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Petro-Canada International to Aid Third World in Energy Development

CANADIAN Energy Minister Marc Lalonde was a keynote speaker at the ASEAN Council on Petroleum (ASCOPE) conference held in Manila from October 7-9. The theme of his speech was Canada-ASEAN co-operation in the field of energy, and the role of Petro-Canada International in assisting developing countries to become more energy self-reliant.

Mr. Lalonde noted that the world's energy future was of concern to all of mankind because all countries were consuming more energy at the same time as easily accessible supplies of that energy were rapidly dwindling. A good example of the international co-ordination necessary to contend with this problem was in ASEAN, where the level of co-operation in establishing a framework to assist member states suffering from shortfalls in oil imports had been

impressive. Canada had just entered into a co-operation agreement with ASEAN (see story p. 3) and Canadians had a particular interest in energy activities with ASEAN.

Mr. Lalonde recalled that Canadian policies on energy were reiterated at the United Nations Conference on New and Renewable Energy Resources, which was held in Nairobi in August. Canada believed that only through effective national planning could the specific energy needs of various countries be adequately taken into account. At the same time, enhanced international co-ordination and co-operation was absolutely necessary. It was the Canadian view that one of the best ways Canada could contribute to a more stable world energy balance was to work towards self-sufficiency within Canada and, in so

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ATOMIC ENERGY OF CANADA



Canada's Energy, Mines and Resources Minister Marc Lalonde (1) visited the Atomic Energy of Canada Ltd. (AECL) display booth in the exhibition associated with the ASCOPE conference in Manila and spoke with company representatives Mr. W. R. Thomas and Mr. K. Cooke, and a pretty ASCOPE staffer.

doing, acquire the skills and technology in energy development that could be applied in other countries as well.

While Canada was a net exporter of energy, oil was still imported and, therefore, Canada was not isolated from the energy concerns that affected most countries. The recently formulated National Energy Program in Canada emphasized a reduction in oil consumption through substitution of other energy resources with which Canada is blessed, and the encouragement of oil production through pricing and government incentives for exploration. The program also recognized the importance of renewable energy resources, such as hydro-electricity, and the necessity for energy conservation. The Canadian goal was to phase out offshore oil imports by 1990. In addition, a national oil company, Petro-Canada, was created under the program to provide a dynamic public-sector presence in the petroleum industry.

A significant aspect of the National Energy Program was the creation of Petro-Canada International as a subsidiary of Petro-Canada. The purpose of Petro-Canada International was to assist developing countries in becoming more energy self-reliant by reducing or

eliminating their dependence on imported oil. Petro-Canada International would work toward this objective in two ways. It would act as a direct delivery mechanism for Canadian development assistance, and it would act as an agent for and partner with other development assistance institutions, such as the Canadian International Development Agency (CIDA), the International Bank for Reconstruction and Development (IBRD), and the Asian Development Bank (ADB), which operates extensively in the ASEAN countries. Under the National Energy Program, funds of \$250 million were allocated to Petro-Canada International for a four-year period ending in 1985.

In determining whether an individual project qualified for assistance, several factors would be considered by Petro-Canada International: geological potential, the economics of developing a hydrocarbon discovery, the energy needs of the recipient country and its potential to develop an oil industry, the likelihood of exploration and development being done without outside assistance, and the potential for utilization of Canadian goods and services. Petro-Canada International was now assessing numerous requests for

assistance that had been made to it from a number of countries and it was hoped that decisions on project proposals would be announced early in 1982.

Prime Minister Pierre Trudeau had indicated in his keynote address to UN Energy Conference in Nairobi that Canada attached the utmost importance to the area of energy development assistance. He had also said that Canadian bilateral assistance in the energy sector was expected to total \$1 billion over the next five years or close to 25 per cent of Canada's bilateral program. This was part of a major effort by Canada to substantially increase official development assistance. In addition, Canada had strongly supported the idea of an expanded World Bank energy program and continued to endorse the concept of a World Bank energy affiliate. Canada would be prepared to contribute financially to such an affiliate if it were possible to achieve a consensus on the funding arrangements.

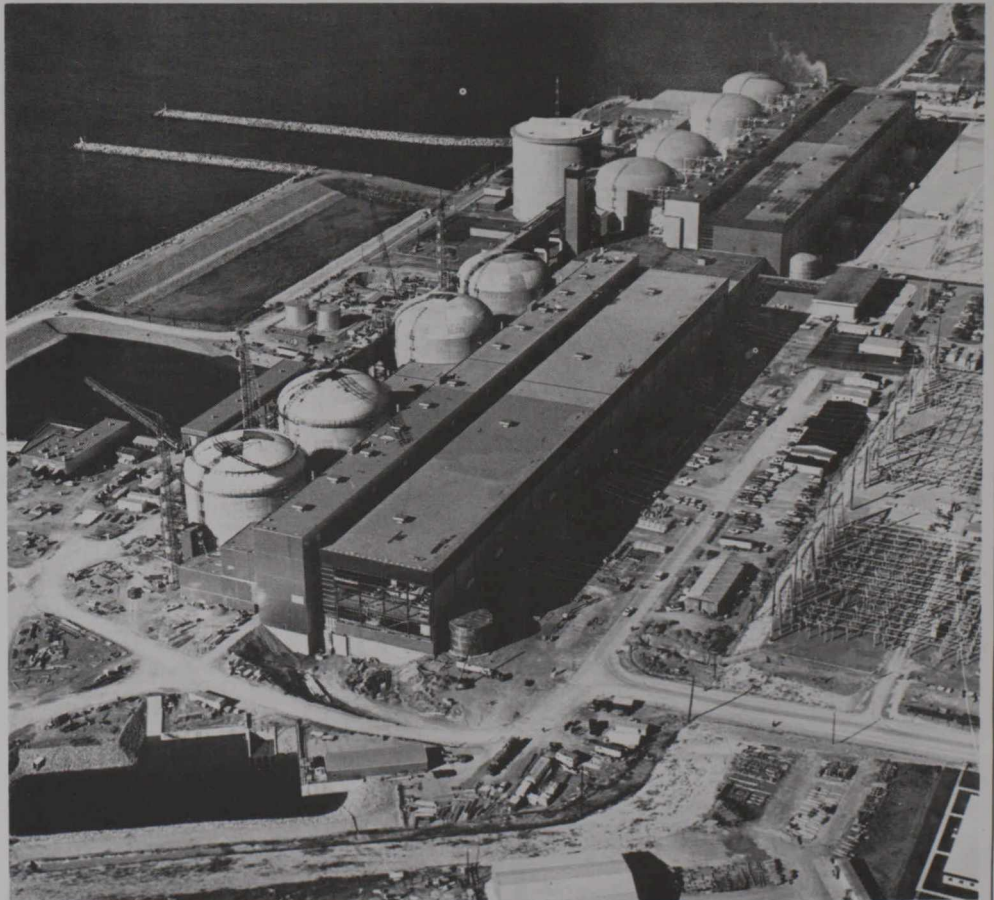
Canadian companies and consultants had been deeply involved for many years in ASEAN energy development projects—from oil exploration in Indonesia and the Philippines to hydro-electric engineering work in Malaysia and Thailand and studies on thermal power plants in

The Candu Reactor

Atomic Energy of Canada Ltd. (AECL) organized a display booth at the ASCOPE conference to provide information on Canadian nuclear technology.

While nuclear generating stations still only produce a limited amount of power on a world basis, the CANDU system, with its many advantages, has created interest because of its tremendous potential. The CANDU reactors currently operating in the Province of Ontario have a lifetime average capacity factor of 77 per cent, the highest of any reactor type. In an evaluation of performance of 100 nuclear reactors above 500 megawatts around the world, the CANDU held six of the top 10 places.

The CANDU uses natural uranium as a fuel, which means wider sources of supply and obviates the need for expensive enrichment technology. Because of its unique design it uses 15 per cent less fuel than other reactors and can be refuelled on-line, thereby sharply reducing shutdown time. Many of the components included in the CANDU can be manufactured by any country with reasonable technical capability. Its computer-controlled systems are very advanced and ensure an efficient and safe operation.



The CANDU nuclear power generating station at Pickering in the Province of Ontario.

ASCOPE, the ASEAN Council on Petroleum, was organized in 1975 as an instrument for regional co-operation in the field of petroleum among ASEAN member countries. The council is composed of representatives from the national oil companies of the ASEAN members. Since 1975 interest in alternative energy sources has increased and ASCOPE has taken a broader role in regional energy co-operation.

The 1981 ASCOPE conference and exhibition, while concentrating on oil and gas, included the examination of alternative energy potential such as geothermal, coal, nuclear, and non-conventional sources. Related matters such as financing, environmental implications and new technologies were also discussed. The conference was opened on October 7 by the Philippines' President Ferdinand E. Marcos.

Singapore. Canadian firms had many years of experience in the highly sophisticated technology associated with the exploration, extraction, and processing of energy. One Canadian firm, Montreal Engineering, is involved in two massive projects in Indonesia—the Bukit Assam project through which Sumatra's extensive coal reserves would be mined and transported to the Suralaya thermal power plant in Java.

In the field of nuclear energy, Canada was at the forefront of technology with the Canadian designed and manufactured CANDU reactor system. The CANDU system used natural uranium and has proven to be the most efficient system of nuclear power generation in the world. CANDU reactors are currently being constructed in Argentina, Rumania, and the Republic of Korea, and several other countries are considering its purchase.

