MINUTE ITEM
This Calendar Item No. 18
was approved as Minute Item
No. 18 by the State Lands
Commission by a vote of 3
to 0 at its 8-20-87
meeting.

CALENDAR ITEM

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PROPOSED COGENERATION FACILITY
LONG BEACH UNIT, WILMINGTON OIL FIELD
LOS ANGELES COUNTY

The Long Beach Unit proposes to construct a 49MW cogeneration facility to reduce operating costs. By July 1986, the annualized cost of power purchased from Southern California Edison had reached $37 million. Since July 1986, Edison has reduced this cost to about $25 million as a condition of the Unit agreeing to accept power shut-down in the event Edison encounters a peak capacity overload. A feasibility study conducted by Bechtel Power Corporation determined that the Unit could self-generate power at a cost substantially below Edison's reduced interruptible rate and also avoid the shut-down risk. The estimated capital cost is $65 million, which includes purchasing existing Edison-owned facilities located within and serving Unit operations. Design and construction would take approximately two years with a goal of start-up in June 1990.

At the request of the Department of Finance, the proposal was submitted to the Department of General Services, Office of Energy Assessments for review. General Services in turn contracted with Hansen, McOuat & Associates for an independant assessment. Hansen, McOuat, working with Kaiser Engineers, Inc., submitted a July 31, 1987 report to Energy Assessments. This report suggests that a 49 MW three-unit cogeneration plant is subject to a high degree of financial risk at this time.

The consultants conclusion is based on three main assumptions (each of which could be substantially reversed):

- Reduced cost for purchased electric power
- Reduced site loads
- Reduced future electrical energy prices (and increasing gas prices)

Nevertheless, the consultants feel that a smaller two-unit plant in the 25-35 MW range "...may be operated to satisfy PURPA and is likely to result in more stable economic benefits than a larger project." Staff estimates a 33 MW two-unit plant would cost about $50 million.

The State has the largest economic interest in the Long Beach Unit and State approval authority is defined by statute and contracts. Funding of the cogeneration plant through the Unit Plan and Budget would require State approval. This approval would be either as part of the Commission's approval of the Plan and Budget, or through a Commission-approved modification of the Plan and Budget. However, the Unit may enter into an energy purchase agreement without getting State approval, if the funds to purchase the electric power are within the approved budget and no additional funding for equipment purchase is required. The City of Long Beach could fund and build the cogeneration plant without State Lands Commission approval and sell power to the Unit. However, in either of these two cases, Commission approval would be required to purchase facilities now rented from Edison.

It was proposed originally to fund the project through the Unit Plan and Budget. As a result of the severe impact on Unit income of the oil price decline, other financing options have been examined. The financial impacts are:

1. LB Unit Cash Funded

   Budget expenditures for the 49 MW plant are estimated at approximately $35 million in 1987-88 and $28 million 1988-89. This option would generate the highest cumulative cash benefit to the Unit, an estimated $294 million over 20 years of plant operation. The net present value (NPV) is $97 million based on ten percent cash discount rate. The Unit would assume all project risks such as the future of oil prices, long-term fuel gas prices and supplies, future commercial electrical energy rates, and all plant maintenance and operating costs.

   For a 33 MW facility, the respective budget expenditures would be $30 million and $20 million. Cumulative cash flow would be about $196 million over 20 years. NPV value is $62 million.

The disadvantages of this alternative are that the tideland oil and gas revenues flowing through P.R.C. Section 6217 to the various accounts would be reduced by $35 million and $28 million in 1987-88 and 1988-89, respectively ($30 million and $20 million for the two-unit facility). This would occur at the same time as these revenues are already reduced about 50 percent due to lower prices for crude oil and gas. A further disadvantage is that the Unit (of which the State has the largest economic interest) would assume all risks of operation. Should oil prices remain low, this risk could be quite high.

2. State Budget Funded

Financing could be provided by a capital outlay budget appropriation, through the annual Governor's Budget. This would result in a very favorable return to the State. However, the budget would not become effective until July 1988 at the earliest and the project's economics would suffer from time delay costs in implementing due to foregone energy savings (approximately $20 million per year). The delay could also adversely affect project permit applications in process and expose the project to more stringent licensing requirements currently under consideration at both state and federal levels.

The disadvantages here are that $60+ million (or $50 million depending on plant size) would have to be appropriated out of current funds while revenues for capital projects from tideland oil sources are down substantially . This would mean that amount would not be available for other projects where outside financing is not possible, as it is in this case. This alternative also suffers from the same risk assumption factors as under Alternative 1 above.

