexico City	Emma Bueno		D.F.	Sciences of the Atmosphere Center, UNAM	yes	Topic of doctoral thesis
Air Quality	Biologic particles Characterization in the Texcoco Lake, Iztapalapa and University City	To evaluate the toxic potential of particles from different regions	Felipe Ángeles	Mar'00 to Nov'00	D.F.	PUMA UNAM	Yes	
Air Quality	study about antioxidants as complement in asthmatic children from Mexico City: clinical review	To carry out a pilot diagnose with susceptible population	Felipe Angeles, Francisco Mandujano	Abril'00 to Nov. '00		National institute of Public Health		
Air Quality	Effect of the exhibition to particles to PM10 and PM2.5 on the frequency and severity of exacerbations from the chronic obstructive lung sick persons from INER	To correlate the breathing effects with the levels of PM10 and PM2.5 in old residents of two asylums of Mexico City	Francisco Mandujano	Mar'00 to jun'01		National institute of Public Health		

Area	Topic	Content	Responsible CENICA	Period	Place	Collaboration with	Report	Observations
Air Quality	Exploration of winds tendencies in Mexico City	To study the pollutants accumulation in areas of Mexico Valley, through the determination of winds tendencies with the vectorial survey like a three-dimensional function of the position and time	Erik Velasco	Feb'00	D.F.	UAM-I UAM-TO UAM-X UNAM	yes	second year of the project
Air Quality	monitors particles comparison study	Efficiency Validation of low volume particles samplers with those of reference (high volume) particles PM2.5 and Pm10	Felipe Angeles	permanent	D.F.		Yes	
Air Quality	Evaluation of the vertical profile of the atmospheric pollutants and of meteorological parameters by means of captive probe	To know the behavior of pollutants in the vertical profile of the atmosphere, until 1000 m of altitude through elevations of a globe in three places of the valley of Mexico	Erik Velasco, Oscar Fentanes, Alejandra Sánchez, Emma Bueno, Elvagris Segovia	Jun'00	D.F.		Yes	
Air Quality	Acid precipitation in the forests of Mexico Valley	To know the impact of the sour rain in the forests that surround Mexico City and To carry out tests of toxicity evaluation using amaranth seeds and lettuce	Erik Velasco, Elvagris Segovia Sara Ramírez Isabel Rosemary	May'01-Dic.01	ZMVM	I govern of the Federal District	Yes	
Air Quality	To design a Net for particles smaller than PM2.5 monitoring	Evaluation of benzene in the atmosphere of the	Salvador Blanco, Felipe Angeles, Rosa María Bernabé	Nov.01-Jul.02	Mexico City	I govern of the Federal District	No	It begins in November
Hazardous wastes	Ashes Characterization from hazardous wastes incinerators	To identify the incineration process efficiency through the analysis of their ashes	Anabell Rosas, Angelica Peña	ABR. '2000	Jalisco Tlaxcal Mexico Yucatan		yes	

ANNEX VII

Area	Topic	Content	Responsible CENICA	Period	Place	Collaboration with	Report	Observations
Hazardous wastes	Environmental diagnosis for a hazardous wastes secure land fill located in Hermosillo, Sonora	Elaboration of a environmental impact study caused by the Hazardous wastes secure landfill operation	Carmen Gutiérrez, Angelica Peña, Adrián Díaz, Gustavo Solórzano, Germán Tapia, Victor Gutiérrez	August - octubre'01	Hermo-sillo, Sonora	SEMARNAT	Yes	
Air Quality	Toxic potential of particles PM10 and PM2.5 of two areas of Mexico City	To identify the difference of the toxic potential of the particles PM10 and PM2.5 in two areas of Mexico City	Victor Gutiérrez		Mexico City	UNAM	yes	
Air Quality	Diagnosis of atmospheric pollutants of the surrounding area to the Thermoelectric Power station of Tree, Cabbage.	To evaluate atmospheric pollutants as PM10, PM2.5, CO, SO2 and NOx in three near communities to the thermoelectric one	Victor Gutiérrez Salvador Blanco	Jul'01-Sep'01	Manza-nillo, Colima	INSP	Yes	
Air Quality	Cumpas	To evaluate the impact of the industry	Elvagris Segovia	Feb'01-jun'01	SonoraCumpas	Delegation SEMARNAT, Sound	if	
Environmental laboratory Area of Bioensayos	Eco-toxic Evaluation of having leached using a test battery	To determine if the organisms used to evaluate the toxicity could be used in samples of having leached	Sara Ramírez Isabel Romero	Jul'01 to the date	León Gto.		No	

Publication List

1. - International Workshop: Vehicles and Atmospheric Pollution. February 9 1998.