Through co-operation, Canada could help the ASEAN countries emulate its own success in this field of energy and could assist with any aspect of the development of a country's nuclear program—from the establishment of a regulatory infrastructure and educational and training programs, through exploration and mining, to the building of nuclear facilities. As recently as last June, Canada entered into an agreement with the Philippines for co-operation in the peaceful uses of nuclear energy. At the conclusion of his speech to the ASCOPE conference, Mr. Lalonde said that Canada looked forward to continuing co-operation with the Philippines and the other members of ASEAN.

During his three-day visit to the Philippines, Mr. Lalonde met President Marcos and had discussions with Industry and Trade Minister Ongpin, Natural

Resources Minister Pena, and Energy Minister Velasco. The ministers discussed the growing energy relationship between Canada and the Philippines and examined

possible areas of co-operation such as coal and coal conversion, nuclear energy, and the possibility of assistance from Petro-Canada International.

Canada-ASEAN Developments

Foreign Ministers Sign Co-operation Agreement

CANADA'S Secretary of State for External Affairs Mark MacGuigan and the foreign ministers of all five member countries of the Association of Southeast Asian Nations (ASEAN) signed the Canada-ASEAN Co-operation Agreement on September 25 while they were gathered in New York for the 36th United Nations General Assembly.

The agreement arrived at after one-and-a-half years of negotiations calls for co-operation in industrial, developmental, and commercial spheres. It will serve to enhance further the opportunities for expanded transfer of technology in the industrial area, and reaffirms Canadian interest in considering the extension of regional development assistance over and above that currently extended on a bilateral basis. The agreement will also serve to encourage the expansion of two-way trade between Canada and ASEAN, which in 1980 amounted to \$1.14 billion.

In his address after the signing ceremony at the Canadian Permanent Mission to the UN, Dr. MacGuigan said it was an historic moment. He stressed the importance that Canada attaches to

its relations with ASEAN and reasserted Canada's interest in further expanding relations with the Southeast Asian region. The identification of the three special interest spheres in the agreement, he felt, defined the direction of the future Canada-ASEAN relationship, which would continue to be of mutual benefit.

The co-operation agreement also calls for the establishment of a joint co-operation committee, which should meet periodically to review ongoing activities and study additional areas of co-operation. Dr. MacGuigan suggested that the first such meeting might well run concurrently with a third Canada-ASEAN dialogue meeting, possibly in the first half of 1982. And he hoped that in the meantime some new projects would be identified for action under the regional development co-operation objectives.

In reply, Singapore's Foreign Minister S. Dhanabalan said he was pleased to pay tribute to Dr. MacGuigan on behalf of the ASEAN members and that he and the other foreign ministers looked forward to close co-operation with Canada. The agreement, he said, represented a broad framework for economic co-operation and it was now up to the private sector and officials to work out the practical implementation of the agreement's objectives.



A toast to the signing of the Canada-ASEAN Co-operation Agreement at the Canadian Permanent Mission to the United Nations: Foreign Ministers Siddhi Savetsila of Thailand; S. Dhanabalan, Singapore; Mark MacGuigan, Canada; Carlos Romulo, Philippines; Ghazali Shafie, Malaysia; and Mochtar Kusumaatmadja, Indonesia.

Albertan Oil and Gas Mission Returns

ALBERTA'S Minister of State for Economic Development Horst A. Schmid led a Canadian oil and gas industry mission from his oil-rich province to the Philippines during the ASEAN Council on Petroleum (ASCOPE) conference and exhibition in Manila, October 7-9. The 11 companies represented on the mission sponsored six booths at the exhibition.

While in Manila, Minister Schmid met with the Philippines' Energy Minister Velasco and had meetings at the Asian Development Bank and the National Housing Authority as well as private corporations.

Among the Canadian oil and gas companies represented on the mission were the service and consulting engineers MHL Associates, Oil Recovery Ltd., Stanley Associates, Quantel Consultants, and James A. Lewis Co. Ltd., and equipment suppliers CPW Valve and Instrument Co., Dyer Ltd., Faster Oil-field Services, Global Trading Co., Pembina Controls Ltd., and Sprung Instant Structures Ltd. The Canadian Imperial Bank of Commerce and several Alberta government officials completed the list of mission members.

Through discussions with their Filipino counterparts and representatives from among the other 1,000 delegates from ASEAN and elsewhere who attended the ASCOPE conference, the Alberta delegation discovered significant future business potential. Canadian companies were invited to provide price

quotations for a number of projects, signed agency agreements, and held discussions ranging from project financing to possible joint ventures.

In addition to the Philippines, Mr. Schmid and his delegation visited Malaysia (October 3-7) and Indonesia (October 12-16), thus following up visits he made to the same three countries in 1979. Mr. Schmid also led a similar mission to Thailand in 1980. The Province of Alberta was well represented at the Offshore Asia oil and gas show held in Singapore in 1980, and Mr. Schmid will be returning to the next oil and gas show to be held in Singapore in February, 1982.

Filip for Joint Ventures

FIRE-RESISTANT doors and walls will soon be manufactured in Malaysia as a result of a joint venture between a Singaporean businessman and a Malaysian businessman with a Canadian firm.

The partnership is one of the successes of the first Canada-ASEAN Technology Exchange, which was held in Singapore in May under the sponsorship of the Canadian International Development Agency's (CIDA) Industrial Co-operation Program. Its aim was to promote the contact of Canadian manufacturers with potential business partners within ASEAN and to facilitate the transfer of technology to ASEAN countries.

Toronto-based Fili Industries, a research and development company that exhibited at the Exchange, will provide the technology and skills while the local partners will make the capital invest-

ment of more than \$520,000 needed to start the new company. A contract to supply doors and walls for a 24-storey building under construction in Kuala Lumpur has already been secured. When an associate firm has been formed in Singapore in a few months' time, the partners plan to export to Indonesia, the Philippines, and Thailand as a start to market penetration of the region.

The fire-resistant doors and walls, which are also insect and water resistant, are actually an off-shoot of the eight-year-old prefabricated houses concept of Mr. Stan Filip, the owner of the Canadian company. Made of a special compound, known as rigid cellular polymerik, also used for the doors and walls, the houses are both low-cost and light weight, constructed in units of two walls, one floor and one roof joined together. This makes them ideal for earthquake-prone countries because under stress of tremors the walls just drift apart and can be joined again. They have no foundations — though they are anchored by a method Mr. Filip intends to keep a trade secret — so they will float if exposed to flood.

Through another joint-venture that Mr. Filip is negotiating, in Hong Kong, he will be producing prefab houses for mainland China.

CIDA Support Started Zamboanga Success

THE Industrial Co-operation Program of the Canadian International Development Agency (CIDA) is designed to encourage Canadian companies to enter into joint ventures with their developing country counterparts through the support of starter and viability studies aimed at investigating and establishing commercially viable operations.

Successful projects show results in the effective creation of jobs, in technological and skill transfers, and in the additional revenues brought into the host country through quite often substantial export earnings.

It was the conclusions of a feasibility investigation sponsored by the Industrial Co-operation Program that persuaded British Columbia Packers Limited, one of Canada's largest fish products companies, to partner Marcopper Mining Corporation of the Philippines in a joint venture.

In November, 1980, Mar Fishing Company Inc. opened its tuna fish cannery in Zamboanga, the Philippines. This \$10-million operation incorporates the latest in equipment and food processing technology. Until sufficient volume was achieved in the joint-venture company's local tuna fishing and loining operation to warrant building the cannery, the canning was done in Canada.



While in Manila with a trade mission attending ASCOPE '81, Alberta's Minister for Economic Development Horst Schmid (r) presented 32 books about and on behalf of his province to University of the Philippines' President Edgardo Angara.

Quality control checks, supported by a laboratory fully staffed and equipped to conduct sophisticated tests and analysis, are integrated in the new canning facility.

The third phase, currently underway, is the introduction of modern seining operations to catch fish. This involves the purchase of modern purse seiner fishing vessels equipped to freeze the catch the moment it is harvested. Mar Fishing will also operate the present fleet of ice and freezer vessels that collect, preserve, and deliver tuna caught by local fishermen using traditional methods.

Mar Fishing employs 500-600 people—many whose families have been fishermen for generations—and expects to increase the figure to 1,000 by the end of 1982.

As part of their involvement in the operation, B.C. Packers is responsible for marketing the output of the joint-venture company through their worldwide marketing organization. The entire project involves an investment in excess of \$35 million.

Ottawa Hosts Big Symposium on Small Business

CANADA'S Minister of State for Small Business and Tourism Charles Lapointe was host to over 650 delegates from some 50 countries at the 8th International Symposium for Small Business in Ottawa from October 19-22.

Twenty-two delegates from ASEAN and other Asia-Pacific countries were among 66 from the Third World whose participation was sponsored by the Industrial Co-operation Program of the Canadian International Development Agency (CIDA).

The overall objective of the symposium is to strengthen and support the development of small- and medium-sized enterprise as a recognized economic force in all countries. One of Canada's goals in hosting this event is to help create an awareness in Canada and abroad—particularly among business leaders, bureaucrats, academics, the financial community and others—of the problems and concerns of small businesses. Other goals are to foster greater interchange between Canadian and foreign communities of small and medium enterprise, and to highlight, domestically and internationally, the Canadian commitment to programs and policies which benefit small businesses.

The three concurrent sessions that made up the symposium program covered the interaction of small business with associations, financial institutions,

venture capital, education, employers, and government; the opportunities for small business in high technology, tourism, and energy; and the impact of taxation policy on opportunities for small business in international trade, and opportunities for entrepreneurship.