3. Retirement System Funding

The State Teachers' Retirement Fund (STRS) expressed some interest in providing investment capital. Public Employees Retirement System (PERS) has not expressed an interest to date. STRS (or PERS) and Bechtel could enter into a joint financial arrangement wherein STRS would provide all or a major part of the capital. Bechtel would design, construct, operate, and manage the facility and also possibly assume a partial capital equity position. The Unit would agree to purchase cogenerated power at a rate lower than the prevailing utility rate. STRS would receive a return on investment comparable to that currently payable to a commercial lending institution. After STRS (or PERS) and Bechtel received adequate return on their investment (expected 12 years of plant operation), the facility would be turned over to the Unit at little or no cost. The Unit would have the benefit of all financial gain from then on, at the same time, assuming all project costs and risks.

The estimated cumulative cash benefit to the Unit over 20 years would be about $196 million with a NPV of approximately $58 million. In the two-unit version, the numbers are $132 million and $38 million, respectively. The extent of savings would be determined by the terms of the power purchase agreement.

The energy cost to the Unit would be lowered if the Unit was willing to assume some project risks which would be defined in a "take or pay" or "take on demand" arrangement.

In spite of possible interest by either of the State retirement systems, ultimately, the decision might be to not take such an investment opportunity. A major elapse of time in making this decision would delay the project and incur the same foregone savings as Alternative 2 above.

4. Bond Funded

The City of Long Beach might consider funding the project through a bond issue. In such case, the City would sell power to the Unit at a rate that would generate sufficient revenues to indemnify the bond indebtedness and any other appropriate encumbrances.

Because of uncertainties such as bond rating, interest, saleability, etc., it is not possible at this time to estimate precisely the net return to the State. It is considered likely to be in the general range of that anticipated under the Retirement System Funding alternative described above under Option 3.

On the negative side, it is possible that the time span involved in implementing this option could adversely affect permitting and licensing the project as described under the State Budget Funded alternative described above under Option 2.

5. Third Party Funded

Bechtel has expressed willingness to fully capitalize the project. Bechtel would design, construct, own and operate the plant for about 12 years and then turn it over completely to the Unit at little or no cost. The Unit would enter into a power purchase contract with Bechtel similar to that described above in the retirement funded case. Bechtel would assume all project risks during its period of ownership.

A disadvantage is that this option would return the lowest net return to the State. The estimated 20 years cumulative savings to the Unit would be $177 million with a NPV of $46 million (or $100 and $26 for the smaller project). While the total savings are $117 million less than under Alternatives 1 or 2, the State would have the use of $60+ million during the payout period. At a rate of 7.5 percent (assumed average rate for current Pooled Money Investment Fund earnings), the potential investment earnings would just about equal the savings loss.

Although Bechtel has confirmed its commitment to build the project and sell power to the Unit, other suppliers may also be interested. Under this option, the City, as Unit Operator, would enter in to a power purchase agreement with a successful bidder through the City's competitive bid process.

A summary table of the above options is shown on Exhibit "A".

EXHIBITS:
- A. Summary Table.
- B. Project Financing Structure - Cash Funded Alternatives.
- C. Project Financing Structure - Bechtel Funded Alternatives.

IT IS RECOMMENDED THAT THE COMMISSION:

1. DETERMINE THAT IT IS IN THE BEST INTERESTS OF THE STATE TO HAVE A COGENERATION PLANT CONSTRUCTED TO REDUCE ELECTRIC POWER COSTS TO THE LONG BEACH UNIT.

2. FIND THAT THE THIRD PARTY FUNDED ALTERNATIVE, WHEN CONSIDERED WITH THE MAXIMUM POTENTIAL REVENUES FLOWING FROM THE LONG BEACH UNIT AND THE MINIMAL RISK TO BE ASSUMED THEREUNDER, BEST SERVES THE NEEDS OF THE STATE.

3. RECOMMEND TO THE UNIT OPERATOR, THE CITY OF LONG BEACH, SUBMIT A MODIFICATION TO THE PLAN AND BUDGET TO PROVIDE FOR ENTERING INTO A POWER PURCHASE AGREEMENT WITH A THIRD PARTY COGENERATION DEVELOPER TO PROVIDE ELECTRIC POWER AT THE LEAST COST TO THE LONG BEACH UNIT, TAKING INTO CONSIDERATION THE RECOMMENDATIONS OF THE CONSULTANTS EMPLOYED BY THE DEPARTMENT OF GENERAL SERVICES, OFFICE OF ENERGY ASSESSMENTS.

