

posting with Petro-Canada's Western Canada exploration group. For PTT NGO, PCIAC has provided a \$2 million set of training programs to date in all aspects of pipelining and gas processing: operator training, engineering consultancy with training and technology transfer built in, and provision of software. In some cases the work has been done in Canada; we've also had a significant number of Canadian experts in Thailand providing on site assistance.

The PCIAC program is also helping with human resource development in the petroleum sector outside the PTT through the Petroleum Institute of Thailand (PTIT), with seminars, training and technology transfer for government groups, the academic community and in some cases the private sector.

In the Philippines PCIAC is embarking on an extensive program to help further development of the Office of Energy Affairs (OEA) exploration and production data management capability. A new Data Management Centre will be constructed by Philippine interests, and PCIAC will provide Canadian design and consulting expertise, air conditioning, dehumidification and fire control systems, and electrical panels. In particular Canadian expertise will assist in recataloguing existing data to make it as retrievable and useful as possible for both government and the exploration industry. PCIAC is also helping the Department of Mineral Resources in this regard in Thailand. I can't emphasize enough the important role of accessible data in promoting hydrocarbon exploration and development in any country. This is one area where Canada has leading edge experience.

We're also putting together a comprehensive training program for both OEA and the Philippine National Oil Company-Exploration Corp (PNOC-EC) to help develop the technical and managerial expertise of their staff. This program includes a suite of management and production oriented courses to be presented in Manila, which we expect will be attended by other ASEAN countries as well, and also extended on-the-job training to be provided in Canada to 26 OEA and PNOC-EC technical personnel.

As for new technology, that depends on the viewpoint. Much of the technology we bring is new to the organizations we're working with, otherwise they wouldn't have invited our assistance. On the other hand, most Asia Pacific companies have very sophisticated and highly educated people working for them, and there is not a great deal of technology that is "new" in an absolute sense. We do find it is very often the experience of putting it all together that is lacking in these organizations, more than the technology.

One area in which Canada does excel is natural gas. Western Canada possesses a sizeable gas resource base and an extensive production, processing and distribution industry, and I'd say we are second to none in this area. Canada can make a valuable contribution in the Asia Pacific region in the natural gas business.

Canada is also extremely well positioned to make a contribution to any country regarding environmental management and protection. Because of our vast, fragile wilderness areas the oil business in Canada, along with other businesses, has been forced to develop a heightened consciousness of the environment and a sensitivity to both ecology and human communities in our operations. We're finding in many countries Canadian expertise in environmental and social affairs is highly relevant and in high demand, and I suspect we will find an important market for these services in the Asia Pacific region, too.

**What would you single out as being Petro-Canada's strengths and how is this being utilized to the fullest in the light of a lower oil price environment, tighter margins and the fear of taking risks in frontier areas?**

I assume you are referring to both our domestic and international situation. Our strength lies in the advanced technology and high calibre of our people. While we are a

relatively small company by international standards, we have the advantage of drawing on a workforce which has developed carefully and continuously over the past 40 years. Calgary is the second largest computer centre in Canada. The city has one of the highest concentrations of professional people anywhere, and there are many high-technology firms available to support Canadian operators.

One strength overseas lies in our experience as a national oil company. We probably understand better than most corporations the needs of other national oil companies and the problems they are undergoing, and in that way we are able to assist them and form meaningful and mutually beneficial partnerships. We don't have any hang-ups about technology transfer or training programs for national oil companies, and we are quite willing to enter joint ventures with them.

Our weakness lies in an area you referred to in your question: the issue of risks in the frontiers. Petro-Canada has a disproportionately large portfolio in the frontiers because of our previous policy role which was to get out there and explore on behalf of the Canadian public. The reluctance by our partners (and ourselves) to proceed with frontier developments, and the flat oil price environment have been major factors in our decision to move outside Canada to international programs.

Tighter margins in Canada and the lack of progress in the frontiers are forcing us to reorganize domestically and to reach out internationally. We hope tighter margins in Canada will be compensated by success in your area.

**How does Petro-Canada view the future of the Asia Pacific as a relatively untapped area of the world for both oil and gas? What countries would Petro-Canada single out as having the greatest potential, citing reasons for this? How is Petro-Canada preparing itself for the expected increase in activity levels in the 1990's?**

As I said earlier, we see the Asia Pacific region as an extremely important theatre for future oil and gas exploration and development. That's why Petro-Canada will be concentrating a good deal of our international effort in this region over the next few years. Specifically, we like offshore Vietnam, Myanmar and Malaysia. Everyone will be watching to see industry's response to the new fiscal regime in Thailand, with good potential in both the Gulf of Thailand and the Chiangmai basin. There's still a lot of oil and gas to be developed in Indonesia.

Reasons? There remains as you say, good untapped geological potential in all of these areas. In the ASEAN/ASCOPE countries there are stable political regimes and a business-minded approach, combined with rapidly expanding markets and new manufacturing developments. In all countries we find an openness for Canadian participation and we have little difficulty dealing directly with governments because of our national oil company background. So we see these countries as natural potential partners, perfect places to do business.

Finally, we, along with everyone else, would very much like to see China open up, especially in the northwest. The Canadian industry is a good example of the technical progress made possible by inviting expertise and capital in from abroad. There is little question that with Western expertise and exploration there would be significant new reserves added in China for the economic development of the country, and the technical development of their people.

As for the expected increase in activity in the 1990's, we can hardly wait. We are restructuring our conventional business to increase profitability, organizing the company to grow even in today's tight price environment. We're well positioned to make major developments in the Canadian frontiers as prices firm; and with any luck our commitment to South-East Asia will result in tremendous exploration success.