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MEMORANDUM AND RECOMMENDATION

OF THE

PRESIDENT OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSED LOAN

IN AN AMOUNT EQUIVALENT TO US$90 MILLION

TO

THE BANGCHAK PETROLEUM PUBLIC COMPANY LIMITED

WITH THE GUARANTEE OF

THE KINGDOM OF THAILAND

FOR A

CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

April 12, 1995

CURRENCY EQUIVALENTS

(As of June 1994)

1 Baht	=	US$0.039
25.5 Baht	=	US$1.00

WEIGHTS AND MEASURES

1 Barrel (bbl) of Crude Oil (0.85 Specific Gravity/34° API)	=	0.136 Metric Ton (t)
1 Barrel	=	0.159 Cubic Meter (m^3)
1 British Thermal Unit (Btu)	=	0.252 Kilocalories (kcal)
1 Cubic Foot (cu ft)	=	0.028 Cubic Meter (m^3)
1 Gallon (US)	=	3.785 Liters (l)
1 Metric Ton of Crude Oil	=	44.4×10^6 Btu (typical)
1 Mile	=	1.609 Kilometers (km)
1 Standard Cubic Foot (SCF) of Natural Gas	=	1,000 Btu (typical)
1 Ton of Oil Equivalent (toe)	=	10.415×10^6 kcal

ABBREVIATIONS AND ACRONYMS

bbls	barrels
BMR	Bangkok Metropolitan Region
BPPCL	Bangchak Petroleum Public Company Limited
BPR	Bangchak Petroleum Refinery
bpcd	barrels per calendar day
bpd	barrels per day
bpsd	barrels per stream day
CO	Carbon Monoxide
DGOHT	Deep Gas Oil Hydrotreater
EGAT	Electricity Generating Authority of Thailand
EIA	Environmental Impact Assessment
FCC	Fluid Catalytic Cracker
HC	Hydrocarbons
LTD	Land Transport Department
NEQA	National Environmental Quality Act
NOx	Nitrogen Oxides
NPPC	National Petroleum Policy Committee
PTT	Petroleum Authority of Thailand
RTG	Royal Thai Government
SO_2	Sulfur Dioxide
SPM	Suspended Particulate Matter
toe	ton of oil equivalent
TORC	Thai Oil Refinery Company
tpy	tons per year

FISCAL YEAR

RTG:	October 1 to September 30
BPPCL:	January 1 to December 31

THAILAND

CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

Loan and Project Summary

Borrower:	The Bangchak Petroleum Public Company Limited (BPPCL).
Guarantor:	Kingdom of Thailand.
Implementing Agency:	BPPCL.
Beneficiary:	Not Applicable.
Poverty:	Not Applicable.
Amount:	US$90 million equivalent.
Terms:	17 years, including a grace period of five years, at the Bank's standard variable interest rate.
Commitment Fee:	0.75% on undisbursed balances, beginning 60 days after signing, less any waiver.
Onlending Terms:	Not Applicable.
Financing Plan:	See Schedule A.
Net Present Value:	US$171 million equivalent.
Staff Appraisal Report:	Report No. 13758-TH
Map:	IBRD No. 26195.

MEMORANDUM AND RECOMMENDATION OF THE PRESIDENT OF THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO THE BANGCHAK PETROLEUM PUBLIC COMPANY LIMITED, WITH THE GUARANTEE OF THE KINGDOM OF THAILAND FOR A CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

1. I submit for your approval the following memorandum and recommendation on a proposed loan to the Bangchak Petroleum Public Company Limited ("Bangchak" or "BPPCL") with the guarantee of the Kingdom of Thailand for the equivalent of US$90 million to help finance a Clean Fuels and Environmental Improvement Project. The loan would be at the Bank's standard variable interest rate, with a maturity of 17 years, including 5 years of grace.

Country/Sector Background

2. Thailand has one of the fastest growing economies in the world. Per capita income doubled during the past ten years; GDP registered an annual average growth rate of 10.4% over the period 1986 to 1992. In parallel, road transport increased dramatically, with traffic increasing by more than 14% per annum since 1984. The vehicle fleet excluding motorcycles increased by an average of more than 10% per annum over the 1984 to 1992 period. Motorcycles, comprising about 60% of the vehicle fleet, increased at 14% per annum. Slightly over 8 million vehicles are currently estimated to be on the road. The road vehicle fleet is expected to continue increasing and could double over the next 15 years.

3. While the increase in vehicular traffic has been a nationwide phenomenon, it has been especially acute in the urban centers. Traffic in the Bangkok Metropolitan Region (BMR) has become notorious for its congestion and air quality has become a major problem. The links between vehicular traffic, traffic congestion, fuel emissions and air quality are well documented. To address the issue of poor air quality, the Royal Thai Government (RTG) adopted some of the world's most ambitious clean fuels standards; these are scheduled to become effective by 1998. The proposed operation has been designed to support the efforts of Thailand's leading refiner to comply with these new standards.

