A REPORT OF THE NORTHE PIPELINE AGENCY Fall 19

PIPELINE

Pipeline Cost Drops By $10 Billion

The estimated as-spent cost of the Alaska portion of the Alaska Highway gas pipeline has been substantially reduced as a result of lower interest and inflation rates and design modifications.

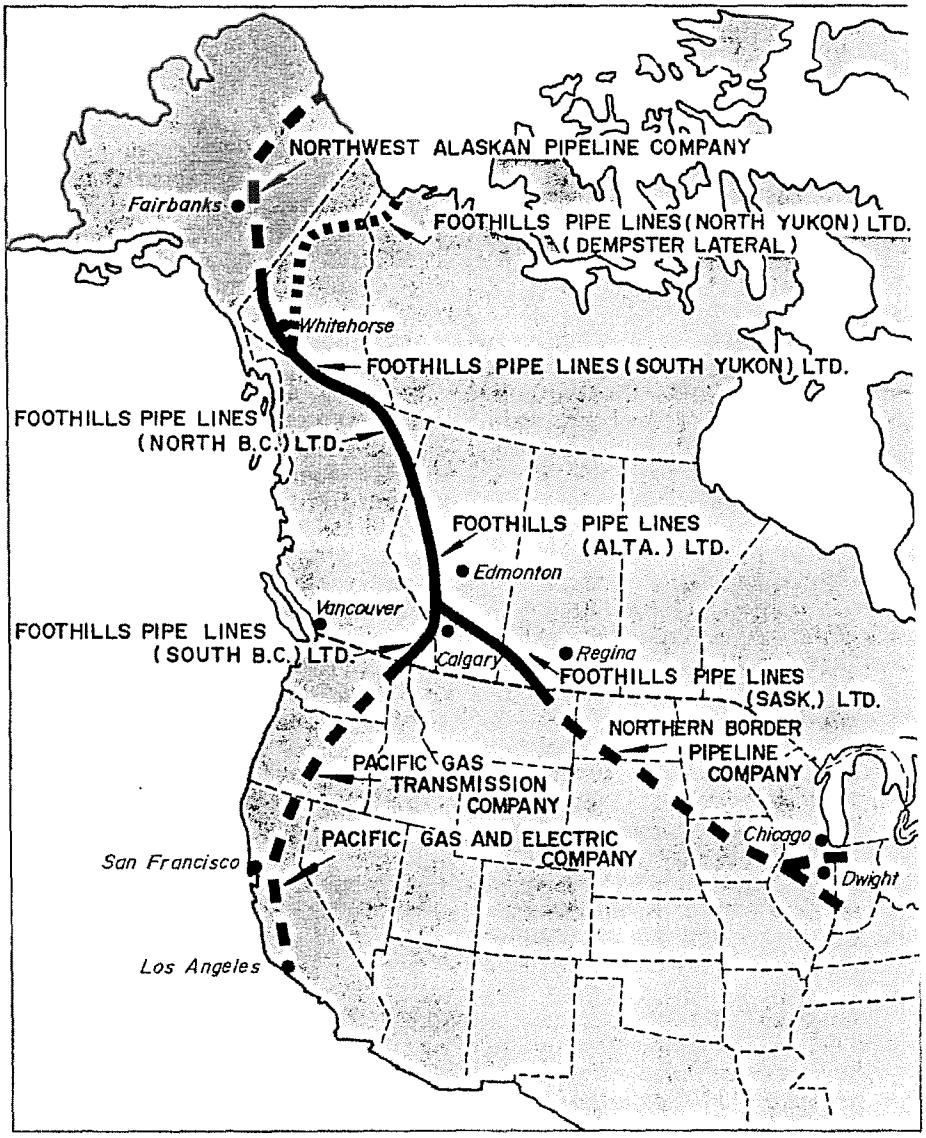
In the spring of 1981, it was estimated that the amount of money spent in building the Alaska portion of the line, including the conditioning plant, would be in the neighbourhood of $30 billion, assuming a completion date of 1987. Recent recalculation by the partners in the project places the estimated as-spent cost at around $20 billion, assuming a completion date of 1989.

