



REGIONAL CO-OPERATIVE AGREEMENT
INTERNATIONAL ATOMIC ENERGY AGENCY



REPORT

**TWENTIETH GENERAL CONFERENCE MEETING
OF
REPRESENTATIVES OF RCA MEMBER STATES**

IAEA - Vienna, 18 September 1991

REPORT

TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES OF RCA MEMBER STATES

IAEA - Vienna, 18 September 1991

Table of Contents

	<u>Page</u>
General	1
Report by RCA Co-ordinator	2
Thirteenth RCA Working Group Meeting	2
RCA Annual Report	2
RCA Programme 1992	3
Other Business	7
Summary of Decisions	9
Closing	10
Annex 1	List of delegates
Annex 2	Opening Remarks - Interim Chairman
Annex 3	Opening Remarks - DDG-TC
Annex 4	Agenda
Annex 5	Report by RCA Co-ordinator
Annex 6	Resolution for new UNDP Project
Annex 7	Country Statement - Australia
Annex 8	Country Statement - Bangladesh
Annex 9	Country Statement - China
Annex 10	Country Statement - India
Annex 11	Country Statement - Indonesia
Annex 12	Country Statement - Japan
Annex 13	Country Statement - Malaysia
Annex 14	Country Statement - Pakistan
Annex 15	Country Statement - Philippines
Annex 16	Country Statement - Thailand
Annex 17	Country Statement - Viet Nam

Twentieth General Conference Meeting of
Representatives of RCA Member States

10:00h Wednesday, 18 September 1991

Mezzanine: Belvederetrakt (Room 201), Hofburg Vienna

The meeting was attended by twenty-five delegates representing all Member States with the exception of Singapore and Sri Lanka. A list of delegates is attached as Annex 1.

The meeting was opened by the Interim Chairman, Mr. Apichai Chvajarernpun, Office of Atomic Energy for Peace, Thailand, on behalf of the Secretary General, OAEP. He noted with appreciation the success and progress of activities within the RCA which were bringing highly practical benefits to the Member States and the Region. He pointed out that the UNDP funding for the Regional Industrial Project would cease, after a long record of successful achievement, at the end of 1991 and expressed his hope and support for the next phase of this project theme to ensure prosperity for all countries in the Region. He further expressed his hope that UNDP would take note of the positive response of the RCA Member States for the new proposal and again assist with financial support. The full text is presented in Annex 2.

He thanked all delegates on behalf of OAEP for their support over the past year and called for the nomination of the Chairman of the RCA Meeting 1991.

Dr. Nguyen Tien Nguyen, Director, Department of International Relations, VINATOM, was nominated by Japan, seconded by Philippines and unanimously elected Chairman. Dr. Nguyen expressed appreciation to the outgoing Chairman for his support and thanked the delegates for their confidence. He stressed the important task of getting the new UNDP project proposal for funding approved by UNDP New York and invited the meeting to take action. He also pointed out that a decision had to be taken on the renewal of the RCA Agreement and then invited the Deputy Director General, Department of Technical Co-operation to present his welcome on behalf of the IAEA.

Mr. Noramly made reference to the last RCA Working Group Meeting in Ho Chi Minh City and pointed out the need for continuing the RCA Agreement. He expressed his concern on the funding of the new UNDP Project proposal and urged all Member States to lobby UNDP Offices in their own countries and UNDP New York to get the new project proposal approved. The full text is presented in Annex 3.

Following the adoption of the Agenda (Annex 4), the Chairman invited the RCA Co-ordinator to present his report.

Report by RCA Co-ordinator

In his report the RCA Co-ordinator reiterated that the current RCA Agreement will run out in June 1992. He said there had been general acceptance among Member States to retain the current form and content of the Agreement, however they needed to consider how the transition between the Agreements might be most rapidly and effectively achieved.

He said that the future funding of RCA remained a major concern, especially the funding of the UNDP Project. He stressed the importance of convincing UNDP of the merit of the new project proposal and pointed out that positive statements of support from all Member States on the high importance of this proposal were required. He emphasized the importance of the extra-budgetary funding from Australia and Japan as well as the funding from other Member States. All Member States were urged to financially support the project.

The full text of the report is attached as Annex 5.

Thirteenth RCA Working Group Meeting, Ho Chi Minh City, March 1991

The report was accepted without comment.

RCA Annual Report 1990

The Chairman introduced the report and invited Member States to comment.

The delegate from Malaysia expressed appreciation of the effort that had gone into the Annual Report and the work of the Secretariat. The continued support from Australia and Japan was greatly appreciated and hope was expressed that the UNDP support would continue.

The delegate from Indonesia declared acceptance of the Annual Report. Appreciation was expressed for the continued financial support from Australia and Japan and for the RCA Co-

ordinator's support in IAEA.

The Annual Report was accepted with a minor editorial correction.

RCA Programme 1992

a. RCA Agreement 1992-1997

The delegate from Japan expressed appreciation of the efforts of the RCA Office for the extension of the Agreement next year. He proposed that an extension agreement be used as had been done in 1982 and 1987. He also expressed the wish that RCA activities would be carried out in accordance with the relevant articles of the RCA Agreement. The delegate from Malaysia supported this proposal. The delegate from the Philippines stated that at the last RCA Working Group Meeting it had been decided to modify the wording of Article 13, para 3 by inserting "and in 1987" as provided in the background papers.

The delegate from Australia supported the Japanese proposal. The delegates from India, China, Republic of Korea, Indonesia, and Pakistan supported this method of entering into the 1992-1997 RCA Agreement and the proposal was approved by consensus. The Secretariat was asked to prepare a draft of the extension document and circulate it to Member States.

The delegate from Japan announced that his country confirmed its offer to host next year's Working Group Meeting. The date and venue were yet to be decided.

b. Regional Industrial Project - 1992 funding

The Member States were reminded that at the last General Conference Meeting a decision was made to cease the UNDP/IAEA Industrial Project at the end of 1991 when the UNDP funds ceased. At the 13th Working Group Meeting it had been decided that a programme of activities would be needed in this area to avoid a loss of momentum between the end of the present UNDP support and the anticipated new support expected in late 1992. It had been decided that the best way to provide this 'bridge' would be through the slippage of events supported by the extrabudgetary programmes of Australia and Japan. In this way there would be no additional cost burden to the donors.

The Meeting unanimously agreed to the continuation of activities in the Industrial Project after the cessation of the UNDP funding at the end of 1991.

c. New UNDP project proposal for funding 1992-1996

The RCA Co-ordinator informed the Meeting that he had received a draft document from UNDP New York on the "Fifth Inter-Country Programme of UNDP 1992-1996". The new project proposal fitted well within the category of 'Environment and Natural Resource Management' and met all six criteria set by UNDP. A response by the Agency was required by 30 September 1991. The draft PFF was now being prepared to emphasize how the proposal fits into the UNDP priority areas.

The delegate from Republic of Korea expressed his country's support for the project and asked for advice on what action they could take. The RCA Co-ordinator responded by saying that the Member States could lobby the UNDP offices in their own countries, as well as UNDP Headquarters in New York and that the Agency had already received positive feedback from several UNDP offices.

The delegate from Philippines introduced a resolution to the Meeting for transmission to UNDP New York. The full text of the resolution is presented in Annex 6. The resolution was strongly supported by the delegates from Australia, Japan, Malaysia, India, Bangladesh and Indonesia and was unanimously agreed to by the Meeting.

d. Possible funding of RCA projects from international sources

Future and current footnote/a projects

New Project proposals

Recording of National investments in Industrial Nuclear Technology

The RCA Co-ordinator informed the Meeting that other funding for the new Project proposal had been investigated. The Asian Development Bank has a programme for support but the emphasis on environmental issues would mean that only a proportion of the project would fit into this category. The EEC had been asked about funding but there was no positive response.

The delegate from Philippines suggested UNEP might be asked for possible funding of projects.

The RCA Co-ordinator pointed out that there were three footnote/a projects which were currently unfunded: Control of Tropical Plant Viruses; Isotope Hydrology and Sedimentology; and Risk Management. A decision should be made on whether they should be cancelled or funded.

He informed delegates that there were four new project proposals in the background papers: "Nuclear Techniques in Development of Advanced Ceramic Technologies"; "Control of Exposures in High Natural Radiation Areas"; "Radon Exposures in Occupational Work other than in Uranium Mining"; and "Training in Radiation Protection in the Mining and Milling of Radioactive Ores".

Member States were asked to provide the Agency on a regular, and if possible yearly basis, information on national investments in nuclear technologies in order to help the Secretariat on the promotion of RCA activities.

The delegate from Australia expressed his country's support for RCA and announced a proposal for a new project on the application of nuclear techniques to regional development. The project document would be circulated for the consideration by Member States within the next few weeks and, subject to final approval, Australia would provide A\$1.5 million for the time period 1992-1995. The project had arisen from consultations between AIDAB, the Royal Prince Alfred Hospital, the Department of Foreign Affairs and Trade and areas of Australian expertise and was presented in three components: Application of radioisotopes and radiation to industry; radiation protection in industry; and nuclear medicine. These three components also reflected IAEA priorities. Australia stated its commitment to the decisions made at the Ho Chi Minh City Working Group Meeting and TC project priorities. Major support will be offered to the industrial and radiation protection segments as evidence of Australia's commitment to the proposed new UNDP regional industrial project. Australia will welcome suggestions on further refining the document to enhance linkages with the UNDP proposal.

The delegate from India expressed interest in the three radiation protection proposals and suggested to replace "control" by "survey and assessment" in the title of the project "Control of Exposures in High Natural Radiation Areas".

The delegate from Philippines asked for more details on the new project proposals and was advised that the technical details would be discussed at the Working Group Meeting.

The delegate from Malaysia commented that it was preferable to have new projects funded rather than keep the unfunded footnote/a projects. The delegate from Philippines pointed out that with respect to the Project on Risk Management, the Agency had supported some activities under research contracts. The delegate from Bangladesh expressed interest in the Isotope hydrology project. The RCA Co-ordinator said that projects could be put up as a TC National Project if there was specific interest from only one country. The delegate from Indonesia suggested to cancel the isotope hydrology and sedimentology project but appealed to Japan to continue with the project "control of tropical plant viruses". The delegate from Japan replied that he would convey this interest to his country. The delegate from Malaysia said that there was a project on tropical plant viruses with the National University of Agriculture in Malaysia. He would find out more details about it.

The DDG-TC pointed out that in the field of isotope hydrology and sedimentology a Member State can get in touch with a neighbouring country and participate in their programme. Malaysia, for example, even accepted countries from other continents participating in their programmes.

The delegates from Bangladesh and China agreed to have the project on isotope hydrology and sedimentology deleted.

The delegate from Australia said that his country would continue to support the radiation protection and the industrial project. These would be supported under the new projects as mentioned earlier. In 1992 Australia was planning, subject to final approval, to conduct an RCA Workshop on Development of Technology, Techniques and Methods of Instruction in Radiation Protection as well as a third Regional Training Course on Computers in Technetium-99m Imaging. He also suggested that all unfunded footnote/a projects be deleted and funded under a different mechanism.

The delegate from Philippines supported this proposal but said that only footnote/a projects which have been on the list for two years, should be deleted.

The RCA Co-ordinator proposed that Member States instruct the Secretariat to delete footnote/a projects if they are not funded after two years. The delegate from India agreed in principle but asked that the decision for deletion of projects be left to the General Conference Meeting, since the number of projects was very small. The delegates from Indonesia and Philippines supported the delegate from India. This amendment was unanimously supported.

