

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECTS 86 / 2

'550 SCOM116: JOINT SPEC. COMM. ROYALTY OIL & GAS 1977-78

## APPENDIX I

### AOC FORECAST OF PRUDHOE BAY PRODUCTION

During the negotiations, AOC repeatedly asked for the State's forecast of the oil volumes that would be available under the contract. AOC was referred to the Department of Natural Resources and obtained some suggestions based on the Van Poolen report. The only other guideline from the State was that the maximum would be 85% of the available royalty oil. Using this information, on December 3, 1977 AOC transmitted to Joe Moore and Commissioner LeResche its estimate of the oil that would be available. Such estimate included an assumed additional 300,000 B/D of oil from other sources by 1982, bringing the total to 1.5 million B/D. The information supplied by the Department indicated that the decline might be 9% or 10% per year and, therefore, these volumes were declined at 9% per year, starting in 1986.

On February 1, in response to a written inquiry, Commissioner LeResche identified Case 3A of the Van Poolen report as the appropriate forecast. In the interim, however, AOC had made its own independent evaluation of the likely production rates. These have been identified in the main body of this report. Confidential information available to AOC indicates that a 7% decline, starting in 1986, is indicated rather than the previously used 9%. This, in effect, allows for some tertiary recovery. Thus, AOC has modified its December 3, 1977 forecast to reflect this slower rate of decline. Table I-1 shows the development of this forecast. It will be noted that this forecast shows the highest rate of production of any forecast in the latter years. AOC believes it to be a reasonable forecast.

T A B L E 1-1

ALASKA OIL & CHEMICAL COMPANY

PRUDHOE BAY

AOC FORECAST OF PRODUCTION

Thousand Barrels per Day

|      | <u>Prudhoe Bay</u> | <u>Other</u> | <u>Total</u> | <u>Available<br/>Royalty<br/>@ 12.5%</u> | <u>Plant Capacity<br/>or 85% of<br/>Available</u> |
|------|--------------------|--------------|--------------|------------------------------------------|---------------------------------------------------|
| 1978 | 1,000              | -            | 1,000        | 125.0                                    |                                                   |
| 1979 | 1,200              | -            | 1,200        | 150.0                                    |                                                   |
| 1980 | 1,200              | 100          | 1,300        | 162.5                                    |                                                   |
| 1981 | 1,200              | 200          | 1,400        | 175.0                                    |                                                   |
| 1982 | 1,200              | 300          | 1,500        | 187.5                                    |                                                   |
| 1983 | 1,200              | 300          | 1,500        | 187.5                                    | 100.0                                             |
| 1984 | 1,200              | 300          | 1,500        | 187.5                                    | 100.0                                             |
| 1985 | 1,200              | 300          | 1,500        | 187.5                                    | 100.0                                             |
| 1986 | 1,116              | 300          | 1,416        | 177.0                                    | 100.0                                             |
| 1987 | 1,038              | 300          | 1,338        | 167.3                                    | 100.0                                             |
| 1988 | 965                | 300          | 1,265        | 158.1                                    | 100.0                                             |
| 1989 | 898                | 300          | 1,198        | 149.8                                    | 100.0                                             |
| 1990 | 835                | 279          | 1,114        | 139.3                                    | 100.0                                             |
| 1991 | 776                | 259          | 1,035        | 129.4                                    | 100.0                                             |
| 1992 | 722                | 241          | 963          | 120.4                                    | 100.0                                             |
| 1993 | 671                | 224          | 895          | 111.9                                    | 95.1                                              |
| 1994 | 624                | 209          | 833          | 104.1                                    | 88.5                                              |
| 1995 | 581                | 194          | 775          | 96.9                                     | 82.3                                              |
| 1996 | 540                | 181          | 721          | 90.1                                     | 76.6                                              |
| 1997 | 502                | 168          | 670          | 83.8                                     | 71.2                                              |

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## APPENDIX II

### RECALCULATION OF THE DEEMED ECONOMIC PRICE

The "in-values" developed in the Bonner & Moore report are based on the stipulated 1.2 or 1.8 million B/D of North Slope production. AOC believes the Sohio pipeline project (or its equivalent) will be built and therefore AOC believes \$6.33 is a reasonable "in-value" in 1985. (Case D in Bonner & Moore report.)

It should be noted that at 1.2 million B/D the maximum available royalty oil assuming only 85% is available is only 130,000 B/D and that at 1.8 million B/D is only 190,000 B/D. Thus, only at the assumed 1.8 million B/D rate could a 150,000 B/D refinery be satisfied during the peak years, and in no case can a 250,000 B/D refinery be satisfied with royalty oil alone.

The economic calculations are based on an assumption that the facilities will operate at full rated capacity for 16 years. AOC contends that with the forecast volumes available it is unrealistic to calculate economics based on assumed full capacity operation. AOC has, therefore, computed the actual amount of royalty oil that would be available to service all three refineries. Table II-1 shows the forecast utilizing as a basis AOC's forecast. As mentioned previously, this is the most optimistic forecast AOC has found. In all cases it has been assumed that the refineries would operate 350 days per year, but would have sufficient storage to take crude oil every day in the year. Again, this is the most optimistic approach. It will be noted that even for AOC's proposed 100,000 B/D refinery there is a shortfall, with the average oil available over 16 years being slightly under 90,000 B/D. The

TABLE II-1

## ALASKA OIL &amp; CHEMICAL COMPANY

## FORECAST THROUGHPUT FOR VARIOUS REFINERIES

## USING PRUDHOE BAY ROYALTY OIL

|                             | 1983  | 1984  | 1985  | 1986  | 1987  | 1988  | 1989  | 1990  | 1991  | 1992  | 1993  | 1994  | 1995 | 1996 | 1997 | 1998 | Total   | Avg. B/D |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|---------|----------|
| <u>Available</u>            |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| Prudhoe Bay Royalty         |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| ACC Forecast                |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| MB/D                        | 187.5 | 187.5 | 187.5 | 177.0 | 167.3 | 158.1 | 149.8 | 139.3 | 129.4 | 120.4 | 111.9 | 104.1 | 96.9 | 90.1 | 83.8 | 77.9 | 2,168.5 | 135.5    |
| 365 Days MMB                | 68.4  | 68.4  | 68.4  | 64.6  | 61.1  | 57.7  | 54.7  | 50.8  | 47.2  | 43.9  | 40.8  | 38.0  | 35.4 | 32.9 | 30.6 | 28.4 | 791.3   | 135.5    |
| <u>Disposition</u>          |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| 100,000 B/D Refinery:       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| 350 Days MMB <sup>(1)</sup> | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 35.0  | 34.7  | 32.3  | 30.1 | 28.0 | 26.0 | 24.1 | 525.2   | 89.9     |
| Other                       | 33.4  | 33.4  | 33.4  | 29.6  | 26.1  | 22.7  | 19.7  | 15.8  | 12.2  | 8.9   | 6.1   | 5.7   | 5.3  | 4.9  | 4.6  | 4.3  | 266.1   | 45.6     |
|                             | 68.4  | 68.4  | 68.4  | 64.6  | 61.1  | 57.7  | 54.7  | 50.8  | 47.2  | 43.9  | 40.8  | 38.0  | 35.4 | 32.9 | 30.6 | 28.4 | 791.3   | 135.5    |
| 150,000 B/D Refinery:       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| 350 Days MMB <sup>(1)</sup> | 52.5  | 52.5  | 52.5  | 52.5  | 51.9  | 49.0  | 46.5  | 43.2  | 40.1  | 37.3  | 34.7  | 32.3  | 30.1 | 28.0 | 26.0 | 24.1 | 653.2   | 111.8    |
| Other                       | 15.9  | 15.9  | 15.9  | 12.1  | 9.2   | 8.7   | 8.2   | 7.6   | 7.1   | 6.6   | 6.1   | 5.7   | 5.3  | 4.9  | 4.6  | 4.3  | 138.1   | 23.7     |
|                             | 68.4  | 68.4  | 68.4  | 64.6  | 61.1  | 57.7  | 54.7  | 50.8  | 47.2  | 43.9  | 40.8  | 38.0  | 35.4 | 32.9 | 30.6 | 28.4 | 791.3   | 135.5    |
| 250,000 B/D Refinery:       |       |       |       |       |       |       |       |       |       |       |       |       |      |      |      |      |         |          |
| 350 Days MMB <sup>(1)</sup> | 58.1  | 58.1  | 58.1  | 54.9  | 51.9  | 49.0  | 46.5  | 43.2  | 40.1  | 37.3  | 34.7  | 32.3  | 30.1 | 28.0 | 26.0 | 24.1 | 672.4   | 115.1    |
| Other                       | 10.3  | 10.3  | 10.3  | 9.7   | 9.2   | 8.7   | 8.2   | 7.6   | 7.1   | 6.6   | 6.1   | 5.7   | 5.3  | 4.9  | 4.6  | 4.3  | 118.9   | 20.4     |
|                             | 68.4  | 68.4  | 68.4  | 64.6  | 61.1  | 57.7  | 54.7  | 50.8  | 47.2  | 43.9  | 40.8  | 38.0  | 35.4 | 32.9 | 30.6 | 28.4 | 791.3   | 135.5    |

Note: (1) Refinery Capacity or 85% of available, whichever is smaller

150,000 B/D refinery, because it takes more in the peak years, would average almost 112,000 B/D, and the 250,000 B/D refinery would average 115,000 B/D.

Since Bonner & Moore's economics were based on full capacity operation, AOC has recalculated Bonner & Moore's economics including the revised economics for ALPETCO shown in Joe Moore's letter of February 10. The results of these calculations are shown in Table 11-2.

In making these calculations, AOC has accepted all Bonner & Moore's numbers, except that capital related items have been increased to reflect the lower quantity of royalty oil. It will be noted that in all cases premiums forecast move into substantial debts, ranging from \$3.45 debit for ALPETCO to \$0.82 debit for Alaska Petroleum Company. Put another way, these deemed values would be those that would flow if the optimistic AOC volumes alone were available for the proposed refinery. AOC believes this further demonstrates that the concept of very large in-State facilities needs close examination by the Royalty Board.

