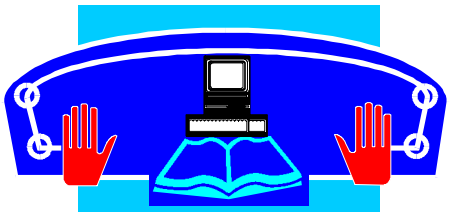


# SOME ASPECTS OF BEAUFORT HYDROCARBON PRODUCTION AND THE TOWN OF INUVIK

**NWT OIL INDUSTRY**
**Mining/Oil/Energy**
**Analysis/Review**

**1983**

**TOM DETLOR**

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SUBMISSION TO

BEAUFORT SEA ENVIRONMENTAL

ASSESSMENT PANEL

# "SOME ASPECTS OF BEAUFORT HYDROCARBON PRODUCTION AND THE TOWN OF INUVIK"



Tom Detlor
Inuvik, N.W.T.
November, 1983

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A. INTRODUCTION :

The Town of Inuvik was created by the Government of Canada in the late 1950's to act as the administrative center for the Western Arctic; which it still is today. With the discovery of oil and gas in the Mackenzie Delta in the late 1960's the Town of Inuvik experienced a period of growth until the mid-late 1970's when the decision to place a 10 year freeze on the construction of the Mackenzie Valley pipeline dramatically halted the growth. However with the renewed interest in oil from the Beaufort Sea, the Town of Inuvik has again experienced a moderate growth over the past three years.

In an effort to prepare the community for the future development, during the past three years the research staff of the Town of Inuvik has conducted a number of studies whose focus of investigations were to develop an economic baseline, to evaluate the adequacy of the present local infrastructure, delineate the role of community volunteer organizations, correct some local planning problems, document some socio-economic parameters and to obtain local people's opinions on hydrocarbon development. Literally hundreds of individuals, from all walks of life, were interviewed on a formal and informal basis. Mini questionaires and statistical evaluations were also employed while conducting these studies.

Through these studies the town has developed a base of current information on the capabilities of the town, identified shortcomings in the present infrastructure, delineated the basic socio-economic structure and identified mechanisms through which future development can be supported and managed.

This brief report will outline, in my opinion, some areas of interest regarding the Beaufort sea hydrocarbon development and production for the town of Inuvik and its residents.

B. POPULATION:

The Town of Inuvik is presently the second largest community in the N.W.T. with an estimated population of 3238 in June 1983. This is a 2.9% increase since 1981. Currently Inuvik's population is fifty-three percent male and forty-seven percent female with 56% of the people between the ages 20-54. Ethnically the community is comprised of 20.5% Inuit; 9.8% Dene; 5.3% Metis and 64.4% non-native, English is the most common language with eighty-three percent of the residents speaking it, Also, of the people 15 years and over, 35% are single and sixty-one percent are married with 90% of the residents living in rented accommodation. See Table 1 and 2 for more details,

TABLE 1

POPULATION BY AGE GROUP

| AGE GROUP | % OF POPULATION |
|---|---|
| 0 - 14 | 30.0% |
| 15 - 19 | 9.7 |
| 20 - 34 | 37.8 |
| 35 - 54 | 18.6 |
| 55 - 64 | 2.7 |
| 65 & over | 0.9 |

MOTHER TONGUE

| LANGUAGE | % OF POPULATION |
|---|---|
| English | 83.3% |
| French | 4,7 |
| Native Indian | 2.5 |
| Inuktitut | 5.9 |
| Other | 3.6 |

MARITAL STATUS: 15 YEARS & OVER

| MARITAL STATUS | % OF POPULATION |
|---|---|
| Single - never married | 35>1% |
| Married | 61,0 |
| Widowed | 1.8 |
| Divorced | 2.1 |

TABLE 2

1981 CENSUS DATA FOR

SELECTED N.W.T. COMMUNITIES

| | INUVIK | YKF | HAY R. | FROB . | SMITH | SIMPSN |
|---|---|---|---|---|---|---|
| Population 1976 | 3166 | 8256 | 3268 | 2320 | 2288 | 1136 |
| Population 1981 | 3147 | 9483 | 2863 | 2333 | 2298 | 980 |
| SEX : | | | | | | |
| Males | 53. 2% | 52.4% | 51.1% | 52.5% | 50.2% | 52.0% |
| Females | 46.8% | 47.6% | 48.9% | 47.5% | 49.8% | 48.0% |
| ETHNIC GROUP: | | | | | | |
| Dene | 9.8% | 7.5% | 11.7% | 0.4% | 17.8% | 48.5% |
| Metis | 5.3% | 4.9% | 16.6% | 0.2% | 26.4% | 12.9% |
| Inuit | 20.5% | 1.6% | 0.9% | 63.2% | 2.4% | 0.0% |
| Other | 64,4% | 86.0% | 70.8% | 36.3% | 53.4% | 38.6% |
| MOBILITY: | | | | | | |
| Non-movers | 20.0% | 21.5% | 33.3% | 19.0% | 33>9% | 53.7% |
| Movers | 80.0% | 78.5% | 66,7% | 81.0% | 66.1% | 46.3% |
| EDUCATION: | | | | | | |
| Less Grd 9 | 18.3% | 9.8% | 19.1% | 38.1% | 40.7% | 36.8% |
| SS, w/wo diploma | 41.4% | 35.9% | 40.6% | 25.8% | 28.5% | 27.9% |
| Post. sec. | 40.3% | 54.3% | 40.3% | 36.1% | 50.8% | 35.3% |
| HOUSING/INCOME : | | | | | | |
| Ave. person/hse | 3.2 | 2.9 | 3.1 | 3.6 | 3.4 | 3.7 |
| Ave. value dwlng | $60860 | $67688 | $44728 | $87032 | $55204 | $32102 |
| Ave. gross rent | $248 | $342 | $309 | $182 | $320 | $252 |
| Ave. major pymt | $505 | $656 | $448 | $249 | $407 | $373 |
| Ave. hsld incm | $29033 | $33133 | $28932 | $28985 | $26116 | $23914 |

