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EFFECTS OF ATOMIC RADIATION

The following is the text of a statement by Mr. W.B. Nesbitt, Vice Chairman of the Canadian Delegation to the United Nations, to the Special Political Committee on December 15:

"The Government and people of Canada have long been concerned about the hazards of radiation. This concern has found expression in the development within Canada of an extensive system of radioactive sample analysis. It has also found expression in active Canadian support for international efforts to increase man's knowledge of radiation. During the past five years the focal point for international consideration of this complex question has been the United Nations Scientific Committee on the Effects of Atomic Radiation, on which Canada has had the privilege and responsibility of serving since its establishment.

FRUITFUL COLLABORATION

"The annual progress report of the Scientific Committee on the Effects of Atomic Radiation, which has been circulated in Document A/4528 and which is the subject of our present debate, gives even the layman an insight into the complexities of the problems to which the scientists on the Committee and their collaborators have had to address themselves. It is clear that co-operation among scientists, both national and international, with the encouragement and assistance of governments and of inter-governmental organizations, is essential to achieve the desired results. It is therefore gratifying to note from the lucid report before us that, in pursuit of the Scientific Committee's work, increasingly fruitful collaboration is taking place among the Specialized Agencies, the International Atomic Energy Agency, international non-governmental and national scientific organizations and individual scientists, and that active co-operation has been increasingly forthcoming from governments of member states, whether represented on the Scientific Committee or not.

"New lines of enquiry and avenues for sharing knowledge and stimulating the exchange and flow of relevant information are indicated in the current progress report. I sense that the general feeling in this Committee is that a wide-ranging debate on this item is neither necessary nor desirable at this time, particularly in the light of the limited time available to us before the Assembly goes into recess. I may, however, be forgiven for taking the Committee's time to make a few remarks on that part of the Scientific Committee's report which results from an initiative taken by my Delegation in co-operation with certain other delegations at the fourteenth session of the General Assembly. I refer to Annex I of Document A/4528, which contains a report prepared in response to Resolution 1376 (XIV), by which the Scientific Committee was requested to consider and study appropriate arrangements for stimulating the flow of information and data relevant to the effects of radiation on man and his environment and to consider more effective arrangements for encouraging genetic,

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biological and other studies to elucidate the effects of radiation exposure on the health of human populations.

A SUCCESSFUL APPEAL

"The Canadian Delegation is pleased to note the active consideration which has been given to these matters by the Scientific Committee during the current year and to note the assistance which has been offered by member states in response to the invitation contained in the resolution adopted unanimously last year. No less than 13 countries, in addition to the IAEA and the WHO, have now offered, in connection with the programme of radioactive sample analysis, facilities and assistance to enable countries which are willing to participate in the programme but which do not have the necessary technical and financial resources at their disposal to make the full contribution they would desire. Implementation of this international co-operative programme should make it possible to fill in some of the gaps in the information available to the Scientific Committee. As the Committee's report notes, the major flow of material to the Committee has thus far come from relatively few nations and has been more informative with regard to radioactive contamination levels than to biological aspects.

"Members of this Committee may be interested to know that, subsequent to the Canadian Government's offer, in response to resolution 1376, to receive and analyze samples from other countries, arrangements were made between the Governments of Canada, Ghana, Pakistan and Burma for co-operation in this field. Consultations are also taking place with another Asian country with the same end in view. Canadian laboratory facilities are being expanded to take care of this programme, which, when fully implemented, will involve the analysis of some 600 samples from these countries during the initial year. It should be noted that the programme of assistance drawn up by Canada in co-operation with these other countries takes account of the decreasing rate of deposition of fall-out consequent upon the continued suspension of nuclear and thermo-nuclear tests, the permanent cessation of which under effective international control is so fervently desired. The Canadian programme, therefore, instead of concentrating on the measurement and analysis of fission-product radioactivity in air and precipitation, emphasizes the public health implications of radiation,--that is, the importance of levels of radiation in diet and in the human body. It is drawn up to meet special national problems and the nutritional habits of the population in the countries concerned.