4. The Government's Clean Fuels Program. RTG enacted a comprehensive and far reaching Environmental Law in April 1992; and improvement of the environment has become a high priority objective under the Seventh National Development Plan (1992-1996). Air pollution in BMR is the result of many factors, including inter alia poor vehicle maintenance, traffic congestion, inadequate road capacity and the use of pollution facilitating fuels. RTG's action plan to combat vehicular air pollution, developed under the Bank financed Fourth Highway Sector Project (Loan 3446-TH), includes: (i) specifying emission standards for new vehicles; (ii) refinement of vehicle inspection procedures; (iii) an LPG/CNG pilot project; (iv) reduction of emissions from in-use vehicles; and (v) traffic management.

5. To reduce pollution attributable to petroleum fuels, RTG has embarked on a major fuels reformulation program following a strategy similar to that followed by the industrialized countries, notably the United States. RTG commissioned several studies beginning in early 1990 to identify fuels reformulation options and strategies. Based on these studies, stringent gasoline and diesel oil specifications were issued in June 1993. The leading changes to the formulation of gasoline include: (i) an initial reduction of lead to 0.15 milligrams per liter, with a parallel grade of gasoline containing no lead; (ii) the phasing out of all lead by 1998; and (iii) the progressive reduction of sulfur in diesel oil from 1.00 weight percent to 0.05 weight percent by 1998. The adjustments to the specifications of diesel oil include (i) reducing the boiling point for 90 percent of the volume of a distillation flask by 30 degrees Fahrenheit; (ii) introducing a minimum cetane

number; and (iii) eliminating cracked material that is unstable. These adjustments will have a measurable impact in reducing suspended particulate matter (SPM) from the emissions of diesel driven vehicles.

6. Bangchak played a highly catalytic role in the formulation of these new clean fuel standards. It assisted the Government in determining what targets could be met, and in establishing a realistic schedule for making these changes effective. Bangchak can realize some improvement by mixing throughput from the existing plant with higher grade imports; however, this procedure would not be adequate for compliance with the more stringent standards slated for 1998. As a result, the Company must undertake the proposed project and shoulder some US$400 million equivalent in new investments.

7. Refinery Sector. Thailand is currently a large importer of petroleum products, including limited quantities of unleaded high octane gasoline. The amount of diesel oil imported averages about 100,000 barrels per day. Thailand presently has three refineries, the Thai Oil Refinery (TORC), the Thai Esso refinery, and the Bangchak Oil Refinery. The combined capacity of the three refineries is 230,000 barrels per day (bpd). Two new refineries by Shell Oil Company and Caltex Petroleum Company, which are under construction, will add a further 250,000 bpd of refining capacity, giving a total design capacity of 480,000 bpd and a production capacity of about 430,000 bpd. The demand for petroleum products is projected to exceed 500,000 bpd by the end of this decade. The existing refineries cannot meet the cleaner standards that will be required as of late 1998 without major modifications to their processing configurations.

8. Bangchak Petroleum Public Company Limited. Ten years ago, the Government sought Bank support for a comprehensive restructuring of Bangchak. As a result, the Bank provided considerable guidance with regard to Bangchak's reorganization, and lent US$85 million equivalent to finance the plant upgrades under the Bangchak Petroleum Refinery Restructuring Project (Loan 2548-TH). This strategy led to a virtual doubling of production capacity, and the recasting of the Company as a commercially operated enterprise. Bangchak's management emphasized good product planning and rapid responsiveness to market changes in demand. As a result, the Company turned profitable. Today, the refinery has a production capacity of 105,000 barrels per day, is in excellent mechanical condition, and is efficiently operated. Moreover, Bangchak's robust financial performance of the past few years has enabled (i) it to obtain loans from commercial sources, and (ii) the Government to take the first steps toward privatizing the Company. A public share offering of 20% of the Company's shares to private interests for some $120 million was closed in mid-June 1994. The Government has indicated an interest in increasing the proportion of the Company to be owned by private interests, perhaps as high as 45 percent.

Project Objectives

9. The primary project objective is to support the reduction of air pollutants attributable to petroleum fuels in Thailand, by assisting the Borrower in: (a) meeting reformulated gasoline and diesel oil specifications established by the Government; and (b) improving its refinery operations through the installation of appropriate facilities and equipment to reduce refinery emissions and enhance safety.