ABBREVIATIONS :
YKF- Yellowknife; HAY R.- Hay River; FROB.- Frobisher Bay;
SMITH- Fort Smith; SIMPSN- Fort Simpson
Less Grd 9- Less than grade nine education
SS, w/wo diploma- secondary school education with or without diploma
Post> see,- post secondary school education with or without diploma or degree
Ave. person/hse- average persons per private house
Ave. value dwlng- average value of dwelling
Ave. gross rent- average monthly gross rent
Ave. major pymt- average monthly major payment
Ave. hsld incm- average annual household gross income

C. COMMUNITY CONCERNS:

The Town of Inuvik is an extremely diversified community with numerous groups represented. Yet with all this diversity there is a degree of concensus regarding future development. At the same time there is also a difference of opinion. Within Inuvik there is a small percentage who are strongly pro or anti development. However, the vast majority view development as being a positive benefit, both directly and indirectly, to the community. They look forward to and accept that further oil related development will come. 'There is, although, an increasing number who suspect that production and further development will not occur in the immediate future but many years down the line, if at all. No matter what their opinion is on the timing, residents fully realize that Inuvik, as a municipality and themselves as individuals, must prepare for the development and the resultant changes, The majority feel that Inuvik is capable of supporting and managing the development but not without adequate assistance from government(s) and industry,

Generally, the residents are concerned about adequate training, protection of renewable resources and the environment, the availabilty of meaningful local business and employment opportunities and the increase in social problems. These and other areas of concern, in the community's eyes, can be addressed and mitigative measures can be effectively introduced but only if:

A) The Town of Inuvik plays a substantial and meaningful role in the decision making process, has a representative on any future management committee and is involved in the implementation of the local mitigating measures system.

B) There is, as expeditiously as possible, a firm decision as to the mode of transportation and the timing of production to provide adequate lead time;

C) There is coordinated planning and cooperation between industry, governments and the Town of Inuvik with the responsibilities of each party explicitly defined and adheared to;

D) Adequate proactive funding is made available to ensure that the necessary infrastructure and mitigating measures are in fact in place;

E) There is continued monitoring and reporting, at the local level, of all aspects of the development which relates to the Town of Inuvik.

Many of these issues have and are being dealt with in a positive fashion. While the town feels that the community is quite prepared for the development they are the first to admit that everything is not perfect. They cite that through the present and future mechanisms, the necessary government(s) and industry support will continue. This will result in these shortcomings and future problems being adequately resolved.

D. LOCAL INFRASTRUCTURE:

During the past few years while the environmental impact statements and supplementary reports were being written improvements to the local infrastructure have occurred. In 1982 the sewage lagoon was upgraded and can now accommodate a population of 7000 (20 year design) at an average flow rate of 4700m/day. Also in 1983 the town adopted a standardized house numbering system. As well, road paving continued and some of the drainage problems have been corrected.

There are other areas of the local infrastructure which should be improved or replaced. The water treatment plant for the summer water supply, the utilidor system, NCPC, continued road paving, the municipal land fill site, protection of sand and gravel supplies and downtown parking are all areas which need upgrading, Presently these and other concerns are under study or improvements are in progess or are planned. It is essential that these improvements are implemented in a proper time-framework and are not curtailed or indefinitely delayed. An adequate fiscal program supported bv governments and industry established to implement these and other improvements is of primary importance if the local infrastructure is to serve the present growing population.

In additionto the physical infrastructure there are other facilities for social or recreational activities which can be considered as part of the local infrastructure, One example where the current social infrastructure is inadequate to meet current demand is day care facilities.

Presently , Inuvik has a relatively large female labour force. The 1981 census indicates that the participation rate for females 25 years and over is 72.5%. This is the second highest participation rate for N.W.T. communities with a female labour force greater than 100. Only Yellowknife has a higher participation rate. At the present time the day care center is using the Anglican church; however in the past two years has relocated three times. The current enrollment is 40 children which is the maximum allowable in the current facility. This level of enrollment represents only 8.8% of the town's population between the ages of 2-8 years. The large number of prospective children and the limited capacity of the present location has meant that many families, unfortunately have been turned away.

