

PANAMA'S PETROLEUM SECTOR:
RECOMMENDATIONS FOR REFORM

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and

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Miami, Florida

under contract with:

DEVELOPMENT TECHNOLOGIES, INC.
Washington, D.C.

for

MINISTERIO DE PLANIFICACION Y POLITICA ECONOMICA
GOBIERNO DE PANAMA

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Draft

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EXECUTIVE SUMMARY

A decision to analyze Panama's petroleum sector emerged when President Endara's government was developing reform proposals to reactivate the economy. It was felt that a lowering of fuels prices in Panama relative to international levels would help stimulate the economy, make exports more competitive, and reverse the downward trend in jet fuel and bunker fuels business.

Siegfried Marks and Dorrit K. Marks of Sigmar International, Inc., were hired through Development Technologies, Inc., to undertake this study. As economists and business consultants they have had long experience in analyzing the Latin American oil sector, government energy policies and other economic and business issues. Sigmar International, Inc., is a Miami-based firm offering advisory services specialized on Latin America.

The Middle East crisis erupted while this Report was being prepared. Pressures from the rise in world crude prices have intensified on oil consuming countries, including Panama, to make sizable fuel price adjustments that could prove inflationary and depressing on the economy. The need to adjust fuel prices in Panama will not invalidate the basic conclusions and recommendations in this Report. Panama's current difficulties in making oil price adjustments demonstrate the inadequacy and distortions of the rigid price control system applied to the petroleum sector. Some of the policy recommendations in this Report should prove useful in implementing an oil price policy that will replace political considerations by competitive market forces in determining future consumer oil price levels.

Petroleum is important to the Panamanian economy. Petroleum imports, including bunker fuels, of \$168 million in 1989 made up 17% of total imports. Various sales taxes, fees, and import duties totalled \$93 million or 22.9% of total direct and indirect taxes collected last year.

High petroleum prices in Panama relative to international levels are the result of high costs at the refinery having to be subsidized and protected against imports; a shrinking market for petroleum products in Panama and the Canal Area; high sales taxes and bunker fees; government price and import controls inhibiting competition.

The refinery operated at less than 20% of capacity in 1988-89. Profits from direct product imports were needed to offset refinery losses in order to realize a minimum rate of return guaranteed to REFPAN, the refinery, by the government.

In the sale of bunker fuels the chief competitive problems are the high cost of bunkering and docking fees in the Canal Area and freight costs for fuel oil imports. The volume of fuel oil and marine diesel for bunkers sold to ships transiting the Panama Canal declined from about 30 million barrels in 1970 when the Suez Canal was closed to only 5.2 million barrels in 1989. Only about 15% of all vessels transiting the Panama Canal take on bunker fuels in the Canal Area. The majority prefer to bunker at Los Angeles, the U.S. Gulf Coast or points in the Caribbean where the cost to vessels of bunker fuels has been on the average \$2.70 per barrel cheaper. A price difference of only about \$1.00 per barrel, could probably reactivate bunker sales in the Canal Area.

The major factor responsible for the non-competitive price (about 18% higher in the Canal Area) is the multitude of bunkering charges levied by Atlantic-Pacific S.A. (APSA), the Port Authority, and authorized agents, totalling about \$1.77 per barrel. Additionally, the Port Authority collects a high docking fee from vessels, averaging around \$2.00 per barrel.

The deteriorating condition of the bunkering facilities causes delays in the time it takes to complete bunkering and thus adds to the cost and disincentives to take on bunker fuels in the Canal Area. Users claim that the piers have become unsafe for mooring and bunkering. APSA which is largely responsible for maintaining the bunkering facilities has developed a tentative plan for investments of up to \$8.55 million over the next five years, but \$3 million is "contingent on negotiations and financing."

Reactivation of the bunkering business in the Canal Area could bring diverse benefits to the economy of Panama in terms of revenues, services and supplies for vessels, employment, salaries, and profits.

The Port Authority alone or in cooperation with the Ministry of Planning and Economic Policy or some other government department should take the initiative and develop desirable national objectives for the future development of bunkering in the Canal Area.

Bunkering by barge could well be the most efficient and competitive way to supply bunker fuels to ships. It would avoid the estimated \$2.00 per barrel demurrage charge and most bunkering fees. An earlier study placed the total annual cost of barge bunkering at \$0.57 per barrel compared to \$1.77 per barrel charged currently. Texaco uses barges to supply bunker fuels to ships from its local refinery and these sales have not declined during the past decade. A feasibility study is advisable to determine the economics of barge bunkering in the Canal Area, the investments required,

the installations to be discontinued, and the bunker business that could be regained with barge bunkering.

An alternative to barge bunkering is to continue in the present mode of fully using the on-shore facilities of the Port Authority leased by APSA until 1999. A study about the prospects of reviving the bunkering business in the Canal Area would be helpful for a decision whether to make extensive investment and repairs of the piers, pipelines, pumping stations and other aspects to return to an efficient, dynamic bunkering service or to make minimum repairs to ensure safety against oil spills and accidents and to let the bunker business continue its decline. An investment plan should include strategies of how to obtain the necessary financing from such sources as the World Bank, the IDB, Japanese aid, credits from the San Jose Accord, or set-asides from bunkering fees.

The fees collected by APSA could be employed more effectively. APSA's annualized expenses of \$6 million and after-tax profits of \$830,000 appear to be on the high side. A restructuring of its operation could yield more revenues for investment and repairs or permit a substantial lowering of fees. Should APSA's contract be terminated for some reason in the future, a consortium of oil marketing companies could probably organize continued bunkering service on a non-profit basis and, conceivably, assist in securing an international loan for upgrading the bunkering facilities.