Project Description

10. The project comprises the following components:

(a) a Deep Gas Oil Hydrotreater (DGOHT) of 30,000 bpsd capacity to enable the production of 0.05 weight percent sulfur diesel oil (25.4% of project cost);

(b) a Fluid Catalytic Cracker (FCC) of 16,000 barrels stream per day (bpsd) capacity and modifications to existing naphtha reformer to produce high octane, low aromatic and low benzene content gasoline, in order to enable the refinery's gasoline pool to meet unleaded octane requirements, and permissible aromatics and benzene levels and other prescribed specifications (56.7% of project cost);

(c) the installation of equipment and facilities to further enhance the refinery's environmental mitigation system and safety (12.6% of project cost);

(d) the purchase of modern air quality monitoring equipment (0.4% of project cost);

(e) project engineering and management (2.9% of project cost);

(f) acquisition of technology and procurement of catalysts and chemicals (1.2% of project cost); and

(g) training (0.8% of project cost).

11. The total financing required for the proposed project is US$370.0 million equivalent (including interest during construction), with a foreign component of US$225.9 million equivalent (61% of the total) and a local component of US$144.1 million equivalent (39% of the total). A breakdown of costs and the financing plan are shown in Schedule A. The proposed loan would finance about 24% of the total financing requirement, or 40% of the foreign component. Bangchak intends that most of the early project expenditures would be financed from the proposed Bank loan and internal cash generation. Most of the residual finance to be raised from external sources will be needed in 1998 and 1999. Amounts and methods of procurement, and the disbursement schedule are shown in Schedule B. Retroactive financing equivalent to about 3% of the proposed loan would be permitted to cover expenditures for the acquisition of proprietary licenses and related technology, incurred after April 1, 1995 but prior to the date of the Loan Agreement. A timetable of the key processing events and the status of Bank Group operations in Thailand are given in Schedules C and D respectively. The Staff Appraisal Report, No. 13758-TH, dated April 12, 1995, is being distributed separately.

Project Implementation

12. The detailed engineering, procurement, installation, construction and commissioning and start-up of the two major refinery process units and associated facilities will be implemented over a period of four years. The other components will be implemented in parallel and completed within the same time period. A detailed project implementation plan was prepared by Bangchak. The project completion date is estimated to be December 31, 1999.

13. Bangchak staff gained valuable experience implementing the Bangchak Refinery Restructuring Project (para. 15). The Bangchak project construction division is well staffed, and organized to coordinate the implementation of the project. A consulting engineering firm has recently been appointed to prepare the project specifications based on licensor packages and the associated engineering, and to integrate the new facilities with the existing refinery.

Project Sustainability

14. The project design is based on proven technology and specifications, which have evolved over the past two decades. This would ensure that the reformulation investments do not result in secondary problems at a later time. The petroleum products' specifications are not expected to change, so that process obsolescence is unlikely. The design strategy adopted will enable the future expansion of Bangchak's facilities, if market conditions so dictate, assuring the project's sustainability.

Lessons from Previous Bank Involvement

15. This is the Bank's second project with BPPCL. In 1986, the Bank lent US$85 million equivalent to finance the Bangchak Petroleum Refinery Restructuring Project (Loan 2548-TH); that project was completed in June 1992. Although the project met all its objectives, it suffered from serious initial delays as Bangchak decided to redesign the facilities to enable greater responsiveness to changing patterns of demand. The proposed project takes account of this lesson from the earlier project. Outputs from the proposed project are expected to have a ready market not only in Thailand but also elsewhere in the region, which would assure the project's financial viability. Moreover, project designs are well advanced, and most decisions concerning the technology have already been made; the acquisition of the specific technology is expected by June 1995. With this technology acquisition concept, redesigning of the facilities are not expected, and project implementation is expected to proceed without delay. Further, the managerial, financial and physical restructuring that were accomplished during the Bank's first project would contribute substantially towards timely completion and efficient operation of the proposed project.

Rationale for Bank Involvement

16. The proposed project is justified for three main reasons. First, the Bank has supported a series of efforts by RTG to mitigate the adverse impacts of transport-related air pollution, particularly in the BMR. Specifically, the Bank has assisted various agencies of the RTG (notably the Department of Pollution Control [DPC] and the National Energy Policy Office [NEPO]) in formulating and implementing cost-effective strategies for reducing vehicular emissions. BPPCL has worked closely with RTG and the Bank in developing the clean fuel standards. It values the Bank's technical advice and necessary financial support in implementing a substantial investment program that would go a long way towards improving air quality in urban areas, especially BMR. Second, Bank's involvement in BPPCL's investment program would help catalyze funding from commercial sources of finance to ensure full funding of the project. And, third, continued Bank support to BPPCL would help expedite the process of privatization, which was begun in mid-1994 with the Company's successful issue of common stock.