The Chairman, in summarizing, said that the decision was to table footnote/a projects which have been unfunded for more than two years at this Meeting and have the Meeting decide on the deletion of such projects.

Other business

The RCA Co-ordinator asked all delegates to inform the Agency as soon as possible of any training courses or workshops which they might want to sponsor in 1992. For administrative reasons the Agency required to know by the end of October what events would take place so there was sufficient lead time to organize both the regional and national activities. Member States should indicate clearly if they require the Agency to assist in providing support for foreign lecturers.

The delegate from China announced that his country would sponsor two regional workshops in 1992, a Regional Workshop on Neutron Transmutation using Research Reactors in Beijing, the fourth quarter of 1992 and a Regional Workshop on NCS in Steel Industry in Shanghai.

The delegate from Bangladesh asked if new training course activities could be proposed. The RCA Co-ordinator replied that in case of new courses the question of funding would arise.

The delegate from Philippines noted that no training activities were proposed for tracer technology for 1992, but several activities were shown for NCS. The RCA Co-ordinator replied that the reason for the unevenness in the sub-projects was due to slippage of activities into 1992 and to the different strategies being used to transfer technology in the two fields.

The delegate from Malaysia said that four activities for 1992 will be hosted by Malaysia: an AGM on NDT in January, a Regional Seminar on Public Acceptance in April, a Regional

Training Course on Instrumentation in May, and a Regional Training Course on Soil Science.

The delegate from India pointed out that the correct title for the 1992 Regional Workshop supported by India under the Industrial Project was "Regional Workshop on Image Processing in NDT". He also proposed a 2-week Regional Training Course on Advanced Mutation Breeding of Tropical Crop Plants in 1992.

In reply to a question of the delegate from Malaysia concerning the post of the UNDP Co-ordinator, the RCA Co-ordinator said that Mr. Manoon had left the Project Office in Jakarta at the end of July to return to Thailand and that the long-term expert, Mr. Joon-Ha Jin would remain in the Jakarta Office until the end of the year. The appointment of a new Project Co-ordinator was dependant on securing UNDP funding for the new project proposal. Since there was no certainty of the funding at present, it was not meaningful to have a Project Co-ordinator if there was no Project for him to co-ordinate. He went on to express appreciation for all the support Indonesia had provided to the Project Office over the past years and mentioned that the question of location of the Project Office for the future was still to be discussed. He pointed out that the intention was to have three or four long-term experts stationed in the Region under the new UNDP Project and these experts will need the support of the country where they are placed. The long-term experts will be recruited by the Agency's Division of Personnel. He expressed his appreciation of Dr. Manoon's contribution to the UNDP/IAEA Industrial Project during his term as Project Co-ordinator.

The DDG-TC pointed out that the job description for the Project Co-ordinator's post had been prepared and was with the Division of Personnel.

The delegate from Malaysia appreciated Mr. Noramly's efforts for RCA and said that this would be the last meeting in which he acted in his function as DDG-TC. The delegate from India joined him in thanking Mr. Noramly for all his efforts to make the RCA successful. He mentioned that the RCA was so successful in promoting scientific co-operation in the Region that other groups, as for instance the Asian Crystallographic Association, used this as an example and formed similar groupings with the same composition.

The delegate from Australia joined Malaysia and India in his appreciation of Mr. Noramly's efforts and said that it was a widely held opinion that the RCA was the most successful regional co-operation project within the UN.

The Chairman invited Mr. Noramly to make concluding remarks.

Summary of decisions taken by the Meeting

1. The RCA Annual Report 1990 was accepted.
2. The Report of the 13th RCA Working Group Meeting, Ho Chi Minh City, was accepted.
3. The RCA programme for 1992 was endorsed.
4. The offer by Japan to host the 14th RCA Working Group Meeting was confirmed.
5. The RCA Agreement 1992-1997 will be through an extension agreement to be drafted by the Secretariat.
6. The activities under the Industrial Project will continue after UNDP funding ceases at the end of 1991.
7. A resolution of support for the new project proposal submitted to UNDP for funding was unanimously endorsed.
8. Footnote/a projects that have not been taken up within 2 years will automatically be referred to the General Conference Meeting for deletion.
9. The footnote/a project RAS/8/066 "Isotope Hydrology and Sedimentology" was recommended for deletion.

Actions

1. Mr. Noramly will convey the RCA Member States resolution on UNDP support for the new project proposal to UNDP Headquarters, New York.
2. The Secretariat will prepare and distribute a draft to allow an extension agreement to cover the RCA Agreement 1992-1996

Closing

In his concluding remarks Mr. Noramly, DDG-TC thanked all RCA Member States for their support. He expressed special thanks to Australia for their A\$1.5 million for the new programme. He further personally thanked Professor Zifferero, former DDG-RI for all his support in the previous years and welcomed Mr. Machi, DDG-RI to his new post, pointing out that he was no new person to RCA. He paid tribute to Mr. Manoon, who was a great help to the Project and who will be posted in Tokyo as Scientific Attache and pointed out that it was important to fill the post of UNDP Co-ordinator. He asked delegates to ensure that their proposals for new projects would fit into the IAEA's medium term plan. He finally thanked the delegates from Malaysia, India and Australia for their warm remarks.

The Chairman expressed his appreciation to the Agency for all support, gave his best wishes to Mr. Noramly and thanked all delegates for their co-operation. The Meeting was closed at 12:15.

LIST OF PARTICIPANTS

AUSTRALIA

Dr. David Cook
Executive Director
Australian Nuclear Science and Technology
Organization (ANSTO)

Mr. William A. Wise
Director
Nuclear Affairs Section
Department of Foreign Affairs and Trade

Mr. G. Hogg
Counsellor (Nuclear)
Permanent Mission of Australia

BANGLADESH

Mr. M.A. Mannan
Chairman
Bangladesh Atomic Energy Commission
Dhaka

CHINA

Ms. Liu Xuehong, Chief Delegate
Deputy Director
The Office of IAEA Affairs for Ministry of Energy
Beijing

Mr. Xu Naicheng
Head of the Division of International Organizations
The Office of IAEA Affairs for Ministry of Energy
Beijing

Ms. Ma Xiuzeng
Adviser
Permanent Mission of China

INDIA

Dr. R. Chidambaram
Director
Bhabha Atomic Research Centre
Bombay

Dr. Ashok Mohan
Counsellor
The Permanent Mission of India

INDONESIA

Dr. Nazir Abdullah
Deputy Director General
BATAN
Jakarta

JAPAN

Mr. Yoshifumi Okamura
Deputy Director
Nuclear Energy Division
Ministry of Foreign Affairs (MFA)
Tokyo

Mr. Masanori Wada
Official
Nuclear Energy Division
Ministry of Foreign Affairs (MFA)
Tokyo

Mr. Genichi Suzuki (observer)
Manager
Department of Planning and
International Affairs
Japan Atomic Industrial Forum Inc.
Tokyo

REPUBLIC OF KOREA

Mr. Chung-Won Cho
Director for Atomic Energy
International Co-operation
Ministry of Science and Technology
Gwacheon

Mr. Young-Myung Choi
Head, Nuclear Policy Analysis Department
Korea Atomic Energy Research Institute (KAERI)
Taejeon

Mr. J.K. Chung
Manager, Public Information and
Co-operation Department
Korea Atomic Energy Research Institute (KAERI)
Taejeon

MALAYSIA

Datuk Dr. M. Ghazali
Director General
Nuclear Energy Unit
Ministry of Science Technology and Environment
PUSPATI Kompleks
Bangi

Ms. Rabiah Abu-Hassan
Nuclear Energy Unit
Ministry of Science Technology and Environment
PUSPATI Kompleks
Bangi

PAKISTAN

Dr. Ishfaq Ahmed
Chairman
Pakistan Atomic Energy Commission
Islamabad

Mr. Jawad A. Hashimi
Attache
Atomic Energy Affairs
Permanent Mission of Pakistan

Mr. Muhammad Afzal
Pakistan Atomic Energy Commission
Islamabad

PHILIPPINES

Dr. Carlito R. Aleta
Director
Philippine Nuclear Research Institute (PNRI)
Quezon City

THAILAND

Dr. Pakit Kiravanich
Secretary-General
Office of Atomic Energy for Peace (OAEP)
Bangkok

Mr. Apichai Chvajarernpun
Senior Nuclear Engineer
Office of Atomic Energy for Peace (OAEP)
Bangkok

VIET NAM

Dr. Nguyen Tien Nguyen
Director
Department of International Relations and Planning
Viet Nam National Atomic Energy Commission (VINATOM)
Hanoi

**REMARKS
BY DR. PAKIT KIRAVANICH, OAEP, THAILAND
INTERIM CHAIRMAN
AT THE TWENTIETH GENERAL CONFERENCE
OF
REPRESENTATIVES OF RCA MEMBER STATES MEETING
IAEA-Vienna, 18 September 1991**

Dr. Noramly bin Muslim, Deputy Director General of IAEA,
Dr. John Easey, RCA Coordinator,
Distinguished Delegates,
Ladies and Gentlemen,

May I, first, express my great pleasure to have the opportunity of serving as the interim chairman in this distinguished conference, on behalf of the Royal Thai Government. I trust this gathering of all of you who are old friends will again provide full advantage in RCA Agreement implementation assessment during the previous year and exchange of views on the RCA 1992 programme as well as its future direction over the next extension.

Within the framework of the current RCA Agreement, the IAEA, UNDP and individual Member States have been making substantial contributions through the promotion of regional cooperation. I note with appreciation the overall comprehensive success and progress of the activities which bring highly practical benefits to the member countries and the region as a whole. At the last meeting of the RCA Representatives, it was proclaimed that the Project would be terminated, after long successful achievements, in 1992. Taking into account the need to continue this project, the forum agreed to support the New RCA Agreement 1992-1997.

Ladies and Gentlemen,

Also, we will now complete the successful Second Phase of UNDP/RCA Project on Industrial Application of Isotope and Radiation Technology this year. I believe it will be our intention to continue the next cycle of this project as we are aware that the efforts already made are a starting point and should be followed by another long term actions to ensure the prosperity for all countries in the Region. The decision adopted by the forum of the 13th RCA Working Group Meeting held in Ho Chi Minh City, Vietnam, in March 1991 agreed to the proposal of the UNDP/RCA Program on the Use of Isotope and Radiation to Strengthen Technology and Support Environmentally Sustainable Development. In this regard, it is hoped that the potential donor, UNDP, will also note the positive response of the Program and again join us in this useful endeavour by giving practical and financial support to the implementation of the Program.

Ladies and Gentlemen,

This is therefore another important step to continue and follow up the actions undertaken. I would like to invite you all to use this opportunity in seeking for your consent and endorsement for the extension of RCA Agreement 1992-1997 and the new cycle of UNDP/RCA Program 1992-1996.

Before we go any further, I wish to thank you all delegates, on behalf of the OAEP, for the generous support and cooperation extended during the past years. Now, I would like to call for nomination for the Chairman of the RCA General Conference Meeting 1991.

Distinguished Delegate from Japan.

Thank you, Distinguished Delegate from Japan nominated Mr. Nguyen Tien Nguyen as the Chairman of the meeting.

Distinguished Delegate from Philippines.

Thank you, Distinguished Delegates from Phillipines proposed his second nomination of Mr. Nguyen Tien Nguyen as the Chairman of the meeting.