Studies completed by Northwest Alaskan Pipeline Company during the first half of 1983 prove that a new process for removing carbon dioxide from natural gas will reduce by about 20 to 25 percent both the construction and operation costs of the $3.6 billion (U.S. 1980) gas conditioning plant to be built at Prudhoe Bay, Alaska. The new treatment process will also burn less gas and, in turn, increase the amount of energy delivered to the Alaska Highway gas pipeline system by approximately one percent.

Northwest Alaskan has revised the design of the facility to accommodate the change, which could reduce the number of modules required for the plant from 150 to 100. This would shorten the delivery period to two years from the original estimate of three years required to transport the modules north. The design modifications are subject to review and approval by the Office of the Federal Inspector.

As of the end of September, the Alaskan sponsors have about 45 employees, including contractor personnel, and plan to maintain this level until year end.

Final negotiations are under way for the takeover of Northwest Alaskan's parent company, Northwest Energy Company, by The Williams Companies of Tulsa, Oklahoma. All signs indicate the new sponsors will continue to pursue Northwest's interests in the Alaska Highway pipeline, says Joe Vallely, spokesman for Northwest Alaskan.



Canada

Project Developments in Retrospect

by the Hon. Mitchell Sharp

The suspension for now of further publication after this issue of *Pipeline* —regrettable as it is—at least provides me with a timely opportunity to look back over the course of past events, to take stock of the present, and to peer into the future.

For all of us who have been involved with the Alaska Highway Gas Pipeline Project, as I have been since becoming Commissioner of the Northern Pipeline Agency in May 1978, I believe it has been an exciting venture.

Not only has it involved a close association with one of the largest private projects ever planned anywhere in the world, but it has also involved dealing with any number of major challenges—social, environmental, technological, economic, financial, political and diplomatic.

Pipeline project unique experiment

What we have been involved in—indeed, continue to be involved in, if only at a reduced level of activity—has been a unique experiment. Operating within the diplomatic framework of an exceptional agreement between Canada and the United States and within the innovative legislative framework established to govern the project in our own country, we have sought to ensure that the planning, construction and operation of this pipeline system works as far as is possible in the best interests of all Canadians.

To have some understanding about the nature of these developments, it is important to have some understanding about the tremendous impact on public opinion in both Canada and the U.S. of the adverse experiences encountered earlier in Alaska with respect to the pipeline that was initially built to carry oil from Prudhoe Bay on the North Slope to Valdez on the southern coast of the state—a distance of some 1 290 km (800 mi.).

Oil and gas were first discovered at Prudhoe Bay in 1968 (and were found in Canada's Mackenzie Delta in 1970). While in the late 1960s groups were already forming to consider ways and means of gaining access to the North Slope gas reserves, the movement of oil had the first priority. In 1970, a company made up of the principal

Commissioner Mitchell Sharp

petroleum owners—Exxon, Sohio and Arco—was established to build the pipeline to Valdez.

For those involved in the initial planning of this new system, it appeared to entail little more than the building of a pipeline like any other. How wrong they were!

The undertaking of the project encountered one set-back after another. The sponsors found themselves confronted by serious court challenges initiated by environmentalists and hung up by the opposition of native groups, who finally succeeded in obtaining a legislated settlement of their land claims. Research and testing revealed that laying of a pipeline that would carry hot oil through permafrost soils posed previously unimagined technical problems. Contrary to the original expectation that the entire line would be buried, only some 550 km (340 mi.) were installed below ground, with most of the remainder carried above ground on a newly designed support system.

As a result of all these delays, it was around mid-1974 before construction eventually got under way and around mid-1977 before it was finally completed. Originally estimated to cost $800 million, the pipeline ended up costing more than $8 billion. This massive increase was due to three major factors—the long delays in proceeding with construction, the severe inflationary spiral experienced in the early 1970s, and the obstacles created because of the lack of co-ordination and co-operation among federal and state departments and agencies involved in regulating various aspects of the project.