Jet fuels sales in Panama have decreased also by nearly 50% during the past ten years due to non-competitive pricing. The delivered jet fuel price to international airlines at the Panama City airport averaged \$1.024 per gallon compared to about \$0.67 at Miami Airport, the alternative fueling location for most airplanes. In 1989, REFPAN imported about 29% of the total amount of jet fuel sold in Panama at an average CIF price of \$0.625 per gallon and sold all jet fuel at the ex-refinery price of \$0.952 per gallon. REFPAN establishes the ex-refinery price, pays no duties and taxes on jet fuel imports, and is the only company granted a license to import jet fuel. REFPAN claims that a profit from jet fuels is needed to offset refinery operating losses and to subsidize LPG imports. It may be advisable to open imports of jet fuels to the marketing companies on the same basis as for REFPAN in order for competition to reduce prices to competitive levels and thereby help generate more airport activity. The subsidy to LPG users and to the refinery could be handled in other ways.

All petroleum prices, taxes, subsidies, and margins in the inland trade are fixed and controlled by the Ministry of Commerce and Industry, on advice from the Hydrocarbons

Department. In 1989, the volume-weighted average FOB crude oil import price was \$16.29 per barrel, or \$0.39 per gallon. The consumer in Panama, however, paid an average final price of \$1.28 per gallon, \$0.24 per gallon higher on average than in El Salvador. Distribution costs are high relative to other countries because of unusually large retailer margins (17 cents per gallon in Panama versus 7 cents per gallon in El Salvador).

Subsidies via lower taxes and prices are granted to taxi drivers, fishermen, electricity consumers, households using cooking gas, and all government petroleum users. These subsidies contribute to high prices and taxes for other consumers, losses at the refinery, and sales abuses and tax evasion. Subsidies should be eliminated or phased out where they are discriminatory. Other subsidies in oil consumption should be shifted to other, more direct forms of payment.

By eliminating the surcharge on gasoline that finances some subsidies, the price of gasoline could be reduced by 10 cents per gallon. The price stabilization tax of 9.4 cents per gallon was originally imposed to provide a cushion to neutralize the effect of frequent fluctuations in international oil prices on the internal price structure of petroleum products. This tax could now be suspended as the government's share in bearing the temporary costs due to higher oil prices resulting from the Middle East crisis. Future general tax reforms in Panama should not further increase the tax burden on petroleum product sales.

The large operating and other costs of REFPAN in relation to the volume of locally refined products also contributes significantly to the high consumer prices for petroleum products. Large excess capacity at the refinery (partly due to excess manpower and loss operations at the marine terminal) translate into high ex-refinery product prices.

A future government policy toward the refinery needs to be based upon an assessment of the benefits and costs of several available options. Decisions should not be made under the influence of a temporary crisis situation.

The status quo, the continued operation of the Texaco refinery under present conditions brings substantial benefits for Panama: a measure of petroleum supply security; substantial income generation, employment and training in the depressed Colon area; ancillary business opportunities for Panamanian contractors and suppliers. REFPAN estimates that the measurable benefits from the refinery in terms of refinery and contractor salaries, worker benefits, taxes, and petroleum product discounts to government accounts add up to \$29 million per year.

The costs of continuing the status quo of the refinery appear also substantial for Panama. The annual subsidy or protection of REFPAN against competition from direct product imports is of the order of \$23 million. A saving of this magnitude could largely compensate potential losses from closing the refinery. The monopoly position of the refinery together with price controls have inhibited competition. Non-competitive refinery prices have contributed to the decline in sales volume of petroleum products. Future investments to increase efficiency and production will reduce but not eliminate excess refinery capacity; operating costs will remain well above international levels.

A decision about the future of the refinery will probably be influenced by broader economic and political issues; whether to protect domestic industries or encourage competition and an open economy.

Next year, the government will have an opportunity to negotiate modifications or a new refinery agreement with REFPAN. The original agreement of 1956 and subsequent revisions were concluded within a very different world environment.

A new set of parameters of a revised agreement could

- move ex-refinery prices closer to prevailing international levels;
- provide greater flexibility and more frequent consumer oil price adjustments;
- extend the right to import petroleum products to marketing companies under the same condition as the refinery;
- lower the cost of protecting or subsidizing the refinery;
- grant incentives and freedom for REFPAN to cut costs, reduce excess capacity, and separate expenditures not closely related to the refinery;
- apply income taxes at all refinery profit levels;
- change the profit formula from guarantees related to employed capital to rewards for improvements in efficiency and competitiveness; and
- shift the emphasis from monopoly protection and discrimination to competition and market-driven decisions related to the refinery.

Separation of refinery costs from those not closely related to the refinery would improve the transparency of the refinery cost structure and establish the true level of profitability not affected by gains from product imports or costs unrelated to refining.

The 10% discount granted by the refinery on all petroleum product sales to government accounts should be

discontinued as it is discriminatory to the private sector and contributes to losses at the refinery unrelated to efficiency or market forces.

The guaranteed minimum, tax-free 10% rate of return on employed capital by the refinery does not provide a clear incentive to reduce costs, utilize capacity, or improve efficiency. Last year, it was more profitable to import products directly by the refinery than to refine crude oil. The profit formula ties the hands of the government in changing or liberalizing petroleum prices or imports. Under the existing profit formula a lower price for one product has to be compensated by higher ex-refinery prices elsewhere to enable the refinery to earn its guaranteed minimum rate of profit. It seems that even poor management would have to be rewarded by the government with increased ex-refinery prices to bring the profit level up to the guaranteed minimum. If the government fails to act, as it has done in 1989, the refinery assumes the right to add the shortfall in the guaranteed minimum profit as a "phantom" capital contribution to the base from which future minimum returns are calculated. Panama's interests would probably be better served to move away from a guaranteed refinery profit to negotiating a reasonable level of duties on petroleum product imports that would accord the refinery a degree of protection for a specified time period.