T A B L E 11-2

ALASKA OIL & CHEMICAL COMPANY

ADJUSTED DEEMED ECONOMIC PRICE

|                                   | ALPETCO                          |                                        | Petrofining                      |                                        | APC                              |                                        |
|-----------------------------------|----------------------------------|----------------------------------------|----------------------------------|----------------------------------------|----------------------------------|----------------------------------------|
|                                   | At Rated<br>Capacity<br>150 MB/D | Available<br>Royalty Oil<br>111.8 MB/D | At Rated<br>Capacity<br>250 MB/D | Available<br>Royalty Oil<br>115.1 MB/D | At Rated<br>Capacity<br>150 MB/D | Available<br>Royalty Oil<br>111.8 MB/D |
| Operating Charge Calculation      |                                  |                                        |                                  |                                        |                                  |                                        |
| Direct Operating Expenses         | 5.00                             | 5.00                                   | 0.97                             | 0.97                                   | 1.06                             | 1.06                                   |
| Capital-Related Charges           | 12.32                            | 16.54                                  | 1.83                             | 3.98                                   | 2.19                             | 2.94                                   |
| Total Charges                     | 17.32                            | 21.54                                  | 2.80                             | 4.95                                   | 3.25                             | 4.00                                   |
| Deemed Economic Price Calculation |                                  |                                        |                                  |                                        |                                  |                                        |
| Average Product Price             | 28.65                            | 28.65                                  | 13.88                            | 13.88                                  | 13.74                            | 13.74                                  |
| Less Total Charges                | (17.32)                          | (21.54)                                | (2.80)                           | (4.95)                                 | (3.25)                           | (4.00)                                 |
| Crude Oil Purchase Cost           | 11.33                            | 7.11                                   | 11.08                            | 8.93                                   | 10.49                            | 9.74                                   |
| Entitlement Credit                | 2.30 <sup>(1)</sup>              | 2.30                                   | 2.30                             | 2.30                                   | 2.30                             | 2.30                                   |
| Actual FOB Plant                  | 13.63                            | 9.41                                   | 13.38                            | 11.23                                  | 12.79                            | 12.04                                  |
| Crude Tankering                   | ( 0.37)                          | ( 0.37)                                | ( 0.37)                          | ( 0.37)                                | ( 0.37)                          | ( 0.37)                                |
| Taps Tariff                       | ( 6.16)                          | ( 6.16)                                | ( 6.16)                          | ( 6.16)                                | ( 6.16)                          | ( 6.16)                                |
| Deemed Economic Price             | 7.10                             | 2.88                                   | 6.85                             | 4.70                                   | 6.26                             | 5.51                                   |
| Anticipated Premium (Debit)       |                                  |                                        |                                  |                                        |                                  |                                        |
| Deemed Economic Price             | 7.10                             | 2.88                                   | 6.85                             | 4.70                                   | 6.26                             | 5.51                                   |
| In-Value                          | 6.33                             | 6.33                                   | 6.33                             | 6.33                                   | 6.33                             | 6.33                                   |
| Premium (Debit)                   | 0.77                             | ( 3.45)                                | 0.52                             | ( 1.63)                                | ( 0.07)                          | ( 0.82)                                |

Note: (1) Pursuant to Joe Moore's letter of February 10, 1978

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State of Alaska  
Alaska Royalty Gas Study

February 15, 1978

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Alaska Royalty Gas Study

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This study presents a range of options for the ownership and financing of a gas conditioning and transmission system (the "System") for the distribution of the State of Alaska's royalty gas and gas liquids. The central assumption in this study is that any gas conditioning and transmission system will be developed on an intra-state basis, and therefore will not be subject to Federal regulation under existing law. In the event an interstate route is chosen for the System, or the State elects to participate in any interstate system, certain of the options discussed may require modification.

#### Means of Financing

There are three basic approaches to financing the System: investment and ownership by the State; investment and ownership by private interests; and, investment and ownership on a joint basis by the State and private interests. Funds for investment by the State will generally be derived from the issuance of tax-exempt obligations of the State or a State authority. Where the State makes no investment in the System, private funds will be utilized to finance the investment, and the System will be privately owned. For joint investment alternatives, each party will finance its individual ownership share on the aforementioned bases.

We have organized the discussion of ownership and financing alternatives in five sections, as follows:

Tab 1 - Ownership and Financing by the State

Tab 2 - Ownership and Financing by Private Interests

Tab 3 - Ownership and Financing by Joint State/Private  
Interests

Tab 4 - Ownership and Financing Through the Alaska  
Royalty Financing Trust

Tab 5 - Other Means of Ownership and Financing

The Alaska Royalty Financing Trust presented in Tab 4 is a means of financing ownership on behalf of the State and, along with the Alaska Royalty Gas Trust, described in Tab 6, provides a mechanism for passing the benefits of certain of the State's royalty holdings directly to State residents.

#### Evaluation Criteria

Each alternative for investment in and financing of the System can be evaluated against a fixed set of criteria, which we have developed as part of this report. In the development of these criteria, we have considered the State's goals and objectives with respect to the System as they have been indicated to us by State representatives. Briefly, such goals include:

- attracting new industry to the State which will improve the composition of the State's employment base by increasing the availability of jobs that demand higher skills and pay higher wages;
- increasing the inflow of revenues to the State while reducing required expenditures for social programs;
- developing a base of assets that will continue to be of benefit to the State beyond the point of depletion of

the royalty gas reserves;

- providing a mechanism for the distribution of revenues derived from the sale of the royalty gas to residents of Alaska; and,
- maximizing the State's financial return on its investment in the System and its holdings of royalty gas and gas liquids.

These goals and objectives provide the basis for the development of the following criteria, against which each alternative must be evaluated:

1. The ability to provide gas for sale to industrial users at a price which will attract new industry to the State. Factors affecting the price of delivered gas will include the interest rate on debt required for development of the System and/or the opportunity a given alternative provides for utilizing depreciation benefits, investment tax credits, and depletion allowances.
2. The degree to which the operation of the System will provide revenues to the State, including revenues generated by new industrial activity.
3. The efficiency of the mechanism provided by each alternative for distributing available revenues to residents of the State.
4. The extent to which each form of ownership and financing requires an actual cash investment by the State or utilizes State guarantees of either private credit or independent

State authority credit.

5. The extent to which new legislation and/or new administrative structures will be required to enable the completion and operation of the System under each form of financing and ownership.

Tab 7 of this report contains a matrix which weighs each of the ownership and financing alternatives contained in Tabs 1 - 4 against the above-outlined criteria.

#### Revenues Received From the System

Revenues from the disposition of the State's royalty gas holdings can be realized from three distinct sources which include:

- charges for the sale of the royalty gas at the wellhead, distinct from charges for the conditioning and transmission of such gas in the facilities of the System. As owner of the royalty gas, the State will derive all or part of the revenues attributable to this source;
- charges levied for the conditioning and transportation of the royalty gas, distinct from charges for the gas itself. Where the State is owner of the System by virtue of its investment in the facilities, this source of revenues will accrue to the State. However, to the extent the facilities are owned by private interests, such revenues will constitute the return on private investment;
- a general increase in revenue accruing to the State as a result of taxes levied on new industries locating in Alaska

due to the availability of the royalty gas. Where the System is owned by a taxable private entity, the System itself would comprise an additional source of revenues for the State.

Without knowledge of the System's capital requirements, charges for the gas and its conditioning and transmission, or the rate at which applicable taxes will be levied, it is impossible to quantify total revenues which will accrue to the State under each alternative.

Revenues received in connection with the operation of the System, including from taxes levied on new industry located in the State, and where applicable, from taxes levied on the System itself, will be available for distribution in the following manner:

- As required by amendments to the State Constitution adopted in November of 1976, at least 25% of the revenues received from prices charged for the royalty gas at the wellhead must be deposited into the Alaska Permanent Fund. We have been informed that any other revenues, including those received from charges for conditioning and transmission, need not be so deposited.
- Where the State has issued no financial obligations on behalf of the System, and has no investment in it, available revenues after deposit into the Permanent Fund can be allocated to the State's General Fund, with no further requirements. Where the State has issued general obliga-

tion bonds to finance the System, however, revenues received after deposits to the Permanent Fund may be paid into the General Fund and utilized to pay debt service on the general obligation bonds issued in support of the State investment. Finally, where the State has used revenue bonds for providing investment funds, available revenues must be paid, to the extent required, into the special funds created for the purpose of paying debt service on such revenue bonds. Remaining funds can thereafter be paid into the General Fund.

- Funds remaining in the General Fund and not required for debt service may be utilized as the State deems desirable, including for distribution to residents of Alaska in the form of tax reductions or direct cash payments.

The remainder of this study is devoted to a detailed analysis of the options available for development and financing of the System. Information contained in Appendices A and B relates to specific matters considered in conjunction with the discussion of ownership alternatives described in Tabs 1 - 5.

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Tab 1 - Ownership and Financing by the State

The financing and ownership alternatives described in this section are principally distinguished by the requirement that the State, or a State authority, make a direct cash investment in the System. As a consequence, because the State will be the owner of the facilities, revenues will be available to it from all three sources outlined previously: the wellhead price of the gas; charges for conditioning and transmission in the System; and any general increase in taxable economic activity in the State. Since the System will be owned by a tax-exempt institution, the facilities themselves will not be taxable.

The State, or a State authority, will be able to issue tax-exempt obligations as a means of securing funds for its investment in the System. Such obligations bear lower interest rates than the taxable debt of private issuers and, therefore, the cost of debt for any State-owned facility may be lower than for a privately-owned facility.

Briefly, there are two forms of tax-exempt obligations which may be utilized in conjunction with a State-owned System: general obligation bonds, which impart a full-faith-and-credit pledge of the State's ad valorem taxing capacity, and; revenue bonds, which would pledge only an identifiable stream of revenues from the System as security. By this definition, revenue bonding would appear to imply less of an overall State obligation than general obligation bonding. Clearly, a project of the magnitude and complexity of the System will present substantial investment risks. As a result, it will be likely that

the State will have to guarantee completion of the facilities or provide a long-term guarantee of the revenue bonds, at least until such time as the System is demonstrated to be economically viable, in order to make such obligations attractive to the bond markets. Therefore, both forms of tax-exempt debt will require use of the State's credit.

Because the intended primary users of the output of the System are to be privately-held industries, tax-exempt debt issued for the State's investment in the System must comply with stated regulations of the Internal Revenue Service with respect to tax-exempt obligations. We have included a copy of the appropriate Internal Revenue Service Regulations on this matter as Appendix A to this report.

Briefly, under Section 103(b) of the Internal Revenue Code, if more than 25% of the revenues pledged in support of a state or local government bond offering is to be derived from payments made by non-exempt, for-profit industrial users, the obligations will be considered industrial development bonds, and issues of such bonds in amounts greater than \$1,000,000 will not be tax-exempt, unless certain other qualifications are met. The only such qualification relevant to the System is contained in Section 103(b)(4)(E), which allows for tax exemption on industrial development bonds offered in any amount for facilities which will provide gas to users located only in a contiguous two-county area, provided that the gas is made available for use by the general public in addition to specific industrial users. Whether or not the gas is actually purchased by the general public is irrele-

vant to this qualification, provided the gas is made available for such use.

The requirements stated in Section 103(b) will apply to issues of both general obligation and revenue bonds. Because a principal advantage of State ownership of the facilities arises from the use of lower interest rate, tax-exempt obligations, it is important to fully understand the conditions placed upon the issuance of such obligations in connection with the System, prior to examining specific structural alternatives for State ownership outlined below.

As owner of the System, the State will have sole responsibility for construction and operation of the facilities. It would be possible, however, to contract with a private organization to provide management services, thereby eliminating the need to develop an experienced staff of State personnel to manage the System. In addition, the State will be required to enact enabling legislation to empower it to invest funds in the System, whether such funds are derived from the issuance of general obligation or revenue bonds.

With the State as owner of the System, potential tax advantages such as depreciation and investment tax credits that have the effect of improving rate of return and lowering the after-tax cost of capital in a private ownership structure will not be available. Loss of such advantages is, of course, offset by the fact that the State will pay no taxes at all on revenues derived from the System and, further, can finance its investment with tax-exempt debt. The depletion allow-

ance provided for investments in natural resources such as gas and oil will be available, however, to those residents participating in the Alaska Royalty Gas Trust, described in Tab 6, and, thus, this Trust provides a measure of tax advantage to the State's residents that would otherwise be of no use to the State.

