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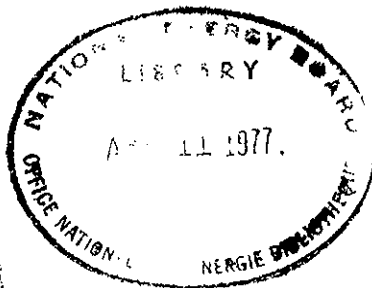
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[Northern Energy Board, Northern Development
of the

**MACKENZIE VALLEY
PIPELINE INQUIRY**

Synopsis of Volume Two

COMMISSIONER
Mr. Justice Thomas R. Berger

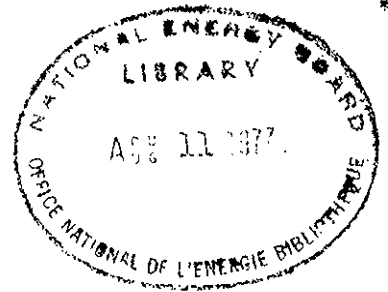


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MACKENZIE VALLEY PIPELINE INQUIRY

COMMISSIONER
Mr. Justice Thomas R. Berger

Suite 600
171 Slater Street
Ottawa, Ontario K1P 5H7



July 27, 1977

The Honourable Warren Allmand
Minister of Indian Affairs and Northern Development
House of Commons
Ottawa, Ontario

Dear Mr. Allmand:

This letter is a synopsis of the main points of Volume Two of my report, the full text of which will be published in September. I understand it may be helpful to have a synopsis of Volume Two for the parliamentary debate on northern gas pipelines.

In Volume One, I recommended that no pipeline be built and no energy corridor be established across the Northern Yukon. I also recommended that construction of a pipeline along the Mackenzie Valley be postponed for ten years. This is consistent with the subsequent report of the National Energy Board. The Board has indicated that, depending upon the extent of discoveries in the Mackenzie Delta and the Beaufort Sea, a

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pipeline should be built either along the Dempster Highway, to connect with the proposed pipeline along the Alaska Highway Route, or along the Mackenzie Valley. It would, therefore, be wrong to assume that there will not be a pipeline along the Mackenzie Valley. In any event, there will be continuing exploration in the Delta region, and a pipeline along either the Dempster Route or the Mackenzie Valley Route will affect that area -- an area about which I have heard a great deal of evidence.

Thus in Volume Two, I seek to distill the evidence on a wide range of social, environmental and economic subjects. In this way, Volume Two is designed to serve as a convenient point of departure for those in both the public sector and the private sector who will be engaged in planning for the Mackenzie Valley and the Mackenzie Delta in the years to come. The list of subjects covered in Volume Two is appended to this letter.

VOLUME ONE AND VOLUME TWO

Let me explain now the links between Volume One and Volume Two, and the way in which the concepts developed in the former ramify in the latter.

In Volume Two, as in Volume One, I proceed on the assumption that, in due course, the industrial system will require the gas and oil of the Western Arctic, and that they will

have to be transported along the Mackenzie Valley to markets in the South. But I also proceed on the assumption that we intend to protect and preserve the northern environment, and that, above all else, we intend to honour the legitimate claims of the native people. I want to emphasize that all of these assumptions are embedded in the "Statement of the Government of Canada on Northern Development in the 70's," presented by the Hon. Jean Chrétien to the Standing Committee on Indian Affairs and Northern Development on March 28, 1972.

The social, cultural and political tensions in the North are well-known. They are, moreover, closely linked to industrial advance. The fact is, the intrusion of large-scale frontier development among native people leads to the aggravation of the cluster of pathologies that are so familiar in the North: welfare, crime, violence, disease, alcoholism, and social and personal disarray. This is a hard fact to accept, requiring as it does a reconsideration of conventional wisdom, but it is founded on the evidence before the Inquiry, indeed on all of our experience. The evidence showed that, if a pipeline were built now in the Mackenzie Valley, its economic benefits would be limited, its social impact devastating, and it would frustrate the goals of native claims.