Among the moderators and speakers from ASEAN were the President of the Philippine Export Advisory Council Francisco Wenceslao; Mr. A. Karim Sudibyo, deputy director of Indonesia's Directorate General for Small Industry; Mr. Victor Ng, a corporate planner with Intraco, Singapore; and Mr. Tah Kwon Swan, managing director, Multi-Purpose Holdings, Malaysia.

IDRC Sponsors China Study Tours

A DELEGATION of ten senior information specialists from the People's Republic of China visited four ASEAN countries in August as part of a study tour sponsored by the Canadian International Development Research Centre (IDRC).

The three-week-long tour to Singapore, Manila, Kuala Lumpur, Bangkok, and Hong Kong, allowed the Chinese to visit local manufacturing ventures and to examine the industrial extension network set up by Technonet (Asia) to improve the quality and efficiency of production of small- and medium-scale industrial enterprises in the region by effective transfer of technical information and the provision of industrial extension services.

In September, experts from the Technonet participating agencies paid a return visit to China to see major enterprises in Beijing, Shanghai, and Guangzhou and to obtain first-hand knowledge of small-scale enterprises and industrial extension in China.

This joint survey of Chinese and Technonet activities was proposed during a visit to the People's Republic of China by a delegation of senior IDRC officers led by their president, Mr. Ivan Head, in September 1980 when a memorandum of understanding was signed between the State Scientific and Technological Commission of the People's Republic of China (SSTC) and IDRC. Provided that funds are made available to IDRC by the Parliament of Canada, the IDRC board of governors has approved an expenditure of up to \$2 million for 1981 and 1982 in support of research projects of the People's Republic of China.

The IDRC is a public corporation established by an Act of the Canadian Parliament in 1970 to support research designed to adapt science and technology to the specific needs of developing countries.

United for Peace in Kampuchea

CANADA'S Secretary of State for External Affairs Mark MacGuigan led the Canadian delegation to the United Nations International Conference on Kampuchea held in New York from July 13-17.

Canada has aligned itself closely with the ASEAN countries in attempting to find a solution to the Kampuchea problem and co-sponsored ASEAN-initiated resolutions at the 34th and 35th sessions of the United Nations General Assembly on "The Situation in Kampuchea". The latest of these resolutions called upon the Secretary-General of the United Nations to convene an international conference on Kampuchea and Canada joined with ASEAN and other concerned countries to urge the Secretary-General to follow up on its provisions.

During an official visit to Ottawa in May by Foreign Minister Siddhi of Thailand, Dr. MacGuigan confirmed that he would personally attend the international conference. He later held further discussions on the Kampuchean question with his ASEAN colleagues at the ASEAN foreign ministers' meeting with dialogue partners at Manila in June.

Dr. MacGuigan was one of 16 foreign ministers to attend the International Conference on Kampuchea in which 79 countries participated and 14 countries acted as observers. His address to the conference was supportive of ASEAN's view that it should not be an occasion for humiliating Vietnam. Dr. MacGuigan said: "Canada, for one, is not interested in loud and emotional recriminations against Vietnam for its actions in Kampuchea. We wish only to see created the conditions necessary to establish a government in Kampuchea which, in the best and most practical way, reflects the political will of the broadest number of Kampuchean." Dr. MacGuigan noted the great costs, in terms of development, the Vietnamese adventure in Kampuchea was having on the countries of Indochina and the continued suffering that the peoples of Indochina have had to endure.

The declaration of the conference, for which the ASEAN countries had the principal formulating responsibility, contained the basic elements for a peaceful solution. These were: ceasefire; withdrawal of foreign troops; holding of elections under UN supervision; creation of a UN peacekeeping force or an observer group to supervise the ceasefire and troop withdrawal; and appropriate measures to ensure that elections were not disrupted by armed Kampuchean factions and that law and order were maintained pending the

All figures in this publication are in Canadian dollars unless otherwise specified.

outcome of elections. The resolution of the conference established an *ad hoc* committee to carry forward the work of the conference.

The International Conference on Kampuchea was a success and reaffirmed the desire of the majority of the international community to see peace and stability achieved throughout Southeast Asia. The Canadian government believes that the international conference set out sound proposals for seeking a peaceful solution to the Kampuchean problem and, therefore, co-operated further on this issue with the ASEAN delegations to the 36th session of the United Nations General Assembly in New York in September.

BSAM Management Program Repeated

THE 49TH SESSION of the Banff School of Management (BSAM), Alberta, Canada, is providing another Management Development Program especially tailored in many aspects for the participants from ASEAN countries.

This October 18-November 27 program is the result of enthusiastic reports of the success of the last, held in February, which encouraged the Canadian International Development Agency (CIDA) to support it again as a means of making a useful contribution to the development of the ASEAN countries. Funding for the program comes from CIDA's Industrial Co-operation Program.

As well as instruction for middle-management executives on modern management concepts and techniques, the program includes a post-orientation tour across Canada.

The ASEAN participants are: Subroto Ary, assistant to the director of systems and analysis of the Indonesian Agency for Development and Application of Technology (BPPT); from Kuantan, Pahang, Malaysia, Director of Lands and Mines Abdul Wahab bin Haji Zainuddin; Miss Erlinda Rosas, chief personnel specialist with the Philippine's Civil Service Commission; and two Singaporeans, Pek Hock Thiam, director in the Ministry of Communications, and Tan Gee Paw, a chief engineer in the Ministry of Environment.

Conference Examines Pacific Rim Resources

THE CANADIAN government-instituted International Development Research Centre (IDRC) sponsored the participation of seven prominent ASEAN economists in the Twelfth Pacific Trade and Development Conference held in Vancouver, Canada, from September 6 - 11.

These conferences have been held at 12- to 18-month intervals since 1968 with the principal aim of promoting closer economic ties among the countries in the Pacific rim. The conferences always focus on a specific theme, such as development and trade in mineral resources, the role of ASEAN, and the growth of rapidly industrializing countries. Previous conferences have proved to be a valuable source for the policy-makers in the Pacific rim coun-

tries.

This year's theme was "Renewable Resources in the Pacific Area". The conference examined the factors that affect domestic production and international markets in such vital areas as fisheries, forestry, and renewable energy. These topics are of particular interest to the developing countries of the Pacific region as their consumption levels rise and they strive to increase their production.

To conclude the series of articles on trade and commercial developments in Canada and ASEAN, the following contributions illustrate the potential increase of opportunities for economic co-operation between Canada and Singapore and Canada and Thailand.

Singapore's High Technology Policy Creates Clients for Canada

FOR A NUMBER of years Singapore has achieved the highest growth rate of any ASEAN country - a result of its political and economic stability, an imaginative industrial policy, its reputation as one of the safest and more profitable places in the world for manufacturing and investment, and its strategic trade, transportation and entrepot activities. Singapore has, in fact, become the trading, financial, transportation and communications, and distribution centre for Southeast Asia.

In spite of its small size, its population of 2.4 million, and the fact that it is devoid of natural resources, government policies and the industry of its people have enabled Singapore to consistently achieve annual GDP growth of between seven per cent and 10 per cent in recent years (10.2 per cent in 1980). It has become an increasingly industrialized country with a per capita income second only to Japan in Asia.

Singapore's strong economic performance, its position as the world's second busiest port and third largest oil refining centre have made it an important market for industrial equipment and services. The republic offers increased market opportunities in areas of Canadian supply capabilities, such as telecommunications, computers, transportation, power generation, oil equipment and servicing. Canadian businessmen are becoming increasingly aware of the economic progress taking place in Singapore and in Southeast Asia generally. The outlook for future growth and development in Singapore is excellent and a wide variety of new and challenging business oppor-

tunities are opening up as the government pursues a policy of promoting certain high technology industries.

Canadian exports to Singapore have grown from \$3.1 million in 1968 to approximately \$200 million in 1980. Historically the items exported have been raw materials, however, in recent years there has been a dramatic change towards exports of fully and semi-manufactured products, which now constitute 80 per cent of Canadian exports.

Three years ago, the government launched what has been called the "second industrial revolution," essentially switching from labour-intensive industries to specific capital-intensive high technology ones. This has helped to maintain a healthy level of foreign manufacturing investment, which in 1980 amounted to \$822 million, directed to industries such as chemicals, electrical, electronics, aerospace, machinery and metal engineering, transport equipment, and plastics. Investment commitments by Singaporeans accounted for only slightly more than 10 per cent of the total, indicating the level of foreign investment moving into Singapore (largely from Japan and the United States) to take advantage of the Singapore environment and its central location in relation to the other ASEAN countries. The government is also encouraging foreign investors to use the republic as a conduit for the potentially large trade with China.

The Singapore government is seeking to attract more medium-sized industries and, under the Economic Expansion Incentives Act, has introduced an investment credit scheme for this purpose. A company carrying out an approved (high technology) manufacturing project may be allowed an investment credit on its new fixed investment. The scheme complements existing "pioneer status" plans resulting in total tax holidays of between five and 10 years, export

incentives resulting in only four per cent (versus 40 per cent) tax on export revenue, as well as training subsidies. In addition to attracting foreign investment the government is also encouraging existing trading or service companies to enter the high technology manufacturing sectors.

Although the labour force is relatively highly skilled, the government is aware that in order to attract high technology industries new educational facilities will be needed to further upgrade available skills. Thus, two new computer institutions are scheduled to be operating and producing between 500 and 1,000 programmers and computer science specialists annually. One such centre, the Japan-Singapore Institute of Information Technology, scheduled to open next year, is a government-to-government sponsored facility. A second is being established by IBM. Although these facilities will go a long way towards providing software personnel for the market, Singapore will still be in need of experienced hardware manufacturing facilities, and software system houses — an obvious market opportunity for Canadian industry.