The following are the principal forms of State investment and ownership in the facilities of the System:

1A - Financing by General Obligation Bonding

The use of general obligation indebtedness to finance the State's investment in the facilities may provide the lowest interest rate debt available to the proposed System. Tax-exempt obligations of local governments bear lower interest rates than taxable obligations of private owners, and general obligation bonds secured by the State's full taxing powers are likely to bear interest rates lower than revenue bonds. Normally, general obligation bonds provide superior security for the investor, since the source of such security is the State's full ad valorem taxing capacity. Hence, the payment of principal and interest on any bonds of this kind offered on behalf of the System is not dependent upon the financial success of the System, but rather upon the State's overall financial condition.

It must be recognized, however, that among all the alternatives in this study, financing obtained through general obligation bonding represents the maximum drain upon the State's credit. Such bonds issued on behalf of the System will have an equal lien on the State's revenues and tax resources with all current and future outstanding

general obligation bonds, including those that may be issued for the construction of schools, government buildings, and other basic capital programs.

At year-end 1976, the State of Alaska had outstanding \$540 million in general obligation debt, and was authorized to issue \$840 million, although there is no constitutional limit on the total amount of such bonds which may be issued. The amount of capital required to construct a gas conditioning and transmission system would represent a considerable increase in outstanding general obligation indebtedness, probably in excess of the \$300 million remaining from the current authorization. However, the increase in revenues available to the State and in the State's general tax base resulting from the System's development may at an early point negate the effects of the increase in outstanding general obligation indebtedness, and thereby not impair the State's ability to finance future projects.

Under this approach, the State, as in all general obligation bond offerings, would be required to obtain voter approval by referendum for the offering of securities in connection with the project. Unless its contracts for construction and management of the System, the State would also be required to designate and appropriately staff an agency or authority to operate the facilities.

To the extent the royalty gas is sold to industrial users at a price high enough to produce significant net revenues, such gas may become more costly and, hence, less attractive to such users.

However, because the cost of debt under this alternative is likely to be especially low, and revenues realized by the State are exempt from taxation, gas sold to industrial users at a price high enough to produce appreciable revenues for the State may, nevertheless, be attractively priced from the user's viewpoint, and therefore the System could more effectively attract taxable new industries to the State.

In considering the alternatives for investment and ownership presented in this study, it will always be necessary for the State to examine the trade-off between desired revenues from the sale of gas and the price of such gas to industrial users. The use of general obligation bonding, because it may have the lowest cost of debt and, therefore, the lowest fixed cost for debt service, provides more latitude to meet both the goals of obtaining revenues from the sale of gas and making such gas available at an attractive cost. In exchange for this flexibility, however, the State must be willing to fully offer its credit to the financing.

Revenues received in connection with the operation of the System may be deposited in the State's General Fund after making the required deposits in the Permanent Fund. Revenues derived from the increase in taxable industry in the State resulting from the System's operations will be deposited in the General Fund as well, as in the case of all tax receipts of the State. After meeting obligations on outstanding general obligation bonds, including bonds issued for other projects which have a lien equal to the System's bonds, excess revenues can be

used to either reduce the required level of taxation of State residents or to make direct cash payments to such residents.

1B - Financing by Revenue Bonding

In lieu of issuing full-faith-and-credit general obligation bonds to finance the State's investment in the System, the State, or a State authority, may instead issue revenue bonds for this purpose. Although there are numerous forms of such bonds, some of which will be described more fully herein, the basic distinguishing characteristic of revenue bonds is that the security offered for the payment of principal and interest is a pledge of only revenues derived from the operation of the System itself, rather than a pledge of all the State's revenues. As such, revenue bonding represents a source of financing that does not rely upon the State's own credit, and does not utilize the State's general obligation bonding capacity.

If structured in a form compatible with Section 103(b) of the Internal Revenue Code, the interest on revenue bonds is tax-exempt. As a result, such bonds would bear a lower interest rate than taxable obligations of a private issuer. Under most circumstances, the interest on such bonds is, however, higher than on general obligation bonds.

Since the only security offered on such bonds would derive from the operating cash flow of the System, the bond rating and, hence the interest rate, on such bonds would be highly dependent upon the anticipated operating results of the System. Theoretically, if the System's projected operating results indicated cash flow sufficient to cover debt service on the revenue bonds by a significant margin, the bonds

could receive a rating higher than the A1 rating applied to the State's general obligation bonds, and would carry a lower interest cost than such bonds.

In practice, however, undertaking the System, as we understand it, would be a complex venture involving a considerable amount of financing. For revenue bonds to be marketable, therefore, it would likely be necessary that the State both guarantee completion of construction of the System and guarantee the bonds themselves at least until such time as the System has clearly demonstrated an ability to pay debt service from its own operating revenues. A State guarantee of the bonds could take a number of forms, including a straightforward guarantee of principal and interest over the life of the issue, a guarantee of reserve funds created for the purpose of paying debt service on a year-by-year basis, or the provision of guaranteed throughput contracts which would be structured to assure a supply of gas for the System and, in the event the System is inoperable or purchasers cannot be found for the gas and gas liquids, would provide funds for the payment of debt service.

Clearly, the use of any of these guarantees creates a liability of the State that is contingent upon the successful operation of the System and, therefore, with the State acting as the back-up credit for the revenue bonds, such bonds may receive a rating and bear interest approximately equivalent to the State's full-faith-and-credit debt. If the System can be operated successfully, the State would not be obligated to act upon its guarantee. However, if the System is

unsuccessful, the State could be responsible for the full amount of principal and interest on the revenue bonds.

The State has already had experience with the issuance of revenue bonds through an independent authority, having created the Alaska Housing Finance Corporation for such purposes in 1971. We have included, as Appendix B to this study, a copy of the enabling legislation for the Corporation as an example of the structure of and required legislation for the creation of an independent authority. Under many circumstances, creation of an independent authority will remove the State's credit entirely from any revenue bond financing. Such is the case with respect to the Housing Finance Corporation. However, for a project such as the System, which embodies substantially greater risk than the programs of the Corporation, it will be necessary to apply State guarantees to authority-issued bonds.

It has already been indicated in the introduction to this study that tax-exempt bonds issued for the purpose of constructing a gas conditioning and transmission system to serve primarily industrial customers who would be purchasing more than 25% of the System's output would probably be classified as industrial development bonds. As such, the distribution of the gas would have to be accomplished on a basis compatible with Section 103(b)(4)(E) of the Internal Revenue Code, as currently structured: that is, the gas would have to be made available to the general public and distributed only in a contiguous, two-county area. In practical terms, making the gas generally available would require allowing individual State residents to

gain access to the System's output. The requirement for distribution to a contiguous two-county area applies only to the points of delivery of the System, and not to its overall location. Hence, if the pipeline transversed three counties, but delivered gas in only two contiguous counties, the financing would comply with IRS Regulations. Assuming the intended industrial users of the System were to locate within a two-county area, the System could accomplish its goal of attracting new industrial activity to the State.

The structure of a revenue bond offering for the System would require the creation of certain special funds for the disposition of the System's cash flow. Certain of these funds would be utilized for the payment of principal and interest on the bonds, when due. Others would constitute reserve funds to create a pool of available cash for the payment of operating and maintenance expenses and the payment of debt service for a specified period of time in the event the System temporarily cannot generate funds with which to pay principal and interest on the bonds. After meeting all requirements for deposits into these special funds, remaining funds can be deposited into the State's General Fund. Where the revenue bonds have been issued by an authority, such authority could pay remaining funds into the State's General Fund after payment of debt service and deposits into other special funds. As in the case of general obligation financing, funds deposited into the General Fund can be utilized at the State's discretion, including for distribution to residents of the State in the form of tax reductions or direct cash payments.

The lower interest rate associated with tax-exempt financing under this approach, as in the case of general obligation bonding, will provide the State with latitude to meet both the objectives of realizing revenues from the operation of the System and providing gas at an acceptable price to industrial users. The degree of this latitude will vary with the level of guarantee provided by the State for the financing and the projected operating results of the System.

Finally, under this approach, the State, or the authority, will be required to construct and manage the System or contract for its construction and management. In addition, enabling legislation must be enacted specifying the State's or the authority's powers and responsibilities with respect to the System. The example enabling legislation contained in Appendix B will serve as a sample format of the required statutes.

1C - Initial Financing Through General Obligation Bonding - Subsequent Financing by Revenue Bonding

A review of the two alternative financing and ownership options previously discussed in this section indicates that, between the two alternatives, financing through general obligation bonding provides the benefit of a lower interest rate on debt, but has the long-term disadvantage of requiring the full use of the State's credit for the financing. Conversely, the use of revenue bonds may modify the requirement for the use of the State's full-faith-and-credit backing, but is likely to result in higher interest rate financing and may, nevertheless, require State guarantees. The key variable affecting

both the interest rate on the revenue bonds and requirements for State guarantee is the performance of the System in providing adequate revenues for the payment of debt service.

By providing for the construction financing of the System through the issuance of general obligation bonds, and thereafter financing the long-term operation of the System with revenue bonds, it may be possible to combine the most beneficial aspects of each approach and maintain a relatively low cost of debt. Separately financing the construction and operating phases of a project of this scope is not uncommon, and a modification of this approach is applicable to the System.

Under this alternative, the State would fund its investment in the facilities through the issuance of short-term general obligation debt. Such debt would bear lower interest than general obligation bonds issued to finance the System over its entire operating life because of its shorter term to maturity. Ideally, the term of the initial general obligation bond financing would cover the construction period of the System as well as a reasonable interim operating period.

Thereafter, the System would be refinanced through the issuance of revenue bonds, with proceeds of the bond offering used to retire the short-term general obligation bonds. By staging the financing in this manner, the revenue bonds would not be offered until the facilities have been completed, and the System has had an interim operating period during which its ability to generate adequate

revenue for debt service payment could be demonstrated. Depending upon the performance of the System during this period, it may be possible to offer the revenue bonds free of any State guarantee. The interest on revenue bonds may be as low or lower than on general obligation bonds of equivalent maturity if the System's performance warrants a bond rating greater than A1. However, as in all cases where short-term obligations are offered to finance construction, the State must bear the risk that the project will prove unsuccessful, and cannot be refinanced through revenue bonds. If such is the case, the State will be responsible for the payment of principal and interest on its initial short-term debt.

As a further modification of this approach, the State may choose to finance and own the System for a short-term initial period, and thereafter transfer the facilities to an independent authority which has issued revenue bonds for the purpose of purchasing the System from the State. The State would, in turn, use the proceeds to retire its short-term indebtedness, and would be relieved of the responsibilities of ownership.

This latter method of financing is patterned after the experience of the Federal Government with the Tennessee Valley Authority ("TVA"), a system of electric generating facilities initially financed by the Government in the 1930's. TVA, which has developed into a highly successful independent venture, now issues its own revenue bonds for the continued expansion of its facilities, and TVA provides for repayment of the initial Federal investment from its net revenues.

The remaining characteristics of tax-exempt financing which have been previously described pertain to this alternative as well. Responsibility for construction and management of the System will rest with the State, unless the State contracts for such responsibilities with a private organization. Further, the lower cost of tax-exempt financing will provide greater latitude in setting a price for the royalty gas that will provide net revenues to the State, but still be low enough to attract industries who would use the gas in their manufacturing operations.