So I concluded that certain adverse consequences of the construction of a pipeline and the establishment of an energy

corridor could not be mitigated, and that it was unrealistic to proceed as if they could be. But I said that, if no pipeline were built now, and if measures were taken to strengthen native society and the native economy -- indeed the whole renewable resource sector in the North -- through a settlement of native claims, then the pipeline could be built in ten years' time. The benefits of pipeline construction at that time could be enlarged, and the adverse consequences mitigated, in ways that are not possible today. Volume Two deals with the measures that will have to be taken to enlarge those benefits and mitigate those consequences.

This implies a new set of priorities for northern development: the strengthening of the traditional native economy; the development of logging and sawmilling, of fur, fish and game, of tourism and other related economic activity; an orderly program of petroleum exploration in the Mackenzie Delta and the Western Arctic; and in due course a pipeline along the Mackenzie Valley.

This brings me to another matter that is fundamental to Volume Two. The Constitution of Canada provides for special status for the native people: it does not necessarily require the imposition of existing political or administrative forms on the native people. This is the legacy of our history, and long-established policy of the Government of Canada. The Government

has made a commitment to settle comprehensive claims by northern native people. Such a settlement will not be easy to reach. We are, however, fortunate in that our Constitution offers an opportunity to deal with such claims, unfettered by false analogies.

It is worth reminding ourselves that, while our Constitution has always provided for special status for native people, it does not stipulate special status for any province; although it does, of course, provide guarantees for the use of English and French and for denominational education. The question of special status for native people in Canada and the forms it may take in the future is one thing; the continuing endeavour to reach an accommodation between anglophones and francophones in Canada is another. These questions are both of the first importance. But they are not the same. The claims of native people stand on quite a different basis from the claims of the two linguistic communities.

SOCIAL AND ECONOMIC RECOMMENDATIONS

In Volume Two I indicate terms and conditions that relate to four distinct kinds of problems: renewable resources, urban centres, employment, and northern business.

A strong native society and local renewable resource development can exist side-by-side with large-scale, non-renewable resource development -- but only if our priorities are changed, and if renewable resource development is strengthened before the pipeline is built. If the pipeline is postponed for ten years, then many possibilities, in terms of social, economic and political development, can be explored in the Mackenzie Valley and Western Arctic -- possibilities that would otherwise have been foreclosed. Some of these possibilities can only be explored through the settlement of native claims, and some can only be made clear with the help of more knowledge about the area's renewable resource development potential. But there are, nonetheless, some matters that can be and are addressed in Volume Two. These include proposals for accurate measurement of the native economy, and for renewable resource schemes that should be considered for the future.

It is evident that whenever a Mackenzie Valley pipeline is constructed, there will be sudden population influxes into the urban centres. Measures have been proposed to limit such influxes, and some can effectively be taken, but in a free country there can be no prohibition on freedom of movement. Thus, whatever measures are taken, it is probable that Inuvik, Fort Simpson, Hay River and, to a great extent, Yellowknife -- as well as other centres -- will find that they have social problems of quite unprecedented magnitude. It is also possible that there

will be sections of communities -- for example, Inuvik -- that will experience sudden and potentially acute changes. These centres cannot be expected to cope with many of the demands that pipeline construction would place upon them and will require impact funding from senior governments. In Volume Two, I address the questions of how such funding might be distributed, and the relationship of impact assessment to design change and review as well as to regulatory controls.

These social problems should be seen as a direct outcome of migration and the growth of transient population: it is possible that some of these centres will, in the wake of pipeline construction, witness the rapid appearance of skid row societies in their midst. These may or may not be predominantly composed of native people, and they may not turn out to be long-term features of northern life. Yet they will be a feature of the construction phase at least, and will have to be dealt with. Bearing in mind the lessons to be learned from the experience in frontier towns of Alaska and elsewhere, I make a number of recommendations that relate to such phenomena. These include: establishment of welcome or friendship centres, especially for native people who have come into towns to find work; provision of housing; provision of additional medical services; and increasing the number of social welfare officers as communities' problems require.

Native people and other northern residents who want to work on pipeline construction should have that opportunity. I recommend that pipeline construction should be accompanied by a form of manpower delivery with preferential hiring for northerners. A manpower delivery system should not be founded on the notion that industrial employment is either good for, or inevitable with respect to, native people. As I have argued in Volume One, the diversified northern economy and the healthy northern society that are the ultimate goals of my recommendations cannot be created (and may well be jeopardized) by undue dependence on such short-term opportunities as pipeline employment may afford.