Singapore's Economic Development Board, the government agency that grants industrial incentives, has established a list of high technology priority industries to be promoted in Singapore in the next five years. These include automotive components, machine tools, medical and surgical apparatus, speciality chemicals and pharmaceuticals, computer equipment and software development, electronic instruments, optical instruments and equipment, precision engineering products, advanced electronic components, hydraulic and pneumatic control systems, and aerospace servicing and parts manufacture as well as the key supporting industries for each.

Although the government's emphasis is on the establishment of high technology industries, the national trading company, Intraco, is actively and successfully pursuing trade in other areas as well. Intraco, is an importing and exporting company, a manufacturing conglomerate, and is actively engaged in importation of raw materials and semi-finished products and the selling and exporting of these commodities to ASEAN, other Asian countries, and the Middle East. Intraco would be interested in establishing joint ventures with Canadian companies in which they would act as agents, distributors, or manufacturers for new fully-manufactured products and semi-manufactured products.

The competitors of Canadian industry are establishing in Singapore at an increasingly rapid rate in order to take advantage of the ASEAN market. The spectrum of companies ranges from manufact-

urers of consumer products, industrial products and services to the high technology manufacturers as well as a variety of financial institutions. Canadian companies with offices in Singapore include Northern Telecom, BATA, Monenco, Lavalin, Canpotex, INTEG, and I.P. Sharp. The five major Canadian banks have well-established operations.

Penetration of the market requires techniques similar to those involved in penetrating the European and American markets. Of the four usual techniques — direct sales, sales through agents, trade fairs, and joint ventures — the first is considered to be the least effective in Southeast Asia because of the travel costs and the consequent infrequent

servicing of the market. As for trade shows, Singapore is becoming the centre for Southeast Asia and, with the ultra-modern facilities of the World Trade Centre, there are trade shows almost constantly for every conceivable industry sector.

The most successful Canadian companies are those which have established either joint-venture relationships or representative agencies. Towards this end the Canadian High Commission works closely with the many groups, such as the Singapore Manufacturers' Association, and the Singapore Economic Development Board, which together have established a bureau to facilitate joint ventures.

Singapore Could Boost Domestic Exports to Canada

TRADITIONALLY Canada has had close economic links with the United States. In recent years, however, Canada has diversified its two-way trading activities in the Asia-Pacific region, including Singapore. Over the past five years the two-way trade between Canada and Singapore has more than quadrupled, from \$82.3 million in 1975 to \$347.7 million in 1980. Singapore's domestic exports to Canada accounted for a growing proportion of total exports. In 1980 domestic exports to Canada accounted for 67 per cent of exports compared to only 48 per cent in 1970. Even so, two-way trade accounts for only between 0.6 per cent and 0.8 per cent of Singapore's global trade.

Singapore's major domestic exports to Canada are largely crude rubber, pumps, radio-broadcast receivers, crude animal materials, furniture, toys and games, fixed vegetable oils, and office machines. A number of products that Canada imports from other Asian countries, products such as televisions, clocks and watches, and garments, are also produced in Singapore and have potential for export to Canada.

Canada is a rich but competitive market where U.S. influence is strong (70 per cent of all Canada's imports originate in the United States) and a highly professional marketing approach is therefore essential. Frequent contact between supplier and customer, prompt deliveries, high product quality, promotional sales publications, and after-sales service are of paramount importance in developing a share of the market. For consumer goods, attractive packaging and styling is very important as most goods in Canada are bought by self-selection.

Canada is a large country, 5,500

kilometres from coast to coast, with a relatively small population of 24 million spread across the country. Centres of population concentration are Toronto (2.9 million), Montreal (2.8 million) and Vancouver (1.2 million). The provinces of Quebec and Ontario, of which Montreal and Toronto are the respective capitals, each have populations of about eight million. Exporters to Canada should be aware that distributors often specialize in particular geographic regions rather than cover the whole country and, therefore, several distributors may be necessary to market a product effectively. Exporters should also be aware that the Canadian market is different from the U.S. market and sufficient time must be allocated in studying market potential during visits.

In addition to increasing exports to Canada the bilateral economic relationship can be expanded by encouraging Canadian investment and commercial activity in Singapore and the region. With its very liberal trade policy, most goods can be imported into Singapore and exported freely. Because it is located at a geographic centre in Southeast Asia and has a well-developed infrastructure, Canada could establish buying houses in Singapore to source products from the republic and surrounding countries. In addition, as a resource-rich country with extensive mining and energy exploration expertise, Canada could market its know-how by setting up consultancy services in Singapore to cater for the offshore exploration now taking place in Southeast Asia.

Prepared from material provided by the Department of Trade and Industry, Singapore.

Attractive Prospects for Canadian Participation in Thailand

CLIMATE and geography have combined in Thailand to provide an agricultural wealth that has enabled Thais to maintain social and agricultural traditions long lost in other less fortunate countries. A Thai saying which promises that there will always be fish in the canals and rice the paddy has an indisputable ring of truth, from the teak forests in the north, through the rice paddies around Bangkok, to the rubber plantations in the south.

The combination of a benevolent tropical climate and rich soil has produced an agricultural base — rice, tapioca, pineapple, citrus fruits, maize, sugar, rubber, many varieties of fresh and saltwater seafood — which employs more than two-thirds of Thailand's labour force.

Commercial opportunities abound in Thailand, which has a population of 45 million, but a local agent or associate is a necessity for any Canadian businessman wishing to pursue them.

As the Thai government prepares for the introduction of its fifth five-year plan, government policies have focussed on fostering free enterprise involvement in economic development, emulating the success stories of Singapore and Korea. As policies had already swung from emphasis on import substitution to export promotion, the lifting of restrictions on private sector foreign involvement in mineral resources, energy development and basic industry created attractive prospects for Canadian participation in Thailand's economic growth.

Prospects are excellent for continued growth in the Thai economy. Real growth in the GNP is expected to be approximately 7.5 per cent in 1981, slightly better than the seven per cent that had become the norm in recent years. This increased growth is remarkable in view of the increased cost for imported fuel, as Thailand at present depends on imports for all its gas and most of its petroleum. Recent discoveries of large natural gas deposits in the Gulf of Thailand should reduce energy import costs substantially as the gas begins to replace fuel oil in the last quarter of the 1981 period. In 1978, for example, 78 per cent of Thailand's electric power was generated from imported fuel oil but by 1988 it is expected that fuel oil will account for only six per cent of the total production of thermal electricity. In addition to reducing energy import costs (which will rise to 40 per cent of export earnings in 1980), the natural gas is a type that will provide the feedstock for a petrochemical industry in Thailand.

Thailand's three most important tra-

Thailand Accepts a New Challenge

AIMING AT THE diversification of its export market and in order to help Thai exporters undertake new challenges, the Government of Thailand has opened a commercial office in Canada to facilitate the new era of export promotion. Naturally, this new office will emphasize new opportunities and new markets for Thailand's exporters. However, it will also render services to Canadians interested in importing Thai products.

Canada and Thailand have established a long-lasting trading relationship based on a trade agreement concluded in 1966. Since that time two-way trade has continued to increase each year to the benefit of both countries. Thailand continues to buy more from Canada than she can sell at this time. In 1980, Canadian sales to Thailand were valued at \$142 million while Thai exports to Canada were \$25 million, leaving a \$117 million trade deficit on the Thai side.

The principal Thai exports to Canada are canned pineapple, canned seafood, fish products, raw sugar, tin, lumber veneer, precious and semi-precious stones, household utensils, tableware, textiles and other garments, working gloves, and handicrafts.

The very impressive gross national

product of \$260.3 billion and a per capita income of \$8,902 (1979) in Canada makes it one of Thailand's major export targets. The principal industrial centres of Canada are Toronto, Montreal, Vancouver, Calgary and Edmonton.

With the liberal trading environment in Canada—the few restrictive trade measures protect domestic industries—and the very competitive production costs and high standard of quality of most labour-intensive goods emanating from Thailand, it seems certain that more and more Thai products can effectively enter the Canadian market. Thai goods exported to Canada enter under the Canadian Generalized System of Preferences (GSP). It is hoped that the provisions of the GSP will lead to a growth in the range of products that Thailand can export to Canada.

Interested parties seeking assistance may address their inquiries to the Office of the Commercial Counsellor, Royal Thai Embassy, 396 Cooper Street, Suite 310, Ottawa, Ontario, K2P 2H7, Canada.

Prepared from material provided by the Royal Thai Embassy, Ottawa, and the Ministry of Foreign Affairs, Bangkok.

ding partners are Japan, the EEC and the United States, in that order. However, Canadian exports to Thailand grew from \$7.1 million in 1968 to \$87.2 million in 1979 and by the end of 1980, had reached \$142 million. Major items are prefabricated aluminium, steel, asbestos, synthetic fibres, wood pulp, polyethylene resins, zinc, sulphur, medicines, power boilers, pulp and paper machinery, construction equipment, and telecommunications materials.

Thailand offers business opportunities in many sectors. Long a major tin producer, Thailand up to now has not felt the need to define or develop other mineral resources. However, a major airborne geophysical survey financed by the Asian Development Bank will be undertaken over the next three years and will, hopefully, indicate the location of new deposits of mineral resources in addition to the currently undeveloped uranium, potash and oil shale.

The agricultural sector, on the other hand, continues to use traditional techniques on smaller landholdings and obviously has potential for the application of new technology from seed stock through cultivation and material handling equipment to food processing equipment.