Import liberalization combined with price de-controls, is a viable policy alternative that is beginning to be adopted by more countries (Chile, Guatemala, Jamaica). During 1988-89, REFPAN imported duty-free petroleum products at average CIF prices of 10 to 32 cents per gallon lower than the ex-refinery price before taxes, realizing a net gain of \$8.5 million. LPG was imported at a loss. If terminalling and other costs averaging about 2.5 cents per gallon associated with products importing by marketing companies were to be added, imported product prices would still be significantly lower than prevailing ex-refinery prices.

Local marketing companies expressed confidence that they could handle the logistics of product importing if imports were to be liberalized. Most have tankage for product storage equivalent to about 15 days consumption; some would rent tanks from APSA until new ones have been built.

If the government were to choose this policy alternative, it would place the marketing companies on the same basis as REFPAN by exempting product imports from duties or reducing existing prohibitive, protective levels (ranging from 40-70 cents per gallon) to a level where the government would realize revenues from duties.

Import liberalization will work effectively and achieve expected results if it is accompanied by price and margin de-controls to allow international oil price decreases and increases which determine import prices to be reflected in final consumer prices. Long delays (as currently) in approving price adjustments under a price control system would result in major windfall profits or unsustainable losses for marketing companies and the refinery and lead to supply disruptions and shortages and loss of confidence.

In Guatemala, marketing companies freely import petroleum products in competition with the Texaco refinery. Prices of imported products orient the ex-refinery prices and determine the prevailing consumer oil product prices. Product import liberalization and lower taxes have produced a significantly lower oil price structure in Guatemala than in Panama.

Under this policy alternative, there would be no need for a continued refinery agreement and guaranteed profit level. Prices of imported products would guide the level of consumer oil prices. The government could establish a level of import duties that would provide the refinery a measure of protection. Successive reductions in duty levels could be announced in advance to allow time for the refinery to adjust and to take new efficiency measures. In this way, competitive market forces rather than the cost structure of a monopoly would determine consumer oil price levels. A decision to close the refinery or to continue operating would be determined by competitive market forces.

INTRODUCTION

Origin and Objectives

This project has been prepared for the Ministry of Planning and Economic Policy of the Panamanian government, with support from A.I.D. (United States Agency for International Development). The analysis and recommendations contained in this Report will be used by various Panamanian government agencies involved with planning, economic development, price controls, subsidies, taxation, import restrictions, supply agreements, port administration, labor, and the refinery agreement-- principally the Ministry of Planning and Economic Policy, Ministry of Commerce and Industry, Ministry of Finance, Comptroller General, Hydrocarbons Department, Port Authority, and Price Control Commission.

The decision by President Endara's government to analyze Panama's petroleum sector emerged during the process of developing economic reform proposals designed to achieve economic recovery and sustainable growth. It was felt that a reduction in high fuels prices in Panama relative to international price levels will have a direct, positive impact on reactivating the Panamanian economy, improving the competitive position for Panamanian exports, and reversing the downward trend in jet fuel and bunker fuels business.

The central issue developed in this Report is how to bring petroleum prices in Panama closer to international price levels. The Report addresses the importance of

petroleum for the Panamanian economy and for the success of the government's economic reform proposals; the non-competitive fuels price structure prevailing in bunkering in the Canal Area, in aviation and other petroleum sectors comparing Panama with other countries; price comparisons of locally refined products with imported products; petroleum taxes, subsidies, and the cost structure of the refinery; and the contracted agreement between the Texaco refinery and the Panamanian government.

Policy recommendations focus on alternative ways of how to lower prices in bunkering, aviation, and in fuels for the internal market. This can be done essentially in three ways: by lowering taxes, improving the efficiency of the refinery, or liberalizing petroleum product imports. The costs and benefits for Panama of implementing specific, basic, far-reaching reforms in the petroleum sector have been assessed.

The analysis was developed within the framework of

- a) generally recognized desirable oil policy objectives,
- b) the new direction of the government's overall economic policies,
- c) the declared goal of bringing fuels prices more in line with international levels, and
- d) the interdependence of some reforms in the oil sector with those elsewhere in the economy such as the electricity sector, general tax reform, and price de-controls.

Issues relating to overall energy policies, such as energy conservation, conditions for investments in oil exploration, non-conventional energy development, subsidies and price controls in non-oil energy sectors are beyond the scope of this study and have, therefore, not been analyzed. While a restructuring of the electricity sector and tax reform will affect reforms in the oil sector, these issues are considered beyond the range of this study and merit separate, detailed analytical considerations.

The Middle East crisis erupted during the time this Report was being prepared. It is causing a substantial rise in world crude prices and pressure on oil consuming countries, including Panama. Higher consumer oil prices may well have to be implemented in Panama as a temporary measure in response to the international competitive oil situation caused by the Middle East crisis. The need for upward adjustment in fuel prices in no way invalidates the basic conclusions and recommendations of this Report. Some of the policy recommendations in this Report can serve as useful input for a decision of how to respond to the present world oil crisis. The Report addresses the long-term, permanent solution to Panama's high fuel costs and how to bring them in line with international price levels.