The manpower delivery system that I propose would exist for any northerner seeking a pipeline job. It would help him over whatever hurdles might be presented by low academic attainment, requirements for union membership, inadequate training, and by life in the camp and on the construction spread. There would be no necessity for the kind of wholesale recruitment in native communities presently envisaged.

It has been said that the choice for the native people is stark: jobs on the pipeline or no jobs at all. This is, of course, a false choice. It overlooks the fact that for native people the opportunities offered by pipeline construction will be limited, and it fails to recognize the persistence of the native

economy, the continuation of oil and gas exploration activity, and the role of the federal and territorial governments as employers. It ignores the fact that many native people have shown that they are not strongly inclined towards the kinds of work opportunities offered by large-scale industrial projects. And it overlooks, moreover, the potential of the renewable resource sector. Jobs -- permanent jobs -- can be provided for native people, in logging and sawmilling, in the management, harvesting and processing of fur, fish and game, in tourism, and in other related activities. Such ventures, given even a fraction of the support we extend to the non-renewable resource sector, could offer a great many opportunities to native people in the North. They are also amenable to local or regional control, and would not, therefore, impede the goals of native claims. With such schemes in place, pipeline employment would take its appropriate place in a diversified spectrum of job opportunities.

In Volume Two, I consider the effects that a Mackenzie Valley pipeline could have on northern business. My principal concern is that the pipeline could severely distort the territorial economy, which could, in turn, result in overinvestment in pipeline-related activities, inhibit the ability of local firms to supply goods and services that communities normally require, and generally interfere with the orderly growth of the non-native sector. Nevertheless, northern

businessmen do want to benefit from the pipeline; however, their ability to do so, and to undertake other activities, is limited by a poor competitive position vis-à-vis firms domiciled in southern centres. Accordingly, in Volume Two, I propose measures relating to preference in bidding on contracts, bonding, and the availability of capital. These proposals should help northern firms secure a reasonable volume of pipeline-related work and enable them to grow and prosper in the long run.

If native corporations or cooperatives are set up as a result of settlement of claims, then they will, I anticipate, assume a place on the northern business scene. As such they could play a part in activity generated by pipeline construction and attendant supply of goods and services. However, following from what the native people told me in their presentations to this Inquiry, native corporations should be encouraged to develop in the renewable resource sector. It is important to bear in mind that the development of a strong renewable resource economy would reduce the vulnerability of the native people and their own development activities to the kind of boom-bust cycle that has characterized the frontier economy. The increased stability of the native sector would, in various ways, thus translate itself into greater stability for the northern economy as a whole.

ENVIRONMENTAL RECOMMENDATIONS

A number of the principal environmental concerns identified in Volume One of my report will be alleviated by implementation of the major environmental recommendations in that volume. Thus, my recommendations that no pipeline be built and no energy corridor be established across the Northern Yukon, and that a Wilderness Park be created in that area, are designed to protect this unique wilderness region. This includes, of course, vital habitat for wildlife and migratory birds on the Arctic coastal plain and Old Crow Flats, and, in particular, the critically important calving and summer range of the Porcupine caribou herd. My recommendations that no pipeline be built and no energy corridor be established across the Mackenzie Delta, together with the white whale sanctuary and bird sanctuaries proposed for the outer Delta area, are designed to protect the unique land and water ecosystems that characterize the Delta and margins of the Beaufort Sea. Only in this way will it be possible to safeguard the critical life stages of the migratory birds, whales and other mammals and fish that depend upon this area. In addition, the bird sanctuaries that I have proposed along the Mackenzie Valley are designed to protect major populations of migrating and nesting birds at critical localities.

On the other hand, if a pipeline is built along the Mackenzie Valley, from the Delta to the Alberta border, a wide range of specific measures in addition to those presented in Volume One will be needed to mitigate or avoid the adverse environmental effects of construction and operation of the pipeline and associated developments. The challenge we all face in the Mackenzie Valley is to maintain its environmental values with the same resolve that we plan the development of energy and transportation systems. The environmental section of Volume Two presents criteria, standards and approaches that I consider appropriate for protection of land, water and air, and mammals, birds and fish. They are intended to serve as guidelines for the company, for government in its review and approval of project designs and plans, and for regulation of the project in general.