17. The policies and programs pursued by the Government in the Environmental sector, in general, and the Petroleum sector, in particular, are in compliance with the Bank's policies. The project is also consistent with the Bank's Country Assistance Strategy (CAS, Report No.13458-TH). As discussed in the CAS, which was presented to the Board on September 22, 1994, Bank's support to Thailand aims at providing value added in terms of helping Thailand address the most important development issues. Among the priority areas for Bank assistance identified in the CAS are the development of physical infrastructure and improvement in environmental management, to which this project would directly contribute. The proposed project would help Thailand in implementing a cost-effective strategy for improving air quality. While the first stage of the fuel standards could be met by increasing imports and mixing these with output from BPPCL's existing facilities, excessively large volumes of imports would be required in meeting the more stringent standards in 1998.

Agreed Actions

18. During negotiations, Bangchak agreed that it would:

(a) ensure that the project's residual funding requirements are met as and when needed, by making arrangements for external financing before March 31, 1998;

(b) maintain a current ratio of not less than 0.8;

(c) maintain a debt:equity ratio of less than 60:40;

(d) refrain from incurring debt unless a reasonable forecast shows that revenues, after covering all expenses, taxes, dividends and net working capital increases, shall be at least 1.2 times the Company's projected debt service requirements; and

(e) furnish to the Bank, not later than six months after the conclusion of each financial year, its annual accounts, certified by an acceptable auditor, together with the report of such auditor.

Environmental Aspects

19. The refinery's current operations were subjected to a thorough Environmental Impact Assessment. The EA was reviewed by the Bank and additional work, which needed to be completed in connection with the implementation of the proposed project, was identified and conducted by BPPCL. An integrated EA study was thereafter prepared for the proposed project and reviewed by the Bank. The recommendations of the EA have been incorporated into the project. The project will not only help reduce the emission of pollutants from the combustion of transportation fuels but would also mitigate any adverse environmental impacts from refinery operations. BPPCL will engage an engineering firm to review all aspects of the refinery's operations, and bring their environmental and safety aspects up to the level of similar refineries in industrialized countries.

Program Objective Categories

20. The focus of the proposed project is environmentally sustainable development. In providing cleaner fuels, the project will reduce the amount and toxicity of noxious vehicular emissions. This will contribute to substantial health benefits in urban areas, especially the BMR, and, as a result, the proposed project will contribute to improvements in the productivity and quality of life of residents of those urban areas.

Participatory Approach

21. The Government and the Company have consulted extensively with NGOs in developing the new clean fuels standards. Also, the Company consults on an ongoing basis with area residents regarding emissions from its plant. In developing the Environmental Impact Assessment, Bangchak actively consulted NGOs as well as the public residing in the vicinity of its refinery with regard to the environmental impact of the process changes being provided by the proposed project. These consultations will continue until detailed designs are finalized.

Project Benefits

22. The primary benefit of the proposed project is the expected improvement in health, productivity and quality of life for urban dwellers, especially those residing in the BMR, as a result of the substantial reduction of pollutions (mainly SPM, NOX and SOX) that will arise from the implementation of the government's new clean fuel standards. The proposed project effectively enables Thailand's largest refinery to comply with those standards. Further, the proposed addition to refinery will result in an increase in the yield of high value products, thereby improving its economic viability, and is the least cost option for BPPCL to meet its market requirements. The net present value (NPV) computed for the proposed project is US$171 million, based on a discount rate of 12% (the estimated cost of capital for Thailand). The internal financial rate of return (IRR) is about 21%.

Risks

23. An inherent risk in the proposed project is the possibility of creating excess refinery capacity in Thailand to meet the country's own need for clean fuels. This could narrow refining margins, making the investment uneconomic. However, the likelihood of underutilized capacity materializing at Bangchak is small, since the refinery could export any surplus products to nearby countries that are adopting clean fuel standards similar to Thailand. A second risk is that the new standards could be further modified, requiring further changes in gasoline and diesel oil specifications. This risk is small as Thailand is following modern standards set by industrialized countries after extensive research and testing. Major specification changes are, therefore, unlikely to occur in the foreseeable future. The project faces no risk factors that, either singly or in combination, are likely to reduce the net present value to US$0 or less.

Recommendation

24. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and recommend that the Executive Directors approve it.