Stating the current situation is easy, solutions are more difficult. Conversion of an existing housing unit is not a viable alternative because of the housing shortage. (see housing chapter for details), The construction of a multi-purpose daycare, juvenile center, arts/crafts and cultural complex is the long term solution. Availability of adequate financing is the major stumbling block for such a center. A third alternative for the day care center could be the kitchen/ cafeteria section of the center core of Stringer Hall. The area is large enough and has kitchen facilities. 'The use of this section would only necessitate the opening of a small portion of the building and costs may not be excessive.

When considering the recreational infrastructure within Inuvik, although there are certainproblems, the town does have a five year plan.

The plan is designed to upgrade and expand recreational facilities in an orderly manner. One recreational area which is not within the physical boundaries of the town, but does receive considerable useage by local residents, is the area around Campbell Lake; including Campbell and Cabin Creeks. The area is popular for camping, fishing, boating, snowmobiling, berry picking and family outings during all seasons of the year.

A study of the area completed in 1982 and accepted in principle by the Inuvik Town Council, recommended that a multi-use recreational park be established. As the population of Inuvik increases, and there is an increase in the number of people engaged in outdoor activitites, the desirability and necessity of such a recreational area also increases. By providing an area where the "weekend outdoorsman" can go would tend to keep the recreationalist away from the main trapping areas of the Mackenzie delta. Thus degradation of the renewable resource base could be reduced. The controlled development of the Campbell Lake area could be considered as one of the mitigating measures, but should not wait until there is production of oil. There are already current demands for this type of recreational facility.

E. HOUSING/LAND:

The evaluation of the housing market/supply in the EIS and Supplementary Information is not totally accurate; the situation described is for 1976 which is not adquate for 1983.

Within the Town of Inuvik there are approximately 1060 housing units (excluding units under construction). However to accurately evaluate the vacancy rate the housing market must be separated into groups based on ownership. Sixty percent of Inuvik's housing is owned or leased directly by either the Federal (46%) or Territorial (14%) governments. Consequently these units are not available on the open market. For the general public the vacancy rate for these units is zero. This situation may change in 1984 when the G.N.W.T. implements their new employee housing policy in Inuvik. However, even with the policy change the addition of new housing may be limited depending on the number of units not purchased by the presentoccupant. Units not purchased may not be marketable depending on the physical condition and selling price. At this time it is difficult to accurately predict the outcome of the G.N.W.T.'s housing policy,

The second group of houses are those owned by the N.W.T. Housing Corporation. This represents an additional 19% which is mainly public and low income housing. Currently their vacancy rate is zero. In fact the Inuvik Housing Association has on their waiting list 29 families and 37 singles (October 1983) needing accommodation. The average waiting period is one year before accommodations are available.

The remaining 21% is in the private sector. A telephone survey of apartment owners/managers conducted in September 1983 revealed that there were no vacancies open to the general public in any of their buildings. From conversations with residents seeking accommodations, monitoring the local newspaper and from discussions with landlords, the concensus is that the vacancy rate is zero, Periodically there are units for rent, however the units tend to rent very quickly with little or no advertizement required to rent the unit. The units also tend to be expensive, often beyond the financial capability of the average worker. For example, a modest three bedroom house, advertised in September 1983,. rented for $1,000/month plus utilities. The average monthly major payment (utilities and taxes) according to the 1981 census updated to 1983 rates is $606; thus the total monthly rent is $1606 or over $19,000 annually,

To help alleviate some of the housing shortages the Town of Inuvik in the spring of 1983 activated an area of town which had been serviced in the late 1970's but no housing had been constructed at that time. Within six months 85% of the lots had been leased to local residents. The leases are extendable 30 year leases with the option to purchase at any time.

Future expansion of residential accommodation in Inuvik may occur in four ways: A) utilization of vacant serviced Land scattered throughout the community, B) redevelopment of existing units, C) activating the utilidor system in a second serviced but presently unused block, D) developing new serviced areas,

A) Utilization of vacant serviced land: Currently within the main built up area of town there are 18 vacant serviced lots scattered

throughout town. All of these lots are zoned single family residential and 54% are in the private sector. At the current average occupancy rate of 3.27 these lots could house an additional 59 residents,

B) Expansion or redevelopment of existing units is possible, however, there are only a couple of abandoned buildings which could be upgraded or expanded. Zoning regulations and internal infrastructure capacity must also be considered when converting from a single to multi-family type of housing.

c) Activating the utilidor system in a new block. Within town there is an additional block ( a portion has been recently opened) which has 10 lots zoned as single family and 20 lots zoned for multiple family residences. These lots could house a minimum of an additional 100 people with more possible depending on the type of multiple family unit constructed. If all 20 lots zoned multi-family were duplexes; 164 people could be housed at the current average occupancy rate.

D) Developing new serviced areas. The long term plan for the Town of Inuvik has designated areas for residential use up to a population of 15,000. In the more immediate future the town has 95 lots in various locations throughout the main section of town which have had preliminary surveys completed, lots designated and are realitively easy to connect to the utilidor system, In addition, the town has a further 78 “Lots which have been delineated, However, some of these lots are in a land use conflict situation with the recreational needs of the community.

‘The biggest problem facing the future development of residential areas in not availability of land, but rather the question of finance.