Panama's current difficulties in making oil price adjustments demonstrate the inadequacy and distortions of the rigid price control system applied to the petroleum sector. A major policy decision with regard to the refinery should not be based on the current temporary crisis.

Relevant tables of statistics are included. Tables cover the price structure, including taxes and subsidies, for petroleum products starting from the FOB crude price to final consumer fuels prices; the cost structure and subsidy element of the refinery; the high cost of bunkering services; and savings that could be realized from a shift from refining to imports.

Authors, Organizations, Sources of Information

Siegfried Marks and Dorrit K. Marks are economists and business consultants with long experience in analyzing Latin American government oil policies, government regulations, business trends, investment and trade projects. Siegfried Marks and Dorrit Marks own and manage Sigmar International, Inc., a Miami-based firm offering advisory services on Latin America to governments, private companies, and international institutions. Further background information can be found in Appendix B.

Development Technologies, Inc., is a Washington-based consulting company assisting the Ministry of Planning and Economic Policy of the Government of Panama in developing strategies for economic recovery and social improvements. Development Technologies personnel has had extensive experience in project and policy development in Latin America.

In the course of their four-week work program, Mr. and Mrs. Marks conducted in-depth interviews with a number of knowledgeable contacts from diverse organizations involved

with the petroleum sector in Panama. The individuals contacted are listed in Appendix A. The organizations which contributed valuable information, statistics, and viewpoints to this project include:

Government--

Ministerio de Planificacion y Politica Economica

Ministerio de Comercio e Industrias

Directorio de Hidrocarburos

Autoridad Portuaria

Companies, Internal--

American Airlines

Atlantic-Pacific, S.A. (APSA)

BP Caribbean Trading Co. Inc.

Chevron Marine and Services Ltd.

Esso Panama

Lockheed Air Terminal (LATSA)

Refineria Panama S.A. (Texaco)

Shell Company Ltd.

Companies, External--

Esso Central America and Caribbean

Esso El Salvador

Esso Guatemala

Texaco Latin America and West Africa

Other Sources--

United States Agency for International Development

United States Embassy, Panama, Economic Section

I. IMPORTANCE OF PETROLEUM FOR PANAMA

Panama's economic development in previous decades benefited from the existence of the Canal, available infrastructure, a dynamic large free zone, and tax-haven operations. Moderate governments maintained an open, free-market economy taking advantage of Panama's favorable geographical location. In more recent years, however, Panamanian governments introduced price controls in key sectors, extensive subsidies and import controls, created inefficient state companies, and accumulated a burdensome public debt by financing large public sector deficits. Severe political problems adding to economic mismanagement resulted in a disastrous 16% decline in gross domestic product in 1988 followed by stagnation in 1989.

A legacy of social and political unrest, large unemployment, decline in living standards, economic stagnation, fiscal and external payments imbalance, lack of private sector confidence and investment, burdensome state controls and inefficient state enterprises have convinced the administration of President Endara to substantially change the direction of economic policies. Recently, the government announced a national plan for comprehensive economic reforms which include de-controls, privatization, and other measures to restore a market-driven economy built on private sector confidence.

Success of the government economic policies will depend on the removal of misguided policies inherited from the past.

The oil sector has remained under extensive controls that have inhibited competition, caused inefficiencies and decline in consumption, excessive fuel costs to oil consumers, high taxes and costly subsidies and distortions in consumption. Access to low cost petroleum supplies is a key factor for future economic development of the Panamanian economy.

There is no domestic crude oil production in Panama, petroleum crude and product imports, including fuel oil and diesel for bunkering, make up about 17% of Panama's total imports. In 1989, petroleum imports of \$168 million consisted of

- crude oil imports used by the refinery (43% of total)
- direct product imports by the refinery (27%)
- bunkering fuels imports by oil marketing companies (30%).

Various sales and other consumption taxes on oil products constitute a significant portion of total government tax revenue from all sources. In 1989, sales taxes on petroleum products contributed approximately 22.9% to total tax revenues collected from all sources by the central government of Panama. Information about income taxes and other taxes paid by oil companies was not

available and, therefore, not included in total taxes from petroleum products. These income tax revenues, however, are included in the overall tax revenue. Last year, the various taxes on the sale of oil products added \$93.7 million, or 53.5%, on the average to the imported price of petroleum.

The petroleum sector clearly affects the Panamanian economy substantially. High fuels costs have created burdensome subsidies and inefficiencies and have contributed to the non-competitiveness of Panama's economy and to the high cost of living.

TABLE I.

PANAMA'S OIL IMPORTS C.I.F.- 1989

		Millions of \$'s
Crude oil:	Mexico	13.0
	Venezuela	24.1
	Ecuador	35.1
Products:	Jet fuel	4.2
	LPG	15.2
	Premium gasoline	13.3
	Diesel	13.5
Bunker fuels:		<u>49.6</u>
Total oil imports		168.0
Total, less Bunker Fuels		118.4
All general imports		1,000.0
Oil imports as % of total imports		17%

II. PETROLEUM DEMAND AND SUPPLY

High petroleum prices in Panama relative to international price levels are the result of a fundamental imbalance between petroleum demand and supply capacity, high taxes, fees, and costly subsidies, government price and import controls, and some lack of competition.

Panama's refinery (REFPAN), situated near Colon at the Atlantic entrance to the Canal, began operating in 1962 to supply the internal petroleum demand of Panama and some bunkering in the Canal Area. Texaco purchased the refinery in 1972/74 and began expanding its capacity from 55,000 to 100,000 barrels per day to convert it into an export refinery. This decision proved to be a major miscalculation.