As the Thai economy grows, telecommunications and transportation networks and the electric power generation/ transmission/ distribution system will need to keep pace — it is expected that the electrical generation capacity will increase three-fold to 6,900 megawatts by 1990. Container handling equipment is being incorporated in the development of the railway and the deepsea port of Sattahip to handle the increase in export traffic.

With a large, well-educated labour force (84 per cent literacy rate, and 97 per cent enrollment in elementary school), a stable business-oriented government, good access to the growing markets of the ASEAN countries and the Pacific rim, and minimal currency exchange controls, Thailand has considerable potential as a site for joint ventures, with the Canadian partner bringing technology and/or financing in return for an equity position in the Thai firm.

The Board of Investment offers a variety of incentives for foreign firms wishing to invest in Thailand, including tax incentives and exemptions from restrictions on landownership. As well, discussions have begun on a double taxation agreement and an investment insurance agreement between Canada and Thailand.

Canadian Connections with ASEAN Countries

INDONESIA

The **Minister of Agriculture** of the Republic of Indonesia, Professor Soedarsono Hadisapoetro, visited Canada from September 13 - 18 as the guest of his Canadian counterpart, Mr. Eugene Whelan, who visited Indonesia in September, 1980.

Professor Soedarsono was accompanied by Indonesia's Director General for Fisheries Imam Sardjono, Director General for Animal Husbandry Professor J.H. Hutasoit, the Bureau Chief for Foreign Co-operation Dr. Alhambra Rachman, his bureau colleague Mr. Ilendro Suwarno, and Mr. Lukito Daryadi from the Directorate General for Forestry.

The Indonesian delegation reviewed agricultural operations and research facilities across Canada, starting in the highly productive farming lands of southern Ontario with a tour led by Mr. Whelan of his home area, Windsor. It took in Agriculture Canada's station for horticultural and greenhouse research, the new Windsor grain terminal, an adjoining soybean crushing plant, and tomato-canning operations.

Moving on to Ottawa, the Indonesians visited the Central Canada Experimental Farm and the forestry nursery of the Ontario Ministry of Natural Resources.

Prof. Hutasoit paid a separate visit to Ontario's largest egg production unit, which includes a grading station and a breaking plant that processes eggs for manufacturing use.

Westward, in the Province of Alberta, the Indonesian delegation saw a beef feedlot where more than 20,000 head of cattle were being fattened for slaughter, toured a meat packing plant where beef carcasses are pre-cut and vacuum wrapped in plastic for shipment as boxed beef, and witnessed experiments with irrigation and deep plowing of solonetz soils.

The Indonesian's schedule also included many meetings. Prof. Soedarsono spoke with the deputy ministers of Environment, and Fisheries and Oceans, while Imam Sardjono held discussions with the International Development Research Centre's president Ivan Head. Dr. Rachman talked with officials of the Canadian International Development Agency and with Jennifer McQueen, director general of the International Affairs Directorate of Agriculture Canada, regarding funding for dryland farming research and animal health programs in Indonesia.

The delegation's visit and the discussions held during the week reflect the growing level of co-operation between Indonesia and Canada in agricultural

development. Mr. Whelan congratulated his guests on Indonesia's success in increasing food production and noted that he and Prof. Soedarsono shared the belief that the solution to the problem of world food shortages was the development of more productive agriculture industries in the developing countries. He also called for increased trade in food and agricultural commodities between Canada and Indonesia.

The Indonesian Minister said there were opportunities for Canadian investment in his country, where modernization of the farm industry was so important. He hoped ties between the two countries could be strengthened so that Indonesia could benefit from Canada's advanced agricultural technology.

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The Indonesian **Foreign Minister** Dr. Mochtar Kusumaatmadja paid an official visit to Ottawa October 15-16 at the invitation of Dr. Mark MacGuigan, the Secretary of State for External Affairs. During meetings with Dr. MacGuigan and Mr. Marcel Masse, the President of the Canadian International Development Agency (CIDA), Dr. Mochtar expressed his gratitude and that of his government for almost \$120 million of development assistance which Canada has committed to Indonesia during the past two years. He said such assistance would, in time, help Indonesia become a more viable trading partner and create a more propitious market for Canadian goods and services. The two foreign ministers also discussed the Law of the Sea negotiations and Dr. Mochtar noted that there were no two countries which had co-operated so closely during the deliberations on this important international issue.

Dr. Mochtar also attended a session of the daily question period in the Canadian House of Commons and called on the Speaker of the House, The Honourable Jeanne Sauve.

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Canada's **Minister of State for Mines**, Judy Erola, accompanied by Senior Assistant Deputy Minister (Mines) Charles H. Smith and Acting Assistant Deputy Minister (Mineral Policy) Robert D. Hutchinson, spent three days in Indonesia between September 4 - 7.

Minister Erola and her party visited the nickel operations of P.T. Inco Indonesia in Soroako, Sulawesi. With the kind assistance of P.T. Inco's President Jim Guiry and other officials of Inco, Mrs. Erola was able to become better acquainted with the technical, economic and social issues involved with mining nickel in laterite formations in a tropical environment.

During a reception held in her honour at the home of Mr. and Mrs. Guiry, Minister Erola had the opportunity of meeting



Canada's Minister of Agriculture Eugene Whelan (1) down on the farm with his visiting Indonesian counterpart Professor Soedarsono Hadisapoetro (far right).

with many Canadian expatriates and leading Indonesians working for Inco. In Jakarta Mrs. Erola had the opportunity during an informal dinner to exchange views with Indonesia's Minister of State for Control of Development and Environment Emil Salim.

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Three DASH-7 aircraft, produced by **de Havilland Aircraft of Canada Limited**, Toronto, will soon be flying in Indonesia. The four-engine, fifty-passenger capacity short take-off and landing (STOL) aircraft will be wearing the colours of P.T. Pelita Air Services, the state-owned airline



A de Havilland DASH-7 flying over Canadian mountains: soon to be flying in Indonesia.

providing services to the Indonesian petroleum industry.

Scheduled for delivery in January, June and December 1982, the three DASH-7s were purchased at a cost of more than \$30 million to serve the country's oil operations, especially in Medan, Sumatra, and in the newly-developing Natuna Islands in the South China Sea. They may also be used to transport new settlers away from the densely populated areas of the country to frontier areas as part of Indonesia's ambitious transmigration program.

According to Pelita's President-Director W. Mulyono, some of the factors that led his company to select the Canadian-built aircraft over competing models were that the DASH-7 Turbo-prop can easily seat 50 passengers — more than other aircraft such as the Skyvan and the CASA 212; the STOL capability of the DASH-7 means that it will be able to land on small, short airfields all over the country, a matter of great importance to Indonesia; and the Canadian-built plane has definite advantages in terms of its relatively high speed, long

range and excellent fuel efficiency.

Thirty-four pilots and engineers from Indonesia and Singapore will travel to Canada for training at de Havilland's Toronto headquarters.

De Havilland's STOL aircraft are no strangers to Indonesian airways. Since the mid-1960s the predecessor of the DASH-7 — the DHC-6, Twin Otter — has been flying in Indonesia. The 20 Twin Otters now operating in the country provide air services, primarily in the eastern part of the island archipelago.

During the past year Papua-New Guinea has also purchased three DASH-7s.

As a result of sales successes to date, de Havilland executives are confident of their ability to meet the specialized aircraft requirements of other airlines and government agencies throughout the ASEAN area.

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On September 17 the largest group of Indonesians ever to participate in the **Canada World Youth** program departed for Canada. The program, which started in 1975 with the co-operation of the Indonesian Department of Youth Affairs, has continued to grow to the point where this year 50 young Indonesians will be joining 50 young Canadians in what must be described as a unique cross-cultural and personal experience as they live and work together, taking on a variety of volunteer projects, for three months in Canada and three months in Indonesia. This year, the groups will be staying in the provinces of Alberta and Newfoundland in Canada and in December will return to the provinces of Aceh and Riau on the island of Sumatra in Indonesia.

MALAYSIA

The **Government of British Columbia**, Canada, is sponsoring a series of forestry seminars in Malaysia and Indonesia from October 26 — November 20.

The seminars are bringing together officers from the private and public sectors in the fields of harvesting and processing and are being held in Kuala Lumpur, Kuching, Sandakan, Samarinda, Jakarta and Pekanbaru.

The participating Canadian companies involved in processing are: Bramco Chemicals — wood preservative techniques using copper-chrome-arsenic; INTEG — waste wood utilization as a power generation source; Akhurst Machinery — lumber drying systems using refrigeration cycle plants; Canadian Car Pacific — fibreboard production from waste wood; Sauder Industries (Moulding Division) — north American hardwood market; and Hallmark Engineering — laminated wood beams for construction purposes.

The Canadian companies specialising in harvesting are: Pacific Truck — large truck log transport; S. Madill Ltd. — cable yarding systems; and T.M. Thompson — helicopter logging of high-value, remote sites and timber extraction planning.

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The **Canadian International Development Agency (CIDA)** has recently finished a comprehensive program of geochemical surveys in Peninsular Malaysia. Carried out over a two-year period, the program involved several scientists from both Canada and Malaysia.

Although the official report has yet to be released, it is understood that airborne magnetic and radiometric surveys provide a better knowledge of mineral availability. The information collected could also be utilized in large scale land-use capability studies, land development schemes involving crops or plantations as well as the selection of hydro-electric sites.

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The **Canadian Executive Services Overseas (CESO)** newly-appointed representative to Malaysia, Mr. Hank Wade, is actively promoting CESO's expertise and services to the government and to private companies.