Mr. Nguyen Tien Nguyen has been proposed as the Chairman of the meeting. On all your behalf, let me extend a warm welcome to Mr..Nguyen. Thank you.

**TWENTIETH GENERAL CONFERENCE MEETING OF
REPRESENTATIVES OF RCA MEMBER STATES**

Opening Remarks

by

**Noramly bin Muslim, Deputy Director General
Department of Technical Co-operation**

Mr. Chairman, Distinguished Delegates, Colleagues, Ladies and Gentlemen.

On behalf of the Director General, Dr. Hans Blix, it gives me great pleasure to welcome you to the Twentieth Annual General Conference Meeting of the Representatives of RCA Member States. I extend greetings to those who are attending here for the first time as well those who regularly participate and contribute to this important regional activity. I would also like to introduce Dr. Machi, the new DDG-RI. Dr. Machi is no newcomer to RCA, and I have known him as long as he has been active in RCA activities. RCA has been very close to his heart.

In the year since the last General Conference Meeting, there has been a continuation of the strong performance of RCA projects. In March we had the 13th RCA Working Group Meeting in Ho Chi Minh City and it was officially open by H.E. General Vo Nguyen Giap, Vice-Chairman of the Council of Ministers. In his opening address General Giap reviewed the achievements of the Viet Nam Atomic Energy Commission and expressed his appreciation of IAEA support and encouragement. He pointed to the need for continuing attention on the important issues of public acceptance of nuclear technology and the demonstration of cost benefit in the promotion of technology to industry.

The Working Group Meeting was chaired by Professor Pham Duy Hien who skillfully and effectively guided the Meeting through its business.

The highlights of the meeting were:

- . the acceptance of the 1990 Annual Report;
- . the acceptance of the 1991 Budget and Action Plan;

- . the decision to keep the present wording of the Agreement when it comes for renewal in 1992;
- . the agreement and endorsement of the content of the new project proposals to go to UNDP for funding in the next programme cycle 1992-96; and,
- . the decision to maintain a spectrum of activities in 1992 for the UNDP Industrial Project to bridge the gap between the end of the present UNDP funding and the anticipated start of the new UNDP project.

Issues raised during the WGM included:

- . the assessment and recording of "in-kind" contributions;
- . the need to increase activities involving the utilization of research reactors;
- . the possibility of having trainees from other regions participating at no cost to RCA in RCA activities; (was also conveyed to the Regional Group for Africa)
- . the need to address the issues of public acceptance and safety while promoting nuclear technology, specially in the areas of industrial applications and food irradiation; and,
- . the desirability of reducing the total number of RCA projects so that greater depth of coverage can be achieved.

Copies of the RCA Working Group Meeting Report and the 1990 RCA Annual Report have been distributed to you.

Although both reports detail a healthy programme I am frankly pessimistic about the future. We are all aware of the cessation of the UNDP funded Industrial Project at the end of this year and, although we have prepared and submitted a new project proposal to UNDP for funding in the next Inter-country Programme Cycle 1992-96, we have no firm indication what UNDP might be prepared to support. I would urge all Member States to make representations to UNDP in their own countries and in New York on the importance of the new project proposal. If substantial funding cannot be obtained from UNDP or other sources I fear that RCA will become a minor regional activity and for example in 1993 will only have a fraction of the budget of ARCAL. I feel it is essential that there is a definite policy on the acceptance of extra-budgetary funding so that

alternative sources can be rapidly brought in should UNDP not prove to be able to provide the funds we need. RCA cannot survive or be credible if we have to wait 6 months at a time before decisions on funding sources can be made. I have been told informally that a few countries like Australia, Japan and Pakistan have made their views known to UNDP with regard to their interest on the Industrial Project. I thank them for that.

As a final comment I hope that all Member States will rapidly indicate their acceptance of the renewal of the Agreement for 1992-97. As you know there are no changes from the document use for 1987-92. This was agreed in Ho Chi Minh City and I believe that it works well. It has been demonstrated to work well and should be used until it can be proven to be deficient.

Mr. Chairman, in conclusion I urge you to look very seriously at the future of RCA and do your utmost to ensure that RCA maintains its enviable position and reputation with the Agency's activities. This RCA programme is yours and you have its future in your hands.

Thank you, Mr. Chairman.

**Twentieth General Conference Meeting of
Representatives of RCA Member States**

**10:00h Wednesday, 18th September 1991
Mezzanine: Belvederefrakt (Room 201)**

Agenda

1. Opening
 - . Remarks by interim chairman
 - . Welcome on behalf of the IAEA
 - . Election of chairman
 - . Statement by chairman elect
2. Report by RCA Co-ordinator.
3. Thirteenth RCA Working Group Meeting, Ho Chi Minh City, March 1991.

The Meeting is invited to accept the report as presented or with any agreed amendments.
The basic report is presented as background paper 1.
4. RCA Annual Report 1990.

The Meeting is invited to accept the report as tabled or with any agreed amendments.
The report was circulated separately.
5. RCA Programme 1992.

The Meeting is invited to comment on the 1992 RCA programme documents presented
in background paper 2.
6. Other business.



TWENTIETH GENERAL CONFERENCE MEETING OF
REPRESENTATIVES OF RCA MEMBER STATES

Remarks

by

John F. Easey
RCA Co-ordinator

Mr. Chairman, Distinguished Delegates, Ladies and Gentlemen,

I am pleased to be able to present to you some thoughts and comments on the RCA activities that have occurred since last year's General Conference Meeting.

In the background papers distributed to you all some time ago, I have highlighted a few points I considered meriting discussion at this meeting, though I would not think this list is in any way comprehensive.

The current Regional Co-operative Agreement will run out in June 1992. There has been general acceptance by Member States of retaining the current form and content of the Agreement and a draft has been included in the background papers. Member States need to consider how the transition between the Agreements might be most rapidly and effectively achieved so that no loss of momentum occurs.

Having considered how we might continue the Agreement, we now need to focus on how we will financially sustain an RCA programme. In Mr. Noramly's speech he has voiced his pessimistic view of the future financial status of RCA once the current UNDP funding for the Industrial Project ceases at the end of this year. We are moving slowly ahead with our application to UNDP for funding in the next Inter-Country Programme Cycle, ICP-5 1992-96. I would like to remind Delegates that at the 1991 Working Group Meeting it was decided that the new proposal had to include extra-budgetary financing from Australia and Japan in order to carry out the high priority programme selected by the Member States. This extra-budgetary support is critical not only to secure the implementation of the full agreed programme but, in convincing UNDP of the merit of our proposal, co-financing by donors is seen as an essential element. Currently UNDP has 250 projects competing for only US\$150 million. If we are to stand any chance of gaining US\$4.25 million support from UNDP, we need positive statements of support from all Member States on the very high importance of this programme to their development objectives, and commitment of resources from Australia and Japan.

Financial support for the whole range of activities could benefit from increasing funds. I would like all Member States to consider the possibility of offering their financial backing to particular projects. We have India, China and the Republic of Korea currently funding Regional Training Courses and I feel that other Member States may now be in a position to join this group.

At the last Working Group Meeting, there was an expression that RCA should concentrate on fewer projects but in greater depth. We need to seriously consider this, especially in the light of the planning for the Agency's 1993-94 programme of activities. At this meeting we have some new project proposals to consider and at the same time we also need to have a view on what to do with the RCA footnote a/ projects that have not been able to secure external funding. Although they have technical merit, in the absence of funds, the most rational approach may be to have these projects withdrawn. I would like to hear your views on this.

At last year's General Conference Meeting, it was agreed that the activities under the UNDP Industrial Project should be completed at the end of 1991. However, events concerning proposal to UNDP and their timetable for processing and approving applications for funding. As was discussed at the Ho Chi Minh Working Group Meeting, the problem of avoiding a vacuum and a loss of momentum in activities had to be addressed. One of the decisions of the Meeting was to support the slippage of events funded by the donors Australia and Japan so that a bridge of activities could be achieved at no additional cost. In order to have this proposal not conflict with the decision of the previous General Conference Meeting, we now need to make a decision to support the continuation of the Industrial Project activities into 1992 even though the UNDP financial support has ceased.

I do not wish to speak at length on other specific issues. I am certain that we will be able to range over the other items during the course of this meeting.

As final remarks I would like to appeal to Member States to assist us by providing us with adequate notice of the requirements for expert services and for training courses. Both sections responsible for these services are having to cope with heavy demands and limited staff numbers. Eight weeks are required to process expert requests. Changes in timing, itinerary etc. should not be undertaken lightly as the cause a large amount of additional work. If Member States wish to sponsor and host Training Courses next year, it is essential that the RCA Office receive the information by the end of October 1991 so that the next year's training can be properly planned and organized.

We have a very full programme to complete in our 2 hour schedule but I am certain that the usual business like and efficient considerations that have long been the hallmark of RCA Meetings will ensure that we complete our tasks in good time.

Thank you.

This 20th General Conference Meeting of the RCA Member States

- (a) Recalling the decisions at the 13th Working Group Meeting at Ho Chi Minh City setting the Member States priorities for a project proposal on "the use of isotopes and radiation to strengthen technology and support environmentally sustainable development"
 - (b) Reaffirming the importance of this new project proposal to the RCA programme over the next 5 years
 - (c) Recognizing that this proposal is shortly to be considered by UNDP for funding in the next Intercountry Programme cycle (ICP-5) 1992-1996
1. Requests the Deputy Director General, Technical Co-operation to relay to UNDP Head Office, the RCA Member States strong support for the project proposal and urge UNDP to provide financial support for it in the next Intercountry Programme Cycle ICP-5 1992-96

Vienna, 18 September 1991

**Statement by AUSTRALIA to the
TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES OF
RCA MEMBER STATES, SEPTEMBER 1991**

Mr. Chairman, Distinguished Delegates,

I would like to congratulate you on your election as Chairman of this 20th Annual General Conference Meeting of the Representatives of RCA Member States.

Australia is generally pleased with the progress of the projects undertaken within the framework of the RCA Agreement. The value of the RCA as a means of nuclear technical co-operation in the Asia and Pacific Region is underscored by the successful completion of the activities and projects as the current phase draws to a close in 1992 and the continuing development of new projects to further enhance nuclear technical co-operation and development in the region.

Australia is involved in the 1992 continuation of projects in Radiation and Radioisotope Applications in Industry and Strengthening of Radiation Protection Infrastructure. In 1992 we are planning, subject to final approval, to conduct a RCA Workshop on Development of Technology, Techniques and Methods of Instruction in Radiation Protection, as well as a third Regional Training Course on Computers in Technetium Imaging. In addition we have indicated to the Secretariat that we would welcome an invitation from the IAEA to host the proposed Training Course on Safe Transport of Radioactive Material.

The future of each of the current Australian sponsored projects is covered in our new project proposal. Australia is proposing a new Australian funded project for 1992 to 1995 in the areas of Industrial Applications, including Industrial Radiation Protection, and Nuclear Medicine. Each of these proposed activities builds on the success and developments of the current Australian sponsored projects and is closely interlinked with the proposed new UNDP project, should it be approved. Subject to agreement by the RCA and to final budgetary approval, the new projects will involve expenditures of \$1.5 million over the three years.

The Industrial Applications segment of the new project will hold two regional training courses in Australia which will complement seven expert missions each to two recipient countries and each specializing on an industry sector. The Industrial Radiation Protection segment will support the Industry project by ensuring the safe use of nuclear techniques in industrial applications. The Nuclear Medicine segment is designed towards developing a correspondence course for the benefit of medical technicians.