The refinery never became competitive internationally and its new export capacity was never used. It became a burden to the entire cost structure of the refinery. Refinery capacity utilization began to decline from its original 55,000 barrels per day after 1976 to only 37,000 in 1980 (37% of total capacity) to 28,000 B/D in 1981 (28% of capacity) to a new low of only 18,000 B/D in 1989. Fixed costs associated with this large unused capacity have to be absorbed by income from a shrinking volume of sales. Excess fuel oil supplies at Caribbean refineries and elsewhere reduced international fuel oil prices to the point where the Panama refinery was not competitive.

A combination of negative trends created this chronic problem for the refinery. Bunker sales in the Canal Area became non-competitive also as the fees for bunkering vessels increased while at competing locations due to excess international supplies lower bunker prices were offered. High petroleum prices and adverse economic trends caused inland petroleum sales and jet fuel demand to stagnate and decline substantially. Increased petroleum sales taxes were also a negative factor for demand. Refinery production was adversely affected by all of these developments. The demand decline, product imports, and refinery utilization are outlined in Table II.

TABLE II.

PETROLEUM DEMAND AND SUPPLY
(millions of barrels)

	<u>1989</u>	<u>1988</u>	<u>1980</u>
Inland demand	5.4	5.2	6.4
Jet fuels	0.55	0.6	0.9
Bunker fuels	<u>5.2</u>	<u>5.5</u>	<u>10.3</u>
Product imports			
Inland demand	1.9	1.7	
Jet fuels	0.15	0	0
Bunker fuels	<u>3.5</u>	<u>3.4</u>	<u>6.4</u>
Total product imports	5.55	5.1	6.4
Exports	0	0	1.0
Refinery own fuel use	0.5	0.6	1.0
Refinery capacity	36	36	36
Actual throughput	6.1	6.8	13.2
% of capacity	17	19	37

Rather than close the refinery which had become non-viable, relative to direct product imports, the government of Panama decided to protect and subsidize the refinery apparently because of the employment and other economic benefits it generated and because it was assumed that dependence on crude oil imports rather than on product imports represented greater supply security. This assumption was re-enforced when Mexico and Venezuela began to guarantee a certain volume of crude oil to Panama. The guarantees are only for one year, expiring in August, but renewable at the option of either party.

An alternative to refining crude oil is importing products directly at international market prices offered by efficient foreign refineries operating at a profit. The difference between the imported and the locally refined price of petroleum products represents a subsidy to the refinery.

This subsidy is the difference between the ex-refinery price free of taxes and the landed cost (C.I.F.) of imported products free of import duties, plus terminalling costs (estimated at 2.5 cents per gallon) which the marketing companies would incur when importing products instead of purchasing them at the refinery.

Profits generated by REFPAN from importing products are needed to offset annual losses from refinery operations in order to realize a minimum rate of return guaranteed to

TABLE III (a)
REFINING VERSUS IMPORTING PRODUCTS-1989
Calculation of Refinery Subsidy

	Ex-Refinery Price \$/gal.	CIF Import Price \$/gal.	Difference \$/gal.	Potential Saving from Product Importing mill \$'s
Prem Gasoline 95 Oct	0.7160	0.5177	0.1983	
Prem Gasoline 92 Oct	0.7160	0.5133	0.20327	12.7
Reg Gasoline	0.6623		0.1446	1.2
Kerosene	0.6623		0.1446	0.3
Diesel	0.7133	0.5862	0.1271	10.3
Jet Fuel	0.9500	0.6249	0.3251	7.6
LPG	0.5325	0.6058	(0.0733)	(2.1)
Total				30.1
Less 2.5 cents per gallon terminalling costs				<u>5.1</u>
Net gain to consumers				25.0

Source: Hydrocarbons Department

See Table III (b) for additional details.

REFPAN by the government in the refinery contract of 1956 when Refineria Panama, S.A. (REFPAN) was established and by subsequent amendments.

During 1989, 28% of total petroleum demand in Panama (excluding bunker fuels) was satisfied by imports exclusively by REFSPAN. The refinery sold the imported products at the ex-refinery price established for products refined by REFSPAN. A comparison of actual CIF import prices for 1989 and ex-refinery prices indicates substantial gains from product importing. These gains, net of taxes and import duties, averaged 33 cents per gallon for jet fuel, 20 cents per gallon for premium gasoline, and 13 cents per gallon for diesel, while the refinery suffered an average loss of 7 cents per gallon on imports of LPG (See Table III (a)). The price difference multiplied by the actual volume imported produced a net gain for REFSPAN of \$8.5 million in 1989. If the entire national demand for these products had been satisfied with imports rather than by products refined in Panama, the saving would have been around \$30 million each year during 1987-89. The net gain to consumers would have been \$25 million, \$27.7 million, and 23.4 million, respectively, in those three years as shown in Table III(b). These calculations assume that marketing companies would have had an estimated average 2.5 cents per gallon terminalling expense in connection with direct product importing. Further gains could have been realized from importing fuel oil rather than purchasing it at the

refinery.

Fuel oil in the internal market is mostly sold to the government-owned power plant, IRHE, at a subsidized price. In 1989, the average ex-refinery price, before taxes, was \$0.2685 per gallon compared to a CIF price of \$0.3112 per gallon. At annual sales of 28 million gallons, the net loss at the refinery relative to imports would have been \$1.2 million. Thus if all products, including fuel oil, had been imported instead of produced at the refinery in 1989, the gain to consumers (deducting terminalling costs) would still have been about \$23 million.