One area where CESO's services are proving particularly useful is in joint ventures. To a Malaysian company looking for a joint-venture partner, CESO can provide the services of experts to study and refine the proposal and find Canadian companies with the necessary expertise and market knowledge to become suitable partners in the venture. These services are provided by established experts for the price of their living expenses only.

CESO pays for the transport of the experts from Canada to Malaysia and they in turn volunteer their time.

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The **Ontario Educational Services Corporation**, part of the Government of Ontario, recently signed a \$1.7 million contract with the International Labour Organization for industrial training services to be provided for the Malaysian Department of Labour and Manpower.

The training will be given in two phases — through a fellowship program in Canada, followed by the services of experts to be rendered in Malaysia.

Under the first phase, approximately 20 trade instructors from the Industrial Training Institute will be trained in Canada for periods ranging from 12 to 18 months. Industrial training will be given in heavy plant construction machinery, foundry work, industrial electronics, offset printing, tool and die making, furniture and cabinet making, woodworking, sheet metal fabrication and engineering inspection.

The training in Malaysia will be given by visiting experts for periods of 12 to 24 months in industrial electronics, textile machinery mechanics, food processing machinery mechanics, foundry work and sawmilling work. Several of these experts will be Canadian in accordance with the terms of reference of the International Labour Organization.

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Canada's new **High Commissioner to Malaysia** Gerald F.G. Hughes presented his credentials to KDYMM Yang Di-Pertuan Agong in Kuala Lumpur on October 12. Mrs. Mary Jane Hughes, his wife and mother of three sons, accompanied him to Malaysia.

Mr. Hughes, who was born in Sayabec, Quebec, graduated from New Brunswick University with a B.Sc. degree in 1940.



H.E. Gerald F.G. Hughes, Canada's new High Commissioner to Malaysia.

He joined the Trade Commissioner Service in 1945 after leaving the Navy Volunteer Reserve with the rank of Lieutenant-Commander. He was posted abroad in Glasgow, Ankara, Istanbul, Beirut, Stockholm, Rome, and London and returned to Ankara as Ambassador in 1971.

PHILIPPINES

The Philippines Foreign Minister **General Carlos P. Romulo** paid an official visit to Canada from October 7-10 at the invitation of his Canadian counterpart, the Secretary of State for External Affairs, Dr. Mark MacGuigan.

General Romulo is a distinguished statesman who has been personally involved with the United Nations since its foundation in 1945. He is the sole surviving member of the group of 51 men who signed the United Nations' Charter in San Francisco. General Romulo is also an author of note and won the Pulitzer Prize for Journalism in 1942. This year he was the recipient of an honorary degree from the Royal Military College of Canada.

Canada and the Philippines enjoy excellent bilateral relations based on a number of mutual policy and economic interests. The Philippines is Canada's contact point for the dialogue with ASEAN and is a valuable interlocutor for Canada on international issues such as the North-South dialogue and the Law of the Sea. Canada is a source of investment and technology (Canada is the sixth largest investor in the Philippines) and a partner in industrial co-operation and trade. The visit of General Romulo is an indication of the growing importance of Canada's relations with the Philippines, both bilaterally and as a member of ASEAN.

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The **Export Development Corporation (EDC)** of Canada has signed a US\$10-million line of credit with the Development Bank of the Philippines (DBP). This was announced by Canada's Minister of Energy, Mines and Resources Marc Lalonde when he was in Manila to address the ASEAN Council on Petroleum (ASCOPE) this month.

The line of credit is intended to assist Canadian exporters competing for sales in the Philippines by providing the Philippine buyer with a simple and easily-accessible credit facility through the DBP. The EDC expects that the main beneficiaries of this facility will be small- and medium-sized Canadian manufacturing companies. Contracts for sales from Canada will be considered on a case-by-case basis. The types of projects expected to be considered include those primarily

related to the textile, communication and mining industries.

The DBP is wholly-owned by the government and was formed in 1958 for the purpose of financing and promoting agriculture, commerce and industry in the Philippines. It is a major source of short-term domestic market borrowing. Most of its loans are concentrated in the metallic manufacturing industry.

The EDC is a Canadian Crown corporation that provides a wide range of insurance and bank guarantee services to Canadian exporters and arranges credit for foreign buyers in order to facilitate and develop export trade.

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Canadians of Philippine origin, in Toronto at least, no longer need feel totally isolated from their indigenous beginnings. In accordance with Canada's policy on multiculturalism, the study of Philippine culture will be introduced as a non-credit course in a public school in Toronto.

Under a **pilot cultural enrichment program** beginning this month, courses on the Filipino language, Philippine history, government, social life, music, folk dances and sports will be offered at the Parkdale Collegiate Institute, in an area where some 5,000 Filipinos live. It is estimated there are approximately 35,000 Filipinos in Toronto alone.

The program, which is funded by the Ontario Ministry of Culture and Education, was proposed by the Sampaguita Cultural Heritage and Civic Organization (SCHCO), the largest Filipino association in Toronto. According to Camilo Tiqui, SCHCO president, the association proposed the study program to the Canadian government because there was a great need to re-introduce Philippine culture to the Filipino community in Canada.

The courses will be conducted at all levels — elementary, secondary and collegiate — and will be open to interested out-of-school youths, adults and senior citizens as well as students from other public and private schools.

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Several years ago, a Philippine bottling firm was losing sizeable sales and could not identify the problem. A Canadian pinpointed the weakness in the firm's operations and developed a practical but thorough delivery system for the distribution of its products. The Canadian is one of a number of volunteer consultants in the **Canadian Executive Service Overseas (CESO)**.

In its 10 years of operation in the Philippines, CESO has extended the services of about 300 Canadians to a number of commercial and industrial establishments. During the year 1980-81, 25 have come and gone, leaving behind a good measure of their know-how and

experience with the various institutions and companies they have worked with in the Philippines.

There are five volunteers in the country at present — one in Bacolod, another in Iligan, and three in the Manila area — advising on logging and sawmill operations, carbide and ferroalloy technology, auto-fleet maintenance, bottling, and wines and liquors.

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Ceso is a non-profit corporation organized by a group of Canadian business leaders with the support of the Canadian International Development Agency (CIDA) to assist developing countries achieve economic growth by helping to strengthen and improve the management and effectiveness of their own businesses, organizations and institutions. Through CESA retired Canadian executives are able to share, all over the world, the technical, professional and management skills acquired throughout their careers in Canadian business and industry. Volunteers serve for a maximum of six months in response to specific requests received from organizations in either the public or private sector.

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Filipino-born artist Rolando Lampitoc, originally from Laoag, opened his second one-man show of oil paintings in Toronto in September.

Although a popular artist in the Philippines, Lampitoc had to struggle for a while after he moved to Canada before his big break came last June when a Toronto promoter organized a travelling exhibit of Filipino-born artists living in North America. Maurice Amar of the Laurier Gallery saw and liked Lampitoc's paintings of the Philippines and arranged the artist's first one-man show in Toronto last year. Lampitoc is committed to another show in Toronto, where he lives, in November.

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The **Multiple Management Group (MMG)** of Vancouver, Canada, has produced the Ecology Machine to rid the world of rodents effectively and safely without the use of chemical pesticides, which scientists believe are no longer a viable option. The machine emits ultrasonic sound at several frequencies combined in constantly changing patterns producing an irritating "noise" to which the victims cannot become accustomed. It mesmerises rats, cockroaches and weevils and throws their entire biological rhythms off balance until they ultimately die. A report from a food processing company testing the machine in Bangkok claims that it controls snakes, too. However, the noise is not audible to humans or domestic animals.

The Ecology Machine is made of sturdy 16 gauge aluminum, measures

35 cm x 8 cm, and weighs a mere 2.7 kgs. Installation is simple: just hang it up and plug it in; it consumes power comparable to a 100 watt light bulb. It can effectively cover from 2,708 square metres to 4,514 square metres indoors and with a conducive structure some warehouses could get even better coverage.

Two prominent research agencies are reported to be interested in testing the machines — the Technology Resources Center in the Philippines and the International Rice Research Institute. From a variety of reports and test sites in Manila, the initial testing revealed immediate control of cockroaches, rats no longer sighted, droppings reduced by at least 70 per cent, and ricebugs inside sacks completely disappeared.

MMG has invested two and a half years and nearly \$250,000 developing the Ecology Machine. So far there are 10 distributors in Canada and one in each of 20 countries but there is a lot more world to rid of rodents open to the right kind of entrepreneurs or marketing-oriented companies.

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On September 22, the Philippines' Energy Minister Geronimo Velasco and the president of **Husky Oil of Canada**, Robert Strother, signed two geophysical survey contracts.

Under these contracts Husky is to head a consortium of Philippine and American companies to explore for oil in 596,000 hectares in Lingayen Gulf and 219,000 hectares in North Busuanga in the Palawan Basin.

It will be the first time that Husky has led a consortium in the Philippines although it is a partner in two existing ventures. The company has also requested the Ministry of Energy to grant service contracts that would involve the drilling of 11 wells in the two areas.

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The **Cadlao oilfield** in offshore Palawan started producing crude oil at a rate of 2,000 barrels a day on August 26 and is expected to build up to 4,560 barrels daily.

The oilfield, operated by consortiums led by Amoco Philippines Petroleum Company, which includes the Canadian company, Husky Philippines Oil, is the Philippines' second producing oilfield after Nido in offshore northwestern Palawan. Nido and Cadlao are about 50 kilometres apart.

The Amoco oil drillers saved construction time on the Cadlao field by using a "very early production system" that dispensed with an oil production platform similar to that used at the Nido oilfield. Instead, deep-sea divers installed two sub-sea wellheads. The consortium spent roughly \$72 million dollars to develop the two Cadlao wells.