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Tab 2 - Ownership and Financing by Private Interests

The financing and ownership alternatives described in this section are principally distinguished by the requirement that private interests - private corporations or individual shareholders - make the only direct investment in the System. As a consequence, because such investors will be the owners of the System, and not the State of Alaska or a State authority, the State will derive revenues only from charges for the royalty gas and gas liquids supplied to the facilities, and as a result of any increase in taxable economic activity in the State. As a privately-owned facility, the System will itself be taxable. Revenues realized from charges for conditioning and transmission of the royalty gas will flow to the owners of the facilities, as a return on their investment in the System.

From the State's standpoint, this approach is attractive because (1) it provides present value benefits by allowing the State to achieve substantial revenues (from royalties and tax collections) without any investment; (2) it frees the State from the burdens of ongoing administration and management of the System; and (3) it preserves the State's financial and managerial resources for use in other areas. Once a more detailed evaluation of the economic and technical viability of the System has been made, it is these advantages which must be weighed against the possibly greater dollar income from State ownership.

Private investors will consist of two groups: pipeline operators who would operate the System for a profit; and the industrial users

of the gas themselves who would be willing to build and operate the System as a means of insuring the supply of the State's gas for their own manufacturing operations. Before a pipeline operator would undertake the venture, there must be a demonstrated market for the gas as reflected by actual contracts for the purchase of the gas by industrial users, or the existence of a substantial number of the users in the proposed service area. Given the potentially significant amount of capital required to construct the proposed facilities, it is highly unlikely that such investors would undertake the financing without reasonable assurance of a rate of return for their investment comparable to the rate of return on similar facilities currently in operation.

For potential investors who would use the gas themselves, the State must agree to provide the gas at a price which is sufficiently attractive to warrant investment both in the System's facilities and in industrial plants which will utilize the delivered and conditioned product.

Any debt offered for financing the System by private interests will be taxable, with the exception of the industrial revenue bond alternative described under 2-C, below. As a result, such debt will bear higher interest than general obligation or revenue bonds offered by the State. The resulting higher cost of such debt will inherently require higher charges for conditioning and transmission services, and the State must again consider the trade-off between revenues from its sale of gas to the facilities and the goal of providing

gas to potential new industries at the most attractive price after conditioning and transmission. This problem is exacerbated by the higher cost of debt service on taxable obligations of a private issuer.

As a private operation, the System would provide certain tax advantages that can be utilized by private investors to improve the after-tax rate of return on an investment in the facilities. Among these advantages are depreciation on the System's physical plant, and investment tax credits. The availability of such benefits may offset, to a degree, the burden of higher cost debt.

There is no need under these approaches to comply with IRS Regulations regarding availability of gas for general use or distribution in a two-county area except in the case of industrial development bonding or the use of State funds during an initial operating period. Further, the State will have no responsibility for the operation of the System and, with the exception of the use of industrial revenue bonds or initial State financing, will have no need to enact enabling legislation in connection with financing the project. This form of financing will not utilize the State's credit or require State investment.

The following are the alternatives for private investment in the System:

2A - Financing and Ownership by Private Corporation or Private Joint Venture

This approach represents the most traditional method of financing

a project such as the System, with funds provided by a single corporation or group of corporations acting as a joint venture. The potential investors on this basis might include those who would own and operate the System as revenue producing facilities, or those who intend on utilizing the royalty gas for in-state manufacturing operations, and would finance the System as a means of obtaining access to the gas.

Whether the investors in the System are pipeline operators or the intended users of the end product, the requirement for taxable debt financing will inherently increase the cost of providing service through the System. This will create, in turn, more pressure on the State than where tax-exempt obligations are used to provide the royalty gas to the facilities at a relatively low price in order to maintain any cost advantage to locating industry in Alaska. As indicated in the introduction to this section, the availability of depreciation and investment tax credits will partially offset, on an after-tax basis, the increased cost of servicing taxable debt.

Because the State will make no investment in the System, it will not be entitled to receive revenues directly from charges for conditioning and transmission. Private investors will receive such benefits, whether in the form of revenues for a pipeline operator, or access to the lower cost of royalty gas for investors who are the intended users of the gas. The State will, of course, obtain revenues from the sale of the gas, taxation of increased economic activity, and taxation of the System itself.

Revenues received by the State from these sources will be

available for disposition in whatever form considered appropriate, including distribution to State residents. Deposits must be made, as required by constitutional amendment, into the Alaska Permanent Fund prior to any other distribution.

This approach has no requirements for utilization of the State's credit, either in the form of direct debt obligations or the guarantee of another party's borrowings. However, for the same reason that it will be necessary to provide purchase contracts for the gas prior to construction, it will similarly be necessary for the State to contract on a long-term basis for the sale of the royalty gas at specified prices. In this manner, many of the higher risk elements of the venture will be diminished, since supply and demand for the gas will be reasonably assured.

2B - Financing and Ownership by Private Corporation or Private Joint Venture - Guarantee of Debt by Industrial Users or State of Alaska

This approach embodies a limited modification of the method described in 2-A, above, and applies solely to the case where the private investors in the System are pipeline operators. The modification consists of the provision of a guarantee of any debt issued by a private corporation to finance the System by either of two sources: the State of Alaska, or; the intended users of the conditioned and transported gas.

The provision of a guarantee by either source can be viewed as a form of investment in the facilities. In this sense, the

guarantor would be entitled to a return on this investment. Under the assumption that the availability of the guarantee would improve the market acceptance of the debt, the interest rate on the debt, and hence the level of debt service, would be diminished, and the royalty gas would be available at a lower cost. For the State, the return on this investment would be realized in the resulting ability to either charge more for the gas at the wellhead, or realize a greater increase in taxable industrial activity due to the availability of a less expensive end product. For the industrial users, the return on this investment would be access to a long-term supply of gas at a lower price.

It should be apparent that the use of a guarantee will be of benefit only if the guarantor has a credit rating higher than the rating on any debt issued by the pipeline operator intending to invest in the System. The provision of a guarantee by the State will not alter the taxable nature of the debt. It is unlikely that the private industrial users would guarantee the debt of the facilities unless both the State and the pipeline operator contractually agreed to provide the gas and transmission and conditioning services at a favorable price.

The remaining characteristics of private forms of ownership, previously enumerated, would not be modified by this method of financing.

#### 2C - Industrial Development Bonding

Earlier in this report, under the discussion of forms of

ownership and financing by the State of Alaska, reference was made to tax-exempt financing of the System under Section 103(b)(4)(E) of the Internal Revenue Code. In that context, revenues pledged to the payment of debt service were to be derived from the sale of gas to industrial users, and ownership of the System would rest with the State or a State authority. However, it is also possible to offer such bonds whereby the System would be leased or sold to private interests, with lease or installment sales payments pledged to the payment of debt service on the bonds. This form of transaction, because it ultimately involves passing of the ownership interest in the facilities to private parties, is considered in this report to be a form of private ownership.

In this option, an industrial development body created by the State would offer tax-exempt revenue bonds for the construction of the System. A pipeline operator or the intended users of the royalty gas would execute a lease agreement with a fixed dollar purchase price for the System upon expiration of the lease, or an installment sales contract for the acquisition of the entire System over a proscribed time period after completion. The terms of such agreement or contract would be structured such that payments by the user would be sufficient to meet the issuing entity's financial obligations under the revenue bonds.

The lease agreement or installment sales contract should provide, in essence, for a guarantee of the revenue bonds by the lessee(s) or purchaser(s). In fact, the interest rate on the bonds would be

principally affected by the credit rating of such parties, and as a result, where this credit rating is AA or better, the industrial development bonds may bear a lower interest rate than the State's own A1-rated general obligation bonds. Structuring of the transaction in this form will make no utilization of the State's credit.

The advantages of this form of financing to both the State and the lessee(s) or purchaser(s) are apparent. The obligations will bear low, tax-exempt interest rates, and the State will be relieved of the burden of owning and operating the facilities. The private party to the transaction would maintain contractual responsibility for the construction of the facilities and for their operation and maintenance. If properly structured, it would be possible to preserve both the tax-exempt nature of the financing and the benefits of depreciation and investment tax credits which, in combination, may provide the lowest cost of financing of any of the alternatives discussed in this report.

Compliance with IRS Regulations concerning the delivery of the gas within a contiguous two-county area, and the availability of the gas to the general public, would be required to preserve the tax-exempt nature of the obligations. This would pertain both to instances where the private party consisted of a pipeline operator or the actual end users of the gas.

Under this form of financing the State would not be entitled to the receipt of revenues from charges for conditioning or transmission of the gas having made no investment in the facilities, but

would be limited to revenues obtained from the sale of the gas and the increase in the tax base of the State. The System itself would be a taxable entity for Federal income tax purposes. The State may also choose to tax the facilities, unless it acts to grant an exemption or tax relief.

This form of financing has been successfully accomplished a number of times in the recent past. For example, the Reynolds Metals Company financed pollution control equipment in 1976 using industrial development bonds issued through the Nueces River Authority, Texas, on the installment sales contract basis. The People's Gas Light and Coke Company similarly financed a substitute natural gas project in 1974 and 1975 through the issuance of industrial development bonds through the City of Joliet, Illinois. In this transaction, the Company leases and operates the constructed facilities, and will provide gas in accordance with IRS Regulations to a contiguous two-county area.

2D - Initial Financing and Ownership of System by State - Subsequent Ownership by Private Interests

A project of the scope and magnitude of the System clearly presents substantial investment risks. One way of eliminating or minimizing such risks is by entering into guaranteed (take-or-pay) contracts for the sale and purchase of the royalty gas prior to the investment of any funds. Another approach, discussed under this alternative, involves State funding of construction and initial operation of the System, and the subsequent sale of the facilities to private owners - either

pipeline operators or the users of the end product. In this manner, an investment of private capital in the System would be made only at the point where the facilities have been completed and have been operating for a period of time during which the availability of a proven market for the royalty gas has been demonstrated.

This approach to the financing is similar to the approach proposed under alternative 1-C, which recommended initial financing of the System through general obligation bonding by the State and subsequent refinancing with revenue bonds. In many respects, the principles underlying alternative 1-C and the option described here are similar. The interests of the private investor who relies solely upon the System's operating capabilities for a return on investment are similar to those of the investor in revenue bonds who can legally look only to the System's cash flow for repayment of principal and interest on bonds offered for the financing.

This approach is not without precedent. The Federal National Mortgage Association ("FNMA"), a privately-held and privately-financed corporation acting as a market-maker in secondary mortgage market operations, was originally developed as a Federally-financed agency of the U.S. Government. Initially, FNMA was designed to operate in a then relatively undeveloped market - the purchase and sale of outstanding conventional and FHA/VA-insured home mortgages, and ownership and financing by the Federal Government was the only form of financing suitable to such a venture.

In 1968, Congress enacted legislation enabling the sale of FNMA

stock to the public. Through a series of transactions completed in 1970, FNMA stock owned by the U.S. Government was retired through the payment to the Government of \$216 million to cover its stock in the corporation and a portion of the corporation's earned surplus. Since that time, FNMA has issued its own taxable, non-guaranteed debentures, and FNMA stock currently trades on the New York Stock Exchange. Presently, the Federal Government's role in the corporation includes regulatory powers vested in the U.S. Department of Housing and Urban Development. The President of the United States appoints five of the corporation's fifteen board members, and the U.S. Treasury is authorized to lend up to \$2.25 billion to the corporation.