Of course, the pipeline project will inevitably have some environmental impacts that cannot be mitigated. So I emphasize the importance of minimizing its disturbance of this frontier area, and of maintaining land, water and air, insofar as possible, in their natural state. With regard to mammals, birds and fish, I focus my concern on critical habitats and critical life stages -- on the tracts of land and water of limited size that are vital to the survival of whole populations of certain species at certain times of the year. The recommendations I have made regarding withdrawals of land for a Wilderness Park, a whale sanctuary and bird sanctuaries offer the firmest protection to

such habitat, but further measures are needed. For example, in my treatment of fish in Volume Two, I recommend that protection should concentrate on preservation of significant populations by limiting or avoiding disturbance where and when fish are most sensitive and numerous, such as the spawning, rearing and overwintering areas and migration routes. I therefore offer recommendations relating to such matters as sediment levels, water quality, blasting, water removal and blockage of watercourses. Similarly, in Volume Two, my recommendations for protection of birds relate to their migration routes, and nesting, moulting and staging areas, while those for mammals concentrate on calving, lambing or den sites, on winter habitats, and on travel routes.

In addition, Volume Two places emphasis on protection of those mammal, bird and fish species that are harvested by local people as well as species such as the rare peregrine falcon that are of national or international concern.

Obviously in this synopsis I cannot go into the details of all my proposals in Volume Two; rather in the following I shall concentrate on a few highlights relevant to governments' planning processes. Some of them have a heightened importance because of the recent National Energy Board report.

In view of the Board's decision favouring a pipeline across the southern Yukon, it is appropriate to highlight a recommendation I made in Volume One:

If a decision should be made in favour of a pipeline along the Alaska Highway Route, or over any other southerly route across the Yukon Territory, I recommend that any agreement in this regard between Canada and the United States should include provisions to protect the Porcupine caribou herd and the wilderness of the Northern Yukon and Northeastern Alaska. By this agreement, Canada should undertake to establish a wilderness park in the Northern Yukon and the United States should agree to accord wilderness status to its Arctic National Wildlife Range, thus creating a unique international wilderness park in the Arctic. It would be an important symbol of the dedication of our two countries to environmental as well as industrial goals. (Vol.1, p.50)

In my discussion of the Porcupine caribou herd in Volume One (pp.42-43), I drew attention to impacts on the herd during migration and on its winter range resulting from the existence of the Dempster Highway, from traffic on the highway, and from increased hunting related to the highway. These concerns have been reinforced by the decision of the National Energy Board raising the possibility of a gas pipeline along the Dempster Route, and by recent experience on the Dempster Highway. I consider that measures are needed to protect the herd on its wintering range in the vicinity of the Dempster Route. I recommend that a restricted hunting zone extending two miles on either side of the highway and all connecting access roads and

seismic lines be established within the winter range of the herd; provisions should be made, however, for the continuation of traditional use by native people. I also recommend that vehicle traffic and construction activity be controlled on the highway during caribou migration in the vicinity.

Increased access and exploitation of wildlife populations are also expected to occur along a pipeline in the Mackenzie Valley or elsewhere in the North. Increased exploitation has been identified by experts as a potential source of long-term impact on both wildlife and fish populations in the region. Therefore, I recommend that a two-mile restricted hunting zone be established along either side of the pipeline right-of-way, all temporary or permanent access routes, and around all pipeline facilities, with the proviso that traditional use by native people be exempted from this restriction.

Lack of precise biological knowledge has been identified by the biologists who brought evidence before the Inquiry as a major impediment both to prediction of the impact of pipeline development and to the formulation of protective measures. This same lack of knowledge, unless corrected by more applicable research, will hamper the necessary increased fish and wildlife management effort. I recommend, therefore, that essential fish and wildlife studies be undertaken, some of which would monitor the long-term impact of pipeline construction and

operation on the fish and wildlife resources of the area. I also recommend that fish and wildlife management functions be staffed and funded in accordance with the increased need.