Australia is interested, in principle, in the proposed "Nuclear techniques in development of advanced ceramic technologies" project. The Australian funded Industrial Applications project proposed for 1992-95 includes a proposal for a regional training course on applications of nuclear technology to materials characterization which matches an activity in the advanced ceramics project. The proposed radiation protection projects are interesting from a research viewpoint and Australia would be interested in participating, including the area of intercalibration of radon monitors. ANSTO and the Australian Radiation Laboratory are already participating jointly in the CRP on Radon in the Human Environment which is associated with the first proposed project. The Australian Radiation Laboratory has in recent years conducted a training course in the mining and milling of radioactive ores for radiation protection and senior mining company personnel. A similar course for RCA participants would in principle be welcome in Australia but the funding would need to be clarified.

On the subject of the renewal of the RCA Agreement for 1992 to 1997, Australia agrees with the arrangement of extending the RCA Agreement rather than formally undertaking a renewal. On questions of funding, the possible funding of RCA projects from international sources such as neutral, untied contributions, particularly from other multilateral or international sources, may be an acceptable means for maintaining the level of RCA activities should UNDP contributions be significantly reduced.

As we begin the third decade of the RCA, Australia believes that the RCA projects and activities have reached such a level of maturity that direct and tangible benefits are being seen in RCA countries. We must build on the success of recent years and continue to implement projects which meet the needs of Member Countries and further enhance nuclear technical co-operation and development in the region.

COUNTRY STATEMENT OF BANGLADESH
TWENTIETH GENERAL CONFERENCE MEETING
OF REPRESENTATIVES OF RCA MEMBER STATES SEPTEMBER, 1991

Mr. Chairman

I have great pleasure in having this opportunity to attend the Twentieth Annual Meeting of Representatives of RCA Member States and I would like to congratulate you on your election as Chairman of the meeting. I am confident that under your able leadership this Annual Meeting will undoubtedly add one more distinguished chapter to the history of RCA co-operation.

Mr. Chairman, distinguished delegates, ladies and gentlemen

The RCA, in its 19 years of existence, has made tangible contributions to the promotion of the peaceful uses of atomic energy in Asia and the Pacific region. RCA is the most effective forum for the developing nations as it offers an opportunity for sharing experience among the countries of the region and also for investigating problems common to countries within a geographical location. Bangladesh considers the RCA as an effective medium for transfer of technology on peaceful uses of atomic energy.

Bangladesh has been taking active part in almost all of the RCA activities since its inception. It is benefited from them through participation in different training courses as well as in regional seminars and co-ordinated research programmes. We firmly believe that activities under RCA should not only continue, but at the same time these should expand in scope significantly. We are looking forward to the renewal of the Agreement (1992-96) with this hope in mind.

Mr. Chairman

I would now like to take this opportunity to give a resume of the status of RCA activities in Bangladesh.

We have been participating in the Non-Destructive Testing sub-project which is playing a vital role in catalyzing Bangladesh's efforts to standardize non-destructive testing activities in the country. The organization of a national certifying body, formation of a local NDT Society and the establishment of a national certificate scheme are expected to facilitate sustained development in this area. In future we hope to further strengthen our activities in the field of related training both locally and for personnel from abroad.

With regard to Radiation Technology, the sub-project "Medical Sterilization Programme" has contributed significantly in the context of Bangladesh. The demand for radiation sterilization of medical products has been growing rapidly and the sterilization technology has already found its application on commercial basis in the country. Other sub-projects like Curing of Surface Coating and Vulcanization of Natural Rubber Latex are progressing satisfactorily at the moment. Necessary training, expert services, awareness and other activities under these projects are now in the final stage and it is expected that the projects will attain their intended objectives shortly.

As for Tracer Technology, two demonstration programmes have been carried out under the framework of RCA. In one programme, mercury inventory in electrolytic cells by radioactive tracer technique using mercury-197 was carried out at the Chittagong Chemical Complex. The other programme concerned gas flow measurements at transmission and distribution points of a national natural gas network. A demonstration programme on application of radioisotope dilution method for determination of the volume flow rate of gas under industrial conditions has been planned to be conducted by the end of October, 1991. A seminar on

the subject will also be held under direct supervision of a RCA expert. Meanwhile, the base for analysis and measurement of pollutants from industrial effluents has also been established.

As for activities of Food and Agriculture Projects, Bangladesh's contributions to Food Irradiation Project include implementation of activities on commercialization, storage and transportation studies of irradiated dried fish, fishery products and onions. Semi-commercial scale studies were also conducted to determine applicability of the process at industrial level for conditions. We are now working on a UNDP financed project (Phase-III) aiming at process control and acceptance activities of irradiation preservation of onions, pulses and dried fish in collaboration with local industry counterparts. A 120,000 Ci commercial irradiation Co-60 facility is now being installed at Chittagong for food processing which is expected to go into production very soon. This would be an excellent example of practical application of the technology. In Agricultural Projects, the follow-up actions for Grain Legume Programmes are satisfactory. Field trial for legume varieties is an example of outcome of these projects.

Mr. Chairman

I would now move on to the Medical and Biological Projects. We have participated in the study of DTPA aerosol permeability and mucociliary function and works done upto January, 1991 were reported in the research co-ordination meeting held in Singapore in February, 1991. The remaining works of this project are now in progress.

Bangladesh has been benefited from the project on Radioimmunoassay of Thyroid Related Hormones. Five Nuclear Medicine Centres and the Institute of Nuclear Medicine are equipped with facilities of radioimmunoassays and the low cost bulk reagents are being used in some of them. We are now working to standardize the quality control procedures and to

develop interlaboratories quality control programme within the country.

As for Radiation Sterilization of Tissue Grafts, we are preparing sterilized amnion membranes and supplying to different hospitals, particularly in Dhaka city, for treatment of burned patients as temporary biological dressing. The results of such treatments are ~~very~~ quite encouraging.

With respect to Quality Control of Advanced Nuclear Medicine Equipment, a method has been developed to carry out quantitative test of uniformity of the analog image and also a computer programme for the digital system. A database is being created to facilitate data handling and management.

Mr. Chairman, Distinguished Delegates

Bangladesh has expressed support to the Development of Radiation Protection Infrastructure project. We have participated in the training courses and workshops organized by the IAEA in collaboration with the Governments of Australia and Japan. Bangladesh is also participating in the co-ordinated research programme highlighted by an intercomparison run of personnel dosimeters with the objectives of improving the accuracy of personnel dose assessment using films and TLDs. This is an extremely necessary activity to further strengthen radiation protection in the RCA region. We have been making utmost efforts for enactment of the Nuclear Safety and Radiation Protection Bill in the country.

With regard to Compilation of Anatomical, Physiological and Metabolic Characteristics for a Reference Asian Man, Bangladesh has been participating in it in an effort to establish a standard Bangladesh man as a part of a reference Asian man which would later be used for radiation protection measures. Age-and-sex specific physical parameters along with data on food habits and intake have been collected and compiled. Further works on the

project are now in progress.

With respect to Research Reactor and Energy Based Projects, Bangladesh has been participating in the CRP on Application of Personal Computers to Enhance Operations and Management of Research Reactor. The activities of this project has not yet been started in full swing. The IAEA has been requested for supplying necessary equipment for this project. The initial works of the project are now in progress.

Bangladesh is considering more active participation in the RCA project on energy and nuclear power. Two groups of personnel have already been trained on use of WASP. We are planning to train more people on the ENPEP, especially on techniques of demand estimation and the impact of energy on the environment. A separate proposal on a country study with ENPEP will be submitted shortly requesting IAEA assistance for its implementation.

Mr. Chairman

Before concluding, I on behalf of the Delegation of Bangladesh like to put on records the appreciation of our Government for the assistance that are being provided under the RCA. The RCA, the participating member states and also the countries and other agencies making generous contribution towards RCA deserve sincere gratitude and thanks for making its various projects successful. The role of RCA will go a long way in materializing developmental targets of many developing countries. Endeavours for development of human resources and for sharing of experience will benefit all the countries of the Agreement. We sincerely hope that this dynamic and constructive role of RCA will flourish further in the years to come.

I thank you for your patient hearing.



**COUNTRY STATEMENT BY THE REPUBLIC OF CHINA TO THE
TWENTIETH GENERAL CONFERENCE MEETING
OF REPRESENTATIVES OF RCA MEMBER STATES, SEPTEMBER 1991**

Mr. Chairman,

I have great pleasure to be here again to meet IAEA friends and all colleagues from RCA Member States. On behalf of the Chinese delegation, I join other delegates to congratulate you on the election as the Chairman of this 20th RCA General Conference Meeting.

The past year is another successful year of RCA Co-operation programme. As described in the annual report, further progress and new achievements were made in 1990. I would like to take this opportunity to thank the IAEA staff for their excellent work and the RCA Member States for the various contributions. The co-operation spirit shown in the past years is greatly beneficial to the regional prosperity and gives impetus to the peaceful use of atomic energy in the region. In this regard, we share the views expressed by other delegates that the RCA Agreement should be renewed for the period of 1992-1997.

On the other hand, we are facing financial problem in the coming years due to possible cut of UNDP funds. So RCA now should concentrate on high quality in-depth projects. In order to make use of the available funds more effectively, the Agency faces new challenge how to better allocate the funds from various channels such as UNDP, TACF, extra-contribution of donor countries and how to co-ordinate the projects and activities.

The past experience has shown that the further dissemination of nuclear techniques in application for industry, human health and agriculture must be continued. In 1992, China will sponsor a regional workshop on NCS Application in Steel Industry at Shanghai Baoshan Steel and Iron Company. We would like to share our experience with others to demonstrate the benefits from NCS application in steel industry. For advanced technologies, emphasis should be placed on those which have great potential to be transferred from research institute to end users in order to result in more economic and social benefits. With respect to the proposal on development of advanced ceramic materials, we think it will be useful to give positive impact on the development of advanced technology-based industries.

Emphasis should also placed on safety and radiation protection, which is crucial to promote the public acceptance and further extensive application of the radiation technology. In 1991, China sponsored a national workshop on Safe Operation of Industrial Radiation Processing Facilities and a regional training course on Environmental Monitoring related to Assessment of the Safety of Nuclear Facilities. The new proposals on CRPs and training related to radiation protection attract our interests, in particular radiation protection in the mining and milling of radioactive ores.

Mr. Chairman, we are pleased to see a footnote-a/ project, nuclear instrument maintenance (RAS/4/012) has become operational. We hope this project could complement another similar project RAS/4/008 to strengthen the regional co-operation in providing spare parts and experts for maintenance and repair of nuclear instruments.

With the interest expressed by RCA Member States in Utilization of Research Reactors, China will sponsor a regional training course on neutron transmutation Doping at Institute of Atomic Energy in Beijing. Furthermore, I would like to remind our colleagues of the actual needs of nuclear power in this region. Some countries, in addition to the countries which have had NPPs under operation & construction, are seriously considering to develop nuclear power as an alternative source of electricity. Extension of activities on nuclear power planning and manpower training would be useful to the region.

Mr. Chairman, in concluding, I wish to congratulate the success of the meeting.

Thank you.