It is beyond the financial capability of the town to support any large scale residential development. Financial support must come from outside sources. The questions; will future financing be private, public or mixed?; who will be responsible for what percentage of the risk?; will the financing be proactive to develop the new lands before and as they are needed? are all questions which must be answered soon if some of the negative economic and social consequences of the development are to be properly mitigated. Further discussions between all parties should answer these question.

F, INUVIK CRIME

During the past two years the local detachment of the Royal Canadian Mounted Police has provided historical and current data on the various types of crime committed within Inuvik. The largest crime group is intoxicated persons and liquor offences. In the first nine months of 1983 there were 777 cases of intoxicated persons or charges under the liquor ordinances, There are also a number of other offences commited; however, local officials suggest that 85-90% of all crime is related to alcohol. For the first nine months of 1983 other crimes with the greatest number of occurances are thefts (331 occurances), assaults (198), wilful damage (173) followed by vehicle ordinances (114) break and enter (108) and disturbing the peace (86). See Table three on page 16.

In each category mentioned the only group to show a decline, compared to the same period in 1982 was vehicle ordinances with a. 54% decrease. Thefts axe up 72%, assaults up 60%, break and enter up 77% and disturbing the peace up 91%. In the first nine months of 1983 there were three types of crimes that showed a dramatic increase over the 1.982 levels. They are: juvenile offences up 1167% (82% of the crime was committed in August and September), offensive weapons up 350% and wilful damage up 184%. See Table four on page 17. Reasons for these increases are varied and complex, Local authorities have some suggestions as to the reasons but they cannot definitively say what the exact cause/effect relationships for each type of crime are, 'They cannot say that X crime is commited N% of the time because of Y reason The relationships are too complex and too varied for such a simple explanation.

In the case of juvenile offenders the officials at the department of Social Services and the R.C.M.P. indicate that they have not had a significant increase in first offenders but rather an increase in repeat offenders. The types of crimes has also changed. previously the juveniles committed petty or minor crimes and often were only issued a warning by the local officials. However, now the crimes committed are of a more serious nature, consequently the juveniles are being charged.

Officials suggest that there are three groups responsible for the majority of the juvenile crime. There are a small number of local "ring leaders" who, using peer group pressure entice others into committing crimes. Another group comes from the students from the outlying communities who attend school in Inuvik. Some of these students with feelings of alienation, depression, loneliness, homesickness or boredom sometimes resort to crime to solve their problems. The third group are a number of youths, despite the number of youth groups, sports programs and recreational facilities available are not interested in this type of organized activities they prefer crime for their recreational activities.

When asked why the juveniles committ the crimes officials cite a variety of reasons. Alcohol and alcohol related causes such as family break-down, child abuse and neglect are predominant with depression, boredom and other mental health problems also playing a role. When asked to what degree oil related development is the cause of crime officials suggest that the development per se is not the major cause of crime within Inuvik. They say other factors are more significant.

As a measure to deal with juvenile problems, crime and other social problems the Inuvik Town council in December 1982 approved in principle the establishment of a social planning committee to coordinate all federal and territorial government departments, as well as other groups, concerned about social problems. The committee's aim is to develop and implement integrated programs to deal directly with the various social problems. Perhaps through this program some of the social mitigating measures can be addressed and implemented, Continued support from government, industry and interested citizen groups is essential to the proper functioning of such a program.

TABLE 3

INUVIK CRIME 1979-1983 NUMBER OF OCCURRENCES

| TYPE | 1979 | 1980 | 1981 | 1982 | 1982* | 1983* |
|---|---|---|---|---|---|---|
| HOMICIDE | 2 | 1 | 1 | 2 | 1 | 0 |
| AS SUAULTS | 152 | 126 | 183 | 200 | 124 | 198 |
| THEFTS | 249 | 214 | 261 | 316 | 192 | 331 |
| WILFUL DAMAGE | 94 | 117 | 109 | 91 | 61 | 173 |
| BREAK & ENTER | 92 | 96 | 82 | 108 | 61 | 108 |
| ROBBERIES | 1 | 0 | 2 | 4 | 0 | 3 |
| SEX OFFENCES | 3 | 3 | 0 | 4 | 3 | 3 |
| FRAUDS | 16 | 14 | 16 | 22 | 17 | 23 |
| DISTURBING THE PEACE | 208 | 99 | 80 | 72 | 45 | 86 |
| OFFENSIVE WEAPONS | 13 | 16 | 15 | 7 | 4 | 18 |
| DRUGS | 19 | 14 | 27 | 31 | 18 | 14 |
| JUVENILE OFFENDERS | 3 | 9 | 15 | 6 | 3 | 38 |
| VEHICLE ORDINANCES | 160 | 208 | 270 | 369 | 247 | 114 |
| IMPAIRED DRIVING | 49 | 63 | 89 | 73 | 66 | 68 |
| LIQUOR/INTOXICATED P. | 2326 | 1422 | 1468 | 1059 | 725 | 777 |
| TOTAL*** | 1073 | 990 | 1176 | 1336 | 842 | 1177 |
| POPULATION | 2892 | 2929 | 3147 | 3182 | | |
| CRIME/CAPITA | .37 | .34 | .37 | .42 | | |

*1982- Number of occurances for period January-September inclusive.