2.- First Binational Colloquiumm Mexico-Japan about Environmental Management: Atmospheric Pollution. January 25-26 1996.

3.- Second Binational Colloquium Mexico-Japan about Environmental Management: Hazardous Wastes. March 28-29 1996.

4.- Third Binacional Colloquium Mexico-Japan about Environmental Management: Air Quality Models. November 28-29 1996.

5.- International seminar on Polluted Soils Restoration. Framed by the Program of Technical Cooperation Mexico-Japan. May 26 to 29 1997.

6.- 1997 Report on the Development of Environmental Performance Indicators in Mexico. July 1999.

7.- Data Almanac of Air Quality Tendencies in Mexican Cities.

8.- Second Report about Air Quality in Mexican Cities 1997.

9.- Third Report about Air Quality in Mexican Cities 1998. December, 1999.

10.- Achievements and Challenges for the Sustainable Development 1995-2000. First edition, November, 2000.

11.- International seminar on Hazardous Wastes Identification and Classification. November, 2000.

12.- Workshop about Evaluation, Handling and Communication of Risks Associated to Industrial Wastes of Mining and Metalurgic Industries. November 17-18 1999.

13.- II International Seminar on Solid Wastes and Restoration of Polluted Soils. February 11-12 1999.

14. - Elements for an Inductive Process of Environmental management for the Industry. 1ª edition, September, 2000.

15.- Hydrocarbon Speciation: the Japanese Experience; Dr. Morikawa, Tazuko; Special Booklets 1; October, 2000.

16.- Present State of Methods for Determination and of Emission of Gaseous Air Pollutants from Municipal Waste Incinerators in Japan; Dr. Tanikawa, Noboru; Special Booklets. 2; October, 2000.

17.- Waste Management Policy in Japan (Focusing on the History and Present Situation of the Policy) November, 1999; Dr. Sonbongi, Tohru; Special Booklets. 3; October, 2000.

18.- Applications of TiO2 Photocatalysts to Better our Environment. Approaches in Achieving Highly Efficient Reactions and Realizing the Use of Visible Light; Dr. Anpo, Masakazu; Special Booklets Not. 4; October, 2000.

19. - Vertical Profile of Pollutants and Meteorological Parameters in the Metropolitan Area of Mexico Valley; Velasco H.E., Bueno E., Sánchez Soto C.A., Fentanes O., Kamiya A., Ikeda S.; Special booklets 5; March, 2001.

MATERIAL ELECTRONICO

1.- Memories of the II International Forum of Incineration, Mexico D.F., 2000
2.- Memories of the International Seminar of Wastes Recicling and Treatment, Mexico D.F., 2001
3.- Memoirie of the III International Forum of Incineration, Mexico D. F., 2001

List of Seminars/Training Courses for the Phase II-Extension Period

Air Pollution Area: Total 16

No.	Dates	Name of the event	No. of attendants	Place	Cost
1	August 25, 2001	Conference: Dioxins and furans "acid aerosols"		INE Auditory	
2	September 26 – 28, 2000	Course: Atmospheric Monitoreo (manual and automatic)	5	CENICA	$2,500
3	October 6 2000	Conference: Toxic pollutants in air, genetic effects of the organic matter		INE Auditory	Free
4	October 11 2000	International work shop about air quality: atmospheric monitoring in the vertical components		CENICA	
5	October 16 – 20, 2000	II Latin American Seminar of air quality and health	65	INE Auditory	Free
6	November 13 and 14 2000	International work shop of personal exposure to pollutants	12	CENICA	Free
7*	February 26 – March 2, 2001	Course: Environmental Monitoring	18	CESCCO Honduras	
8*	March 4 – 10 2001	Course: Personal Monitoring, environmental and in-doors	2	CECOE Costa Rica	
9	April 4, 2001	Work Shop: Administration and technology to prevent the contamination	90	INE Auditory	free
10	June 7, 2001	Conference: Air Quality in Mexico	17	Aviation Mexican	free
11	June 29, 2001	International Seminar: Passive Monitoring	60	INE Auditory	Free
12	July 18-20 2001	Course: Atmospheric Monitoring	14	Port Vallarta Jalisco	free
13	September 20 and 21 2001	Course: Atmospheric Monitoring	12	CENICA	$2,500.00
14	September 28, 2001	International seminar: Dispersion and characterization of atmospheric pollutants	92	INE Auditory	free
15	October 26 2001	International Seminar: Formation processes, transport and impact of atmospheric particles	60	INE Auditory	Free
16	November 26 - 29, 2001	Gravimetric methods and calibration of high volume samplers	3	CENICA	free