Under this alternative, the State of Alaska would issue its own bonds to construct the facilities of the System, and finance an initial operating period. The term of such obligations would be shorter than the term of obligations issued to permanently finance the System, and the bonds would be tax-exempt. As a result of these two factors - short-term and tax-exempt status - it could reasonably be anticipated that such financing would be at exceptionally low interest rates.

Assuming the System, after completion and initial operations, demonstrates success in attracting customers for the royalty gas, the State would then negotiate with private interests for sale of the facilities. Such private interests, as previously indicated, could include pipeline operators or the users of the royalty gas.

Proceeds of sale of the System would be used to retire the State's short-term bonds, and the System would thereafter be privately owned and privately financed.

Prior to sale of the facilities to private interests, the State would be entitled to revenues derived from charges for conditioning and transmission services, as well as from the sale of royalty gas at the wellhead and from any taxes levied on new industry locating in the State. After the sale, charges for conditioning and transmission would accrue to the private owners as a return on their investment. It should be noted, in the event the System does not demonstrate success during its initial operations, or is not completed, and cannot be sold, the State will be liable for payment of principal and interest on the bonds issued for the financing.

Once privately owned, debt issued in connection with the System would be taxable, and therefore expenses for debt service would be higher than under forms of State ownership. This will limit the State's flexibility in meeting both the goals of selling royalty gas at a price high enough to maximize revenues, but low enough to maintain the cost advantages to industry to locating in Alaska. During the period of private ownership of the facilities, there would be no need to comply with IRS Regulations respecting general availability or distribution within a two-county area. However, during the State ownership period, distribution of the gas must be made on a basis compatible with such Regulations.

During both the phases of State and private ownership, the

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elements of each respective form concerning management responsibility and receipt of revenues would apply.

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Tab 3 - Ownership and Financing by Joint State/Private Interests

Throughout this report, we have assumed that, from the State's viewpoint, there are basic advantages and disadvantages to ownership of the System by either the State or private interests with respect to requirements for investment, management, responsibilities, cost of financing and efficiency of management. From the perspective of either party, the means of financing the investment discussed herein are identical to the forms suggested in Tabs 1 and 2: the State's share of investment can be financed through the use of tax-exempt debt, and private investment will utilize taxable obligations. The principal characteristic of these proposals is that they will lead to long-term ownership in common by both the State and private investors.

The use of joint ownership allows for maintaining a significant involvement of private capital in the System. Private owners may include either pipeline operators or those industries intending to utilize the royalty gas in their manufacturing operations. This private involvement can be maintained while mixing tax-exempt capital with taxable capital contributed by the private owners, thereby providing an overall level of debt service that can generally be expected to be higher than for forms of complete State ownership, but lower than where private investors wholly own the System. This will allow the State a

moderate amount of latitude in pricing gas at the wellhead to meet both the goals of maximizing revenues from the sale of the gas and making the end product available at an acceptable cost to local industrial users.

As part owner of the System, the State will be entitled to revenues from charges for conditioning and transmission services in proportion to its overall investment in the facilities. In addition, the State will be entitled to revenues from the sale of the royalty gas and from taxes levied on new businesses locating in the State. Taxes may be levied, as well, on the earnings of private investors, unless the State chooses to specifically exempt such earnings from taxation. Private investors in the System will be entitled to the use of depreciation and investment tax credits. If the financing transaction is properly structured, it may be possible to pass such benefits on to private investors in an amount in excess of their proportional ownership of the System up to the full amount of benefits generated by the entire cost of the project. As a tax-exempt entity, the State can make no use of such benefits, and allowing private investors the full thereof may improve the rate of return on their investment.

IRS Regulations respecting general availability of the output of the System and the requirement to furnish gas to only a contiguous two-county area will pertain to the portion of

the System's output equal to the proportion of the State's investment financed by tax-exempt bonds. Thus, if the State of Alaska is a 50% owner of the facilities and its investment has been financed through tax-exempt bonds, only 50% of the output of the System must be distributed in a manner that will comply with the Internal Revenue Code.

Although the State will be a part owner of the facilities under the alternatives discussed herein, it will be possible to have the private owners maintain responsibility for management and operation if the State enters into operating agreements with the private owners that will assign to them such responsibilities. As will be demonstrated below, such operating agreements have been employed in past joint public/private financings.

Where the investment by both the State and private owners occurs prior to construction, an assurance of an acceptable rate of return will be required to attract private capital. The presence of the State as partner in ownership of the facilities will not, per se, diminish the risks. Guaranteed purchase and supply contracts will still be required.

Requirements for public referendum, enabling legislation and legislative authorization will apply to the State's investment in the System in the same manner that such requirements will apply to complete State ownership alternatives previously discussed.

The following are the alternatives for joint State/private ownership and financing of the System:

3A - Combined Ownership and Financing by the State and Private Interests

Under this alternative, the State and a private investor(s) would finance the System, with each owning an undivided interest in the facilities. Each investor would be required to obtain capital for the investment in an amount equal to their proportional ownership, and each would be entitled to a similarly proportional share of the System's earnings.

The State of Alaska would obtain funds for its investment from the issuance of general obligation bonds or revenue bonds. An independent State authority could be utilized for issuance of revenue bonds, and would act as owner of the System if this modification was utilized. The interest rate on general obligation or revenue bonds would be affected by the same factors affecting such obligations where the intended owner of the facilities was the State alone.

Requirements for guarantees of revenue bonds issued to finance the State's investment would pertain to this approach, including the full guarantee of such obligations, the guarantee of debt service reserve funds or the provision of throughput contracts assuring a supply of gas or the payment of debt service. Furthermore, the State could elect to finance construction

through short-term general obligation bonds and then refinance such debt with revenue bonds after completion of the System.

In the event private investors in the facilities do not have a credit rating strong enough to support the issuance of taxable bonds for their proportional share of the System, the State could choose to guarantee such bonds in the manner in which it would guarantee its own revenue bonds. Use of this guarantee, however, would represent a significant increase in use of the State's credit, and the State might be further responsible for the principal amount of such debt if the private investors are unable to meet debt service requirements pertaining to their ownership share of the facilities.

The overall cost of debt for the facilities if financed under this method would lie between the cost of debt for a System financed wholly by the State, and any alternative for completely private financing. Factors such as the form of obligation used by both the State and private investors for the financing, the level of guarantee, if any, provided to the bonds, the amount of equity capital contributed by private investors, and the credit rating of the private investors will affect the combined interest rate for the project.

The State's share of revenues from conditioning and transmission services, along with revenues from the sale of royalty

gas at the wellhead and from any increase in the tax base, would be applied to the appropriate funds, including the Permanent Fund, the State's General Fund, and special funds pertaining to revenue bonds, if used. The remainder could be distributed to Alaska residents, or otherwise utilized at the State's discretion.

There are several precedents for joint financing of major capital facilities by local governments and private industry. As an example, the Washington Public Power Supply System ("WPPSS") has participated in the financing and ownership of nuclear generating facilities with Pacific Power and Light Company, an investor owned utility. In the case of the Systems' Nuclear Unit #5, Pacific Power and Light owns a 10% interest in the plant and WPPSS owns 90%, with Pacific Power and Light having transferred operating responsibility for the plant to WPPSS as its agent under an operating agreement. Similarly, the Municipal Electric Authority of Georgia ("MEAG") has entered into joint ownership of electric generating plants with the Georgia Power Company ("GPC"), an investor owned utility, on a 50/50 ownership basis. In this case, MEAG has transferred operating responsibilities to GPC through similar operating agreements.

In both instances, the financing of each ownership share was accomplished independently by each investor, and the public investment was facilitated through the issuance of tax-exempt revenue bonds.

3B - Joint Financing by the State and Alaska Residents

The options for ownership and financing of the System presented in this report for the investment of private capital - including complete private or joint ownership - have not been specifically directed at ownership by the citizens of the State of Alaska. Alaska residents may participate as owners where they are shareholders in the existing corporations which invest in the facilities; however, none of the alternatives outlined thus far envisions the creation of a corporation owned, to a significant degree, by the residents for the purpose of making such investment.

The Government of the Canadian Province of Alberta is currently a 50% owner of the Alberta Energy Corporation ("AEC"), a holding company with a variety of investments in natural resources in the Alberta Province. AEC was initially capitalized with an investment by the Province of \$75 million, and was wholly owned by the Province. In 1975, shares amounting to an additional \$75 million were publicly offered, with such offering limited to purchase by provincial residents during a three week priority period. The offering was completely sold during the priority period, and AEC became, as a result, 50% owned by the Province and 50% by Albertans.

Using the Canadian experience with the Alberta Energy Corporation as an example, this alternative suggests the

development of a similar ownership structure for the Royalty Gas System. The State of Alaska would initially finance the construction and initial operating period of the facilities, and would subsequently offer shares in the System to Alaska residents. If funds were required for expansion of the System's facilities, the amount of shares offered would be equal to funds required for such expansion. If no expansion were contemplated, proceeds of the offering would be utilized to redeem a portion of the State's initial investment. In either case, the resulting facilities would be partly owned by local residents.

This approach provides a mechanism which would allow Alaska residents to participate in the benefits of profitable operation of the System through dividend payments and capital appreciation of their shareholdings.

To the extent of their investment in the facilities, the residents would be entitled to revenues derived from charges for conditioning and transmission. The State would similarly be entitled to a proportional share of such revenues, and could elect to distribute its share directly to the resident shareholders by allowing dividend payments on stock in the System to be paid to the residents in excess of their proportional share of ownership. As an alternative, the State could retain its dividends, and pass them through the General Fund for

distribution to residents who are not shareholders, or such funds may be disposed of in any desired fashion. Under this form of financing, the State would continue to be entitled to revenues from the wellhead price of the royalty gas supplied through the System and from any general increase in the tax base of the State.

Debt issued directly by the System would be taxable. Funds used for the State's initial equity investment, however, could be obtained through issuance of tax-exempt general obligation or revenue bonds. The interest rate on such bonds would vary, as affected by the same factors pertaining to tax-exempt obligations discussed throughout this report.

In the event the System is not completed or cannot be successfully operated, the State will be unable to market shares in the facilities to residents. In this event, the State, as sole owner of the System, will be fully responsible for its financing, management and operation.

Funds for the purchase of shares by State residents would be obtained by each investor. In the event the general economic level of the residents is such that it would be impossible to have a broad distribution of ownership if the residents must rely on their own income to secure funds, it would be possible for the State to guarantee bank loans for such purposes, much in the same manner that it would guarantee the borrowings of

a private corporate investor under any of the previous alternatives for full or partial private ownership. The State could further attract resident investment by offering a range of tax benefits for purchasers of shares in the facilities including State income tax deductions related to the number of shares purchased or an exemption from State taxation of dividend payments.



Tab 4 - Alaska Royalty Financing<sup>\*</sup> Trust

The Alaska Royalty Financing Trust (the "Financing Trust") is a potential alternative for the State to (i) finance all of its ownership of the System in lieu of the State financing options set forth in Tab 1; (ii) finance a part of its ownership of the System with the remaining part being financed with any of the State options set forth in Tab 1; and (iii) finance its share of ownership or cost of the System which would result from the joint State/private interest options set forth in Tab 3.