COMMUNICATION IMPROVED

"The Canadian Delegation is pleased to note that the resolution adopted unanimously last year, besides stimulating more active co-operation of governments, also served to stimulate consideration of proposals designed to improve the channel of communication between UNSCEAR and individual researchers, associations and institutes. Several worthwhile suggestions have been made in this connection. In accordance with the letter sent out by the Secretary of the Scientific Committee on April 7, 1960, the Canadian authorities have taken special measures to give widest possible distribution to the statement addressed to scientists outlining specific areas in which additional research and data are required.

"The Canadian Government fully endorses the views of the Scientific Committee on the desirability of encouraging research designed to seek solutions to the genetic and biological problems of the effects of ionizing radiation and on the desirability of full co-operation and sharing of knowledge among the international scientific community in order to make the best use of the scientific and material resources available. The continued co-operation of governments and the various intergovernmental and non-governmental organizations which have contributed to the work of the Scientific Committee on the Effects of Atomic Radiation, as reflected in its report, gives us grounds for expressing our confidence in its ability to discharge the responsibilities laid on it by the General Assembly.

"...With these comments I should like to present for the Committee's consideration the draft resolution which has been circulated in the name of my Delegation.... Since the Comittee appears to be making satisfactory progress in the task which has been defined for it, and since it will now be embarking on preparation of its next comprehensive report, it should be necessary at this stage only to take note of its present report and proposed programme. This draft resolution is, therefore, designed simply to express appreciation where appreciation is due and to provide the necessary authorization for the Scientific Committee to proceed without interruption with its worthwhile work in the coming year."

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EXPORT PROMOTION CONFERENCE

Mr. George Hees, Minister of Trade and Commerce, has declared that the Export Trade Promotion Conference, held in Ottawa recently, was an unqualified success. "It was the most inspiring and enthusiastic gathering of businessmen and government officials ever held in Canada in an effort to arouse interest in securing a larger proportion of the world market for Canadian products," he said.

Representatives of 1,268 Canadian firms held an aggregate of approximately 11,000 interviews with 110 trade commissioners, summoned home from 63 posts in 49 countries. As had been anticipated, considerable interest was shown in sales possibilities in the United

Kingdom and the United States. But Canadian businessmen sought the views of trade commissioners from many other countries on the market for a wide range of products not previously exported from Canada.

EXPORTS SEEN AS NEW OUTLET

Many firms sending representatives to Ottawa had never previously considered the export field as a possible outlet for their products, owing to the difficulties they thought existed. More than 20 per cent of those requesting interviews were in this class. Many of the companies involved have been created since the Second World War, and are producing items never before manufactured in Canada.

Trade commissioners, for their part, were pleased to learn about products that might be marketed in their respective territories. They return to their posts with bundles of inquiry forms, that will enable them to seek new outlets for Canadian commodities.

The Canadian trade commissioners, after talking to as many as 20 businessmen a day, each for half an hour, over a period of two weeks, expressed confidence in their ability to offer top-quality merchandise to prospective buyers in their respective countries, and guaranteed that such goods would be priced fairly and that deliveries could be sustained.

Visiting businessmen expressed the opinion that the trade conference actually saved their firms many thousands of dollars in transportation and other costs, since, for the price of a ticket to Ottawa, a senior sales executive could explore the possibilities of marketing his merchandise in ten or more countries. Moreover, this could be done in a single day.

It is possible, according to Mr. Hees, that greater diversification will result from the outward-looking consciousness created by the trade conference reflected in the pages of newspapers, magazines and trade publications all across the land. Comments of many trade commissioners, made in a series of press conferences, were carried far and wide by Canadian news services, radio and television, supported by editorials and even cartoons. Many of their observations have created a better understanding of the countries in which they are stationed, and stimulated a desire to sell to the people of those countries.

During the first four days of the conference, a wide range of subjects concerning ways and means of stimulating trade were discussed in closed session. Trade commissioners and head-office personnel discussed many aspects of the export drive, following which there was a free and frank expression of opinion on methods that should be employed to expand trade. Then, for two weeks, businessmen poured into No. 1 Temporary Building, the former headquarters of the department, and were conducted with a minimum of fuss from office to office on their round of interviews.