In addition to these problems, various communities in Alaska—particularly Fairbanks—suffered major hardships because of a massive influx of those seeking pipeline jobs, which far exceeded those who ever succeeded in obtaining employment. Existing housing and other facilities were totally inadequate to meet the demand, while many of the existing services such as communications, police, courts and social welfare were also overwhelmed. All of these pressures combined to push up the cost of living in Alaska to a level well beyond

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Line-up machine is adjusted prior to mechanical welding on Eastern Leg near Jenner, Alberta in summer 1982.

Foothills Pipe Lines (Yukon) Ltd.

Agency Cutbacks Continue

The Northern Pipeline Agency will have the equivalent of 15 staff by April 1984, down from a peak strength of 104 employees two years earlier. Actual staff members will number 39, with 24 working with other federal government departments and agencies.

The federal authority, established five and a half years ago by Parliament to oversee planning and construction of the Alaska Highway gas pipeline in Canada, cut back staff as a result of a delay in the project completion date to 1989. The latest reduction in numbers follows a similar move by the Canadian project sponsor, Foothills Pipe Lines (Yukon) Ltd. By mid-September, the company had 19 employees involved in Phase II planning and design, down from 100 last spring.

The staff reductions have affected all Agency offices in Ottawa, Calgary, Whitehorse and Vancouver. The Vancouver office is scheduled to close on March 31, 1984.

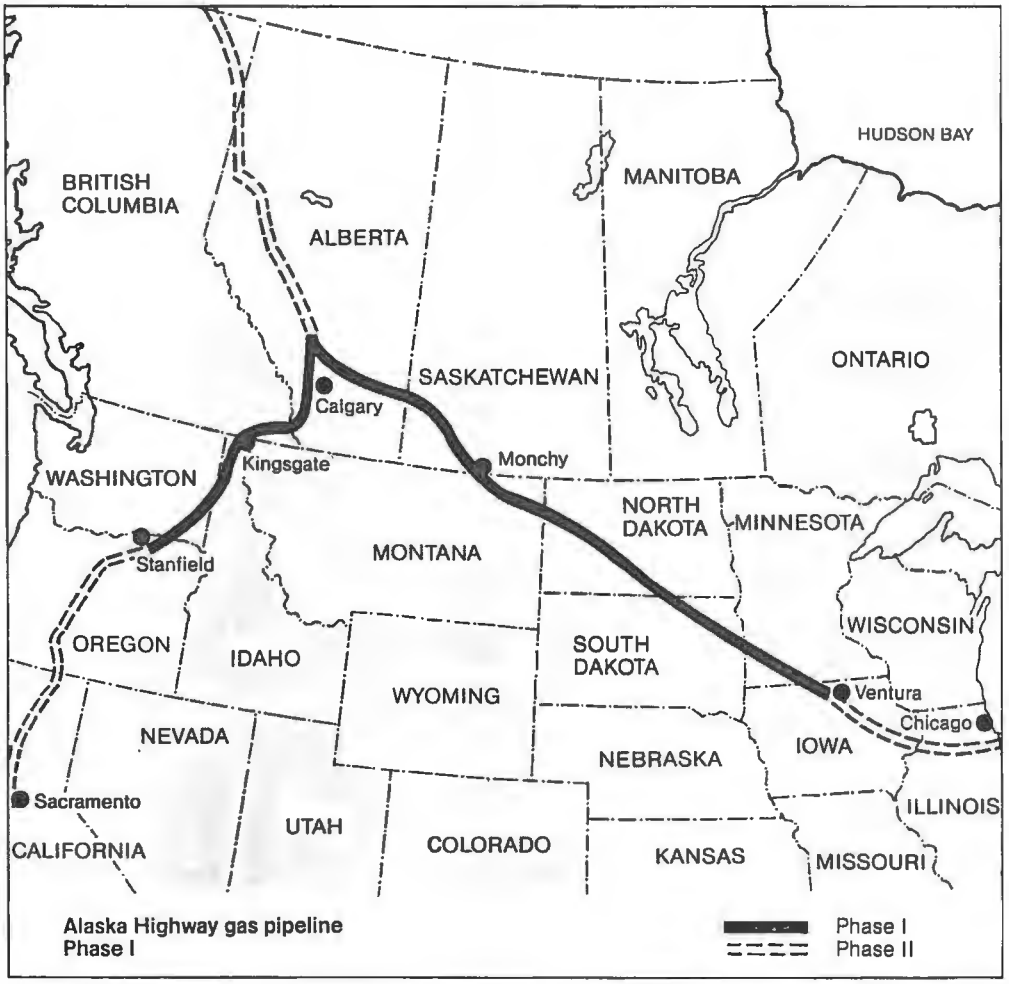
Since the cutbacks began in May 1982, the Agency has arranged for the secondment on a full or part-time basis of about 34 of its staff to other federal government departments and agencies through the Public Service Executive Interchange Program.