**INDIA'S STATEMENT AT THE TWENTIETH GENERAL
CONFERENCE MEETING OF RCA MEMBER STATES**

**INDIA'S STATEMENT AT THE TWENTIETH GENERAL
CONFERENCE MEETING OF RCA MEMBER STATES**

1. India continues to support all activities under the framework of RCA. India offers its facilities and expertise to other RCA member states in promoting regional cooperation in research in nuclear sciences and nuclear application. We welcome the suggestion made by Dr. Noramly, DDG during the Working Group Meeting held at Ho Chi Minh City - Vietnam to include trainees from other regions. I may like to mention here that we already provide training to scientists from many developing countries under the Agency's Technical Cooperation Programme.

2. India strongly supports the project on Utilization of Research Reactors and I think Agency should provide more funds for conducting project activities in this area. India can assist the project by organising workshops and seminars in India on various subjects to be covered under the broad title "Utilization of Research Reactors".

3. India is interested in participating in the following three projects proposed for inclusion in RCA:

- i) Effect of Exposure in High Natural Radiation Areas.
- ii) Radon Exposures in Occupational Work other than Uranium Mining.
- iii) Training in Radiation Protection in Mining and Milling of Radiation Ores.

India has an on-going programme on monitoring of population exposure in high radiation background areas and could contribute significantly to the project. India can also assist in organising a training course on Radiation Protection in Mining and Milling of Radioactive Ores.

4. We always attach great importance to the project "Research Reactor Utilization" and utilization of research reactors for material studies has been a subject under RCA in early years. At present, there is no active programme in this area under RCA. However, with the commissioning/anticipated - commissioning of several new reactors in the region, it is strongly felt that an RCA programme should be restarted in the area of materials investigation. We are glad to mention that India is supplying a computer controlled general purpose triple axis neutron spectrometer to Bangladesh under an IAEA contract. The system is expected to be shipped to Bangladesh in the course of a month.

It is proposed that the first programme under RCA can be a School on Applied Aspects of Neutron Scattering. This would include engineering applications like residual strain measurements etc., chemical applications like real time diffraction for study of chemical reactions in commercially interesting materials like cement etc., small angle scattering problems having bearing on metallurgical applications and applications in the areas of chemical industries like studies of colloids, micro emulsions, micelles etc. This School could be organised at BARC during 1992/93.

5. We strongly support the inclusion of the project on Nuclear Information under RCA and firmly believe that India can play significant role in formulating this project and its implementation. As everyone is aware, there already exists an atmosphere of informal mutual assistance among many of the INIS Liaison Officers. In order to institutionalise this informal cooperation, it is proposed to bring Nuclear Information under the aegis of RCA. During the 19th Consultative Meeting of INIS Liaison Officers at IAEA Headquarters at Vienna, there was overwhelming support among the delegates to include "Nuclear Information" under the scope of RCA activities. Nuclear Information is a project under the Latin American collaboration arrangement ARCAL, and Nuclear Information is expected to be one project to be included under the African Regional Cooperative Agreement (AFRA).

The scope of the project on "Nuclear Information" under the aegis of RCA may have the following activities:

- i) evaluate the status of the existing nuclear information systems.
- ii) Identify specific needs and problem areas in the various countries.
- iii) Identify areas in which two or more RCA members can cooperate for the benefit of all participating members.
- iv) Identify areas in which some of the RCA members can provide training to any other RCA member in the field of nuclear technology.
- v) Installation of equipment required for the effective utilisation of the latest developments in information storage and retrieval system.

- vi) Bring about uniformity in the structure of information, preferably in conformity with international standards.
- vii) Render mutual assistance in the development of national information networks and at a later stage interconnect these national networks to form a regional information network.

The objective of the project is to catalyse the setting up of a modern nuclear information system in each of the RCA countries and to set up the infrastructure to provide synergistic benefits from these information systems to all the countries of RCA.

6. India has played an important role in the 2 phases of the UNDP/IAEA/RCA Industrial Project which is now coming to a close. India supports the proposal for a new industrial project on industrial applications of radioisotopes and radiation technology which is proposed for UNDP funding from 1992 onwards. India will continue to act as a resource country for the new project and can provide training facilities, experts, and equipment for implementing the new project.

7. India strongly recommends the use of TCDC concept in all of the activities of the new industrial project. Many equipment, instruments and techniques developed in the RCA member states could be of interest to the other member states. In order to promote technology transfer within the region, the Agency should provide financial assistance to the recipient member state so that the equipment/technology can be offered by the country which has developed the same, to the recipient country.

8. Apart from the RCA activities relating to the application of radioisotopes in industry, medicine, agriculture and on the utilization of research reactor, concerted efforts should be made for inclusion in the RCA programme on the use of nuclear energy for power generation. The following areas should be pursued :

- i) Prospecting and mining of uranium
- ii) Exchange of operating experience - research reactors (power reactors for countries having NPP)
- iii) Management of waste from the operating plants
- iv) Development of infrastructure to support the nuclear power plants such as radiological protection, setting up of environmental monitoring laboratories.
- v) Public awareness - to hold seminar for RCA region to strengthen confidence of public in nuclear power.

9. Over the years India has supported the move to create a regional training centre for training in the area of nuclear science and technology. While appreciating the difficulties in providing adequate funds for creating new institutions in the region on these lines, attempt should now be made to work on this concept using one of the existing advanced centres in the region for promoting training and related activities in selected areas. This will help scientists and engineers from the RCA member states who are embarking on a major programme in nuclear energy, to be equipped to plan and implement such programmes.

10. Last year, India funded two regional training courses within the framework of the RCA, on (i) Research Reactor Safety Principles and (ii) Isotope Techniques in Hydrology and now I wish to take this opportunity to announce that India would be

hosting the following training courses at BARC during 1991-92 under our special contribution to RCA :

- i) IAEA/RCA Training Course on "Safety Aspects in the Industrial Applications of Radiation Sources" - December 2-13, 1991.
- ii) Regional Workshop on Image Processing in NDT, January 1992.

We are also proposing to conduct a two week Regional Training Course on "Advanced Mutation Breeding of Tropical Crop Plants" - Sometime in 1992.

Finally, I would like to reiterate the regional character of RCA. The management and decision making in RCA on a regional basis, we think, should be maintained. We also believe that the RCA agreement, in its present form, should be extended for a period of 5 years beyond 1992. While I am aware of the uncertainties existing with regard to future funding for RCA, caution should be exercised in accepting contribution from outside the region to ensure that no strings or conditions are attached and every proposal is examined carefully on a case-by-case basis.

Country Statement by INDONESIA to the
TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES
OF RCA MEMBER STATES, SEPTEMBER 1991.

Mr. Chairman,

My Delegation would like first of all to join previous delegates in congratulating you on your election as Chairman of this Meeting of Representatives of RCA Member States.

It is my great pleasure indeed, to be here in Vienna to attend this important meeting of RCA. Indonesia has been actively participating in almost all RCA programme from its beginning since 1972. We are confident that RCA is the most useful instrument and played a key role to enhance the transfer of nuclear science and technology to Member States in the region. Experience and technology gained from this regional co-operation are very important in supporting the national economy development and human welfare in Member Countries of RCA. The spirit of regional co-operation in the framework of RCA which has been running almost two decades should be kept growing and blooming so that all Member States could fully benefit from the application of proven nuclear technology in various sectors of life. We do believe that nuclear science and technology will have a bright future although some negative issues occurred in the public. However, efforts and means should be done to overcome such issue.

In this occasion my Delegation would like to present its report on the activities undertaken in the country in relation with RCA programme. We will focus our report mainly on activities of UNDP/IAEA/RCA Regional Project on Industrial Application of Isotopes and Radiation Technology, which currently running the second phase of its implementation. It has given much progress and valuable achievement through holding seminars, training courses and demonstrations.

Radiation Technology

1. Radiation Sterilization of Medical Supplies

From our experiences up to present, we have observed that radiation sterilization of medical supplies tended to be one of the most successful and acceptable radiation technology in domestic industry. This observations seem to be in line with the evaluation made at the Fifth Meeting of National Co-ordinators for Radiation Technology, 8-10 May 1991 at TRCRE-JAERI, Japan.

Irradiation service to private industries has been provided by the Centre for Application of Isotopes and Radiation (CAIR) at Pasar Jumat, Jakarta. More than forty pharmaceutical industries have benefitted from our irradiation services for sterilization of various kind of medical supplies. In addition to those, radiation sterilization has been also applied to medicated dressings, medicinal herbs, peat soils and amnion membranes for wound dressing.

A private owned commercial irradiator with an initial source of 400 kCi of Co-60 and will be scaled up with a 400 kCi source at every three months within half a year is expected to be commissioning by April 1992. The maximum source will be about 3000 kCi of Co-60.

2. Radiation Vulcanization of Natural Rubber Latex (RVNRL)

The most important progress in RVNRL during the last three years is the improvement in the formulation of NR latex to be subjected to gamma rays irradiation. A monofunctional monomer, n-butyl acrylate (n-BA) has been used as a new sensitizer in replacing an old one, carbon tetrachloride (CCl₄). It is known that CCl₄ is slightly toxic and therefore is not suggested to be used as a radiation sensitizer.

Trial experiment in manufacturing of condoms made from RVNRL has performed a good result both from physical and mechanical properties as well as the performance of the product, such as tensile strength, modulus, and transparency. The problem of stickiness of the product is reduced significantly from 80 percent by using of CCl₄ to 10 percent by using of n-BA. Effort has been made to reduce the stickiness up to less than 10 percent in order to be compatible to conventional vulcanization procedure.

To introduce the application of RVNRL in gloves manufactory, a co-operative agreement has been made between CAIR and PT Perkasa Sterilindo in Jakarta, a private owned radiation sterilization facility to undertake joint research programme in the use of RVNRL for gloves production.

About five tons of RVNRL has been exported to West Germany annually to be tested for factory product. Domestic use of RVNRL is mainly practised in adhesive industry and some home industry of gloves. The domestic consumption of RVNRL is approximately 12.5 tons annually.

3. Radiation Curing of Surface Coating.

The most successful progress in radiation technology of EB Machine is to gain skill and capability in producing coated parquette for interior flooring and ceiling. More than 1200 sq.m. of coated parquette flooring are now installed for testing and promotion purposes. About 1100 pcs of plywood and panels have been treated with surface coating technology for demonstration. This work is being done in collaboration with some private sectors. Although surface coating technology is superior compared to conventional technology, however, this technology is still not competitive due to a high cost of monomers used. And therefore coating technology is currently not yet attractive to private sectors.

4. Training and Seminar

An Expert Advisory Group Meeting was held at CAIR Jakarta from 24-26 June 1991. The meeting has recommended to undertake a selection of the appropriate process of NR latex to be used as raw material for RVNRL.

RTC on RVNRL has been carried out at CAIR, Jakarta, from 26 June to 10 July 1991 and was attended by eighteen participants from different RCA Member States.

A National Training Course on Radiation Chemistry and Its Application in Industry has been conducted at CAIR, Jakarta, from 4-15 February 1991 and was attended by 26 participants.

Another National TC on Industrial Radiation Sterilization Quality Assurance has been carried out at CAIR, Jakarta, from 18 - 22 February 1991 and was attended by twenty participants.

Tracer Technology

1. Tracer Techniques in Oil Well Production

The purpose of using tracer technique in oil well production is to accelerate and enhance oil recovery. It is recognized that the pressure in an oil well may be affected by an intensive exploitation. If it is happened in oil well the pressure is getting lower and lower and oil production will decrease.