The Financing Trust would be a legal entity known as a "grantor trust" which would be entirely separate from the State. The State would sell to the Financing Trust specified percentages of its royalty interests on proven and producing oil and/or gas properties. The Financing Trust would pay cash to the State as consideration for the oil and/or gas royalties acquired, and the State would utilize the cash received, after providing for any required deposits to the "Permanent Fund", to finance all or part of the System facilities as set forth above. The Financing Trust would finance its cash requirements by the sale of trust certificates which represent beneficial ownership interests in the Financing Trusts assets. The Financing Trust would receive cash income from its share of royalty oil and/or gas and

would not, therefore, elect to take its share of reserves in kind.

The trustee(s) of the Financing Trust would be independent from the State and would be experienced in performing the administrative functions of a trustee. Commercial banks typically provide trustee services and are equipped to perform the necessary administrative functions. Most banks have established fees for providing trustee services which would include the collection of royalty income proceeds, investment thereof pending distribution, and distribution of revenues to trust certificate owners. As the assets of the Financing Trust will be oil and gas royalties, it would be important for the commercial bank trustee to be sophisticated in oil and gas matters.

While most legal entities provide the ability to amalgamate royalty interests from a number of unrelated properties and at the same time provide the opportunity to attract financing from a broad base of capital sources, a trust would appear to have certain advantages over other entities such as corporations or partnerships. A trust of the type envisioned is a pass-through entity for tax purposes and, as such, it is not deemed to be a taxable entity. The income received by the Financing Trust would be taxable to the trust certificate owners. The Financing Trust, therefore, provides

the potential ability to distribute income without the incidence of double taxation which would exist in a corporate entity organized for the same purpose. Theoretically, double taxation could also be avoided by use of a "non-profit" corporation, but this prospect would not appear to be possible given that the purpose of the corporation would be to finance the acquisition of producing royalty interests and the owners of the corporation's stock would not be likely to qualify as not-for-profit entities.

Although a partnership would also be a pass-through entity for tax purposes, a trust is nevertheless more desirable on a number of grounds. A trust provides greater liquidity, particularly if the trust certificates are registered with the Securities and Exchange Commission. If registered, the trust certificates could be freely traded in a manner similar to the trading market which exists for common stocks. The transfer of partnership interests is strictly limited, especially in the case of limited partnerships, by complex tax procedures which limit the free transferability of the partnership interests.

The portion of the State royalty interests to be sold to the Financing Trust and the properties from which they should be derived, would depend upon the amounts required to finance the System, and the State's revenue requirements

for other purposes, including deposits into the "General Fund" and the desired level of distributions to State residents.

The Financing Trust can provide certain tax benefits, in addition to the elimination of double taxation described above, which would not otherwise be available to the State. Any profit to the State from the sale of the royalty interests to the Financing Trust would not result in a tax to the State because the State is not a taxable entity. The Financing Trust would also provide the potential for utilizing cost depletion. A depletion allowance, cost or percentage, is similarly not available to the State as a tax-exempt entity. Cost depletion is available, however, to the trust certificate owners as a result of their cost basis in the beneficial ownership of the royalty interests acquired. The potential availability of cost depletion has the benefit of reducing the taxation of income received by the Trust owners by the total amount of the cost depletion. This benefit may provide the ability to reduce the amount of royalty interest necessary to provide a given after-tax return to the trust certificate owners.

Naturally, the trust certificate owners would have to be tax-paying individuals or institutions in order that the

cost depletion allowance could be utilized. The cost depletion allowance would not be useful to any potential nontaxable trust certificate owners such as pension funds. It could, however, be entirely possible to attract pension funds to purchase Financing Trust certificates; pension funds have historically demonstrated their willingness to purchase taxable debt securities at the same pretax rate of return provided to tax-paying securities purchasers.

In order to provide for financing through the Financing Trust, it would be essential that the royalty interests be derived from proven and producing oil and/or gas properties such as the State's oil royalty interest in the Prudhoe Bay Field. Furthermore, it would be necessary that the reserves attributed to the State's royalty interest and the timing of their productivity would be confirmed by a recognized independent petroleum engineering firm. These are important requirements, since the Financing Trust would be relying solely on the value of the reserves, and not the direct use of any State financial credit, for the recoupment of its investment and return thereon.

While this method of financing would be similar in certain respects to "production payment" financing in that the oil and gas reserves would be the only security for the financing, the Financing Trust has several significant

differences. It is possible that significantly more capital could be raised per equivalent barrel of reserves because the royalty interests represent "economic interests" in the reserves. The economic interest aspect of the royalties entitles the owners to receive all proceeds from price increases in the oil or gas attributable to their interests; this is not the case in a production payment where a fixed principal sum and interest rate are employed. Production payments usually require an approximate two times present value coverage of the principal amount of the production payment. Furthermore, the royalty interests would participate proportionately in any increase in the future reserves to be produced from the properties from which the royalty interests have been derived; this is not the case in any production payment financing. The use of a production payment does, however, limit the cost of the financing to the fixed interest rate included in the payment.

The concept of utilizing the Financing Trust as a possible method of financing all or portions of the System has been created specifically for this potential project. As such, the ultimate amount of capital which could be raised by this technique cannot be stated with complete certainty. It may be necessary to canvas a few potential institutional buyers before the ultimate potential magnitude of financing

could be more accurately estimated. We have sufficient confidence, however, to estimate that an initial amount of approximately \$100 million could be arranged. Because of the sophisticated nature of the Financing Trust concept, the initial amount should be arranged privately from institutions rather than publicly from individuals. Larger amounts on an annual basis, including public offerings, may be possible after the initial increment has been accomplished and seasoned in the securities market.

The utilization of the Financing Trust would not detract from the ability to provide oil or gas for sale to industrial companies or users because the Trust would be receiving cash income for its royalty interests rather than receiving its value in kind. The price to be received for oil and gas by the Financing Trust would be the same that would otherwise accrue to the State with the possible exception that the Trust would not be in a position to provide reduced prices for the oil or gas to assist in the attraction of industry to the State.

Unless the proceeds to be received by the State from the sale of the royalty interests either were provided on a loan basis to private taxable interests owning the System, or were utilized to construct the facilities for leasing or installment sale to private taxable interests utilizing the

system, the Financing Trust would not result in the utilization of depreciation benefits or investment tax credits available from the System.

The State would be entitled to revenues from charges for conditioning and transmission services in those cases where the State utilized the proceeds from the sale of royalty interests to finance its ownership of the System facilities. In addition, the State would be entitled to the revenues from the sale of the royalty gas (with the exception of any revenues received therefrom by the Financing Trust) and from taxes levied on new businesses locating in the State. Taxes may be levied, as well, on the System facilities and the earnings of private interest owners in those cases where the State utilized the proceeds from the sale of the royalty interests to finance or assist in the financing of private interest ownership of the System facilities.

The degree to which the State would be required to maintain the responsibility for management and operation of the System would depend on the method of ownership and financing resulting from the proceeds from the sale of the royalty interests. As in previously discussed State ownership cases, it would be possible for the State to contract with private interests for the management and operation of the System.

To the extent that the Financing Trust alternative is used to finance System facilities, the State's financial credit

is not utilized through either general obligation indebtedness or State-guaranteed revenue bonds. Future income from the royalty interests is foregone, however, as a result of their sale at an acceptable price.

The extent to which new State legislation and/or constitutional amendments would be necessary to establish and implement the Financing Trust is in the process of being reviewed by counsel to the State.



Tab 5 - Other Forms of Ownership and Financing

We have been asked to review an alternative for ownership and financing of the System submitted to the State of Alaska and known as the Kelso Plan (the "Plan"), which provides for joint ownership of the System by a private existing gas utility and a General Stock Ownership Trust ("GSOP") representing shares of beneficial interest in the System owned by Alaska residents. We have segregated this financing and ownership alternative in part because it differs from the other generic categories which have been utilized in this report, as well as because we have serious reservations with respect to its financial viability.

Under the Plan, the System would be 25% owned by a private gas utility, and 75% owned by the GSOP. The 75% investment of the GSOP would be capitalized from the proceeds of notes sold to a consortium of lending institutions, with such notes guaranteed by the newly created System. Further security for the loan by the institutions to the GSOP would be provided by the willingness of the Federal Reserve Bank to purchase the guaranteed notes at a slight discount to cover the Bank's administrative costs in connection with servicing the notes. Thereafter, the System would make payments to the GSOP from revenues received in connection with the sale of gas to industrial users with such payments passed on to the Federal Reserve Bank. Remaining net revenues would be distributed to the shareholders in the System, who include the private utility and Alaska residents participating in the GSOP.

If successful, this form of financing would provide for widespread ownership of the System among Alaska residents through the vehicle of the GSOP, without a requirement for actual cash investment in the facilities for such ownership. As owners of a privately financed facility, the benefits of depreciation and investment tax credits would indirectly accrue to the owners of the System through the increase in after-tax net earnings that will result from the use of such tax benefits.

An analysis of the structure of this form of financing indicates that the key element of security rests with the willingness of the Federal Reserve Bank to agree to purchase the System-guaranteed notes from the consortium of lending institutions. Without such an agreement on the part of the Bank, it is extremely unlikely that lenders would willingly invest in the GSOP, even with the guarantee of the loan by the System. This is especially true given the fact that the System, upon making the guarantee, would have no operating history, and no assets.

We have discussed the Plan with the Federal Reserve Bank of New York, and representatives of the Bank have commented that they would be unable to purchase the guaranteed notes from lending institutions. Where the Bank has purchased loans from commercial lenders in the past, such loans have been guaranteed by an agency of the U.S. Government, and this procedure was generally utilized only where a major industrial corporation was in imminent danger of defaulting on loans of considerable size.

Assuming that the State of Alaska would be willing to guarantee the notes offered to capitalize the GSOP, the presence of such guarantee would obviate the need to rely on the Federal Reserve Bank, since State-guaranteed notes would be attractive to existing capital markets. We have previously presented numerous alternatives for the use of debt obligations guaranteed by the State of Alaska elsewhere in this report. These options suggest workable means of providing revenues to the State, as well as revenues for distribution to Alaska residents from a gas conditioning and transmission system which is financed on either taxable or tax-exempt bases.



Tab 6 - Alaska Royalty Gas Trust

The Alaska Royalty Gas Trust (the "Gas Trust") is an entity which would make available specified percentages of certain of Alaska's gas and/or oil royalty interests to State residents. The Gas Trust would be distinct and separate from the Financing Trust described in Tab 4. The primary function of the Financing Trust would be to finance or participate in the financing of System facilities. By contrast, the purpose of the Gas Trust would be to provide a mechanism for the amalgamation and periodic distribution of revenues received from the sale of royalty oil or gas to the residents of the State. In addition, as discussed more fully below, the royalty interests owned by the Gas Trust would be derived from "unproven" properties whereas the royalty interests owned by the Financing Trust would be derived from "proven and producing" properties.

In addition to Gas Trust revenues, excess revenues otherwise derived by the State from the ownership or taxation of the gas conditioning and transmission facilities could be made available for direct distribution to Alaska residents, as set forth in previous sections.