Senior Surveillance Officer Jim Wallace (left) and Surveillance Officer Dave Deyell (right)

News In Brief

The latest cost for construction of Phase I of the Alaska Highway gas pipeline in Canada by the Foothills Group of Companies is approximately $908 million. This is four percent lower than the cost estimate previously approved by the National Energy Board. The Board plans to hold a hearing next spring to consider revised cost estimates submitted by Foothills up to the end of 1983.

Gas exports to the United States from January to the end of August 1983 through Phase I of the Alaska Highway gas pipeline have averaged approximately 316 10^6m^3 (11 Bcf) and 111 10^6m^3 (3.9 Bcf) through the Eastern and Western Legs, respectively. These represent about 41 percent and 58 percent of the amounts authorized under existing gas export licences and approximately $734.4 million in total revenue over the eight-month period. Exports peaked during the month of January at a total volume of about 700 10^6m^3 (24.5 Bcf).



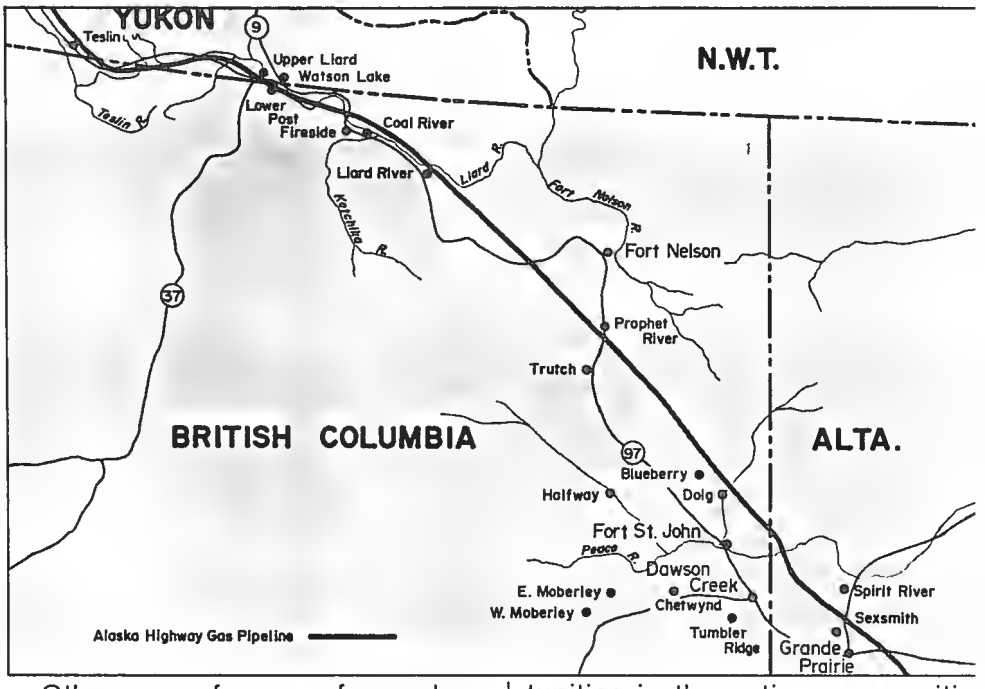
The Federal-Provincial-Territorial Consultative Council held its latest discussion by conference call on September 22. The Hon. Mitchell Sharp, Commissioner of the Northern Pipeline Agency, briefed members on the takeover of Northwest Energy Company by The Williams Companies of Tulsa, Oklahoma. Mr. Sharp chairs the Council, which is made up of senior officials from the Agency and Governments of Yukon, British Columbia, Alberta and Saskatchewan to ensure consultation on matters related to the Alaska Highway Gas Pipeline Project.