Hazardous Wastes Area: Total 28

No.	Dates	Name of the event	No. of attendants	Place	Cost
1	July 6, 2000	Work shop: Analytic methods for hazardous waste (2)		CENICA	
2	July 14 2000	Conference: Procedures for evaluation of test protocols	53	INE Auditory	Free
3	July 17 – 21, 2000	Course: Control and insurance of quality in hazardous waste analysis		CENICA	
4	September 7, 2000	Conference: Current situation of hazardous wastes		Autonomous Popular university of Puebla State	
5	September 21, 2000	Work Shop: Analytic methods for hazardous waste (3)	32	CENICA	
6	November 8 and 9, 2000	Course: Hazardous waste management	26	CENICA	Free
7	November 16 and 17, 2000	II international forum of hazardous wastes incineration	69	INE Auditory	$500
8	November 22 - 24 2000	Course Hazardous waste management		CIMAV Chihuahua	free
9*	March 7 - 10, 2001	Course: Program of improvement of control of the residuals for agro industries		El Salvador	
10*	March 25 - 31, 2001	Course: Hazardous waste management	2	DAMA Colombia	
11*	March 25 – 31 2001	Industrial wastes management	2	Costa Rica	
12	April 24, 2001	conference: physical chemical Characterization for hazardous wastes	20	INSP, Center of Investigation and Education BRIMEX III	Free
13	June 12, 2001	Conference: Phisical chemical Characterization of hazardous wastes	20	INSP, Center of Investigation and Education BRIMEX III	Free
14	July 26 and 27, 2001	Work Shop: Introduction to the concept of cleaner production	34	INE Auditory	Free
15	July 31 and August 1, 2001	Course: Municipal wastes management	15	El marques, Querétaro	Free
16	August 6, 2001	International seminar: Recycling and treatment of residuals	180	INE Auditory	Free
17	August 23 and 24, 2001	Course: Municipal wastes management	42	The Batán D. F.	Free
18	August 30 and 31, 2001	Course: Municipal wastes management	60	Tuxtla Gutierrez Chiapas	free

19	September 10 - 12 2001	Course: Hazardous wastes management	17	CENICA	$2500.00
20	September 13 and 14, 2001	Course: Municipal wastes management	55	Guadalajara Jalisco	Free
21	October 1 - 12, 2001	Course: Soil Microbiology	14	CENICA	
22	October 10 - 11, 2001	Course: Municipal wastes management	28	Mazatlán Sinaloa	Free
23	October 18 and 19, 2001	Course: Hazardous wastes management	30	Pátzcuaro Michoacán	Free
24	October 29 and 30 2001	Course: Municipal wastes management	12	Pátzcuaro - Michoacán	Free
25	November 6 and 7 2001	III international Forum of Incineration of residuals	75	INE Auditory	$1,000.00
26	November 23, 2001	Work Shop: Administration of wastes and environmental impact	15	CENICA	Free
27	November 27 and 28, 2001	Course: Hazardous wastes management	15	Saltillo Coahuila	Free
28	December 3 - 6, 2001	Course: Environmental toxicology: Bioassay as evaluation alternative		CENICA	$2,500.00

Laboratory and others : Total 9

No.	Dates	Name of the event	No. of attendants	Place	Cost
1*	November 6 – 10, 2000	Course: Invigoration of the capacity of environmental analysis	14	CEFOF, Costa Rica	
2	November 13 and 14 2000	International work shop of personal exposure to pollutants	12	CENICA	Free
3*	February 25 – March 3, 2001	Work Shop: Environmental management	7	Costa Rica	
4*	March 5 – 9, 2001	Course: Invigoration of the analytic capacity of environmental laboratories	10	Honduras	
5	April 5, 2001	Shop: Systems of environmental administration (ISO 14000)	90	INE Auditory	free
6	June 27 and 28 2001	Course: Instruments of environmental administration	21	Auditory of of the DGFDSFS	free
7	July 18, 2001	Seminar: Pollution prevention in Mexico	60	INE Auditory	Free
8	November 14 - 16 2001	Course: Quality Systems for environmental laboratories	21	CENICA	$2,500.00
9	December 6, 2001	International seminar: Restoration of polluted floors		INE Auditory	Free