Oil production in those oil wells can be stimulated by pumping of water or steam into one of the wells, called an injection well. It is very important to know whether the water that had been pumped into the well is effective enough to push oil available in the ground up to the production wells. By putting the tracer into the injection well and through monitoring at the production wells, one can estimate the effectiveness of water flooding. The project has been carried out at Prabumulih and Ramba oil field in South Sumatera. Isotopes used in the project were Tritium and ^{60}Co as $\text{K}_3\text{Co}(\text{CNS})_6$.

2. Residence Time Study in Gold Mine Processing Plant

A tracer study has been carried out in a Gold Mine Plant at Cikotok, West Java to study the residence time distribution of ore slurry in a series of agitation tanks in a floatation process. Radioisotope ^{198}Au as AuCl_3 was used in this study.

3. Sediment Tracing Study.

Another project in relation with hydrology and sedimentology was carried out in the harbour area of Cirebon, Java, to study the pattern of sediment movement in the harbour area by using sediment tracing. The object of this project has a relation with optimization of effective dredging for maintenance of naval channel. Iridium 192 glass has been used in this study.

4. Water Reservoir Leakage Study.

A current on-going project on leakage study of water reservoir is located at Galunggung mountain, West Java. The Galunggung crater resulted from 1981 eruption has become a lake which now accommodated about 17 million cubic meter of water. Several springs were found at the lower part of the mountain which we are much concerned about, whether it is originated from the lake or not. To make such about that finding a tracer test was carried out using Chrome-EDTA and Tritium. Besides the tracer test, stable isotope analysis of deuterium and oxygen-18 will be carried out.

5. Training Course

A package programme of training course on isotope technique in oil distribution was especially carried out for personnels of Pertamina, a State owned oil mines factory. Similar courses have been regularly held in previous years.

Another Regional Training Course on the Application of Isotopes Techniques in relation with UNDP/IAEA/RCA Regional Industrial Project is being prepared to be carried out in Jakarta, 11-29 November 1991.

Non-Destructive Testing

The main activities of NDT sub-project executed in 1990/1991 are both national and regional training courses, which are dealing with NDT conventional methods, such as Liquid Penetrant (PT), Magnetic Particle (PT) Ultra sonic (UT), and Radiography Technique (RT).

Those training courses were carried out at different places and organized by B4T, BATAN, and LUK-BPPT. Some of the national training courses were supported by IAEA experts.

A Regional Training Course on UT level III was held at B4T Bandung from 9-27 July 1991 and was attended by twenty-four participants including six from Indonesia.

Another on-going RTC on NDT, Magnetic Particles and Liquid Penetrant Level III is being held at Bandung from 9-27 September 1991. This course is attended by sixteen participants including four from Indonesia. In this connection we are pleased to note that through such course, a high level and qualified personnels will be produced to meet the need of examiner and instructure for the National Qualification and Certification Body.

Mr. Chairman,

RCA Annual Report 1990

My delegation would like to touch upon the RCA Annual Report 1990 before us. As far as its content concerned, we have no objection to endorse the report as a whole, since the substantive has already been corrected in line with the suggestions made by delegates at the Thirteenth RCA Working Group Meeting in Ho Chin Minh City last March 1991. We would like to thank Dr. J. Easey and the Secretariat of the IAEA for the proper preparation made of the report.

Draft Report Thirteenth Working Group Meeting of Representatives of RCA Member States.

My Delegation has no difficulty to endorse the Draft Report Thirteenth Working Group Meeting of Representatives of RCA Member States as a whole.

New UNDP Project Proposal

In regard with the New UNDP Project Proposal, which has been discussed at the Thirteenth RCA Working Group Meeting at Ho Chi Minh City, Viet Nam and further reformulation made by RCA Co-ordinator, my Delegation gives full support on the project Proposal.

It has been seriously discussed within our institution and other relevant counterparts as well as the UNDP Representative in Jakarta. We are confident that substantives contained in the proposal are in line with our National Nuclear Programme and for the sustainable development in the country and therefore my Delegation gives its full support.

RTC on Computer Application on Research Reactor Control and Calculation.

My delegation would address its gratitude to RCA Co-ordinator, Dr. J. Easey and the IAEA Project Officer for the approval of the RTC on Computer Application on Research Reactor Control and Calculation proposed by my delegation at the RCA Representative Meeting in Vienna last 1989. The RTC will be held from 29 November - 19 December 1991 at Serpong, Jakarta.

Mr. Chairman,

In this occasion may I convey to this meeting a new proposal on nuclear information to be included into the framework of RCA. This idea was put forward at the 13th Consultative Meeting of INIS Liaison Officers held in Vienna, May 1991, where an IAEA staff member from INIS section was also present at the meeting. An overwhelming support from various delegates at the meeting, to include nuclear information under the scope of current IAEA activities. In this regard my delegation strongly supports this proposal.

The objective of the project is to catalyse the setting up of modern nuclear information system in each of the RCA countries and set up an infrastructure to provide synergetic benefits from those information systems to all countries of RCA. The INIS Liaison Officers from the various member countries could function as the national co-ordinators as far as this project is concerned and the national co-ordinators can have their annual meeting at the same time for the INIS Liaison Officers Meeting.

Before coming to the end of my report, my Delegation wishes to address its sincere appreciation to Dr. Manoon Aramrattana about his significant contribution to the programme of RCA activities as UNDP Regional Industrial Project Co-ordinator. May I address our sincere thanks to him upon his kind collaboration with our staff and the authorities of the National Atomic Energy Agency in Jakarta, in the deliberation of RCA business as well as personal relation. Unlimited assistances have been provided to us during his assignment and officed at the Centre for the Application of Isotopes and Radiation at Pasar Jumat, Jakarta.

Thank you, Mr. Chairman.

18 September 1991
Vienna, Austria

Japanese Country Statement
on the Occasion of the 20th Annual Meeting
of the Representatives of RCA Member States

Mr. Chairman,

Before I begin my statement on behalf of the Japanese Government, I should like to congratulate you on your election as Chairman of this 20th Annual Meeting of the Representatives of RCA member states. Having you here as Chairman, I feel assured that this Annual Meeting will surely add one more distinguished page to the history book of RCA cooperation.

Mr. Chairman,
Ladies and Gentlemen,

The importance of international cooperation in the field of peaceful uses of nuclear technology has always, as the distinguished representatives will recall, been reiterated by our Government. The Japanese Government regards the RCA as a highly serviceable structure for this purpose, and will therefore put priority on continuing as much as possible to extend its contribution to RCA activities in the Asian and Pacific region.

When we consider the further development of RCA cooperation, I presume we would agree that successful cooperation depends on the one hand on the way we select promising projects which correspond to the needs of RCA member states and, on the other hand, on the self-help spirit that exists among member countries. Of course we must see to it in the meantime that smooth and excellent communication is encouraged among donor countries, the IAEA and recipient countries. With regard to setting up a new project, the Japanese Government believes it appropriate to take into consideration the limitations of RCA finance at the time, and therefore to explore the possibility of employing the principle of "scrap and build".

Bearing this in mind, the Japanese Government will continue to offer as much by way of contributions as it is able. Special emphasis, as ever, will be placed on helping countries in the region to prosper further through properly familiarising experts of member states with nuclear technology by sending Japanese experts and receiving foreign experts.

Mr. Chairman,

I would now like to touch upon two topics which concern us currently. The first is the subject of the RCA agreement. RCA member states agreed in Ho Chi Minh City last March that the current RCA agreement should be extended. The draft agreement prepared by the RCA Office has been circulated among member states and I should like to commend the effort made towards its preparation by the RCA Office. I would like to mention, however, that when our predecessors twice extended the 1972 agreement without any alteration in 1977 and 1982, they did so not with a full-text agreement, but with an extension agreement. This time we are also extending the 1987 agreement without any alteration. Therefore, I should like to propose that we draft an extension agreement to be accepted at the next RCA Working Group Meeting.

I would like to take this opportunity to express my wish that RCA activities be carried out in accordance with the relevant articles of the RCA agreement.

With regard to the question of financing the RCA project from outside the region, the Japanese Government has already expressed clearly its view and stance in Ho Chi Minh City last March. I will not therefore repeat it. I would instead mention that the Japanese Government is in a position to support the Australian suggestion, made in Ho Chi Minh City, that the RCA seeks alternative multilateral sources of funding in case the UNDP's financial support should happen to be drastically reduced.

Mr. Chairman,

I would now like to turn to the individual activities of the RCA.

First there is Phase II of the Industrial Applications Project. We appreciate the way Phase II as a whole has steadily progressed, and we shall continue to support the programmes as much as possible through sub-projects on Non-Destructive Testing, Radiation Processing, and Nucleonic Control Systems. As we have pointed out on several occasions at past RCA meetings with regard to the importance of practical uses of nuclear energy, in view of national development in each member state, more should be done perhaps to transfer the fruits of R&D to industries of member states.

Secondly there are Medical and Biological applications. In this area too we will extend our support as much as before for sub-projects on Imaging Procedures for the Diagnosis of Liver Diseases, Improvement of Cancer Therapy, and Compilation of Anatomical, Physiological, and Metabolic Characteristics for a Reference Asian Man.

Thirdly the Japanese Government will continue as before to offer its support to Strengthening of Radiation Protection Infrastructure.

Fourthly there is a brief account of two other RCA projects. With regard to the Research Reactor Utilisation Project, Japan will continue to extend support through, for instance, sending experts and accepting researchers and trainees etc. With respect to the Phase III Food Irradiation Project, in 1990 we sent 2 experts and hosted a meeting. Although for domestic reasons we ceased our financial support towards food irradiation at the completion of Phase I, we have remained interested in cooperating and contributing in kind to R & D in this field.

Mr. Chairman,

It was agreed at the 13th Working Group Meeting last March, with the inevitable delay of commencing a new project to succeed the Phase II Industrial Project in mind, that the RCA should undertake a bridge project in 1992 which would consist of a part of the Phase II Industrial Project with the purpose of not losing the momentum generated by the ten years' activities of the Industrial Project. The Japanese Government will support the bridge project as much as possible. However, since we shall not receive any support from the UNDP in 1992, the fund for the bridge project will be less than the amount which was usually consumed before. We ought to be realistic, therefore, in formulating this one-year project so that it is composed only of major items necessary to maintain the momentum. The Japanese government will extend its cooperation not only to the bridge project, but to what we call "the Environmental Project" from 1993. The Japanese Government has therefore instructed its Permanent Mission to the United Nations in New York to convey the willingness of its Government to support the Environment Project, and to ask the UNDP to give the Project its favourable consideration and support.

Mr. Chairman,

Finally I should like to take this opportunity to announce, as the representative of the host country of the next Working Group Meeting, that we are in the process of deciding the date and venue of the Meeting, and that, on deciding, the necessary information will be communicated to member states. I look forward to seeing you all in Japan.

Thank you.

**Statement by MALAYSIA to the
TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES OF
RCA MEMBER STATES, SEPTEMBER 1991**

Firstly, the Malaysian delegation expresses its sincere appreciation to all Member States and the IAEA for having contributed towards the success of the 1st, 2nd and 3rd cycle of the RCA programme. We are nearing the end of the 3rd cycle and the future of the RCA programme will have to be determined.

The Malaysian delegation is pleased to inform the Meeting that the Government of Malaysia has always support the said programme and will continue to do so in the future. Efforts are now being made to reaffirm the Government of Malaysia's stand for the next cycle of the RCA programme. At this point of time too the Malaysian Government does not see the need to amend the text of the existing agreement for the coming cycle of the RCA programme.