The Gas Trust would be a "grantor trust" and would be entirely separate from the State. The State would permanently transfer specified percentages of its gas and/or oil royalty interests on designated "unproven" oil and gas leases to the Gas Trust. The trustee(s) of the Gas Trust would be independent from the State

and would be experienced in performing the administrative and other functions of a trustee. It would be important for the trustee to be sophisticated in oil and gas matters, and a number of commercial banks could qualify for this role. The functions of the trustee(s) would include the collection of funds, investment thereof pending distribution, and the ultimate distribution of revenues to State residents from the sale of gas transferred to the Trust.

The beneficial owners of the Gas Trust certificates of ownership would be the residents of the State. Depending on the extent to which a secondary trading market is desired for the Gas Trust certificates, the development of specific requirements for the definition of a State resident would be necessary. Furthermore, the need for registration of the Gas Trust certificates with the Securities and Exchange Commission, and the State of Alaska or other states, would depend upon the extent to which widespread marketability for the certificates is sought.

The specific percentages of the State's royalty interests transferred to the Gas Trust and the properties from which they should be derived should be the subject of a separate, detailed study. The primary consideration of this study would be to assure an appropriate balance between the State's revenue requirements and funds available for distribution to the residents.

The utilization of the Gas Trust as a vehicle to combine and distribute portions of royalty revenue to the residents has the

potential of providing certain tax benefits which would not otherwise be available to the State or its residents.

A trust of the type envisioned would be considered a passthrough entity for Federal income tax purposes and, as such, would not be a taxable entity; the income received by the Gas Trust would be taxable only to the beneficial owners of the Trust (the State residents). This approach provides for distribution of income without the incidence of double taxation which would arise if a corporate entity were organized for the same purpose.

The Gas Trust also provides the potential to utilize percentage depletion, a tax benefit available to investors in oil and gas properties. Depletion is not available to the State as a tax-exempt entity, nor would it be available to the residents as a result of any direct cash distributions which were not related to a direct assignment of an "economic interest" in oil and gas or other mineral properties. Pending review by counsel, we believe that the transfer of a portion of the State's royalty interests to the Gas Trust would be an appropriate transfer of an economic interest in oil and gas properties. Thus, it is also envisioned that each resident, by virtue of his beneficial ownership of the Gas Trust's royalty interests, would be entitled to this tax benefit.

The effect of the depletion allowance on the reported earnings of participants in the Trust is similar to the effect of depreciation on the reported income of a private corporation: it provides a partial "shelter" from Federal taxation of income. For example, in

1978 when, as the table below indicates, the depletion allowance on oil and/or gas properties is 22%, participants in the Trust would be entitled to declare a pre-tax expense against their income equal to 22% of their earnings from the Trust. The resulting shelter from Federal taxation effectively increases the yield on income from the Trust on an after-tax basis.

The availability of the percentage depletion allowance is subject to the currently effective decline in the amount of depletion which will be granted beyond 1978 and the limitation on each resident's share of average daily production. The decline in the percentage depletion rate will be as follows:

| <u>Production<br/>During Year</u> | <u>Applicable<br/>Percentage</u> |
|-----------------------------------|----------------------------------|
| 1978                              | 22%                              |
| 1979                              | 22                               |
| 1980                              | 22                               |
| 1981                              | 20                               |
| 1982                              | 18                               |
| 1983                              | 16                               |
| 1984 and thereafter               | 15                               |

The limitation on each taxpayer's share of average daily oil and gas production to which the above percentages apply will be as follows:

| <u>Production<br/>During Year</u> | <u>Average Daily Quantity</u> |                          |
|-----------------------------------|-------------------------------|--------------------------|
|                                   | <u>Barrels<br/>of Oil</u>     | <u>Mcf's.<br/>of Gas</u> |
| 1978                              | 1,400                         | 8,400                    |
| 1979                              | 1,200                         | 7,200                    |
| 1980 and thereafter               | 1,000                         | 6,000                    |

There is a further limitation on percentage depletion which provides that the depletion deduction for a taxable year cannot exceed 65% of the taxpayer's taxable income for the year computed, without regard to the depletion amount.

As indicated, the availability of the depletion allowance will increase the resident's after-tax retention of income distributions, or in the alternative, reduce the amount of royalty which would be necessary to provide the same after-tax income to the residents as would be provided by direct cash distributions from the State.

While further tax research would be necessary, and a tax ruling on specific aspects may be advisable, the preliminary advice of counsel has been that (a) the distribution of the Gas Trust certificates to the residents has a high probability of being non-taxable to the residents, and (b) the percentage depletion, subject to the limitations indicated above, would be available to the residents even though they would have no cost or tax basis on their respective interests at the time of issuance.

If the royalty interests transferred to the Gas Trust were on any proven oil and gas properties, problems may arise with respect to the use of depletion. Income attributable to such production could not be taken into account for any computation of percentage depletion by the residents. The proposed Regulations relating to limitations on percentage depletion on oil and gas property, as set forth in the Tax Reduction Act of 1975 and the Tax Reform Act of 1976, define a property as proven if "...its principal value has

been demonstrated by prospecting, exploration, or discovery work. The principal value of the property has been demonstrated by prospecting, exploration, or discovery work only if at the time of the transfer: (1) any oil or gas has been produced from a deposit, whether or not produced by the taxpayer or from the property transferred; (2) prospecting, exploration, or discovery work indicate that it is probable that the property will have gross income from oil or gas from such deposit sufficient to justify development of the property; and, (3) the fair market value of the property is 50 percent or more of the fair market value of the property, minus actual expenses of the transferee for equipment and intangible drilling and development costs, at the time of the first production from the property subsequent to the transfer and before the transferee himself transfers his interest."

Thus, the transfer of royalty interests would be limited to "unproven" properties in order to use the depletion allowance in connection with the Royalty Gas Trust. This tax regulation is still proposed and should not at this time rule out the consideration of proposed royalty transfers until such transfers have been reviewed on a case-by-case basis.

In addition to the tax benefits outlined above, the Gas Trust is a vehicle which can relieve the State from adding additional administrative personnel; the use of an experienced independent trustee(s) can reduce the cost of administration and the potential for political conflict.

It is possible that the Gas Trust concept could be adapted to participate in one or more of the ownership and financing options set forth in the prior sections of this report. For example, a portion of the income to be received by the residents from the Gas Trust could be applied to the purchase of common stock in an entity such as the one described under Tab 3-B. Such an adaptation would provide an opportunity for the residents to directly participate in the gas conditioning and transportation facilities as well as the royalty.

Counsel to the State is in the process of reviewing the existence of constitutional and/or legislative authority for the State to establish and implement the Gas Trust concept.



Comparative Evaluation of Alternative Forms of Financing and Ownership of Royalty Gas System (1)

| Financing Proposals                                                                                                                   | Interest Rate on Debt Issued Under Financing Alternative                                                                                                                                                                                                                                                                                                  | Ability to Utilize Depreciation and Investment Tax Credits                     | Source of Revenues to the State(2)                                                                                                                                                                                                                                                     | Mechanism of Distribution of Revenues to Qualified Alaska Residents                                                                                                                                                        | Required Use of State Credit and/or State Guarantees of Completion and Indebtedness                                                                                                                                                                                               | Requirements for New Legislation and New Administrative Structures for Management                                                                                                                                              | Other                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Ownership and Financing by the State.</u>                                                                                          |                                                                                                                                                                                                                                                                                                                                                           |                                                                                |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                          |
| 1A Financing by General Obligation Bonding                                                                                            | This form of tax-exempt financing has the lowest interest rate available. (Exception could be highly rated private corporation which utilizes tax-exempt industrial development bonds).                                                                                                                                                                   | Provides no opportunity for use of tax benefits.                               | State derives revenues from all three sources, including wellhead price of the gas, charges for conditioning and transmission, and taxes on increased industry in the State.                                                                                                           | Distribution accomplished through tax reductions for State residents and/or direct cash payments.                                                                                                                          | General obligation bonding is a full-faith and credit obligation of the State, and has the greatest use of State credit. No further guarantees required.                                                                                                                          | Will require enabling legislation to empower investment and ownership by the State. State has responsibility for management of the System and can contract for management.                                                     | Gas must be distributed on a basis compatible with the Internal Revenue Code.                                                                                                                                                            |
| 1B Financing by Revenue Bonding                                                                                                       | This form of tax-exempt financing has a higher interest rate than general obligation debt, but is generally lower than any form of taxable debt. (Exception could be a highly rated private corporation which utilizes tax-exempt industrial development bonds).                                                                                          | Provides no opportunity for use of tax benefits.                               | State derives revenues from all three sources, including wellhead price of the gas, charges for conditioning and transmission, and taxes on increased industry in the State.                                                                                                           | Distribution accomplished through tax reductions for State residents and/or direct cash payments. If authority issues revenue bonds, net revenues after payment of debt service could be passed to State for distribution. | State will be required to guarantee completion of System, and may guarantee revenue bonds directly, or through throughput contracts or guarantee of bond reserve funds. Revenue bonding is not a charge against the State's ad valorem taxing capacity.                           | Will require enabling legislation to empower investment and ownership by the State or an authority. State or an authority has responsibility for management, and can contract for management.                                  | Gas must be distributed on a basis compatible with the Internal Revenue Code.                                                                                                                                                            |
| 1C Initial Financing through General Obligation Bonding - Subsequent Financing by Revenue Bonding                                     | Tax-exempt short-term general obligation bonding will provide lower cost of debt for construction of facilities. Subsequent revenue bond debt will have low, tax-exempt interest rate, but rate will vary according to performance of System during initial operating period.                                                                             | Provides no opportunity for use of tax benefits.                               | State derives revenues from all three sources, including wellhead price of royalty gas, charges for conditioning and transmission, and taxes based on increased industry in the State.                                                                                                 | Distribution accomplished through tax reductions for State residents and/or direct cash payments. If authority issues revenue bonds, net revenues after payment of debt service could be passed to State for distribution. | Construction and interim period financing is a full-faith and credit obligation of the State. Depending upon System's operating performance prior to refinancing, guarantees may be required on revenue bonds issued for the refinancing.                                         | Will require enabling legislation to empower investment and ownership by the State or an authority, during both phases of financing. State or an authority has responsibility for management, and can contract for management. | Gas must be distributed on a basis compatible with the Internal Revenue Code during both phases of financing.                                                                                                                            |
| <u>Ownership and Financing by Private Interests</u>                                                                                   |                                                                                                                                                                                                                                                                                                                                                           |                                                                                |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                          |
| 2A Financing and Ownership by Private Corporation or Private Joint Venture                                                            | Use of privately-issued debt will result in a higher interest rate than on any form of tax-exempt financing. Utilization of tax benefits will reduce the effective after-tax cost of such debt, although not to a level below the cost of tax-exempt financing.                                                                                           | Provides for the full use of investment tax credits and depreciation benefits. | State derives revenues from sale of royalty gas to privately-owned System and from taxes levied on increased industry in State. Private investment alternatives provide greater present value benefits to the State by allowing it to achieve substantial revenues without investment. | Distribution accomplished through tax reductions and/or direct cash payments.                                                                                                                                              | Private financing requires no use of State credit or guarantees. Must act in accordance with terms of gas supply contracts.                                                                                                                                                       | Requires no new legislation. Requires no operating responsibility on the part of the State.                                                                                                                                    | Financing under this alternative will utilize taxable debt. No requirement to comply with Internal Revenue Code.                                                                                                                         |
| 2B Financing and Ownership by Private Corporation or Private Joint Venture - Guarantee of Debt by Industrial Users or State of Alaska | Debt issued under this method of financing will be taxable, and will bear interest rate higher than tax-exempt debt, but lower than taxable debt issued without guarantee, depending upon credit of guarantor. Use of tax benefits will reduce the effective after-tax cost of such debt, although not to a level below the cost of tax-exempt financing. | Provides for the full use of investment tax credits and depreciation benefits. | State derives revenues from sale of royalty gas to privately-owned System and from taxes levied on increased industry in State. Private investment alternatives provide greater present value benefits to the State by allowing it to achieve substantial revenues without investment. | Distribution accomplished through tax reductions and/or direct cash payments from those sources of revenues available to the State.                                                                                        | State can guarantee debt directly or through the structure of gas supply contracts. If debt is guaranteed by industrial users, this alternative will not utilize the State's credit, although the State will be required to act in accordance with terms of gas supply contracts. | May require legislation to authorize State guarantee. Requires no operating responsibility on the part of the State.                                                                                                           | No requirement for compliance with Internal Revenue Code. Use of guarantee by end-users will integrate such users into System. In return for such guarantee, price of gas to end-users may be reduced due to lower cost of taxable debt. |