* South-South Cooperation Scheme by JICA

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List of Related Organizations

Organization in Mexico

1	Asociacion Nacional de Fabricantes de Tintas y Pinturas A.C. (ANFAPYT)
2	ANIQ (Asociacion Nacional de la Industria Quimica A.C.)
3	C.J. y Asociados Consultora
4	Camara Minera de Mexico
5	Camara Nacional de las industrias de la celulosa y de papel
6	Camara Nacional del Cemento (CANACEM)
7	Camara Nacional de la Industria de la Transformacion (CANACINTRA)
8	Centro de Educacion y Capacitacion para el Desarrollo Sustenteble (CECADESU)
9	Centro Nacional de Metrologia (CENAM)
10	Centro Nacional de Prevencion de Desastres (CENAPRED)
11	Centro de Informacion Grupo Reforma
12	Centro de Estudios del Sector Privado Para el Desarrollo Sustentable(CESPEDES)
13	Comision Federal de Electricidad (CFE)
14	Centro de Investigacion e Innovacion Tecnologica (CIITEC)
15	Centro de Investigacion de Estudios Avanzados-Instituto Politecnico Nacional (CINVESTAV-IPN)
16	Comision Nacional del Agua(CNA)
17	Camara Nacional de la Industria de Aceites, Grasa y Jabones(CNIAGYJ)
18	(CNICYP)
19	Colegio de Ingenieros Ambientales de Mexico
20	Colegio de Ingenieros Mecanicos y Electrisistas A.C.
21	Consejo Nacional para el Conocimiento y Uso de la Biodiversidad(CONABIO)
22	Confederacion Nacional de Camaras Industriales de Los Estados Unidos Mexicanos (CONCAMIN)
23	Camara Nacional de Industriales Ecologistas(CONIECO)
24	Control Quimico Novomann Internacional
25	Confederacion Patronal de la Republica Mexicana (COPARMEX)
26	Direccion General de Salud Ambiental (DGSA)
27	Sistema Nacional para el Desarrollo Integral de la Familia-Distrito Federal (DIF-DF)
28	Ecociudadania del Futuro
29	Ecotech Consultores
30	Entidad Mexicana de Acreditacion (EMA)
31	Federacion Mexicana de Ingenieria Sanitaria y Ciencias Ambientales A.C. (FEMISCA A.C.)
32	Comision Ambiental Metropolitana(CAM)
33	Gobierno del Distrito Federal(GDF)
34	Gobierno del Estado de Mexico (GEM)
35	GEM-Secretaria de Ecologia
36	General Motors Mexico(GMM)

Information Network

1	Red Mexicana de Manejo de Adecuado de Residuos (REMEXMAR)
2	Red Panamericana de Manejo de Adecuado de Residuos (REPAMAR)
3	Sistema Nacional de Informacion de Calidad del Aire (SINAICA)

37	Gob. Edo. de Zacatecas
38	Gob. Edo. Morelos
39	Instituto Mexicano del Petroleo (IMP)
40	Instituto Nacional de Enfermedades Respiratorias(INER)
41	Ingenieria y Sintesis S.A. de C.V
42	Instituto Nacional de Investigaciones Nucleares(ININ)
43	Instituto Mexicano de Tecnologia del Agua
44	Instituto Nacional de Salud Publica (INSP)
45	Integra Tres S.A. de C.V.
46	Instituto Politecnico Nacional(IPN)
47	Centro Interdiciplinario de Estudios Sobre el Medio Ambiente(IPN-CIIEMAD)
48	Instituto de Salud, Ambiente y Trabajo A.C. (ISAT)
49	Lab. ABC
50	Pennoni Internacional de Mexico S.A. de C.V.
51	Procuraduria Federal de Proteccion al Ambiente(PROFERA)
52	Red de Accion sobre Plaguicidasy Alternativas en Mexico (RAPAM)
53	Residuos Industriales Multiquim S.A(RIMSA)
54	Sampling S.A. de C.V.
55	Secretaria de Energia(SE)
56	Secretaria de Economia
57	Secretaria de Salud
58	Delegacion Jalisco de SEMARNAT (SEMARNAT-JALISCO)
59	Secretaria de Gobernacion(SG)
60	Sistemas de Ingenieria y Control Ambiental(SICA)
61	Secretaria de Relaciones Exteriores(SRE)
62	Sustenta A.C.
63	Compania Hulera TORNEL(TORNEL)
64	Universidad Autonoma de Ciudad Juarez(UACJ)
65	Universidad Autonoma Metropolitana - Azcapozalco(UAM-A)
66	Universidad Autonoma Metropolitana - Iztapalapa(UAM-I)
67	Universidad Autonoma Metropolitana - Xochimilco (UAM-I)
68	Universidad Autonoma de Zacatecas(UAZ)
69	Universidad de Colima(UC)
70	Universidad de Ciudad Juarez(UCJ)
71	Universidad Nacional Autonoma de Mexico(UNAM)
72	Universidad Tecnologica Fidel Velazquez
73	Universidad Tecnológica Nezahualcoyotl
74	Universidad Autonoma de Queretaro(UAQ)