Sven Sandstrom
Acting President

Attachments
Washington, D.C.
April 12, 1995

Schedule A

THAILAND

CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

Estimated Costs and Financing Plan

Estimated Costs:

	Local	Foreign	Total
	(US$ million)		
Deep Gas Oil Hydrotreater	19.0	47.3	66.3
Fluid Catalytic Cracker	66.0	82.0	148.0
Environmental & Safety Equipment	18.0	15.0	33.0
Air Quality Monitoring Mobile Units	0.0	1.0	1.0
Project Engineering & Management Assistance	0.8	6.8	7.6
Licensor Fee, Technology, Catalysts & Chemicals	-	3.0	3.0
Training and Operation Assistance	1.0	1.0	2.0
Base Cost	104.8	156.1	260.9
Physical Contingencies	10.5	15.6	26.1
Price Contingencies	16.3	25.8	42.1
Total Installed Cost	131.6	197.5	329.1
Interest During Construction	12.5	28.4	40.9
Total	**144.1**	**225.9**	**370.0**

Financing Plan :

	Local	Foreign	Total
	(US$ million)		
Long-term Debt:			
IBRD	0.0	90.0	90.0
Other External Finance	88.0	82.9	170.0
Own Cash Generation	56.1	53.9	110.0
Total	**144.1**	**225.9**	**370.0**

THAILAND

CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

Summary of Procurement Arrangements
(US$ million)

Project Element	Procurement Method				Total Cost
	ICB	LIB	Other	NBF	
1. Works(with associated Goods and Services) under Turn-key Contracts					
(1.1) DGOHT & Associated Facilities	82.1 (45.0)	- (-)	- (-)	- (-)	86.1 (48.3)
(1.2) FCC & Associated Facilities	187.7 (17.0)	- (-)	- (-)	- (-)	187.7 (17.0)
(1.3) Environmental & Safety Enhancement Equipment	23.3 (7.0)	- (-)	- (-)	- (-)	34.3 (15.2)
2. Goods					
(2.1) Air Quality Monitoring Equipment	- (-)	1.0 (1.0)	- (-)	- (-)	1.0 (1.0)
(2.2) Catalysts & Chemicals	- (-)	- (-)	4.5 (3.7)	- (-)	(4.5 (3.7)
3. Consulting Services					
(3.1) Project Management & Engineering Assistance	- (-)	- (-)	- (-)	9.7 (-)	9.7 (-)
(3.2) Operations Assistance & Overseas Training	- (-)	- (-)	2.0 (1.0)	- (-)	2.0 (1.0)
(3.3) Technical Services	- (-)	- (-)	0.8 (0.8)	- (-)	3.8 (3.8)
4. Proprietary Licenses and Technology	- (-)	- (-)	3.0 (3.0)	- (-)	- (-)
TOTAL	293.0 (69.0)	16.0 (12.5)	10.3 (8.5)	9.7 (-)	329.1 (90.0)

Note: Figures in parenthesis are the respective amounts financed by the Bank Loan.
Other include direct contracting and international shopping.
NBF. Not financed by the Bank.

SCHEDULE 1

Category	Amount of the Loan Allocated (Expressed in Dollar Equivalent)	% of Expenditures to be Financed
(1) Turn-key contracts under:		100% of foreign expenditures, and 65% local expenditures
(a) DGOHT & Associated Facilities	48,000,000	
(b) FCC & Associated Facilities	15,000,000	
(c) Env. & Safety Enhancement	10,000,000	
(2) Goods, including Air Quality Monitoring Equipment and Catalysts and Chemicals	2,000,000	100% of foreign expenditures, 100% of local expenditures (ex-factory cost) and 65% of local expenditures for other items procured locally
(3) Consultants' services, licensor's fees, and training	4,000,000	100%
(4) Unallocated	11,000,000	
TOTAL	90,000,000	

Disbursements (US$ million)

Estimated Disbursements

IBRD Fiscal Year	1996	1997	1998	1999
	(US$ million)			
Annual	2.0	24.0	30.0	34.0
Cumulative	2.0	26.0	56.0	90.0

Schedule C

THAILAND

CLEAN FUELS AND ENVIRONMENTAL IMPROVEMENT PROJECT

Timetable of Key Project Processing Events

(a)	Time taken to prepare:	24 months
(b)	Prepared by:	The Bangchak Petroleum Public Company Ltd.
(c)	First IBRD Mission:	June 23, 1993
(d)	Appraisal Mission Departure:	June 29, 1994
(e)	Negotiations:	March 20, 1995
(f)	Planned Date of Effectiveness:	July 27, 1995
(g)	List of Relevant PCRs and PPARs:	First EGAT Power Project (PPAR No. 1142) South Bangkok Thermal Project (PPAR No. 1966) Ban Chao Nen Hydroelectric Project (PPAR No. 3999) Pattani Hydroelectric Project (PPAR No. 5607) Khao Laem Hydroelectric Project (PCR No. 6157) Bang Pakong Thermal Power Project (PCR No. 6660) Power Subsector Project (PCR No. 7887) Power System Development Project (PCR No. 12935)