Report Highlights B.C. Native Concerns on Projec

A report prepared by the Treaty 8 Tribal Association on the recommendations of northeastern British Columbia's native people for construction of the Alaska Highway gas pipeline is expected to be completed by December.

The tribal association, which represents about 1,000 status Indians from seven bands, entered into a contract with the Northern Pipeline Agency in April 1982. The group undertook to provide community members with information on the location of the pipeline route and related facilities. It also sought suggestions for alleviating any disruptive effects on communities and hunting, fishing, trapping and cultural activities and on ways to compensate for loss of livelihood.

In a draft report submitted to the Agency in February 1983, the tribal association suggested the pipeline route and work camps be located well away from the reserves and communities, and where land is less used for hunting, such as muskeg areas. The group also stressed that access roads should be kept to a minimum and blocked off when not in use.



Other areas of concern focused on the location and safety of compressor stations, camp rules to limit the use of alcohol and firearms, training for long-term employment related to the project and development of business opportunities in the native communities. These opportunities would include tourism, guiding and handicraft production.

The final report will include details on compensation proposals.

Native hunters in northeastern B.C.

M. Weins

the already sharp rise being experienced in the lower 48 states and other industrial countries.

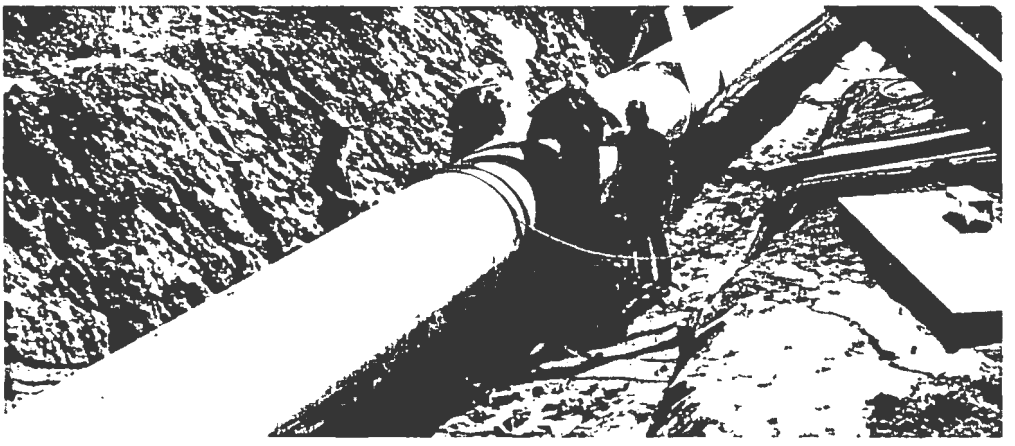
Because these adverse experiences were sharply etched on the minds of many people on this continent, there was a strong determination on the part of the authorities in both countries that every effort should be made to avoid a repetition when building a pipeline of several thousand kilometres to carry Prudhoe Bay gas to markets in the western and mid-western U.S. states.

Certain of the safeguards were built into the bilateral agreement between the two countries. The provisions for establishment of an incentive rate of return for the sponsor companies undertaking the project and for co-ordinating the efforts of the two countries, for example, were among the measures aimed at ensuring tighter cost control than that experienced in the case of the oil line. Through their own implementing legislation, each country sought in its own way to deal with these and other problems experienced earlier in Alaska.

Focus on social and environmental concerns

The sensitivity of social and environmental problems bred by the Alaska experience undoubtedly played an important part in the decision by the Canadian government to establish the inquiry into the impact of a pipeline along the North Slope of Yukon and along the Mackenzie Valley under Mr. Justice Berger. It was concern about these same issues that led both Mr. Justice Berger and the National Energy Board to recommend in favour of the Alaska Highway gas pipeline, which had the virtue of avoiding both routes and instead following already established corridors.