NOTES:  
(1) The analysis of alternatives contained herein applies solely to the operation of the System. The characteristics of the Alaska Royalty Gas Trust are discussed in Tab 6, and apply to all alternatives.  
(2) The relative level of revenues provided to the State from all sources under each alternative will vary with respect to the structuring of the actual financing transaction and the policy decisions made by the State with respect to charges levied to industrial users for the royalty gas and conditioning and transmission services.  
(3) This information applies only to the portion of funds derived from use of the Alaska Royalty Gas Trust alternative. Funds for State investment not obtained through the Financing Trust will have the same characteristics of the financing alternatives for State ownership elsewhere described in the study and on this matrix.

2C Industrial Development Bonding

The interest rate applicable to this form of tax-exempt financing will be lower than any form of taxable debt. Interest rate will be dependent upon credit of private corporation leasing or purchasing facilities and may be higher or lower than other forms of tax-exempt debt.

Transaction can be structured to allow use of depreciation and investment tax credit by private corporation leasing or purchasing system facilities or by third party lessors who lease the system to private corporation.

State derives revenues from sale of royalty gas and from taxes levied on the System as well as increased industry in State. Charges for conditioning and transportation of gas will accrue to private corporation(s) leasing or purchasing system facilities. Private investment alternatives provide greater present value benefits to the State by allowing it to achieve substantial revenues without investment.

Distribution accomplished through tax reductions and/or direct cash payments from those sources of revenues available to the State.

The lease agreement or installment sales contract should be structured to provide for a guarantee of the bonds by the lessee(s) or purchasers. If so structured, no use of State guarantee would be required.

Creation of authority empowered to issue industrial development bonds requires specific enabling legislation. Leasing or purchasing corporation has responsibility for management of System.

Gas must be distributed on a basis compatible with the Internal Revenue Code.

2D Initial Financing and Ownership of System by State - Subsequent Ownership by Private Interests

Initial construction financing through short-term, tax-exempt bonds has lowest interest rate available. Cost of long-term taxable debt for re-financing under private ownership will be higher than on any tax-exempt debt, although use of tax benefits will reduce after-tax cost of such debt.

Provides for the full use of investment tax credits and depreciation benefits during period of long-term ownership on private basis.

State derives revenues from sale of gas to privately owned System and from taxes on increased industry in State. Charges for conditioning and transmission accrue to private owners of System except during period of State ownership, when cash revenues will be received by State. Private investment alternatives provide greater present value benefits to the State by allowing it to achieve substantial revenues without investment.

Distribution accomplished through tax reductions and/or direct cash payments from those sources of revenues available to the State.

Requires use of State credit only during initial financing and construction period. No requirement for guarantees thereafter. However, if System does not prove successful during initial operating period, and cannot be transferred to private interests, State may be required to repay full amount of debt issued in connection with the facilities.

Will require enabling legislation for initial State investment. State would be responsible for operation of facilities only during initial operating period, and could contract for management during this period.

Under this alternative, end-users of royalty gas could be required to purchase shares of stock in private corporation, or guarantee debt of private corporation. Compliance with Internal Revenue Code required only during period of State investment.

Ownership and Financing by Joint State/Private Interests

3A Combined Ownership and Financing by the State and Private Interests

Interest rate on debt under this approach will depend upon the form of financing utilized by the State and the relative proportion of public tax-exempt financing and private taxable financing. Overall cost of financing may be higher than where tax-exempt financing is solely utilized, but lower than where taxable financing is solely utilized. Use of tax benefits by private owner may further reduce overall cost of debt.

Provides for use of investment tax credits and depreciation benefits. If properly structured, such benefits can be utilized by private investors to a greater degree than their proportional ownership interest in the System.

State derives revenues from sale of gas to private participants in System, and from taxes levied on increased industry in State. State derives revenues from charges for transmission and conditioning in proportion to ownership interest in facility. Revenues also derived from taxation of System unless tax-exemption granted. Alternatives for partial private ownership allow present value of revenues achieved by the State to be higher than for alternatives for complete State ownership because of the requirement for a smaller State investment.

Distribution accomplished through tax reductions and/or direct cash payments from those sources of revenues available to the State.

Requires use of State credit for financing of portion of State ownership interest in facilities, either through general obligation bonding, or guarantees of completion and indebtedness if financed through revenue bonds. Depending upon credit of private investor, State may be required to further guarantee private debt.

Will require enabling legislative to empower State investment in a portion of the facilities. Responsibility for management of facilities could be assigned to private investor through operating agreement.

Under this alternative, end-users of royalty gas could be required to purchase shares of stock in private corporation, or guarantee debt of private corporation. Distribution of proportion of output represented by State ownership share must be made in a form compatible with Internal Revenue Code.

3B Joint Financing by the State and Alaska Residents

Initial financing accomplished through tax-exempt debt. Subsequent financings will use taxable debt.

Provides for use of investment tax credits and depreciation benefits.

State derives revenues from sale of gas to private participants in System, and from taxes levied on increased industry in State. State derives revenues from charges for transmission and conditioning in proportion to ownership interest in facility. Revenues also derived from taxation of System unless tax-exemption granted. Alternatives for partial private ownership allow present value of revenues achieved by the State to be higher than for alternatives for complete State ownership because of the requirement for a smaller State investment.

Distribution accomplished through tax reductions and/or direct cash payments from those sources of revenues available to the State. Alaska residents owning shares in corporation could additionally receive revenues from dividend payments on such shares.

Requires use of State credit for financing portion of facilities owned by State, either through general obligation bonds or guaranteed revenue bonds. State may also guarantee bank loans to resident investors to the extent required.

Will require enabling legislative to empower State investment in a portion of the facilities. Responsibility for management of facilities could be assigned to private investor through operating agreement.

Method makes available opportunity for investment by Alaska residents in Royalty Gas System, as well as Royalty Trust. Alternative approach would utilize private resident-owned corporation to construct facilities with debt guaranteed by State. Such debt would be taxable, and would have higher interest rate.

Alaska Royalty Financing Trust (1)

Funds obtained through this method are not borrowings, but rather are proceeds of sale of royalty rights. As such the funds do not bear interest.

Makes no provision for use of depreciation or investment tax credits. Potential use of depletion allowance will principally affect sale price of royalty rights to the trust.

State will derive revenues from charges for conditioning and transmission of the gas, taxes on income of Trust certificate-holders, and taxes on increased industry. State will also derive revenues from the sale of gas not previously sold to Trust.

Revenues will be distributed in part through the Trust, and otherwise in the form of tax deductions or direct cash payments.

This alternative makes no use of the State's credit for funds obtained through the sale of royalty rights to the Trust.

A review by counsel of required legislation pertaining to the Trust is currently pending.

In conjunction with the Alaska Royalty Gas Trust, use of this Trust represents an effective means of distributing the benefits of the State's royalty rights to Alaska residents.

Notes:

- (1) The analysis of alternatives contained herein applies solely to the operation of the System. The characteristics of the Alaska Royalty Gas Trust are discussed in Tab 6, and apply to all alternatives.
- (2) The relative level of revenues provided to the State from all sources under each alternative will vary with respect to the structuring of the actual financing transaction and the policy decisions made by the State with respect to charges levied to industrial users for the royalty gas and conditioning and transmission services.
- (3) This information applies only to the portion of funds derived from use of the Alaska Royalty Financing Trust alternative. Funds for State investment not obtained through the Financing Trust will have the same characteristics of the financing alternatives for State ownership elsewhere described in the study and on this matrix.

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*Dillon, Read & Co. Inc.*

Appendix A

Regulations - Statutes Related to  
Tax-Exempt Financing

## Interest on State Obligations

[¶ 947.0125]—Continued

## • • CCH Explanation

obligation is a part may be invested in securities or other obligations which are part of a reasonably required reserve or replacement fund. This amount must not exceed 15% of the total issue proceeds.

Where the proceeds of an issue of governmental obligations are used to finance certain governmental programs, the obligations (subject to the limitations of Temporary Reg. § 13.4(b) at ¶ 991) may not be an arbitrage obligation. Arbitrage bonds are those whose proceeds are used to obtain other obligations or securities providing a "materially higher" yield than the interest, servicing, and other costs of the bonds themselves. Generally, interest paid on state and local government bonds is exempt from tax, but interest on arbitrage bonds issued by such governments is subject to tax. (Temporary Reg. § 13.4 at ¶ 991 (see also proposed Reg. § 1.103-13 at ¶ 992).)

.0127 Qualified scholarship funding bonds.—P. L. 94-455 added to Code Sec. 103 a provision exempting from taxation the interest on bonds issued by certain private non-profit corporations to finance college student loan programs. This exemption is effective with respect to obligations incurred on or after October 4, 1976.

Code Sec. 103(e)(5) provides that payments made by the U. S. Commissioner of Education (in the Department of Health, Education and Welfare) under the Emergency Insured Student Loan Act of 1969, P. L. 91-95, are to be omitted from computations of yields on student loan notes. This change is intended to assure that bonds issued by the non-profit corporations will not yield returns so high that the obligations would be non-exempt arbitrage bonds.

The exemption applies to obligations (called "qualified scholarship funding bonds," as defined in Code Sec. 103(e)) of non-profit corporations organized "at the request of" a state or political subdivision(s) of a state for the sole purpose of acquiring student loan notes incurred under the Higher Education Act of 1965, P. L. 89-329.

So that interest on the bonds of any of these corporations may be eligible for the exemption, all of the corporation's income (1) must accrue to the political entity responsible for the existence of the corporation, or (2) must be used to purchase more student loan notes. These requirements must be set forth in the corporate charter or enacted into state law.

.013 Taxable after April 30, 1968.—P. L. 90-364 changed the tax status of interest on industrial development bond issues of more than \$1,000,000. Thus, interest on industrial development bond issues of more than \$1,000,000 issued after April 30, 1968 is no longer exempt from tax. (But see .0157, below, for an elective provision whereby a governmental unit issuing industrial development bonds may increase the exemption to \$5,000,000 for bonds issued after October 24, 1968.)

A bond is classed as an "industrial development bond" if:

(1) The obligation is part of an issue, all or a major portion (more than 25%) of the proceeds of which is used directly or indirectly