This report is based on the findings of missions that visited Thailand in March and June 1994 that included Messrs. Lakdasa Wijetilleke (Task Manager) and Jamil Sopher (Principal Financial Analyst). Mr. Sudhir Shetty (Senior Economist) provided considerable support with regard to the economic and environmental aspects of the project. Mr. Alfred Picardi (Consultant) assisted in reviewing the environmental aspects both in the field and at headquarters. Ms. Rapti Goonesekera (Consultant) assisted in the collection of environmental data. Ms. Hamideh Keyhani and Mr. Martin Edmonds assisted with the project at Headquarters. Messrs. Carl Heinz Mumme, Jitendra Shah and Darayes Mehta reviewed different aspects of the project at various phases. Mmes. Marie Nimley and Mercedes Pendleton assisted in the processing of the report. The project was cleared by Messrs. Callisto Madavo, Director, EA1 and Vineet Nayyar, Chief, EA1IN.

STATUS OF BANK GROUP OPERATIONS IN THAILAND

A. STATEMENT OF BANK LOANS AND IDA CREDITS /a
(As of March 31, 1995)

Loan or Credit Number	Fiscal Year	Borrower	Purpose	Amount (US$ million) (less cancellations) IBRD	IDA	Undis-bursed
Ninety-six loans and six credits fully disbursed				3,766.43	115.42	
Of which SALs, SECALs and Program Loans						
2097	1982	Kingdom of Thailand	SAL I	150.00		
2256	1983	Kingdom of Thailand	SAL II	175.50		
				325.50		
3254	1991	Kingdom of Thailand	Land Titling II	30.00		2.80
3294	1991	Kingdom of Thailand	Tax Computerization	32.00		24.11
3404	1992	Provincial Elec. Authority	Distribution System Upgrading	40.00		27.39
3446	1992	Kingdom of Thailand	Highway IV	177.50		50.40
3508	1993	Petroleum Authority of Thailand	Gas Transmission	91.91		.20
3598	1993	Metropolitan Elec. Authority	Distribution System & Energy	109.00		82.17
3797	1995	Kingdom of Thailand	Land Titling III	118.10		118.04
3798	1995	Provincial Electricity Authority	Distribution System Reinforcement	50.00		50.00
3799	1995	Petroleum Authority of Thailand	Second Gas Transmission	155.00	0.00	155.00
	Total			4,569.94	115.42	510.11
	of which has been repaid			2,671.29	12.69	
	Total Now Held by Bank and IDA			1,898.65	102.72	
	Amount sold 193.91					
	of which repaid 182.40					
	Total Undisbursed			-	-	511.69

/a The status of the projects listed in Part A is described in a separate report on all IBRD/IDA-financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.

* Indicates SAL/SECAL Loan and Credits.