**1983- Number of occurances for period January-September inclusive,

***TOTAL- Does not include liquor <intoxicated persons as generally these people are not charged, also is subject to large fluctuations in numbers, Enforcement policy, periods of celebrations and time of year influence totals,

TABLE 4

| INUVIK CRIME 1979-1983 | PERCENTAGE CHANGE/YEAR | | | |
|---|---|---|---|---|
| TYPE | 1979-80 | 1980-81 | 1981-82 | 1982P-83P |
| HOMICIDE | -100.0% | 0.0% | +100.0% | -100.0% |
| ASSAULTS | - 17.1 | + 45.2 | + 9.2 | + 59.7 |
| THEFTS | - 14.0 | + 21.9 | + 21.0 | + 72.4 |
| WILFUL DAMAGE | -t 24.4 | - 6.8 | - 16.5 | +183.6 |
| BREAK & ENTER | + 4.3 | - 14.5 | + 31.7 | + 77.0 |
| ROBBERIES | -1OO.O | +200 .0 | +200.0 | +300.0 |
| SEX OFFENCES | 0,0 | -300>0 | +400.0 | 0.0 |
| FRAUDS | - 12.5 | + 14.2 | + 37>5 | + 35.3 |
| DISTRUBING THE PEACE | - 52.4 | - 19.1 | - 10.0 | + 91.1 |
| OFFENSIVE WEAPONS | + 23.0 | - 6.2 | - 53.3 | +350.0 |
| DRUGS | - 26.3 | + 92.8 | + 14.8 | - 22.2 |
| JUVENILE OFFENDERS | +200.0 | + 66.6 | - 60.0 | +1166.7 |
| VEHICLE ORDINANCES | + 30.0 | + 29.8 | + 36.6 | - 53.8 |
| IMPAIRED DRIVING | + 28.5 | + 41.2 | - 17.9 | + 3.0 |
| LIQUOR/INTOXICATED P. | - 38.8 | + 3.2 | - 27.8 | + 7.2 |
| TOTAL | 7.7 | + 18.8 | + 13.6 | + 39.8 |

1982P-83P- Number of occurances for period January-September inclusive,

G. COST OF LIVING:

To evaluate the cost of living in Inuvik two studies were conducted. The first study consisted of the monthly pricing of 151 items at the Hudson's Bay store (129 items) and at the Inuvik Rexall Drug store (22 items) during the second half of 1982 and in July 1983. Items priced were from the following categories; produce, dairy products, meat, frozen foods, groceries, household cleaning goods and personal care items.

The second study conducted in September 1983 priced as many items as possible from the first study at the Hudson's Bay store in Inuvik, at the Super A store in Yellowknife and at the Super Value store in Whitehorse.

The first study shows that there are large fluctuations in price on a monthly basis; especially for perishable, heavy, bulky and fragile items. This is particularly evident during break-up and freeze-up periods. The largest price variation is for produce with a price difference (highest to lowest) of 102% followed by frozen foods at 43% and dairy products and meat with a 39% and a 38% difference respectively, Other items such as groceries, household goods and personal items vary less than 20%. See Table 5 on page 24. The reason for the difference between the sectors is that the first group (produce, dairy and meat) cannot be sufficiently stockpiled to carry through the break-up/freeze-up periods, Consequently, thev reflect the higher transportation cost while the second group can be stockpiled. An illustration of the changes in the Transportation costs: to ship less than 45 kilograms (99 pounds) ot perishable goods from Edmonton to Inuvik via airplane costs $2.04/kg. ( 93¢/lb.); via truck costs $1. 17/kg. ( 53¢/lb.) or 74% less by truck

than airplane.

The first study also examined the price difference between July 1982 and July 1983. On the group average the prices in July '83 were three percent less than in July 1982. However, there are large variations between groups and for particular products within each group. See Table 6 on page 25. The largest price decline was for meat with an average of 21%. Variations within a group can be seen in the grocery group. In the study 31 items were available in both Julys with 14 items having a 15% price increase and 17 items with a 10% decrease. This results in a group average of a 1% decrease.

Examination of which items increased or decreased shows no significant pattern between similar types of products. For example, a 1kg. of Kraft smooth peanut butter decreased by one cent between July '82-'83; however, a 1kg. jar of Kraft crunchy peanut butter decreased by 96¢ in the same period, One possible explanation of the difference is the shipment of crunchy peanut butter arrived during break-up period. Consequently, it had a higher transportation cost thus a higher shelf price, The extent this explanation applies to other items in the grocery group is considerable, For the 31 items in the group, the price of 18 of the items declined in the period after July '82, mainly an August low, and then increased again with 11 items being less than July '82 and 7 higher than July '82 values, The degree the decline is related to transportation costs or to an actual decrease in price for other economic reasons has not been separated, One may speculate that a large decline is the result a transportation cost change but if the economic price declined before the next order arrived the lower price would reflect

both cost changes. It would be possible through an indepth study to separate these cost differences but this study was designed only to examine the total price change in the long term. From this study it is evident that simple total group comparisons may not reflect the true cost of an item and its change over time.