TABLE III(b)
REFINING VERSUS IMPORTING PRODUCTS

	1989						
	Ex-Refinery Price \$/gal.	CIF Transport Price \$/gal	Difference \$/gal.	Volume Imported mill. gal.	Value of Price Difference mill. \$'s	National Consumption mill gal.	Potential Savings from Product Importing mill. \$'s
Prem. Gasoline, 95 Octane	0.7160	0.5177	0.1983	1.9	0.4		
Prem. Gasoline, 92 Octane	0.7160	0.5133	0.2027	24.1	4.9	62.8	12.7
Regular Gasoline	0.6623		est 0.1446			8.2	1.2
Kerosene	0.6623		est 0.1446			2.4	0.3
Diesel	0.7133	0.5862	0.1271	23.0	2.9	81.1	10.3
Jet Fuel	0.9500	0.6249	0.3251	6.7	2.2	23.5	7.6
LPG	0.5325	0.6058	(0.0733)	25.1	(1.8)	28.3	(2.1)
TOTAL				80.8	8.6	206.3	30.1
(Less) Terminalling Costs 2.5 cents/gal.							5.1
Net gain to consumers							25.0
			1988				
Prem. Gasoline, 95 Octane	0.7160	0.5575	0.1585	22.8	3.6	60.9	9.7
Prem. Gasoline, 92 Octane			est 0.1048			9.3	1.0
Regular Gasoline	0.6623		est 0.1048			2.1	0.2
Kerosene	0.6623					79.9	16.5
Diesel	0.7133	0.5068	0.2065	24.2	5.0	23.9	7.8
Jet Fuel	0.9500	0.6249	0.3251	24.7	(1.2)	28.1	(2.3)
LPG	0.5325	0.6136	(0.0810)				
TOTAL				71.7	7.4	204.2	32.9
(Less) Terminalling Costs 2.5 cents/gal.							5.1
Net gain to consumers							27.8
			1987				
Prem. Gasoline, 95 Octane	0.7160	0.5815	0.1345	6.5	0.9	66.5	8.9
Prem. Gasoline, 92 Octane							
Regular Gasoline	0.6623	0.5396	0.1227	1.5	0.2	13.0	1.6
Kerosene	0.6623	0.1227				2.2	0.3
Diesel	0.7133	0.5743	0.1390	7.5	1.0	103.0	14.3
Jet Fuel	0.9500	0.6249	0.3251			27.6	9.0
LPG	0.5325	0.6933	(0.1608)	21.3	(3.4)	29.1	(4.7)
TOTAL				36.8	(1.3)	241.4	29.4
(Less) Terminalling Costs 2.5 cents/gal.							6.0
Net gain to consumers							23.4

III. BUNKERING

Volume Decline

The volume of fuel oil and marine diesel for bunkers sold to ships transiting the Panama Canal declined from nearly 30 million barrels per year in 1970 to about 22 million barrels after the re-opening of the Suez Canal in 1975 to 10.3 million barrels in 1980 to only 5.2 million barrels last year (Table IV). The transiting of vessels through the Canal decreased from 15,000 to 13,000 per year in 1982 and has remained steady at that level since then. Only about 2,000 vessels, 15% of the total transiting the Canal, take on bunker fuels in the Canal area. This situation has prevailed for a number of years and did not improve when oil marketing companies were no longer forced to purchase their supplies from the Texaco refinery in Panama, but were allowed to import bunker fuels directly.

Changes in transportation technology and global trade patterns encouraging shipments by air and overland trucking across the United States have been factors responsible for the stagnation and very gradual long term decline in shipping volume passing through the Canal. An increasing proportion of world trade is carried in very large tankers and other vessels beyond the capacity of the Panama Canal. An increasing proportion are smaller vessels for nearby trade passing through the Canal, requiring a smaller volume of bunker fuels.

TABLE IV
 BUNKER FUEL OIL AND MARINE DIESEL SALES
 Mill. of Bbls.

	Total	Distribution Companies	REFPAN Directly
1970	29.3		
1980	10.3	8.8	1.5
1981	9.9	8.2	1.7
1982	9.2	7.6	1.6
1983	8.5	7.1	1.4
1984	7.4	5.8	1.6
1985	5.5	4.3	1.2
1986	5.8	4.0	1.8
1987	7.3	4.8	2.5
1988	5.5	3.5	2.0
1989	5.2	3.5	1.7

Source: APSA - Atlantic Pacific, S.A.

Non-Competitive Price

The main factor for the decline in bunker sales and why only 15% of the vessels passing through the Canal take on bunkers is the high cost of bunkering. The cost to vessels of bunker fuels has been around \$2.70 per barrel higher in the Canal area than at Los Angeles or Houston in recent years (Table V). The average price difference for a cargo of, say, 20,000 bbls. amounts to a saving of \$54,000--an amount large enough for a ship to lengthen its route in order to take on bunker fuels in Los Angeles, Texas or points in the Caribbean instead of the Panama Canal Area.

The main reasons why bunker fuels in the Canal Area have become noncompetitive are depressed prices caused by excess supplies in competitive locations depressing prices and increased fees and charges in the Canal Area. The placement of substantially all Alaskan crude oil on the west coast of the United States has resulted in excess fuel oil refined in the Los Angeles area where there is little demand for thermal power or industrial heating. Most fuel oil in the Los Angeles area has to be sold as bunker fuel. In the Gulf of Mexico area of the United States, the efficient refineries of Texaco and other oil companies produce efficient large supplies of fuel oil that have to be sold as bunker fuel. Currently, most bunker fuels sold in the Canal Area are imported from the Gulf area at a freight disadvantage of \$1.00-\$1.30 per barrel. It seems possible that supplies could be imported from Venezuela at lower

TABLE V
 BUNKERING FUELS MORE COSTLY IN
 PANAMA THAN LOS ANGELES OR HOUSTON*
 (\$/Bbl.)