QUEBEC ACCEPTS MEDICAL PLAN

At a formal ceremony held recently in Ottawa, the final seal was placed on the most far-reaching health project in Canadian history, when the Minister of National Health and Welfare, Mr. J. Waldo Monteith, and Mr. Alphonse Couturier, the Minister of Health for Quebec, signed an agreement to extend the provisions of the Hospital Insurance and Diagnostic Services Act to residents of the Province of Quebec.

Mr. Monteith expressed the Federal Government's satisfaction with this development. "We are delighted that the people of Quebec will now be able to enjoy the benefits of hospital insurance and we are gratified at the completion of this historic programme," he said, "With Quebec's entry, hospital insurance will be a reality in every part of Canada -- from the Atlantic to the Pacific, from the Arctic to the American border. To my mind, it is particularly fitting that the province which gave Canada its first established hospital back in 1639 should provide a copestone to the most important single advance achieved in the subsequent development of our nationwide hospital system."

VARIETY OF SERVICES

The Quebec programme is scheduled to come into operation on January 1, 1961, and will cover upward of five million persons. As in the case of other provincial programmes, it will include in-patient hospital services such as standard-ward accommodation, necessary nursing services, use of operating-room and anaesthetic facilities, radiotherapy and physiotherapy where available, drugs and surgical supplies, and diagnostic procedures, including necessary interpretations where these are required.

Services for out-patients are not provided at present, but an extension into this area is envisaged in the provincial legislation.

The latter also does not call for the levying of a prémium or for the imposition of an authorized charge, more commonly described as a co-insurance or deterrent charge. Charges may be made, of course, for extra services involved in the provision of semi-private or private accommodation as well as for services of physicians and surgeons.

COST-SHARING

The costs of the Quebec programme, as in the case of other provincial plans, will be shared by the federal and provincial treasuries. The federal contribution on behalf of hospital insurance amounts to approximately 50 per cent of national costs.

The signing of an agreement with Quebec winds up the process of implementing the Hospital Insurance and Diagnostic Services Act, which began in March, 1958, with the formalization of arrangements with the government of

Ontario. The Ontario programme, which came into effect on January 1, 1959, was preceded by the start of operations on July 1, 1958, in British Columbia, Alberta, Saskatchewan, Manitoba, and Newfoundland. Nova Scotia's plan got under way on January 1, 1959, with New Brunswick following on July 1, 1959, Prince Edward Island on October 1, 1959, the North-west Territories on April 1st, 1960, and the Yukon on July 1, 1960.

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CHRISTMAS FOR CANADA'S AIRMEN

For many of the members of the Royal Canadian Air Force, Christmas was not very different from any other day of the year. As a modern fighting force, the RCAF has a great many operational commitments round the world. Because of these, only those airmen who are off-shift or working on non-operational duties are able to celebrate the festive season with their families and friends.

Stationed at wind-swept outposts in a circle round the North Pole were thousands of radar operators and aircraft controllers manning the "eyes" that scan the night as part of DEW, Pine Tree and Mid-Canada radar-defence system. There is no break in the schedule 24 hours every day of every year, the screens rotate and aircraft are traced across the huge tables in the operations centers.

WITH RCAF OVERSEAS

In Europe, the RCAF maintains another continuous alert with its 12 operational NATO squadrons in France and in Germany. The stand-by jet crews may be listening to Christmas music and thinking of their families sitting around the Christmas-tree and turkey dinner, but they are also waiting for the call on the scramble line, telling them to man their jets and intercept an unknown aircraft. The ground-crew, at least eight men to every one ready to fly, must have the aircraft ready to go, the directions to pass out from the operations-rooms and the hot meal prepared for them when they return from their missions.

In other parts of the globe, the RCAF was working as usual in support of the United Nations Emergency Forces. The Gaza Strip must be patrolled, the mail must arrive with the supplies for the men stationed in Egypt, and the aircraft coming and going must be serviced. Farther south in the troubled continent, a busy RCAF contingent was not able to relax for Christmas Day in the Congo. UN personnel had to be transported in and out of the country and the urgently needed supplies had to continue to pour into the area aboard Transport Command's aircraft.