While the costs of items in Inuvik fluctuated over the study period, availabiLity of products is another concern. Were there any long term shortages of goods during the course of the study? It should be noted that when conducting the first study sometimes the items were not on the shelf; we did not question store staff if the item was in the back room and simply had not been put on the shelf. Despite this, each month 85-90% of the items were available on the days they were priced .

Another situation arose because we were pricing specific brands and sizes; sometimes the specific item was not available. However, there may have been a different brand or a smaller or larger size available. We priced the comparable product noting the variation from the standard priced item. (These products were not used when calculating price fluctuations or comparisons. ) During the study period there were no long term shortages of any product. There were only 10 items when a product or similar substitute item was unavailable for two or more consecutive months. None of these items were basic staple food items (ie. milk, bread eggs, flour, sugar etc.). The two items not available the greatest number of times were frozen Alaska King crab legs and walnuts. 'Two items which would not be considered as absolutely essential to a proper diet.

'The second study identifies the higher cost of goods in Inuvik as

compared to Yellowknife or Whitehorse. The study indicated that the cost of goods priced in Inuvik on the overall average was 21 and **20%** higher than Yellowknife and Whitehorse respectively during the month of September. See Table 7 on page 26. Monthly fluctuations must be considered whenevaluating for different months or annual values.

When individual groups are considered, produce showed the greatest difference. Produce prices in Inuvik are 48% higher than Yellowknife and 41% higher than Whitehorse. Frozen foods, on the other hand showed the least price difference. However, because of the small sample size ( 4 items) the degree these items represent the frozen food section as a whole is limited.

When conducting the study in the three communities there were a number of items which could not be priced because the different stores stocked incomparable products or sizes. However, an indication that other similar products were available was recorded. Results show that there were not items where a substitute brand or size was not available in Yellowknife or Whitehorse. In fact in a majority of cases more than one alternative was available. This would be considered normal under the heirarchy of cities and availability of goods concepts.

Although the studies indicate the difference mainly in food and household items they constitute only one seciton of the entire cost of living index. Other sectors such as clothing, appliances, furniture, entertainment , housing and energy costs are more difficult to quantify and compare, The lack of standard comparable items, the complete lack of an item; eg. there are no motion picture theatres in Inuvik, the lack of competition and the limited range of alternative choices makes

conducting a full cost of living index difficult and perhaps misleading as to the true living conditions in Inuvik.

To illustrate these problems the cost of housing is examined. In Inuvik in the past two years the vacancy rate for rental accommodations has been at or near zero (see housing chapter for more details). Thus for months at a time no present rental value could be established as there were no units to rent at any dollar value. To use the 1981 Canada census data on the average monthly rent paid does not reflect the true cost of rental accommodation unless you live in subsidized housing. Due to the proportionally high number of subsidized employees in Inuvik, the average housing rent is disproportionally low. If one separates the subsidized from the non-subsidized housing there is a dramatic increase in the cost of rental accommodation, The Canada census indicates that the average gross monthly rent in 1981 was $248; in September 1983 a modest 3 bedroom house rented for $1000 a month. The first value includes subsidized housing, the second is non-subsidized. Other reasons for the high monthly rent are the lack of competition and the limited alternatives.

An example of competition reducing the costs can be seen in the price of automotive gasoline. On october 24, 1983 the price of a litre of regular gasoline at one outlet in Inuvik was 64.5¢ or 12.5% higher than Yellowknife and 20.0% higher than Whitehorse. However, at a recently opened outlet the price was 58.9¢ a litre. Still 3.7% higher than Yellowknife and 9,6% more than Whitehorse but less than the competing station,

These two examples indicate the difficulty in a small community, such as Inuvik, to conduct a full cost of living study without the extensive use of footnotes and explanations. Perhaps the best way to describe the cost of living in Inuvik is that goods and services are more expensive in Inuvik although competition locally and with Southern business does help to keep the price of some goods and services low. Also, fluctuations in price are common, and the changes in price are a combination of a number of factors working independently and/or collectively at the same time. As well, local people have little or no influence over the factors which cause the price changes. As these studies and others continue a better understanding of the cost of living, its changes and the causes will be gained. As well, the influence of a population growth on the availability, cost and range of products can be further delineated.

TABLE 5

PRICE COMPARISON: HIGHEST TO LOWEST PRICE

FOR PERIOD JULY 1982 – DEC 1982 and JULY 1983

| GOODS* | Mn. Diff. High-Low | # Items | % Diff. |
|---|---|---|---|
| All Items | $ .67 | 139 | 33 |
| Produce | 1.15 | 19 | 102 |
| Dairy | .72 | 12 | 39 |
| Meats | 1.08 | 5 | 38 |
| Groceries | .52 | 40 | 20 |
| Frozen Foods | 1.08 | 6 | 43 |
| Household | .48 | 16 | 17 |
| Personal | .56 | 19 | 19 |
| Drug Store | .56 | 22 | 16 |

Abbreviations :
Mn. Diff. High-Low = Mean price difference between highest and lowest price for study period

# items = Number of Items priced

%Diff. = Percentage price difference

* All items priced at Inuvik Hudson's Bay store except for items under Drug Store which were priced at Inuvik Rexall Drug store

TABLE 6

PRICE COMPARISON: JULY 1983 TO JULY 1982

INUVIK N.W.T.