As I have already indicated, the *Northern Pipeline Act* approved by Parliament in April 1978 provided a broad framework of legislation designed to enable Canada to avoid or minimize many of the kinds of problems experienced earlier in Alaska. The legislation, together with the Northern Pipeline Agency created under it, were intended to achieve several objectives. Essentially they involved building of the pipeline in Canada in a manner that would generate the greatest possible economic benefit and have the least possible adverse impact socially and environmentally with respect to the land and people located along the pipeline route, while at the same time providing strong stimulus on a national basis to economic activity, job creation, research and industrial development.



Final tie-in weld on August 17, 1982 south of Beiseker, Alberta completed construction of the Eastern Leg in Canada.

The Agency itself has been unique in many respects. To a considerable extent, it has served as a 'single window' in exercising federal jurisdiction over the project. The Agency has maintained a close working relationship with the National Energy Board, one that has been enhanced by the appointment of a member of the Board to serve as the Designated Officer in the Agency and to exercise the many NEB powers delegated to that official. The powers of a number of other departments as they involve the pipeline have also been transferred to the Agency. Beyond that, the Agency has worked closely as required with other federal departments and agencies involved in the project, with provincial and territorial officials, and with U.S. officials in an effort to achieve the co-ordination and co-operation essential to the smooth development of the undertaking.

On the basis of experience to date, I think it can be fairly said that the mechanisms created by bilateral agreement and national laws have worked reasonably well in serving the interests of both Canada and the U.S. First-stage construction of the southern segments has been completed for more than a year and gas flowing through the Eastern and Western Legs—if only at a much reduced volume.

What has not worked out nearly so well is the timetable laid down in the Canada-U.S. agreement, which anticipated the entire pipeline would have been completed and in operation by January of this year. Some of the earlier delays in moving forward were undoubtedly the result of difficulties with the political process. It was, for example, more than a year after the agreement was signed before Congress could reach an accord on the all-important new gas pricing regime to be put into effect to replace one that had become glaringly outdated. For a great many months, the pipeline sponsors in both Canada and the U.S. were also restrained from pushing actively to clear the way for a start on construction of the northern segments because of the prolonged period required before agreement was reached on crucial amendments to the U.S. legislation by the Administration and Congress.

Project delay result of economic downturn

More recently, the delays in proceeding with second-stage construction of the remaining northern segments of the system have been due to factors beyond the control of any one country. A year ago last March, the sponsors in Alaska were anticipating completion of the Alaska portion by late 1987. Within six weeks they