B. STATEMENT OF IFC INVESTMENTS
(As of March 31, 1995)

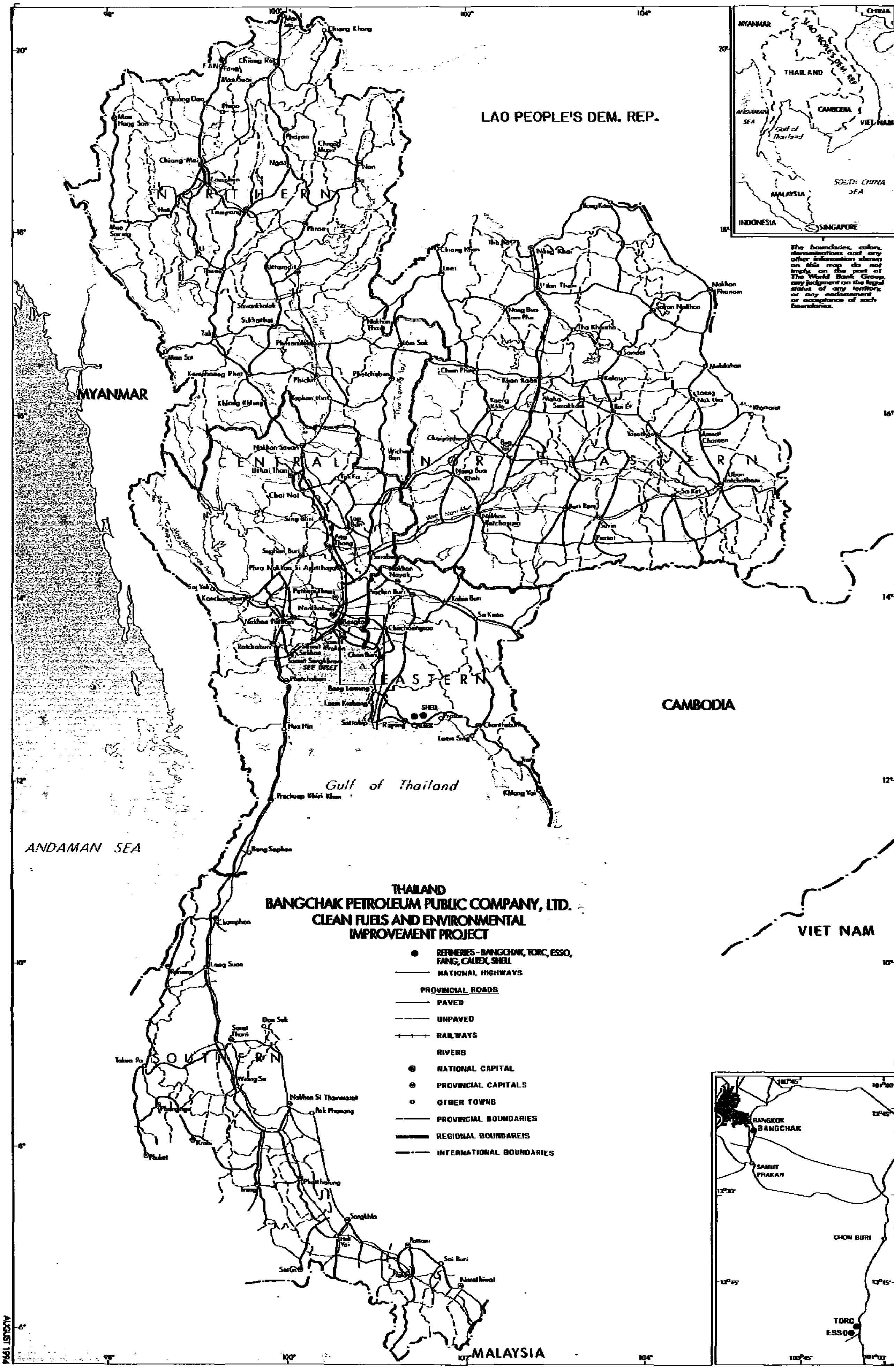
Year	Fiscal Obligor	Type of Business	IFC Loan	Original Gross Commitments IFC Equity	Participant	Total	Held by IFC	Undisbursed including participants' portion
			----------	US$ million	----------			
1959	Concrate Prod. & Aggregate Co. Ltd. a/	Cement & Const. Materials	0.3	-	-	0.3	-	-
1964/71	Ind. Fin. Corporation of Thailand a/	Development Finance	-	0.4	-	0.4	-	-
1969/76/78/80/85	The Siam Cement Co. Ltd. a/	Cement & Const. Materials	13.8	3.1	15.9	32.8	-	-
1977	United Sugar Terminal a/	Industrial Services	2.5	0.2	-	2.7	-	-
1977/90	The Mutual Fund Co. Ltd. a/	Financial Services	-	0.6	-	0.6	-	-
1978	Small & Medium-Scale Industrial	Capital Markets	2.0	-	-	2.0	-	-
1979	Thai Orient Leasing Co. a/	Capital Markets	-	0.2	-	0.2	-	-
1979/80/83	Bangkok Glass Industry a/	General Manufacturing	9.9	0.5	-	10.3	-	-
1979/81/85/87/92	Siam City Cement Co.	Cement & Const. Materials	80.1	6.1	188.0	274.2	30.0	-
1983	Sea Minerals Limited a/	Nonferrous Metals	-	0.6	-	0.6	-	-
1984	Thailand Tantalum a/	Nonferrous Metals	18.5	3.4	35.0	56.9	-	-
1984	World Aquaculture a/	Food & Agribusiness	3.2	0.6	-	3.7	-	-
1984/86/88/89/93	National Petrochemical	Chemicals & Petrochemical	35.0	0.6	-	35.6	25.0	-
1985/91	SEAVI Project	Capital Markets	-	2.5	-	2.5	1.5	-
1986	Mashbumi Limited a/	Mining	-	0.1	-	0.1	-	-
1986	Phya Thai II Hospital a/	Industrial Services	4.2	0.8	-	5.0	-	-
1987	The Thailand Fund a/	Financial Services	-	9.7	-	9.7	-	-
1987/90	Northeast Agriculture	Food & Agribusiness	1.6	0.5	-	2.2	-	-
1988	The Thai Fund Inc. a/	Financial Services	-	17.1	-	17.1	-	-
1988	HMC Polymers Company	Chemical & Petrochemical	15.0	1.5	11.0	27.5	7.9	-
1988	Phansrivivat Company Ltd.	Food & Agribusiness	3.6	1.1	-	4.7	-	-
1989	The Thai Prime Fund a/	Financial Services	-	15.0	-	15.0	-	-
1989	Peroxythai Limited	Chemicals & Petrochemicals	10.7	-	-	10.7	8.0	-
1990	Collection Industrial	General Manufacturing	-	0.5	-	0.5	0.5	-
1990	Ladprao General Hospital	Industrial Services	-	0.3	-	0.3	0.3	-
1990	Siam Asahi Technoglass	General Manufacturing	-	8.3	-	8.3	8.3	4.7
1990	Siam Commercial Bank	Development Financing	-	13.8	-	13.8	-	-
1990	The Thai Farmers Bank	Development Financing		4.0	-	4.0	-	-
1990	Top Easy Company	General Manufacturing	-	0.2	-	0.2	0.2	-
1992	Krung Thai IBJ Leasing	Capital Markets	-	0.4	-	0.4	0.4	-
1992	Shin Ho Paper (Thailand)	Timber, Pulp & Paper	22.0	7.5	34.0	63.5	28.2	-
1992/93	Ayudhya Leasing	Capital Markets	-	0.6	-	0.6	0.6	-
1992/93	The Bank of Asia Limited	Capital Markets	20.0	6.1	-	26.1	23.6	17.5
1993	Central Plaza Hotel	Tourism	-	15.7	-	15.7	14.0	-
1993	Central Su Khontha	Tourism	7.0	-	-	7.0	7.0	-
1993	Thai Baroda Industries	Textiles	-	0.8	-	0.8	0.8	-
1993	The Samui Beach Company	Tourism	8.0	-	-	8.0	8.0	-
1993	Wing Fat Group Company	General Manufacturing	-	-	-	-	2.5	-
1994	Bumrungrad Medical Center	Industrial Services	25.0	2.2	35.0	62.2	27.2	61.1
1994	Chao Khun Agro Products	Food & Agribusiness	-	0.4	-	0.4	0.4	-
1994	Dhana Siam Finance	Capital Markets	30.0	-	-	30.0	30.0	-
1994	Soon Hua Seng Advance	Timber, Pulp & Paper	10.0	-	-	10.0	10.0	10.0
1994	Star Petroleum Refining	Energy	100.0	-	350.0	450.0	100.0	288.5
1994	Tuntex Petrochemicals	Chemicals & Petrochemicals	20.0	-	137.5	157.5	20.0	67.5
1995	Vinythai Public Company	Chemicals & Petrochemicals	45.0	-	70.0	115.0	45.0	39.3
1995	United Palm Oil Industry	Food and agribusiness	-	-	-	0.0	1.1	-
	Total Gross Commitments b/		487.4	125.1	876.4	1,488.8		
	Less Cancellations, Terminations, Repayments & Sales		132.3	79.7	128.1	340.1		-
	Total Commitments Now Held c/		355.1	45.4	748.3	1,148.8	400.5	498.6