	<u>Panama>Los Angeles</u>			<u>Panama>Houston</u>		
	Bunker C	Inter- mediate	Marine Diesel	Bunker C	Inter- mediate	Marine Diesel
1985	4.17	4.32	4.59	4.19	4.28	2.04
1986	3.02	3.28	3.29	2.44	2.49	3.40
1987	2.08	2.36	1.03	1.22	1.52	1.79
1988	1.91	1.91	2.30	2.10	2.52	1.33
1989	1.97	2.23	1.39	1.79	2.19	1.62
1990 (thru May)	1.78	1.85	4.78	2.55	2.90	4.00

Source: APSA - Atlantic Pacific, S.A.; Platt's Oil Bunker Wire

*The amounts shown are the difference in Panama's average annual prices over that prevailing in competing locations.

overall cost, because freight costs currently charged to Panama include the transport cost from Venezuela to the U.S. Gulf Coast, and then to Panama.

As demand for bunker fuels declined in the Canal Area, the volume sold per distributing company decreased also. Diseconomies of scale produced higher costs. Distributing companies have to arrange for smaller shipments of fuels at higher freight rates or coordinate a shipment for more than one distributing company. They do not want to maintain large stocks because frequent large fluctuations in international prices of bunker fuels provide high risks for fuels in storage. For example, the price for intermediate grade fuel oil sold at Cristobal fell from \$190 per metric ton in January 1985 to \$68.50 by July 1986.

An important factor responsible for the non-competitive price, however, is the multitude of bunkering charges levied by Atlantic-Pacific S.A. (APSA), the Port Authority, and authorized agents. The aggregate bunkering fees are large enough to make a competitive difference. The total amounts to \$1.77 per barrel, not counting high mooring and docking fees of \$2 per barrel (Table VI). Pumping fees in the Canal Area have increased from about \$0.35 to \$1.25 per barrel during the past decade. The total cost of taking on bunker fuels for vessels is about 18% higher in the Canal Area than in Texas or Los Angeles. A narrowing of the competitive edge of Los Angeles to about \$1.00 per barrel could reactivate bunker sales in the Canal area.

TABLE VI

PRICE STRUCTURE FOR BUNKER C FUEL OIL
 DELIVERED BY DISTRIBUTION COMPANIES
 (excluding direct refinery sales)

		\$/Bbl.
FOB Import Price*		11.95
Bunker Fuels Trading Company Margin		0.13
Freight and Insurance		<u>1.12</u>
CIF Import Price		13.20
Pumping-Out Fee	0.70	
Pumping-In Fee	0.55	
Pollution Fee	0.05	
Contracted Administrative Charge	0.13	
Inspection	0.03	
Other Direct Expenses	<u>0.31</u>	
Total Bunkering Fees**		<u>1.77</u>
Total cost to vessel for Bunker Fuel Oil		\$14.97

* May 19, 1990

** Does not include mooring/docking fees of about \$2.00 per barrel nor a small margin for the oil distribution company.

Source: Esso Marine Supply Company Limited

APSA

Historically, the Canal Commission owned, operated, and maintained the installations of the bunkering business in the Panama Canal Area. Investment to maintain the facilities in good working order began to be neglected as the time approached for the installations to be transferred to Panamanian control in 1979 as a result of the new Canal Treaty. The Port Authority, in its new role, did not feel competent to operate the bunkering installations directly. A subsidiary of British Petroleum won a public bid and operated the installations through 1988. The facilities were further allowed to deteriorate, while fees charged increased and bunker sales continued to decline.

Although Texaco apparently won a public bid early in 1989 to take over the lease and operations of the bunkering installations, the contract was awarded to a company owned by two Venezuelan brothers formed early in 1989. Atlantic-Pacific S.A. (APSA) was awarded the contract by the Port Authority in April 1989 to operate the bunkering installations for ten years. In October 1989, the United State Department of the Treasury listed APSA among the Panamanian companies and individuals charged with acting as agents of Cuba. APSA was subsequently removed from that list.

The contract with the Port Authority gives APSA the exclusive right to operate all bunkering installations in the Canal Area owned by the Port Authority. All oil

marketing companies engaged in the bunkering business in the Canal Area have to use these facilities--tanks, piers, and connecting pipelines--to sell bunkering fuels to vessels. APSA connects hoses to vessels, the pumping stations move the fuel oil and diesel from storage tanks through the pipelines. APSA prepares the bunkering documents, carries out basic maintenance, and contracts out services to other agents. APSA employs about 120 people most of whom had worked previously for B.P. and earlier for the Canal Commission. For its services of pumping bunker fuels into vessels for the marketing companies APSA charges a variety of fees aggregating over \$1.30 per barrels. Additional charges are paid by the vessels to the Port Authority directly or to agents who carry out specific tasks in the bunkering process delegated to them by APSA or the Port Authority. The overall total comes to \$1.77 per barrel.

The oil marketing companies have criticized the manner in which APSA won the contract. They allege that APSA provides inefficient service and that it has failed to undertake the necessary investments to prevent the installations from further deterioration. The marketing companies fear that the poor state of the docking facilities and pipelines for bunkering could cause costly oil spills or other damages. Under the contract APSA is responsible for damages. In case of an oil spill, however, APSA might find it difficult to meet large damage claims.