We recognize the Regional Co-operation Agreement (RCA) as one of the Useful Vehicle for nuclear technical co-operation in the Asian and Pacific Region, in that it has played an important role in promoting the peaceful uses of nuclear energy and isotope applications in the medical and agricultural fields as well as industry over the past two decades.

With regards to the New Project Proposal for UNDP funding ICP-5 (1992-1996) entitled, "The Use of Isotopes and Radiation to Strengthen Technology and Support Environmentally Sustainable Development", the Malaysian delegation supports the proposal as discussed at the Thirteenth RCA Working Group Meeting in Ho Chi Minh City, 4-7 March 1991. We hope that the IAEA will continue in its effort in getting the UNDP to continue providing fund for the fifth cycle of the ICP. This is necessary for the desired transfer of nuclear technology so badly needed by the participating states.

The Government of Malaysia through the Nuclear Energy Unit (UTN) has been actively participating in the various activities provided under the RCA programmes since its inception in 1975. Malaysia has benefited greatly from these activities and look forward to closer co-operation, via in the fourth extension of the RCA agreement.

Malaysia participated in 14 RCA projects and 4 sub-projects under the RCA/UNDP industrial projects implemented in 2 phases viz phase I (1982-1986) and phase II (1987-1991).

The RCA/UNDP Industrial Project provides Malaysia the opportunity to establish a pool of trained manpower specifically in the applications of nuclear science and technology in industry. The project has managed to increase the awareness, in the region, the opportunities that can be obtained for addressing major regional concerns with increased productivity, quality and reducing the use of scarce energy and raw materials inputs.

Finally the Malaysian delegation supports the new project proposals entitled "Nuclear Techniques in Development of Advanced Ceramic Technologies" and "Radiation Protection". Malaysia will participate in both projects upon being officially approved.

**Statement by PAKISTAN to the
TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES OF
RCA MEMBER STATES, SEPTEMBER 1991**

Pakistan wishes to express its warm appreciation to the Agency and all the RCA Member States for their co-operation and assistance in RCA activities. Pakistan is keenly participating in almost all the RCA activities and will continue to play a role in the use of nuclear techniques in industry, agriculture, biology and medicine.

2. Under the UNDP/RCA Industrial Project, a number of Regional Training Courses and National Training Courses were held in Pakistan during 1990. Several participants from industry and scientific organizations attended these courses.

3. Pakistan supports the proposal that some of the activities under the UNDP/RCA Industrial Project schedule for 1991 are allowed to slip to 1992 to avoid a vacuum in the activities during 1992 when the new UNDP project proposal is expected to be finalized. The dovetailing of the activities is necessary otherwise there could be a loss of momentum and dilution of the efforts.

4. With regards to the New Project Proposal for UNDP funding ICP-5 (1992-1996) entitled "The Use of Isotopes and Radiation to Strengthen Technology and Support Environmentally Sustainable Development". Pakistan supports the proposal as discussed in the 13th RCA Working Group Meeting held at Ho Chi Minh City, Viet Nam and hopes that the Agency will continue its efforts in getting the UNDP funding for the 5th cycle of the ICP.

5. Since the existing RCA Agreement is due to expire in June, 1992, it is necessary that the Agreement should be renewed for a further period of 5 years from 1992-1997. The present RCA Agreement should be the basis for the document to be renewed in June, 1992. As regards extra-budgetary funding for RCA activities, Pakistan supports the view that contributions from non-RCA Member States would be beneficial, provided no conditions are attached.

6. The project on Radioimmunoassay (RIA) of Thyroid Related Hormones has resulted in significant reduction in the cost of kits in Pakistan. These kits have also been supplied by Pakistan to Burma, Sri Lanka and the Philippines.

7. Pakistan is providing training to the scientists from the region at its Nuclear Institute of Agriculture and Biology (NIAB) Faisalabad in agriculture and biology and would like to continue this co-operation so that other countries in the region could also avail this offer through TCDC.

8. As regards the project on Research Reactor Utilization, Pakistan would like that emphasis be given to experiments on material structure examination and investigation of micro-structure defects in reactor material. Programme for study on the stress and texture of materials be initiated to solve the problems faced by Industry.

9. A 6-week Regional Training Course on Electricity Expansion Planning (WASP Course) will be held at Lahore, Pakistan during April- May, 1992 in collaboration with Water and Power Development Authority (WAPDA).

10. Pakistan is interested in participating in the following 3 new project proposals:

- i) Control of Exposures in High Natural Radiation Areas.
- ii) Radon Exposures in Occupational Work-other than in Uranium Mining.
- iii) Training in Radiation Protection in the Mining and Milling of Radioactive Ores.

11. Pakistan strongly supports the inclusion of the project on Nuclear Information under RCA. It can play a significant role in regional co-operation in the field of information exchange based on INIS System.

12. Pakistan is planning to organize a Workshop on Radon Measurements for Dosimetry and Applications in the Study of Geophysical Processes from 27 August to 4 September, 1992. This Workshop will be useful in exploring uranium resources, earthquake prediction and taming geothermal sources for the economic development of the developing countries. The Agency is requested to provide about 70% of the funds (US\$25,000) either under RCA programme or the reserve funds of the IAEA Technical Assistance.

13. Keeping in view the importance of Civil Engineering in the area of public welfare including soil investigation, materials testing, water resources management and sewerage engineering, Pakistan would like to propose that this area be given due importance in RCA programme.

14. Pakistan is keen to send its experts to the Member States for short duration as and when required. A list of the available experts has been sent to the Agency.

15. In conclusion, Pakistan fully supports promotion of RCA activities and would suggest extension in the overall regional co-operation by further renewal of RCA Agreement beyond 1992.

**Country Statement by PHILIPPINES to the
TWENTIETH GENERAL CONFERENCE MEETING OF REPRESENTATIVES OF
RCA MEMBER STATES, SEPTEMBER 1991**

Mr. Chairman, Distinguished Delegates,

Allow me first to congratulate the Distinguished Delegate from Viet Nam on his election as Chairman of this meeting.

It is my pleasure to transmit to this meeting the full support of my country for the extension of the present Agreement for another 5 years. The RCA has established an efficient nuclear energy in the region and certainly its continued existence is to the best interest of the region.

Philippine Participation.

Philippine participation in the RCA is active in thirteen projects.

1. Regional UNDP Industrial Project

1.1 Tracer Technology in Industry

Two (2) members of the National Tracer Group undertook three (3) months on-the-job training on Tracer Technology at the Australian Nuclear Science and Technology Organization (ANSTO) from 8 April - 21 June 1991 and 8 May - 16 August 1991 respectively.

During an expert mission under a TA project, visits were made to different industrial firms in preparation for the tracer demonstration (under the regional project) which will be conducted with ANSTO assistance.

1.2 Nuclear Control System

Upgrading of survey on nucleonic control systems installed in the country as of December 1990 has been completed.

An engineer from the National Steel Corporation attended the Regional Workshop on Nucleonic Control System in the Steel Industry held in Tokyo, Japan 28 Aug. - 5 September 1991.

1.3 Non-Destructive Testing

Five national training courses were held during the period: ET-1, SM-1, ET-2, UT-1, UT-2 with 8, 19, 21, 2 and 19 (for a total of 79) participants, respectively.

The National NDT Co-ordinator participated in the Second Meeting of the Ad-Hoc Regional Board of Examination Review Sub-project: NDT and the Expert Advisory Group Meeting on Radiation Protection for NDT Radiographers held in Jakarta, Indonesia from 28 January - 1 February 1991.

The certification examinations for UT-1 and 2, RT - 1 and 2 and SM1 and 2 are scheduled for Sept. 25, 27 and Oct. 1, 1991. A local examiner will participate in the Regional Qualification Examination for Radiography Level 3 in Kuala Lumpur, Malaysia 21-25 Oct. 1991.

Under the grandfather clause provision some 228 certificates were issued to 103 NDT practitioners in different levels. Efforts are being directed towards the establishment the Philippine Examination Data Bank for each NDT method and level.

1.4 Radiation Technology

1.4.1 Radiation Sterilization

1. The quality assurance manager from a medical products manufacturer participated in the Regional Training Course on Radiation Sterilization: Quality Control and Compatibility of Materials, Bombay, India, September 1990.

2. A one-week National Training Course on Radiation Sterilization was conducted on October 8-12, 1990, with project support in terms of expert.

3. The Bureau of Food and Drug participated in the Workshop on Radiation Sterilization, Regulatory Aspects in Bangkok, Thailand in April 1991.

4. The Philippine Nuclear Research Institute and the Bureau of Food and Drug are working together towards the setting up of regulations on radiation sterilization.

5. The Philippine Nuclear Research Institute submitted a project proposal on the Establishment of a Radiation Sterilization Facility for UNDP funding.

1.4.2 Radiation Curing

1. The Philippines (from the furniture Industry) participated in the Training Course on Radiation Curing of Surface Coating on Wood Products, Sydney, Australia, February 1991.

2. After arrival of the conveyor and transformer, the UV system was installed at Forest Products Research and Development Institute with the help of an Australian expert.

1.4.3 Electron Beam Treatment of Flue Gases

A National Executive Management Seminar on Electron Beam Treatment of Flue Gases was held at the National Power Corporation on Oct. 22, 1990.

1.4.4 Radiation Vulcanization of Natural Rubber Latex

The Philippine Nuclear Research Institute is strengthening its research group on radiation chemistry and starting development work on radiation vulcanization of natural rubber latex.

2. Medical and Biological Applications

2.1 Radioimmunoassay of Thyroid Related Hormones

A national training course to transfer the RIA technology was conducted. The Philippines continues to participate in the External Quality Assessment Scheme for the project.

Two (2) medical technologists from 2 government hospitals attended the Training Course on the Diagnosis of Viral Hepatitis Infection by Radioimmunoassay, Shanghai, China 18-29 March 1991.

2.2 Inhalation Imaging for Diagnosis of Respiratory Diseases

The Philippines participates in this programme through Research Contract No. 4808/RB. Using the BARC developed aerosol generator and inhalation apparatus, initial studies were conducted using Tc-99m labelled diffusible and non-diffusible aerosols (Tc-99m phytase and Tc-99 DTPA). Results are satisfactory. Other lung diseases may be studied using the technique.

2.3 Development of Radiation Protection Infrastructure

The Philippines is an active participant in the above-named RCA project. The country benefitted directly from its participation in the Personnel Dosimeter Intercomparison Program.

Targeted for completion in late 1992, it is expected to contribute greatly towards ensuring comparability and reliability of measurements of personnel doses in the region.

The Philippines is certainly looking forward to proposed second formulation meeting to draw up plans for the next five years. Since the project has several components it is suggested that a project counterpart be designated from each participating country in order to ensure a wholistic perception of the project.

2.4 Compilation of Anatomical, Metabolic and Physiological Characteristics of Reference Asian Man.

The Chief Scientific Investigator of the Research Contract No. 5587/JN participated in the Second Research Co-ordinated Meeting which was held in Bombay, India, 8-12 April 1991.

The work being done at present is focussed on sorting out available data and identification will be performed in relation to the protocol of the project. Data will be properly weighted according to its population distribution. Collection of new information on the 3 components of the project will be continued.

2.5 Radiation Sterilization of Tissue Grafts

The establishment of a bone and tissue bank at the Department of Orthopedics, Philippine General Hospital has made possible the availability of tissue allografts (bone and amnion). Gradually, allografts from the tissue bank are gaining popularity as a common alternative to autografts. Six (6) medical centers are now using these allografts, namely; Philippine General Hospital, Philippine Orthopedic Center, Chinese General Hospital, St. Martin de Porres Hospital, Tondo General Hospital and Tala Leprosarium.