To be sure, not everyone in the RCAF will be on duty over the Christmas holidays. Every effort is made to have as many as possible home with their families, and the old RCAF traditions such as the officers serving the airmen their Christmas dinner will still be carried out. The difference is that at most of the RCAF stations across Canada and abroad the officers will be wearing their flying clothing and the airmen will probably be returning to duty after they have eaten.

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ENGINEERS AND SCIENTISTS

There will be a continued growth in job opportunities for engineers and scientists in Canada over the next few years, but the rate of expansion will be lower than it was before 1958. It is also expected that employers will place more stress on the quality of the science and engineer recruit than has been the case in the past.

These conclusions were reached at the sixth meeting of the Advisory Committee on Professional Manpower recently convened by the Department of Labour.

Although the peak demand for engineers came in the years 1955-1957, with a subsequent levelling off in 1958-1960, forecasts for 1960 to 1963, based on reports of requirements from many parts of the economy, indicate a continued need for engineering and scientific personnel. There might even be some shortages in the last year or two of this period, depending on the supply of graduates, immigration, and other factors.

WHERE EMPLOYMENT WILL INCREASE

The highest rates of employment expansion in engineering are expected to be in the metallurgical, mechanical, civil and chemical fields during the years 1960-1963. There will probably be a levelling off in electrical engineering and slower gains in mining engineering.

The supply of engineers will probably remain relatively stable during this period, the main source being Canadian university graduations. Immigration of engineers has dropped and will probably remain quite low; it cannot, therefore, be relied on in the foreseeable future as a "cushion" for imbalances in the demand and supply of engineering and scientific manpower.

The one-day meeting of the Advisory Committee brought together representatives of government, industry, the universities and numerous professional associations, to discuss such matters as problems in the education of engineers in Canada, the labour-market situation and the outlook for scientists and engineers, and whether Canada was training too many engineers and scientists.

REGISTER OF MANPOWER

The meeting was told about steps already taken to increase the number of engineers and scientists covered by the Technical Manpower Register, which is kept by the Department of Labour and lists about 80,000 people. The

Register forms the basis from which annual surveys are made of a third of the scientists and engineers listed, to determine where and in what occupations they are employed, their earnings and various facts that assist in establishing trends in the growth and employment of scientific and technical manpower in Canada. The Register obtains full information on graduating classes and seeks additional names through professional associations and from employers.

The problems associated with educating engineers in the face of rapid technological advances were discussed. It was reported that there was a tendency to alter the curricula of many universities to place more emphasis on basic scientific and mathematical principles than on the teaching of special techniques. Technological change may cause certain specialities to disappear and may even eliminate some engineering jobs. It is necessary, therefore, to give the engineer a broader base of knowledge to enable him to keep abreast of changing technology.

Other problems of education discussed were such matters as the proper size of classes, how to maintain and improve the quality of the graduates, and how to stimulate evening classes for graduates of engineering.

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OECD ESTABLISHED

Canada and the U.S.A. have joined the 18 European countries, members of the Organization for European Economic Co-operation, by signing, on the fourteenth of December, a convention setting up the Organization for Economic Co-operation and Development (OECD), which will take the place of the OEEC. Ministers of the 20 countries, who met in Paris on December 13, also approved a report setting forth the activities and structure of the OECD.

The representatives of European Communities, who had taken part in the negotiations, participated in the meeting; also present were the Secretary-General of the EFTA and observers from the GATT, IBRD and IMF.

NEW TASKS, BROADER OBJECTIVES

With the recovery and progress of the European economy, sustained by the generous aid of the United States as well as of Canada, and furthered by the co-operation established within the OEEC, European countries are now in a position to face, in full and close co-operation with Canada and the U.S.A., the important new tasks and the broader objectives of today. These objectives are set forth in the convention in these terms: (1) to achieve the highest sustainable economic growth and employment and a rising standard of living in the member countries while maintaining financial stability and thus to contribute to the development of the world economy; (2) to contribute to sound economic expansion in member as well as non-member countries in the progress of economic development; and (3) to contribute to the expansion of world trade on a multilateral non-discriminatory basis, in accordance with international obligations.