SINGAPORE

Singapore's former international Paya Lebar airport housed the **Asian Aerospace Exhibition 1981**, the first ever in the region, from September 23-27. A two-day conference was run in conjunction with the show at the Mandarin Hotel.

Among the 30 exhibitors, representing about 130 companies and national industry groups, the Canadian contingent of 15 was the largest from any country. Canadair of Montreal flew its Challenger executive twinjet to the show for its debut in the region. Most prominent among the other participants were the British, French, West German, and Dutch groups. Some of the participating companies from Canada have been in business since the birth of Canada's aviation industry, which has developed a high degree of sophistication and involvement in the very specialized aspects of the Apollo II and space shuttle programs.

The Canadian firms exhibiting were happy with the interest shown in their equipment and services and were impressed by the significant potential for joint-venture relationships and expanded sales.

The success of the Canadian participation is evident in the follow-up activities of six companies. Helicopter Welders, from Richmond, British Columbia, is negotiating a joint venture to produce helicopter components and supply maintenance in Singapore. Northern Airborne Technology, Prince George, B.C., has reached an agreement with Heli-Orient to distribute helicopter radio and electronic systems. Decade Industries, Richmond, B.C., strengthened its position as a maintenance tool support supplier to airlines in Singapore, the Philippines, and Thailand. Garret Manufacturing of Rexdale, Ontario, appointed Denson Enterprises as its ASEAN agent, which will conduct a demonstration campaign of search and rescue radios in 1982. Heroux Inc., Longueuil, Quebec, is negotiating a joint venture with a Singapore company to conduct landing gear maintenance in Singapore. Computing Devices from Ottawa held discussions with Unicorn International, a subsidiary of the Singapore government-owned Sheng Li group, on the possibility of making an artillery fire direction computer in Singapore.

Several of the Canadian firms took the opportunity to travel elsewhere in the ASEAN region to examine future market potential.

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As with transportation, communications have always been a preoccupation in the wide expanse that is Canada. As a result, Canadian technology for linking vast



Canadair's Challenger executive twinjet made its debut in the ASEAN region at the Asian Aerospace Exhibition 1981 in Singapore.

areas has kept pace with the best and leads the world in digital communications.

An obvious parallel can be drawn between the ASEAN requirements for communications and the Canadian experience. Even urban Canadians, amounting to about three-quarters of the 23 million population, are divided from each other by formidable geographic barriers and vast distances similar to those between ASEAN countries.

It is with this in mind that eight Canadian firms will be participating in **CommunicAsia '81**, the second Asian international electronic show and conference, to be held from December 9-12 at Singapore's World Trade Centre. Included in the early list of participants are Canadian Marconi, AEI Telecommunications, ITT Communications, Sinclair Radio Laboratories, and Intercontinental Data Control, all of which are seeking a more permanent presence in Southeast Asia.

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Computerisation of government departments has been proven to increase effectiveness and efficiency. The computerisation of such Canadian departments

by private industry has created a high level of expertise, which has been recognized to be among the highest available. It is, therefore, not surprising that the largest of the Canadian software companies, DMR Associates, has been holding discussions in Singapore and Montreal that could result in the transfer of this technology to Singapore.

In addressing requirements similar to those of Singapore, DMR and Associates, a leading data processing consulting firm based in Montreal, recently completed a computerization requirements study for the Ministry of Economic Planning and Development of Zimbabwe.

After surveying the government's present and future data processing requirements, DMR closely examined education and training requirements with the ultimate objective of achieving virtual independence from outside assistance and developing a suitable strategy regarding future development of data processing in government.

Following this study, the formation of a scientific computing centre was announced. DMR is currently providing the project management and associated tasks in order to put this centre into operation by mid-1982 to meet the needs of more than a dozen ministries

and government departments engaged in statistical analysis, economic and manpower planning, engineering, research, and development. It will also be used to process and tabulate data from the national census to be conducted next year.

Other recent international projects handled by DMR include the results system for the 1980 Olympic Games in Moscow, master planning of the public finance sector of Algeria, and the modification and implementation of an on-line system for a credit union in Australia.

These assignments were undertaken by DMR's International Division, which is headed by Alain Roy, who will visit Singapore shortly to discuss joint-venture possibilities. The study team, directed by Kirk Thompson, includes Patricia Trapnell, a partner, who visited Singapore in December, 1980, and again in July, 1981, to lay the foundations for DMR to enter the ASEAN market.

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The **Royal Bank of Canada** is expanding in Singapore and says it plans to expand other Asian operations as well.

The bank recently moved to larger premises in Singapore and will increase its staff to further develop foreign-exchange trading, trade financing and other business. Enlargement is planned also for the energy-financing division—one of several specialized units the bank operates as well in Canada, the United States, and England.

The Royal Bank has been operating an offshore branch in Singapore since 1975 and it also operates a merchant bank. InchRoy Credit Corporation, a Hong Kong based deposit-taking company that is 70 per cent owned by the Royal Bank, also maintains an office in Singapore.

The Royal Bank is Canada's largest and the fourth largest in North America. It has 200 operating units in 45 other countries. In the financial year ended October 31, 1980, the bank earned \$327.4 million after taxes, up 21 per cent from the previous year. Earnings from international operations jumped 57 per cent from 1979 to \$145.4 million, accounting for 45 per cent of the bank's 1980 after-tax profit.

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Canada's **Minister for Employment and Immigration** Lloyd Axworthy visited Singapore for four days at the end of September during an extensive tour that took him first to Japan and Hong Kong and then to India before returning home.

The purpose of his visit to Singapore was to gain first-hand knowledge of the operation of Canada's Indo-Chinese refugee program, under which 70,000 refugees have been accepted by Canada since 1978.



Canada's Minister for Employment and Immigration Lloyd Axworthy visits Singapore's Minister for Home Affairs Chua Sian Chin to exchange views on refugee matters.

Mr. Axworthy also exchanged views on refugee matters with Singapore's Acting Minister for Foreign Affairs E.W. Barker and the Minister for Home Affairs Chua Sian Chin, as well as senior officials of the United Nations High Commissioner for Refugees (UNHCR) from Indonesia, Malaysia and Singapore. He also toured the Hawkins Road Refugee Centre run by UNHCR.

With assistance from the Canadian government-sponsored International Development Research Centre (IDRC), the Singapore Institute of Standards and Industrial Research (SISIR) has designed a 149-square metre solar collector and installed it for the Singapore food manufacturer Hock Hin and Company. The new design of the collector makes it very durable because it is structurally simple and is less subject to corrosion since it does not contain water.

The solar collector has been operating since mid-May and has already demonstrated its potential for substantial energy savings. On sunny days it supplies about 40 per cent of the hot air needed to dry the firm's rice vermicelli. The savings in electricity costs from the use of the collector in the first year alone are estimated to be about \$87,000. The \$10,700 initial cost of the collector will, therefore, be recovered in about 18 months. This compares very favourably with more complicated and expensive solar water heaters, which normally take three to four years to recoup their cost.

The collector also shows considerable

potential for many other industrial applications. It could be used in the drying of paints, timbers, plywood, textiles, or in any other operation that requires hot air.

THAILAND

Thirteen teachers from across Canada, spent six weeks in Thailand during July and August conducting in-service training projects and workshops for Thai teachers. Sponsored jointly by the Canadian Teachers' Federation and the Private School Teachers' Association of Thailand, this was the ninth year that a group of Canadian teachers have spent their summer holidays this way in Thailand.

Courses in English and physical education were conducted in the capital, Bangkok, and in Nakhon Ratchasima and Suphanburi provinces. More than two hundred Thai teachers were able to benefit from the experience and methods the visiting Canadians demonstrated.

Meanwhile, the Canadians gained substantially through exposure to the different climate and culture of Thailand and many a session lasted well into the evening with exchanges of folksongs and stories of how life is lived on opposite sides of the globe. A highlight of the stay in Thailand for the Canadians was an audience with Her Majesty Queen Sirikit at Chitlada Palace during the last week of their classes.

Plans are already in preparation for next year's tenth anniversary program and both Thai and Canadian organizers are looking forward to the continue

success of this grassroots cultural exchange program.

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Thailand's Minister of Industry Major General Chatichai Choonhavan led a five-man delegation on an extensive 10-day tour of Canada in July. In Ottawa he held discussions with Canada's Minister of State for Trade Ed Lumley, who had extended the invitation to Canada during a visit to Thailand he had made last October. The two ministers discussed Canadian export initiatives in Thailand, including geophysical survey contracts financed by the Asian Development Bank, oil and gas development and projects, and consulting engineering contracts. Canada's Minister of Industry, Trade and Commerce Herb Gray also met his Thai counterpart and they reviewed matters of bilateral interest.

While in the Canadian capital, Major General Chatichai also had an opportunity to observe question period in the Canadian House of Commons and was introduced to the House by the Speaker, The Honourable Jeanne Sauve. The Thai Minister remarked that he had found this a most interesting highlight of his stay in Ottawa.

The delegation then flew to Saskatoon, Saskatchewan, where they were met by that province's Deputy Premier Roy Rowmanow. Potash was the main subject of talks. Saskatchewan officials outlined for their Thai colleagues their experience as a government which both controls and takes a market share in the industry. A most interesting tour was organized to the nearby Cory potash mine. The Thai visitors explored a pit face 1,500 metres below ground level and eight kilometres from the entrance shaft and were greatly impressed by the degree of automation they found in this operation.

From Saskatchewan the Thai officials travelled to Calgary, Alberta. They were hosted by Alberta's Minister of Economic Development Horst Schmid who led an Alberta oil and gas delegation to Thailand in December of last year. Thai and Alberta task forces were established as a result of that visit to Thailand and an introductory meeting between the two groups was held in Calgary.