Two (2) medical doctors attended the training course on Radiation Sterilization of Tissue Grafts for Clinical Use, Seoul, Korea, 3-14 December 1990.

2.6 Care and Maintenance of Nuclear Medicine Instruments

The Philippines participates in this programme through two research contracts, namely, Research Contract No. 5794/R1/RB entitled "Quality Control of Advanced Nuclear Medicine Equipment in the Philippines" and Research Contract No. 5446/R1/RB entitled "Quality Control and Maintenance Nuclear Instruments". The Chief Scientific Investigators attended the Research Co-ordination Meetings held in April 1991 in Bangkok, Thailand and Lahore, Pakistan, respectively.

2.7 Imaging Procedures for Diagnosis of Liver Diseases

The present study under Research Contract No. 5692/JN involves a baseline investigation of current capabilities of participating hospitals in the interpretation of liver images in both nuclear medicine and ultrasound instruments are tested for quality control and quality assurance.

2.8 Improvement of Cancer Therapy (Phase II)

Research Contract No. 5984/RO/JN entitled "Introduction of Computerized Dosimetry and Database in the Radiation Therapy of Cancer of the Cervix in the Philippines" is being undertaken at the Jose R. Reyes Memorial Medical Center. The Chief Scientific Investigator attended the First Research Co-ordination Meeting held in Bangkok, Thailand from 30 October to 2 November 1990.

3. Agricultural Project

1.1 Food Irradiation Process Control and Acceptance (RPEI Phase III)

Two (2) research contracts are being undertaken under this project namely: Research Contract No. 6388/DP "Evaluation of Shell Life and Quality of Mangoes. Irradiated with Doses Required for Fruitfly Disinfestation - Simulated Commercial Trials" and Research Contract No. 5944/DP "Use of Gamma Irradiation for Enhancing the Marketability of Selected Seafood and Agricultural Crops".

1.2 Increasing the Yields and Nitrogen Fixation Capabilities of Common Grain Legumes

The Philippines participates in this project through Research Contract No. 5905/RO/RB. Work in this project includes screening of mungbean for ability to fix nitrogen and for cultivars tolerant to high acidity. The PNRI-developed mungbean (PAEC-3) and acid tolerant varieties are used in the study. First and second plantings were harvested. Chemical analyses are in progress.

The Philippines participated in the Third Research Co-ordination Meeting and Workshop on Rhizobium Technology held in Chiang Mai and Bangkok, Thailand 27-31 May 1991 and 3-14 June 1991 respectively. We support the consensus that was reached by the participants in the meeting to establish a Regional Isotope Laboratory to which participating countries that do not have an N-15 analyzer can send their samples for analysis.

4. Research Reactor and Energy-Based Projects

4.1 Research Reactor Utilization

The Philippines was pleased to host the first research co-ordination meeting of the co-ordinated research programme on the "Application of Personal Computers to Enhance Operations and Management of Research Reactors" last 12-16 November 1990.

Research Contract 6049/RB (Computerization of PRR-1) was extended for another year. All of the PCs needed for the project have been obtained. However, the rest of the A/D interface needed to connect with the PRR-1 instrumentation system still have to received. Availability of these interface cards will allow serious software development. It is expected that this year will see the completion of the hardware as well as allow work on the software.

We welcome the decision to rescind the agreement to wind up the IAEA/UNDP Industrial Project in December 1991 to allow implementation of bridging activities between the conclusion of the last project and the start of the new one. Certainly, this will augur for greater effectiveness of the activities under this project.

Continued national investment in nuclear technology supportive of industrial development is evident in the number of licensees from industrial institutions. At present, there are more than 100 industrial licensees involving some 396 nucleonic gauges and 69 exposure devices. In 1991 to date, there are 4 new licensees. A steel manufacturing concern invested \$600,000 for the acquisition of three units of nucleonic control systems. A mining company has indicated firm interest to acquire the demonstration NCS equipment utilized in the completed project. The equipment will cost the mining company \$70,000.

We support the alternative to explore the possibility of tapping other funding sources as the Asian Development Bank and the EEC in the light of f the uncertainty of UNDP funding.

We offer no objections to the participation of non-RCA members in RCA activities for as long as such participation will not displace RCA members and will not entail additional expense from RCA funds.

Finally, we wish to reiterate to host an RCA Working Group Meeting in the near future.

COUNTRY STATEMENT OF THAILAND
20TH GENERAL CONFERENCE
OF
REPRESENTATIVE OF RCA MEMBER STATES
18 SEPTEMBER 1991, IAEA - VIENNA

Mr. Chairman,

On behalf of Thai delegation, I would first like to congratulate you on your unanimous election as the Chairman of our RCA General Conference. I am confident that under your guidance, Mr. Chairman, this RCA General Conference will be successful in completing its importance agenda.

I am pleased to join other delegation in this meeting to review the RCA Agreement implementation assessment during the previous year and exchange the views on the new RCA programme as well as its future direction over the next extension.

Within the framework of the current RCA Agreement, the IAEA, UNDP and the Member States have been making substantial contributions through the promotion of regional cooperation. It is appreciated that the overall comprehensive success and progress of the activities bring highly practical benefits to the member countries and the region as a whole. Thailand also gained its benefits in all projects under the framework of the agreement, such as in the medical and biological applications of nuclear techniques project, the nuclear medicine is actively practiced in many hospitals and more nuclear medicine centers are being set up with the increased awareness of the benefits of nuclear medicine procedures. In addition, the other areas also are successful applied in their field. The current RCA Agreement will be terminated in 1992, Thailand agrees to support the existing agreement document to be renewed as the New RCA Agreement 1992-1997.

The UNDP/IAEA/RCA Industrial Project (Phase II) will be completed by the end of 1991 and the New Project Proposal for UNDP funding ICP-5 (1992-1996) is under consideration. It is recognized that the first two phases of the Regional Industrial Project have been useful in promoting the radioisotopes and radiation techniques to industries in the region and have also

helped in training man-power for undertaking the work of promoted applications. At present, in Thailand, the total investments in industrial nuclear technology are approximately 74.1 million US dollars, those are in the areas of nucleonic control systems, radiogaugings, gamma irradiators, UV curing, non-destructive testings and radiotracer applications. After termination of the Phase II of the UNDP/IAEA Regional Industrial Project, the new UNDP/RCA project on the Use of Isotopes and Radiation to Strengthen Technology and Support Environmentally Sustainable Development which based on 4 major elements supported in broad areas of Public Health and Environment, Industrial Production, Industrial Quality Control and Material Research and Development has been proposed to UNDP for financial support. In this regard, it is hoped that the potential donor, UNDP and the donor member countries, will note the positive response of the proposal and join us in this useful endeavour by giving practical and financial support to the implementation of the project.

Thank you.

National Investments in Industrial Nuclear Technology

Thailand :

Subject	Unit	Company	Approx. Invest. US\$ k
<u>Nucleonic Control System</u>			
-Paper	22	10	15,400
-Coal Processing	7	1	2,100
-Civil Engineering	8	2	1,000
-Plating	6	2	2,400
-Plastic Film	7	4	1,400
-Level Gauge	82	14	4,100
<u>Radiation Technology</u>			
-Gamma Irradiator	2	2	40,000
-UV Curing	20	14	6,080
<u>Non-destructive Testing</u>			
-Radiography	21	7	420
-Ultrasonic	40	10	720
<u>Tracer Technology</u>			
-Electronic Industry	4	4	400
-Tracer Equipment	2	1	100
Total Investments			74,120

List of Investors in Nuclear Industrial Technology

Nucleonic Control System

Paper Industry

1. Siam Kraft Paper Industry Co.Ltd. : 3 units
2. Thai Paper Co.Ltd. : 3 units
3. Thai Scott Paper Co.Ltd. : 2 units
4. Thai Union Paper Co.Ltd. : 4 units
5. Thai Development Paper Co.Ltd. : 2 units
6. Burapa Industry Co.Ltd. : 2 units
7. Panjaphol Paper Co.Ltd. : 2 units
8. Asia Kraft Paper Co.Ltd. : 1 unit
9. Kraft Paper Industry Co.Ltd. : 2 units
10. Thai Cane Paper Co.Ltd. : 1 unit

Coal Processing

1. Electricity Generating Authority of Thailand : 7 units

Civil Engineering

1. Royal Irrigation Department : 5 units
2. Tipco Emulsion Co.Ltd. : 3 units

Plating

1. Thai Tinplate Co.Ltd. : 2 units
2. Sunflower Co.Ltd. : 4 units

Plastic Film

1. Pacific Plastic Co.Ltd. : 3 units
2. Thai Film Co.Ltd. : 2 units
3. T.N.P. Industry Co.Ltd. : 1 unit
4. Uniplast Industry Co.Ltd. : 1 unit

Level Gauge

1. Bangkok Steel Co.Ltd. : 2 units
2. Siam Fibre Cement Co.Ltd. : 32 units
3. Khon Khan N.D.F. Co.Ltd. : 4 units
4. Thai Nam Thip Co.Ltd. : 1 unit
5. Thai Melon Polyester Co.Ltd. : 2 units
6. Tejin Polyester Co.Ltd. : 3 units
7. Thai Polyethylene Co.Ltd. : 10 units
8. Siam City Cement Co.Ltd. : 2 units
9. National Petrochemical Corporation : 11 units
10. Phoenix Pulp and Paper Co.Ltd. : 6 units
11. Thai Plywood Co.Ltd. : 1 unit
12. Siam Tyre Co.Ltd. : 4 units
13. Siam Steel Co.Ltd. : 1 unit
14. Thai Petrochemical Industry Co.Ltd. : 3 units

Radiation Processing

Gamma Irradiator

1. Kendall-Gammatron Co.Ltd. : 150,000 Ci Co-60 Irradiator
2. Thai Irradiation Center : 450,000 Ci Co-60 Irradiator

UV Curing

1. M.P. Lux Co.Ltd : 2 units
2. Chulalongkorn University : 1 unit
3. Others : 18 units

Non-destructive Testing

Radiography

1. Office of Atomic Energy for Peace : 2 units
2. Siva Testing Co.Ltd. : 4 units
3. Thai NDT Co.Ltd. : 4 units
4. S.G.S. Co.Ltd. : 4 units
5. Electricity Generating Authority of Thailand : 2 units
6. P.A.E. Co.Ltd. : 4 units
7. Shino Thai Co.Ltd. : 1 unit

Ultrasonic

1. Office of Atomic Energy for Peace : 4 units
2. Siva Testing Co.Ltd. : 3 units
3. Thai Airways International Limited : 5 units
4. Electricity Generating Authority of Thailand : 5 units
5. Rajmongkol Institute of Technology : 4 units
6. King Mongkut Institute of Technology : 4 units
7. Thai NDT Co.Ltd. : 2 units
8. S.G.S. Co.Ltd. : 2 units
9. Petroleum Authority of Thailand : 2 units
10. Aeronautical Engineering Department : 5 units
11. P.A.E. Co.Ltd. : 2 units
12. Others : 2 units

Tracer Technology

Electronic Industry

1. Signetics Thailand Co.Ltd. : 1 unit
2. National Semiconductor Co.Ltd. : 1 unit
3. Honeywell Synertek Co.Ltd. : 1 unit
4. Ngan Tawee Electronics Co.Ltd. : 1 unit

Tracer Equipment

1. Office of Atomic Energy for Peace : 2 sets