External Organization

1	California Air Resources Board(CARB)
2	Centro Nacional de Medio Ambiente (CENMA-CHILE)
3	Deutsche Gesellshaft fur Techische Zusammenaibeit(GTZ)
4	Organizacion Panamericana de la Salud - Organizacion Mundial de la Salud(OPS-OMS)
5	U.S.Agency for International Development(USAID)
6	Instituto de Meteorologia (Cuba)
7	Swisscontact-Panamá Grupo Monitoreo del Aire
8	MIT- EUA
9	Environment Canada
10	CETESB (Brasil)
11	Ministerio de Obras Públicas y Transporte (Peru)
12	Environmental Protection Agency (EPA)
13	Universidad de Harvard
14	Comisión para la Cooperacion Ambiental (CCA)

List of CENICA's collaboration for Mexicans Norms Project

Code	NMX Title	Meeting date	CENICA's Participant	Document
	Test methods for determination of hazardous waste	January 20, 2000	Ing. Victor Gutiérrez Avedoy Q.F.B. Ma. Carmen Gutiérrez Cigales CENICA participate in the document elaboration and to organize the work groups	Participation by Official notice invitation
♦ PROY-NMX-AA-001-SCFI-2001 ♦ PROY-NMX-AA-027-SCFI-2001 ♦ PROY-NMX-AA-013-SCFI-2001	♦ Liquid waste and/or aqueous solutions.- corrosivity to carbon steel ♦ Liquid waste.- pH determination ♦ Solid waste.- pH determination	February 2, 2000	Q.F.B. Ma. Carmen Gutierrez Cigales M en C. Adrían Ramos	Test methods review for corrosivity to carbon steel and pH in solid and liquid waste
♦ PROY-NMX-AA-043-SCFI-2001 ♦ PROY-NMX-AA-037-SCFI-2001 ♦ PROY-NMX-AA-041-SCFI-2001	♦ Waste.- Reactivity determination ♦ Liquid waste.- Ignitability in closed-cup ♦ Solid waste.- Ignitability	March 2, 2000	Q.F.B. Ma. Carmen Gutiérrez Cigales M en C. Adrían Ramos	Test methods review for cyanide and sulfide determination and ignitability
♦ PROY-NMX-AA-048-SCFI-2001	♦ Waste.- Metals by atomic absorption spectrophotometry in products from the toxic compounds extraction test	April 13, 2000	Q.F.B. Ma. Carmen Gutiérrez Cigales Q. Paola Salgado and Hector Garcia Romero	Test methods elaboration and review
♦ PROY-NMX-AA-020-SCFI-2001	♦ Waste.- semivolatile organic compounds in products from the toxic compounds extraction test	June 13, 2000	Q.F.B. Ma. Carmen Gutiérrez Cigales	Test methods review
♦ PROY-NMX-AA-103-SCFI-2001	♦ Waste.- volatile organic compounds in products from the toxic compounds extraction test	October 16, 2000	Q.F.B. Ma. Carmen Gutiérrez Cigales	Test methods review and quality control data for all methods
	All NMX document	December 5, 2000	Ing. Victor Gutiérrez Avedoy Q.F.B. Ma. Carmen Gutiérrez Cigales	Document sign for INE administrative procedures

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