The convention provides for the establishment of a Council, the supreme body of the organization (which will have the power to take decisions and make recommendations by mutual agreement of as its members). In addition, the Ministers agreed on a committee structure to assist in implementing the aims and carrying out the activities of the organization.

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A-RESEARCH ON REMOTE ISLE

RCAF and Defence Research Board collaboration on Ascension Island in the South Atlantic has resulted in the successful recording of radiations from rocket nose-cones re-entering the earth's atmosphere. Called "Operation Lookout", the joint project is a Canadian contribution to ICBM defence studies conducted with the U.S. Advanced Research Projects Agency.

The Canadian Armament Research and Development Establishment (CARDE) scientists, of Valcartier, Quebec, and their RCAF associates began packing scientific and personal equipment into transport aircraft at Ascension Island on December 15 for the 7,000-mile return flight to Quebec City after a 12-month sojourn on the remote island. With the two CF-100 fighter-interceptors employed in the operation, members of the 30-man party arrived at the Ancienne Lorette airport on December 19 and 20.

RECORDING RADIATIONS

CARDE-designed instruments placed in wing-pods of the CF-100s recorded ultra-violet, visible and infra-red radiations generated by white-hot nose-cones launched with U.S. rockets at Cape Canaveral. Friction caused by the increasing density of the earth's atmosphere made the radiation measurements possible.

Unusually skilled flying ability was required during the 11-month operation. The crews of the two fighter-interceptors, which flew single missions, were required to intercept, and, in effect, photograph the incoming nose-cones, which re-entered the earth's atmosphere at 15,000 miles an hour.

Dr. A.H. Zimmerman, Chairman of the Defence Research Board, paid high tribute to the support provided by the RCAF personnel during the project. "The unusual flying and navigating skills exhibited by the personnel concerned should be a matter of pride to all in the RCAF," he said. "Without their efforts and those of their fellow servicemen who maintained

the aircraft and associated equipment at Ascension Island, the operation would not have been possible."

Air Marshal Hugh Campbell, Chief of the Air Staff, RCAF, made mention of the quality of the initial research carried out by DRB scientist and noted that "Operation Lookout" was "another example of the high standard of co-operation that has existed between DRB and the RCAF for many years."

Dr. Cameron Cumming, 32, formerly of Maxville, Ontario, the programme scientist at CARDE, said that the preliminary data processed at the Valcartier research laboratory has confirmed the success of the operation. Detailed assessments and analysis of all the information obtained will not be completed for several months.

He noted that the power expended by a single nose-cone re-entering the earth's atmosphere "is of the order of several million horsepower - comparable with the power generated by the St. Lawrence Seaway dams".

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TECHNICAL EDUCATION

Technical education in Canada at the post-secondary level continues to show marked growth. The total full-time enrolment in the 29 Canadian institutes offering post-secondary technical courses reached 9,443 in 1960-61, an increase of 13.6 per cent over 1959-60.

High-school graduation or the equivalent is necessary for entrance to post-secondary technical courses of one to four years' duration. All of these courses are terminal. The occupational objective of these schools is to prepare each student for employment in a specific or more general field at a level above that which could be entered with high school graduation.

Enrolment in the technological courses constituted 87.6 per cent of the total enrolment in the post-secondary vocational courses in 1960-61. Courses such as home economics, secretarial science, commercial arts and journalism accounted for the remaining 12.4 per cent. Of those enrolled in 1960-61, only 5 per cent were female, and most of them were enrolled in commercial arts, secretarial science, home economics, etc., rather than in technological courses.

ENROLEMENT UP IN SPECIALIZED FIELDS

In almost all fields of specialization there has been an increase in enrolment, although a few institutions show minor decreases in some of these. Fields showing slightly smaller enrolment are papermaking, graphic arts, textile, forest and construction technologies.

Quebec, Ontario and Alberta accounted for nearly all the full-time enrolment in 1960-61. Quebec led with 54.1 per cent, followed by Ontario with 32.7 per cent and Alberta with 9.6 per cent.

During the school year 1959-60, 1,730 students were graduated in all fields, more than half of them in the electronic, electrical, metallurgical and mechanical fields. It is estimated that, by the end of the current school year, some 2,000 students will be graduated.

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