The session dealt with several aspects of energy resource management and development. Minister Chatichai expressed his confidence that Canada would be an ideal source of expertise in the area of natural gas for Thailand's newest energy resource and said that was the reason he made Canada the destination for his first trip abroad to discuss gas policy, development and downstreaming. It was also agreed that Alberta officials would visit Thailand in the near future to further this growing relationship.



Thailand's Minister of Industry Chatichai Choonhavan (centre) in Ottawa at the invitation of Canada's Minister of State for Trade Ed Lumley (r) and seen with Minister of Industry, Trade and Commerce Herb Gray.

A meeting followed between Major General Chatichai and Bob Blair, president of Nova Corporation, at which possibilities were explored for Canadian participation in natural gas transmission, gas separation, production of methanol and exploration in Thailand.

The final two days of the Thai's trip were spent in British Columbia. Here Minister Chatichai met with the province's Industry Minister Don Phillips, who had visited Thailand in February this year. The question of involving British Columbian forestry companies in the Thai forestry sector was considered by the Thai delegation and their Canadian counterparts.

At a farewell dinner hosted by Mr. Phillips, Major General Chatichai extended an invitation to Canadians to invest in Thailand through its "open-door" policy. He also said that Canada was a source of technical assistance upon which the Royal Thai Government was anxious to draw.

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The Canadian Minister of State for Mines Judy Erola spent three days in Thailand in September as guest of Thailand's Industry Minister Chatichai Choonhavan, who extended the invitation to visit when he met with her during his tour in Canada.

During meetings in Bangkok it was decided that an advisor from Canada's Ministry of Energy, Mines and Resources would travel to Thailand in October to help the country's Ministry of Industry formulate a pricing policy for natural gas found in the Gulf of Thailand. His consultations are with the Thai Natural Gas Pricing Sub-committee led by Dr.

Prabhas Chakkaphak, Director General of the Mineral Resources Department of the Royal Thai Government. Minister Chatichai said he was particularly interested in the Canadian "reference price" method of gas pricing, which sets a standard for natural gas found by any firms and varies the price according to its quality.

Other areas where Thailand was interested in accepting Canadian expertise included the training of Thai officials in the use of remote sensing by satellite for geological surveys, the development of potash resources, and lignite ash utilization.

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The Export Development Corporation (EDC) of Canada has signed a loan agreement totalling up to US\$22.7 million to support the sale of lignite-fired boiler equipment by Combustion Engineering-Superheater Limited (C-E Canada), of Ottawa.

The loan was made in connection with a contract awarded by the Electricity Generating Authority of Thailand (EGAT) to CEMAR, a consortium consisting of C-E Canada and Marubeni Corporation of Tokyo, Japan, for Unit 5 at EGAT's Mae Moh Power Station in northern Thailand. The contract calls for design, manufacturing, and supervision of site erection and commissioning of a 150,000-kilowatt steam generating unit.

This transaction will support continued Canadian involvement in EGAT's ambitious program to generate a substantial portion of its electricity needs at Mae Moh from indigenous lignite rather than imported oil. Three 75,000 kilowatt units for the station were sup-

plied earlier by another Canadian company.

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Prakid Punyashthiti, a 16-year-old student from Bangkok, has been chosen as Thailand's representative to attend the Lester B. Pearson College of the Pacific in Victoria, British Columbia. Prakid will study in Canada for two years in preparation for the International Baccalaureate Examination, for which all students at Pearson College sit prior to entering university.

Pearson College is one of a group of United World Colleges. It bears no resemblance to preconceived notions of a teaching institution. Built on a Vancouver Island hill among centuries-old trees, some of which are 80 metres in height, and overlooking the ocean, Pearson College is more like a kind of village of 250 inhabitants, 200 of whom are students from all over the world.

Credit for the establishment of this unique school must go to former Canadian Prime Minister Lester B. Pearson, who was the winner of the 1957 Nobel Peace Prize. Mr. Pearson was convinced that people of all races and religions had to learn to live together, hence the idea of founding a college in Canada and welcoming representatives of all countries to study there.

The impressive teaching methods were modelled on those of the College of the Atlantic in Wales, which was already in operation, where students learned land and sea rescue techniques and regulations in addition to their regular classroom studies. Another United World College is the Southeast Asia College in Singapore.



Prakid Punyashthiti was briefed before departing Thailand for Canada's Lester B. Pearson College by visiting Senator Royce Frith and former student Wanwemol Charukultharavatch.

News Briefs

Northern Telecom Ltd. of Montreal has announced that the Austrian Post, Telephone and Telegraph Administration, has chosen the company's technology for DMS-100 and DMS-200 digital switching systems as the basis of future expansion of the Austrian telecommunications system.

The Northern Telecom technology will be used by Austrian electronics and telecommunications systems manufacturers under licencing arrangements made with the company.

Northern Telecom Ltd. has developed a hospital/clinic feature package for its SL-1 digital business communications system. The package includes features which automate communications, increase productivity, enhance system administration, and offer all the cost saving features of a standard SL-1 system together with several new features such as group call and automatic handsfree answerback, and a message centre.

The company has an ongoing program to identify special health care communications requirements and to develop system enhancements to meet future needs. Currently, it has 110,000 lines in service in hospitals and clinics throughout the U.S. and Canada. The system can also be provided worldwide.

Canada has sold 51 more diesel locomotives to Egypt, bringing to 143 the total of Canadian locomotives purchased by Egypt since June this year.

The total locomotive package is worth \$155-million to General Motors of Canada Ltd., Oshawa, Ontario.

The purchase is being financed partly by a \$109-million loan from the Export Development Corporation of Canada.

The National Organization of Egyptian Railways committed itself 25 years ago to purchasing GM diesel locomotives, which it generally buys from either Canada, West Germany or the United States. About 85 per cent of Egyptian locomotives are made in Canada.

B.C. Coal Ltd., a 67 per cent owned subsidiary of British Columbia Resources Investment Corp., has signed a 20-year sales contract to deliver 500,000 metric tons a year of metallurgical coal to Pohang Iron and Steel Co. of South Korea.

The two companies plan a \$282 million joint venture for coal development at the Greenhills Coal Mine, 40 kilometres north of Sparwood, British Columbia. B.C. Coal would own 80 per cent of the new mine and the Korean company 20 per cent.

Production is scheduled to begin in 1983. The mine is expected to be fully operational in 1984, with a workforce of 650 and annual production capacity of 1.8 million tons of coal.

Bombardier Inc. of Montreal, Canada, has contracted to supply Mexico with rubber-wheeled subway trains of nine cars each for \$150 million, thereby displacing the original suppliers from France. Other equipment for the third phase of the Mexico City Metro, scheduled for completion by December 1982, will be supplied by B.G. Checo International Ltd., also of Montreal. The *Bureau de Transport Metropolitan*, a business operated by the Urban Community of Montreal to sell its rapid-transit expertise, will provide consulting services.

Computing Devices Company (ComDev), a division of Control Data Canada Ltd., Ottawa, which has extensive experience in acoustic processing systems both in the U.K. and in North America, has won a major acoustic subcontract to supply the British Royal Air Force. ComDev will design and construct the acoustic subsystem for two Mission Support Systems (MSS) that the Wells Division of EMI Electronics Limited (EMIE) have been awarded a \$18-million contract by the U.K. Ministry of Defence to manufacture. The MSS will be capable of providing full mission support for Nimrod MR MK 2 and most other NATO Maritime Patrol Aircraft, which will greatly enhance their operational effectiveness.

CAE Electronics of Montreal, Canada, recently signed a \$34-million contract with the federal government to develop and manufacture three aircraft flight simulators for the Canadian Armed Forces' new fighter aircraft, the McDonnell Douglas CF-18 Hornet. Two of the simulators will feature VITAL IV visual systems, while the third will be installed in a 12.2 metre-diameter dome with an air combat manoeuvring visual system. All will include CAE-developed G-suit and G-seat motion enhancement systems. Tactical simulation will include radar and weapons systems, with provision for the future addition of electronics warfare and digital radar land mass simulation.

A group of Canadian businessmen signed agreements with Chinese officials while on a tour in China sponsored by the Canada-China Trade Council.

One of the agreements reached during the 11-day visit by 50 members of the council was that its agricultural committee will proceed with plans to build a model farm in northeast China to demonstrate the effectiveness of Canadian agricultural practices.

In addition, China will buy \$750,000 in glass tableware from Cutler Brands and Designs Incorporated of Toronto, and the diesel division of General Motors of Canada Ltd., Oshawa, Ontario, has agreed to co-operate with China's Ministry

of Metallurgical Industry to explore the possibilities of compensation trade.

Kipp Kelly Ltd., a manufacturer of specialized dry process separation machinery in Winnipeg, Canada, recently installed machines to clean soybeans in a soya milk plant in Thailand and to clean rice for market upgrading in the Philippines. The company had already supplied machines working on cocoa, palm kernel, and tin in Malaysia.

The Kip Kelly machines are designed to separate particles by their specific gravity as opposed to their size. This unique ability allows them to differentiate between good and bad seeds, valuable and non-valuable ores, impurities and rejects from all valuable dry free flowing materials.

Mitel Corporation of Ottawa has reached a four-year \$80-million agreement with Telefonos de Mexico. The agreement will result in the creation of a joint company called Mitelmex which will be housed in a \$20-million production plant in Mexico. The plant will go into production next year, turning out a line of computer systems and electronic circuitry for the phone company.

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