| GOODS* | Mn. Diff. July 83-82 | I/items | %Diff. | Mn. Cng +Cng only | # | %Cng | Mn Cng -Cng only | # | %Cng |
|---|---|---|---|---|---|---|---|---|---|
| 411 Goods | -.04¢ | 107 | - 3 | +.34¢ | 59 | 13 | -.42¢ | 39 | 19 |
| ?-reduce | -.15 | 14 | -16 | +.29 | 6 | 22 | -.55 | 7 | 49 |
| Dairy | +.15 | 7 | + 4 | +.20 | 6 | 6 | -.12 | 1 | 7 |
| Meat | -.65 | 3 | -21 | .00 | 0 | 0 | -.65 | 3 | 21 |
| Groceries | -.02 | 31 | - 1 | +.41 | 14 | 15 | -.39 | 17 | 10 |
| Frozen Foods | -.08 | 3 | - 1 | +.07 | 2 | 3 | -.36 | 1 | 4 |
| Household | +.14 | 14 | + 5 | +.33 | 7 | 13 | -.07 | 5 | 4 |
| Personal | +.11 | 16 | + 1 | +.36 | 10 | 9 | ->93 | 2 | 41 |
| Drug Store | +.22 | 19 | + 8 | +.40 | 14 | 13 | -.50 | 3 | 11 |

Abbreviations :

Mn. Diff. July 83-82 = Mean Price difference July 1983 minus July 1982

, #items = Number of items priced

%Diff. = Percentage price differece

n Cng + only = Mean price change for goods that had a postive price change

n Cng -Cng only = Mean price change for goods that had a negative price change

Cng = Percentage price change

* All goods priced at Inuvik Hudson's Bay store except for items under Drug Store which were priced at the Inuvik Rexall Drug Store

TABLE 7

PRICE COMPARISON: INUVIK AND YELLOWKNIFE

SEPTEMBER, 1983

| Goods | Tot. P.D. YEV-YKF | # items | Ave. P.D. | % Diff. |
|---|---|---|---|---|
| All Items | $40.17 | 95 | .42¢ | 21.0 |
| Produce | 9.35 | 15 | .62 | 47.5 |
| Dairy | 2.08 | 11 | .19 | 10.0 |
| Meat | 1.14 | 6 | .19 | 5.6 |
| Groceries | 14.06 | 35 | .40 | 19.9 |
| Frozen Foods | .18 | 4 | .04 | 2.5 |
| Household | 8.22 | 15 | .55 | 18.4 |
| Personal | 5.14 | 9 | .57 | 16>8 |

PRICE COMPARISON: INUVIK AND WHITEHORSE

| Goods | Tot. P.D. YEV-WHS | # items | Ave. P.D. | % Diff. |
|---|---|---|---|---|
| All Items | $35.64 | 94 | .45¢ | 20.0 |
| Produce | 7.58 | 17 | .45 | 41.4 |
| Dairy | 2.50 | 12 | .21 | 14.3 |
| Meat | 4.32 | 6 | .72 | 29,0 |
| Groceries | 8.69 | 30 | .29 | 1.3,5 |
| Frozen Foods | .03 | 4 | .01 | 0.5 |
| Household | 6.80 | 16 | .43 | 16,6 |
| Personal | 5.72 | 9 | .64 | 18.4 |

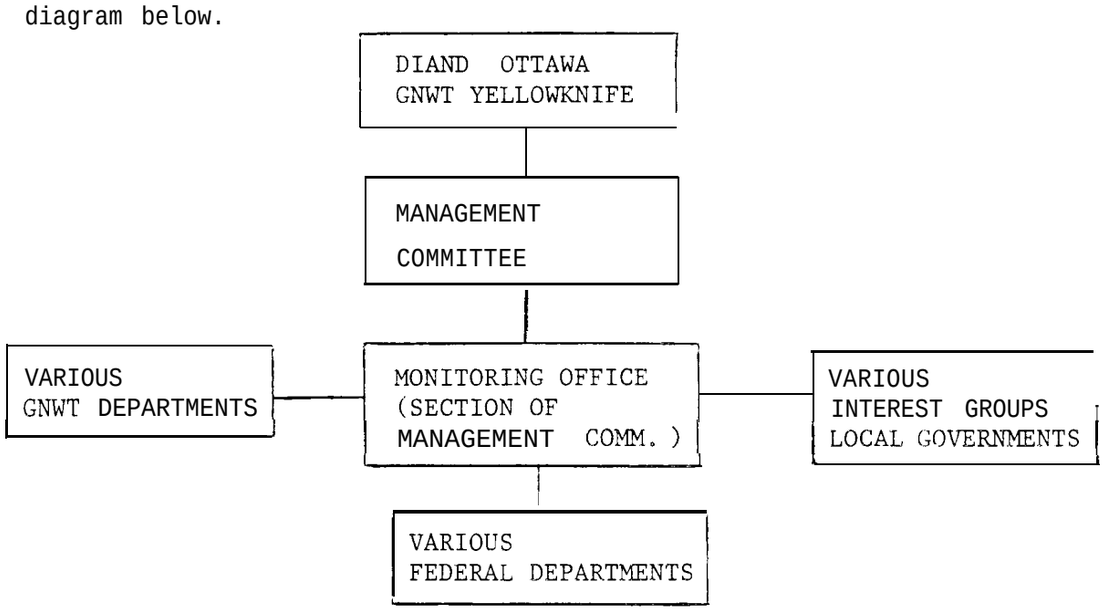
Abbreviations:

Tot. P.D. = Total Price Difference, YEV = Inuvik, YKF = Yellowknife, WHS = Whitehorse, # items = number of items priced, Ave. P.D. = Average price difference, % Diff. = Percentage price difference

H. MONITORING:

The establishment of a comprehensive monitoring system is most important to the successful implementation and operation of the development. Ensuring that the development is properly managed, mitigating measures are followed, they are effective and can be modified to better deal with the situation. The monitoring system should be multi-disipli.nary and requires the coordination of many different groups and individuals conducting various sections of the overall plan. The use of existing programs, structures and expertise will avoid duplication and reduce costs. The monitoring system, to be effective, requires good cooperation and support, along with a sound long term financial basis.

The monitoring system operation would be a subsection of the management committee established to oversee the development. One type of monitoring system which may be effective is depicted in the diagram below.



The system' would operate thus. The management committee, such as that proposed by the Department of the Environment, would consist of government (Federal, Territorial, Municipal) , industry and Native organizations . The management committee would deal with all aspects of the development. One of their programs would be the monitoring function. The committee would perhaps only meet periodically but would have full time support staff which would include monitoring office personnel. The monitoring office would be located in Inuvik, perhaps in conjunction with the newly established EPS office.

Each federal and territorial department which has a mandate to deal with some aspect of Beaufort sea development would keep the monitoring office informed as to extent and status of their monitoring programs as defined by their mandate. Any other groups conducting monitoring would also be required to inform the monitoring office of their programs. The monitoring office, through this structure, would be aware of all monitoring programs, and areas which are not sufficiently monitored would be evident. The monitoring office could thus recommend additional monitoring requirements.

Through the monitoring program, if a department identified a violation or delineated a situation where corrective action is required that department would inform the monitoring office. With each department or group communicating through a single office, in this manner cumulative or synergistic effects which cross government department jurisdictions can be coordinated, the full extent of the problem identified and solutions delineated The monitoring office

would inform the Management Committee who would, in turn, inform the proper senior government officials for corrective action. The senior officials in Ottawa or Yellowknife would dictate the corrective measures that are to be implemented.

The monitoring office would be equally funded by government and industry. If additional studies were required, additional sources of income could be through the environmental studies revolving fund or the G.N.W.T.'s resource development policy.

The local monitoring office could also be open to the general public where complaints, recommendations or observations could be channeled. This would also increase public involvement in the development process. The office could also be a mechanism through which compensation cases may be handled. The DIZ society or the BSCAC or other group, are established organizations which could possibly carry-out the monitoring program provided funding was available to hire professional monitoring staff,

'The monitoring system outlined here is a suggestion of a possible structure. Continued cooperation and discussions between all groups will result in a system which responds to all their needs. It is critical that a dynamic monitoring system designed to act and react to actual and perceived changes is in place corresponding to the development, An effective monitoring system is essential to reduce the negative aspects of the proposed development; which is a Large concern to the Town of Inuvik.

I. FUTURE DEVELOPMENT:

The scale of the future growth of the Town of Inuvik varies considerably. According to the proponents, using a 16"pipeline, tankers or a 16" pipeline and tankers to transport the oil, Inuvik would increase in size to a population of up to 6518 by the year 2000. Using a 42" pipeline, the population would increase to 26,146 by the year 2000. The first three modes and the last mode must be considered separately.

Under the first three modes the Town of Inuvik, under the present and upgraded (in certain areas) level of infrastructure, is capable of supporting the growth. The negative effects would be considered minor and mitigating measures can be effective. The new population should be housed, whenever possible, in permanent units within or adjacent to the main developed areas of town. Enclaves, if necessary, should be located within the town boundries. Locations along Airport or Navy roads are suitable and have been used in the past for enclaves and camps.

When the town is expanded, one mitigating measure which is extremely important is the use of local individuals and businesses as much as possible, Locals must be involved either through direct and indirect employment and business contracts to construct the additional facilities.

The use of the 42" pipeline as the transportation mode is an entirely different situation. The size of the project and the large population increase would result in many problems not encountered with the other modes, There is a feeling in Inuvik that the use of the 42" pipeline is not immenent nor is it desireable considering the socio-

economic implications inherent in such a project. There is a concensus locally that a smaller scale project with a longer lifetime is the correct and prefered course of action. Local people feel the smaller project is more manageable, there are fewer negative socio-economic consequences and they themselves perceive they can adequately deal with the changing situation. It is difficult for the average individual to envision what Inuvik will be like at 6000; 26,000 is incomprehensible.

If, however, there is a decision to proceed with a 42" pipeline, the Town of Inuvik expects even greater cooperation, consultation and financial support from both governments and industry. Any plans for a new town, an expanded Inuvik or any option or questions must be discussed and agreed upon in full with the Town of Inuvik. Only in this manner will Inuvik ever hope to be able to adequately deal with the new growth,

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