The peregrine falcons, gyrfalcons and other raptors that nest in the vicinity of pipeline routes constitute a significant portion of the surviving North American population of those species. During their occupation of nest sites in spring and summer, these birds are extremely sensitive to disturbance by men, machinery or aircraft; even repeated low-intensity noise can lead to nest desertion and loss of young. It is important to avoid disturbance in the vicinity of occupied nests, particularly those of the rare and endangered peregrine falcon. Therefore, I recommend that a raptor protection zone be established around each nest site in the area traversed by the pipeline route, and that access within this zone be controlled by permit.

The question of withdrawal of certain areas of land to protect their natural attributes is addressed in Chapter 4 of Volume One and my major proposals in this regard have already been made: the Wilderness Park in in the Northern Yukon, the white whale sanctuary in Mackenzie Bay, and bird sanctuaries in the Delta and Mackenzie Valley. In addition, however, I consider it important that further areas be identified as candidates for withdrawal, and that measures for their protection be devised. Such areas would include park lands, scenic and recreation areas,

historic and archaeological sites, and areas of special scientific importance. It is important that such areas are not selected simply from the leftovers, after industrial development has preempted land for its needs. The ultimate, formal designation of such areas, however, like the alienation of lands for a pipeline, should follow rather than precede settlement of native claims. Consequently, I recommend that all such special areas (including those proposed in Volume One) should be placed under a provisional reserve under Section 19 of the Territorial Lands Act as soon as they have been identified.

In recognition of the importance of the archaeological record as part of the cultural heritage of Canada, the pipeline companies have made proposals for discovery and salvage of archaeological sites on lands that may be disturbed by a pipeline project. Protection of sites and salvage of antiquities is, however, a matter of national and regional concern, and should not be left to the pipeline company. Therefore, I recommend that control of the archaeological work associated with any pipeline project, and preferably its management as well, should be the responsibility of government, with the especial collaboration of the National Museum of Man.

PROJECT RECOMMENDATIONS

In this section of Volume Two I make recommendations for adjustment or control of the project so as to reduce its impact on the environment and the people of the region. In doing so, I take it for granted (as I did in the section on environment) that the procedures for regulation of the pipeline project will include mechanisms for review and adjustment of company designs and plans in terms of environmental, social and economic impact. Again, this synopsis presents only a few highlights from the detailed material in Volume Two, and concentrates on matters that bear upon the current planning processes of government.

The first issue to be addressed in the discussion of the project is location of the pipeline and its auxilliary facilities. Major routing issues -- no pipeline across the Northern Yukon or across the Delta -- were dealt with in Volume One. Yet over and above these major constraints, there is a need for refinement of the location of the pipeline right-of-way, its facilities and access routes. The pipeline companies have indicated that, as planning develops towards final design, such adjustments will be made to meet their needs. I recommend that measures be taken to ensure that routes and locations are adjusted in order to reduce disturbance of land and waterbodies and to minimize impact in valleys, to protect wildlife and fish

populations, to fit into present patterns and future plans of development, and to take into account the views and needs of the local people. Routing must not simply be decided by the company in terms of engineering and cost. Rather, locations and routes should be progressively refined by a process of successive company proposals and regulatory responses that take into account local concerns.

The existence of permafrost along the pipeline route brings with it the need for departures from the engineering design and construction procedures commonly applied by the pipeline industry. Some of these departures involve innovations and precedents that I have discussed in Volume One. Permafrost-related construction procedures for clearing, grading, drainage and erosion control, revegetation, and for use of snow roads and snow working surfaces must not only meet the needs of the pipeline project but must also avoid chain-reaction impacts on land, the environment and the local people. Design measures and construction procedures are needed to control adverse effects of thaw settlement, frost heave, liquefaction of thawing soil, and slope instability. In view of the uncertainties that still surround such matters -- despite the vast amount of information brought before this Inquiry and the National Energy Board -- I recommend that mechanisms for regulation of the pipeline include a geotechnical review board of independent experts.