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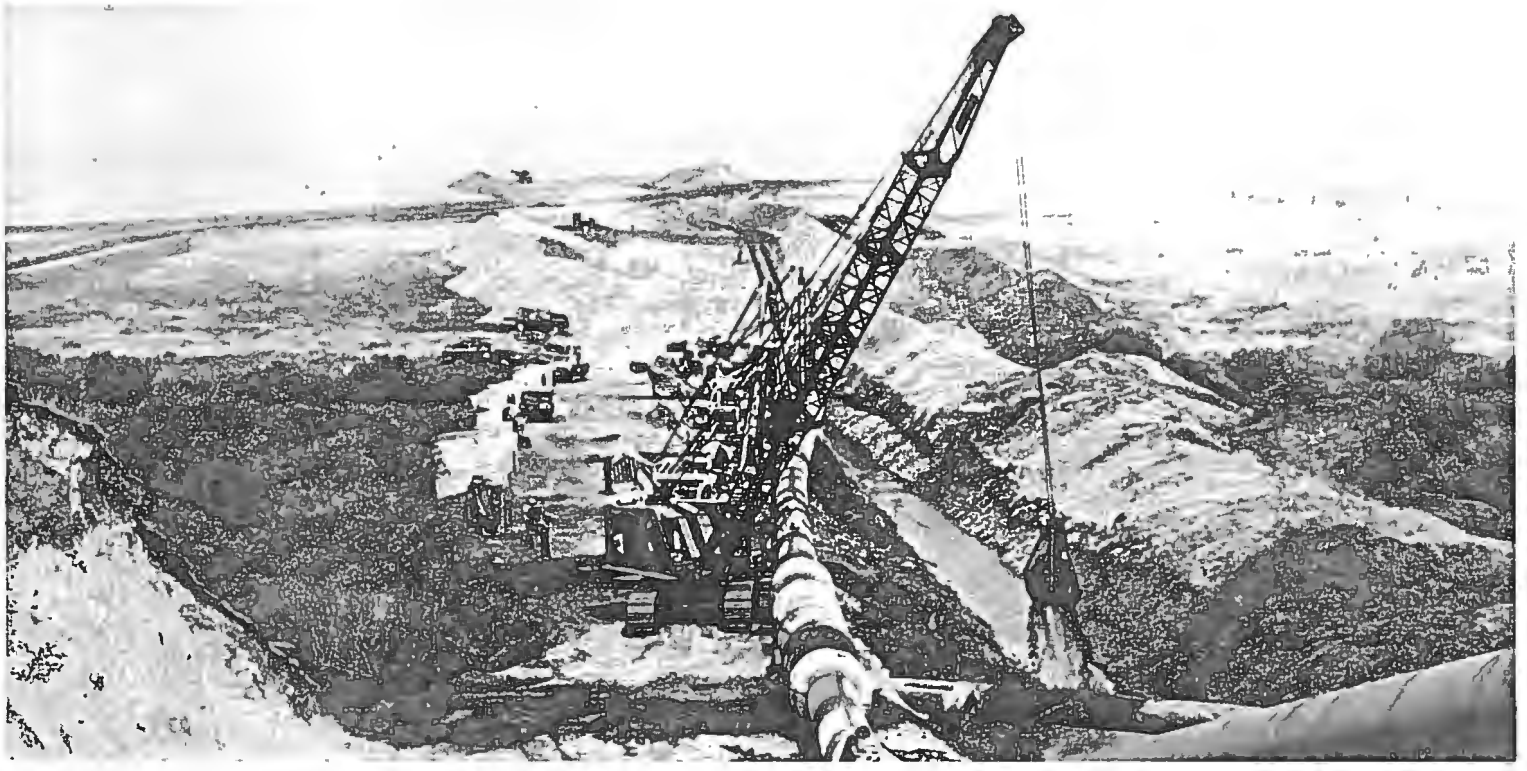
Project Developments in Retrospect



Eastern Leg construction in Saskatchewan, summer 1981

had pushed that date back to late 1989 because of the adverse impact of economic recession, galloping inflation, high interest rates and growing uncertainty over the future level of oil prices. Some of these problems have since receded. The decline in inflation and interest rates, for example, have led the sponsors to pare their cost estimates for the Alaskan segment by about one-third—some $10 billion. But the cost problem has been replaced by another problem—the large, if temporary gas surplus that has developed in the U.S. over a period of several months as a result of a variety of factors.

In the face of this gas glut, the immediate concern of many U.S. shippers has been and continues to be one just of survival. In these circumstances, few—if any—of those shippers supporting the building of the pipeline system in Alaska currently have either the inclination or the financial resources actively to push for implementation of the second stage of the project. Small wonder that the backers of the undertaking in both countries are for the time being phasing down the resources they are prepared to allocate to the continued planning of the northern segments, which in turn has made it essential for the regulatory agencies in Canada and the U.S. that are primarily concerned with the project to cut back their own level of activities.

Over the past decade, we have experienced a chaotic series of events, which have underlined just how difficult it is in this troubled world to foretell the future. There is, however, one basic, fundamental fact upon which virtually all U.S. shippers, U.S. federal departments and agencies, and the International Energy Agency in Paris are all agreed—that is that by the latter half of the 1980s, and probably sooner than later, the U.S. is going to face an increasingly critical need for additional gas supplies both from Alaska and from imports from other countries.

The set-backs that have been encountered to date have been a continuing source of frustration for all of us who have been so anxious to see this great project move through to completion. But I take some comfort from the firm conviction that within the foreseeable future this present dormant state will give way to renewed activity as the pipeline sponsors and producers move with some urgency to meet an actual or imminent renewal of gas shortages in the lower 48 states.

Pipeline

The Northern Pipeline Agency will cease publication of *Pipeline* for the present with this issue. This course was adopted as a result of the reduction in Agency activities because of the delay in completion of the Alaska Highway Gas Pipeline Project until 1989.

The Agency was created by Parliament in April 1978 to oversee planning and construction of the project in Canada. Inquiries or comments regarding *Pipeline* may be directed to:

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