EXHIBIT "A"

LONG BEACH UNIT COGENERATION
Proposed Funding Alternatives

	(millions of dollars) LB UNIT FUNDED	RETIREMENT SYSTEM FUNDED	THIRD PARTY FUNDED (Bechtel)
LB Unit Funds Expended			
Budget Year 1986-87	2	0	0
" " 1987-88	35	0	0
" " 1988-89	28	0	0
Ave. Annual LB Unit Savings [1]			
1/89 to 1/2001	19.6	8.1	5.3
1/2001 to 1/2009	11.3	11.3[4]	11.3[4]
LB Unit Investment Payout	3.3yrs	N/A[3]	N A[3]
Cumulative Cash Savings (20 yrs) [1]	305	200	177
Net Present Value [2]	67	60	39
LB Unit Return on Investment	25%	N/A[3]	N A[3]
Project Risks Assumed by LB U	ALL	SOME	NONE

Note:

1. Assumes 5% annual costs escalation
2. Based on 10% cash discount rate
3. No LB Unit funds invested
4. Unit assumes plant ownership and all cash benefits

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Project Financing Commercial Structure Based on LBU Retaining Project Risks

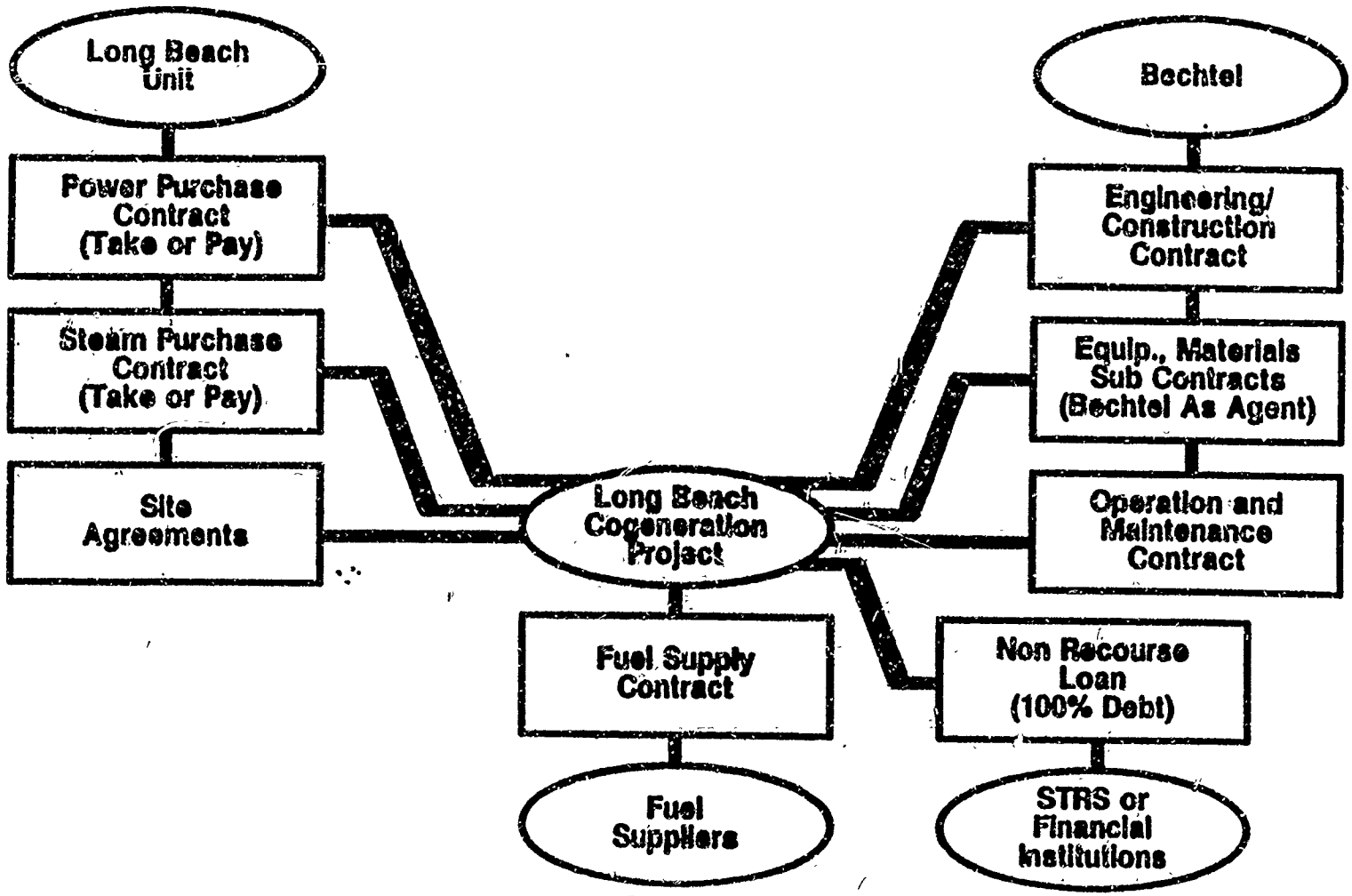
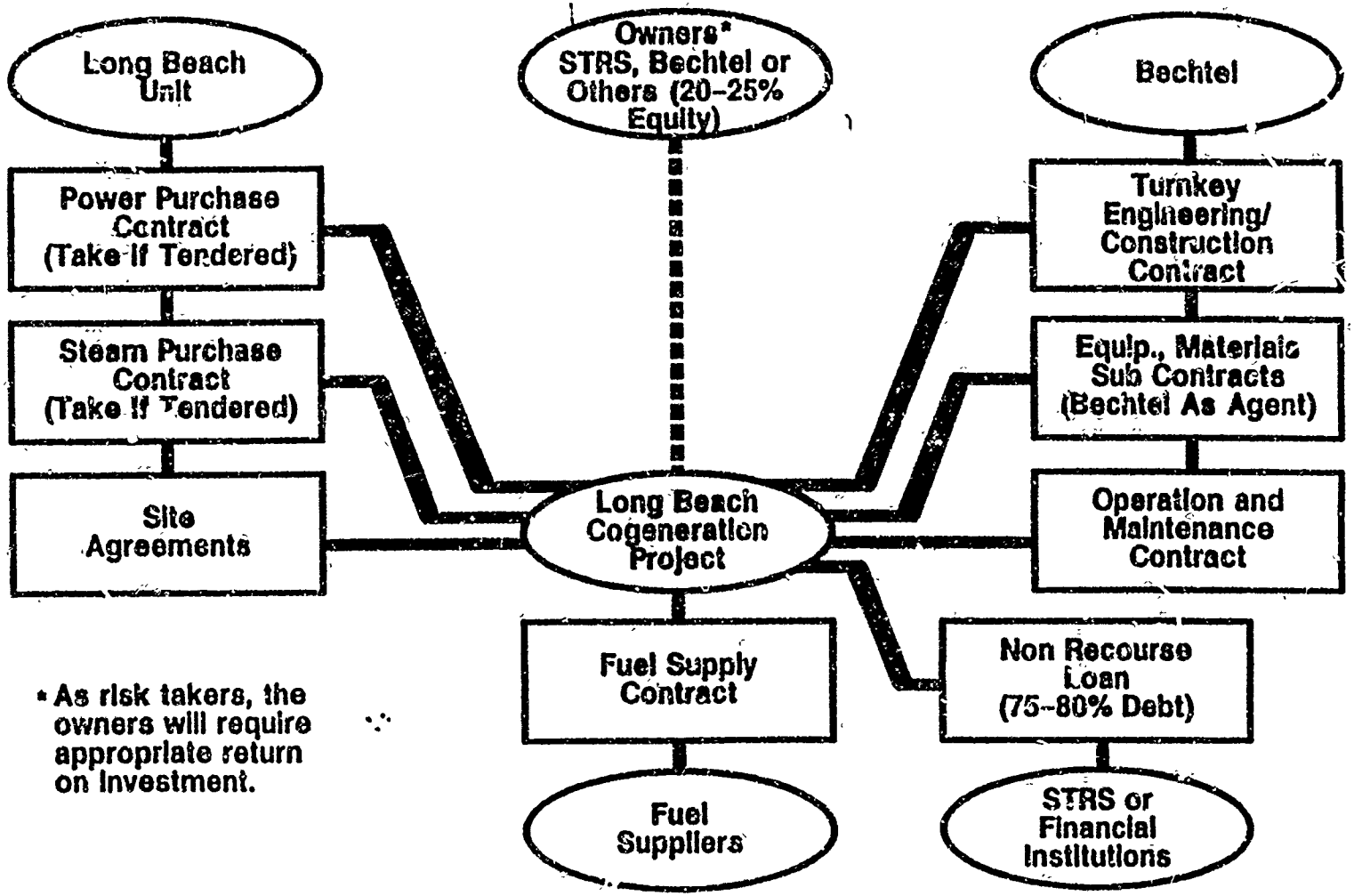


EXHIBIT "B"

Project Financing Commercial Structure Based on LBU Transferring Risk to Owners



* As risk takers, the owners will require appropriate return on investment.

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EXHIBIT "C"