One fundamental construction procedure proposed for limiting terrain damage and environmental disturbance in the permafrost region is the use of snow roads and snow working surfaces. In Volume One I discussed concerns over scheduling and environmental impacts in the tundra regions arising from use of this technique or its replacement by gravel roads. But if a pipeline is built in the Mackenzie Valley, use of snow roads and working surfaces will be essential in place of the conventional graded temporary winter roads normally used by the industry. In view of the importance of snow roads in reducing damage to permafrost terrain, and in view of the complexity of distribution of permafrost in the southern part of the Mackenzie Valley, I recommend that snow roads be adopted for all pipeline construction North of 60° except where a different mode (for example, graded winter road construction) is specifically approved by the regulatory agency.

Water courses and the valleys in which they occur are foci of environmental sensitivity and have a special importance in the land use activity of local people. Therefore, in Volume Two, there are recommendations relating to pipeline crossings of streams as well as the approaches to the crossings -- recommendations regarding location, design, construction, maintenance and repair. In particular, I recommend that government and the company should work out and agree upon design standards for river and stream crossings and that these standards

should not only meet the engineering requirements of the project but should also protect the environment and the needs of the local people.

The management of fuels and hazardous substances during pipeline construction and operation has two aspects that concern me: contingency planning and spill prevention. Currently, government is concentrating on the contingency aspect, that is, spill clean-up. As this work is well underway, I recommend simply that the Environmental Protection Service May 1977 draft "Contingency Planning Guidelines, Oil and Hazardous Material Spills, Oil and Gas Pipelines" constitute the basis for such planning on the pipeline. On the other hand, spill prevention, which is the best way to ensure protection of the environment, is not receiving the same attention. So Volume Two contains detailed proposals aimed at preventing spills during transportation, transfer and storage of fuels and hazardous substances.

Management schemes for liquid and solid wastes must protect both public health and the environment. Since the public health aspects are already dealt with as a matter of routine, my recommendations centre on environmental issues and, in particular, on sewage effluent guidelines for construction camps. I recommend standards that are less stringent than the current "Guidelines for Effluent Quality and Wastewater Treatment at

Federal Establishments," which have been adopted by Environmental Protection Service and the National Energy Board for the pipeline. In my view, strict adherence to those standards is not practicable if secondary treatment of concentrated camp effluents is used and, in many cases, those standards are unnecessarily rigid for temporary facilities in the wide variety of northern settings.

A special aspect of wastewater management is the handling and disposal of the millions of gallons of warm water or methanol solution that will be used to test the pipeline hydrostatically before it is placed in service. The large volumes of warm or toxic test medium pose particular risks to the aquatic environment. To minimize these risks, the extraction of water for testing and the disposal of water or methanol solution into waterbodies after testing must meet the standards set out for water withdrawal, wastewater treatment and water quality that apply to other aspects of the project. On the other hand, spills that could occur during the testing process are contingencies and cannot be regulated to conform to such standards. I therefore recommend that the company be required to develop special plans to handle such contingencies effectively.

In Volume One I noted that the considerable number of low altitude aircraft flights required for the pipeline project, superimposed upon the substantial quantity of other aircraft

traffic in the region, could have adverse impacts on mammal and bird populations. The pipeline companies recognize these concerns and have proposed measures to mitigate them. Nonetheless, I consider it important that regulation of the pipeline project include measures to control the associated aircraft flying. In Volume Two, I make proposals for flight corridors, flight ceilings and regulation of flight schedules. In particular, I recommend establishment of a Flight Control Group that would be responsible for vetting aircraft flight plans for the pipeline project and related developments. This group would deal with such things as routing, altitude and schedule, in the context of detailed current knowledge of bird and mammal sensitivities.

Construction of a Mackenzie Valley pipeline and its subsequent operation will give rise to major transportation needs. During pipeline construction, there will be at least a doubling of transport demands, and there will be a need for major additions and improvements costing in the order of \$100 million. While this augmented transportation system will be strained to the limit during construction, large portions of it will become redundant afterwards. To ensure that the short- and long-term interests of northern residents and businesses are protected, I recommend that the government prepare an overall plan for the evolution of transportation facilities to meet the needs of the region. In addition, I recommend measures to ensure a

continuation of reliable and reasonably priced transportation services for the local population, both during and after construction.