B. STATEMENT OF IFC INVESTMENTS
(As of March 31, 1995)

Year	Fiscal Obligor	Type of Business	Original Gross Commitments: IFC Loan	IFC Equity	Participant	Total	Held by IFC	Undisbursed including participants' portion
			----------	US$ million	----------			
	Pending Commitments							
	Finance 1 Co. Ltd..		30.0	-	150.0	180.0		
	Total Pending Commitments		30.0	-	150.0	180.0		
	Total Commitments Held & Pending Commitments		388.1	45.4	898.3	1,328.8		
	Total Undisbursed Commitments		143.2	5.81	339.6	488.6		

a/ Investments which have been fully cancelled, terminated, written off, sold, redeemed or repaid.
b/ Gross commitments consist of approved and signed projects.
c/ Held commitments consist of disbursed and undisbursed investments.

.. Less than US$0.5 million


THAILAND
BANGCHAK PETROLEUM PUBLIC COMPANY, LTD.
CLEAN FUELS AND ENVIRONMENTAL
IMPROVEMENT PROJECT
REFINERIES - BANGCHAK, TORC, ESSO, FANG, CALTEX, SHELL
NATIONAL HIGHWAYS
PROVINCIAL ROADS
PAVED
UNPAVED
RAILWAYS
RIVERS
NATIONAL CAPITAL
PROVINCIAL CAPITALS
OTHER TOWNS
PROVINCIAL BOUNDARIES
REGIONAL BOUNDAREIS
INTERNATIONAL BOUNDARIES
LAO PEOPLE'S DEM. REP.
MYANMAR
CAMBODIA
VIET NAM
MALAYSIA
ANDAMAN SEA
Gulf of Thailand
NORTHERN
CENTRAL
NORTHEASTERN
EASTERN
SOUTHERN
SEE INSET
The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.
BANGKOK
BANGCHAK
SAMUT PRAKAN
CHON BURI
TORC
ESSO
AUGUST 1994
IBRD 26195