It is natural that northerners should want to derive benefits from the pipeline in the form of reduced energy costs: it is urged that it is not right that gas from the North should pass by northern communities only to service industries and homes thousands of miles away. Yet the evidence presented to this Inquiry suggests that few northern communities would experience a cost reduction over presently available energy sources if gas were made available to them. I therefore cannot recommend that, in more than a few cases, the provision of lateral lines and distribution systems to and within northern communities should be made a condition of the grant of a right-of-way.

Proposals also have been made for southern consumers of northern natural gas to subsidize northern energy costs, whatever form of energy is being used in the northern communities. In general, this would involve ensuring that the lowest cost method of providing energy to a community is used (and in only a few cases would this be natural gas), and then reducing the local price of energy to a level comparable with other energy-producing regions by having consumers in the South pick up part of the costs. A special fund would have to be set up for this purpose. The distribution of such a fund raises certain difficulties.

How, for example, would a determination be made regarding the communities entitled to be subsidized from the fund? By proximity to the pipeline? By proximity to the gas wellhead? I think a more rational basis for subsidizing energy users in the North should be devised.

It has been suggested that industry should be required to pay directly for all increased social and environmental costs entailed by the construction of the pipeline and should provide a fund for this purpose. This raises important questions of public policy. How would social and environmental costs arising from the project be calculated? How would they be apportioned? Why should services that have always been regarded as government's responsibility be subject to a cost-sharing arrangement with industry? Why should the industry's customers pay for these particular costs? Once the principle is applied to the company that builds a Mackenzie Valley pipeline, should it be applied to a small entrepreneur engaged in a sawmilling venture? Should it be applied to mining ventures? How would costs be apportioned between various ventures? The proposal raises uncertainties for both government and industry. I urge you and your colleagues to consider the implications of such a policy.

REGULATORY RECOMMENDATIONS

Turning then to regulation of the project: it is, of course, for the Government of Canada to decide on the form of regulatory authority. I take it for granted there will have to be a more or less unified regulatory agency since the company building the pipeline should be answerable to one regulatory authority, not a multitude of them. The vital thing is to see that all interests are represented in whatever body the regulatory authority is itself answerable to.

I have concluded that the regulatory process should incorporate three essential principles. First, the regulatory agency should be in business from the very beginning, and I do not mean by this that it should be in business at the commencement of construction or even pre-construction activity; I mean that it should be operational as soon as permits are issued. Design review on a project of this size is necessarily a process of discussion and negotiation between the pipeline company and the regulatory authority. So the people who will be responsible for the regulation of the project should have been dealing with the problems the project presents from the time they become apparent during design review until the completion of the project.

Second, the problems that are to be addressed, from the beginning to the end, should not be limited to problems of

engineering and construction. Social, economic and environmental considerations should be addressed at this early stage and throughout, with the same intensity and concern as technical and engineering questions.

And the third principle is this: the regulatory process should involve all of those interests in the North that have legitimate concerns about the impact of the project. This implies that the regulatory authority will be composed of or accessible to all such interests.

I hope this synopsis will be of assistance to you and your colleagues.

Yours truly,

Thos R. Berger

A P P E N D I X

SUBJECTS COVERED IN VOLUME TWO

PEOPLE - SOCIAL AND ECONOMIC CONCERNS

Action Communities

Health, education, social services, etc.
Energy supply

Employment of Northerners

Manpower delivery
Northern preferences

Economic Growth

Northern business
Impact monitoring and funding
Regional economic planning

Renewable Resources

Measurement of traditional resource base
Suggestions for approaches to development and
projects

Transportation and Communications

ENVIRONMENT AND LAND

Physical Environment

- Land
- Water
- Air
- Noise

Wildlife

- Mammals
- Birds
- Wildlife management

Fish

- Fish sensitivity and protection
- Fisheries management

Land and Resources

- Land reserves
- Recreation areas
- Archaeological sites
- Borrow resources
- Timber

PROJECT

Schedules

Pipeline and Facilities

- Location
- Geotechnical considerations - permafrost
- Crossings
- Grading and clearing
- Snow roads
- Restoration and erosion control
- Facilities
- Compressor and related noise

Construction Services and Activities

- Borrow operations
- Water withdrawals
- Waste management
- Spill prevention and control
- Pipe testing
- Fire prevention and control
- Blasting
- Aircraft control

Operation

PROJECT REGULATION