The poor condition of the bunkering facilities causes delays in the time it takes a vessel to complete bunkering

of fuels. This adds to the cost of bunkering, providing an additional incentive, particularly by large vessels, to avoid bunkering in the Canal Area or to prefer bunkering by barge without using the piers and other APSA facilities. Mooring and docking charges of about \$2 per barrel are also considered very high and provide disincentive to bunkering in the Canal Area.

APSA has submitted a draft for a five-year, detailed investment plan to its Executive Committee. It has not yet been approved by the Port Authority which is represented on the Board of Directors of APSA according to the terms of the contract. APSA is required to spend a minimum \$4 million during the first five years of its contract on maintenance, investments, and improvements of the bunkering installations.

APSA's tentative plan calls for an investment of \$8.55 million during the next five years, including \$3.0 million "contingent on negotiations and financing." Dredging has to be undertaken around the piers to remove sand accumulation into which larger vessels are beginning to bump when they attempt to dock. Pumping stations need to be changed and converted from antiquated steam-driven to diesel-powered systems. Deteriorated underground pipelines connecting storage tanks with the piers need to be replaced. Piers require extensive repairs, including replacement of the fenders. Tanks warehousing fuel should be overhauled. Still larger investments would be required to bring the facilities up to a state-of-the-art terminal bunkering

operation. APSA considers the needed investments too large to handle on its own and would like to seek financial participation elsewhere, including funding from A.I.D.

Recommendations

Bunkering fuels in the Canal Area used to be a dynamic, important activity that brought diverse benefits to the economy of Panama in terms of revenues, services and supplies for vessels, employment, salaries, and profits. The government of Panama should determine whether a recovery of the bunkering business is possible in the future and what needs to be done to achieve this objective.

a) Port Authority

The Port Authority alone or in cooperation with MIPPE (Ministry of Planning and Economic Policy) or some other appropriate government agency should take the initiative and develop desirable national objectives for the future development of the bunkering business. The Port Authority should consider commissioning a study of the long-term prospects for bunkering in the Canal Area in order to arrive at a conclusion whether or not to undertake a major effort for reviving bunker sales. The Port Authority should consult with and seek the cooperation of all private oil companies selling bunker fuels in the Canal Area and other private companies involved in the bunker business to develop and implement strategies designed to achieve these objectives. The Port Authority should ensure that APSA's operations conform with these strategies.

b) Barge Bunkering

Barge bunkering in the Canal Area appears to be the most efficient way to re-attain efficiency, competitiveness, and growth in bunker sales in the Canal Area. Currently, Texaco uses barges to supply bunker fuels to ships from its local refinery. The Texaco refinery's direct bunker sales have remained steady at around 1.7 million barrels per year throughout the past decade while the bunkering from the piers underwent a continuous decline. Texaco's barge bunker sales now account for one-third of total bunker sales in the Canal Area.

The Texaco refinery does not use the Port Authority piers or other deteriorated facilities. It has its own terminal and tanks near the refinery. The refinery pays no fees to APSA because it does not use their installations for its bunker sales. Ships receive bunker fuels off-shore and hence do not need to dock. There are no delays in bunkering and the ships save the steep demurrage fee of about \$2.00 per barrel. Barge operating costs are significantly below the APSA fees the oil marketing companies must include in the price of bunker sales. Thus, by not having to berth, a vessel's overall costs for taking bunker fuels can be reduced significantly in terms of pumping fees, port charges, and delays.

By saving the APSA charges and mooring fees, the Texaco refinery could probably drive the other oil marketing companies out of the bunker business in the Canal Area. The

refinery would, however, need to produce more fuel oil. This would result in more gasoline and diesel production which the refinery could only export at a loss due to its high operating costs.

The Port Authority should discuss expanding barge bunkering with the other oil marketing companies. A feasibility study may be advisable to determine the economics of barge bunkering in the Canal Area, the investments required, the installations to be discontinued and the bunker fuel market that could be recaptured with barge bunkering. One marketing company has prepared rough estimates showing that an initial capital investment of \$1.5 million would be required for barges at Balboa and Cristobal. Total annual operating costs, including insurance would amount to about \$1.4 million per year. Adding \$0.6 million now collected by the Port Authority from APSA, the total annual cost of barge bunkering would amount to \$0.57 per barrel at present volumes. Even if other costs had to be added, the total would still be significantly less than the current fees of \$1.77 per barrel paid to APSA and sub-contracted agents. In addition, ships would save about \$2.00 per barrel in docking fees.

Oil marketing companies could reduce their costs by renting the barges from independent barge companies at each end of the Canal. The barge companies could also provide the fuel pumping services for the marketing companies.

As an alternative to requiring APSA to undertake extensive investments in terminal bunkering installations, a

new investment plan could be drawn up for APSA to organize a barge company and to undertake such on-shore investments necessary for efficient barge bunkering.

c) Upgrading Existing Facilities

An alternative to barge bunkering would be extensive investments in repairing and upgrading the existing piers, pipelines, tanks, pump stations and other installations needed to provide an efficient, safe, economic bunkering service. A study, as mentioned earlier, would be helpful to determine the long-term prospects for bunkering in the Canal Area.

The decision of whether to plan for growing sales in the future or merely a holding operation emphasizing safety will determine the size and extent of investments in future years in improving the bunker service facilities. It is doubtful that competitive bunkering in the Canal Area can be restored merely by modernizing on-shore installations. Lower costs of bunkering are also needed.

An investment plan should include or be accompanied by a study of how to organize the effort to obtain the necessary financing to carry out the investments. Diverse potential funding sources should be explored, including the World Bank, the IDB, Japanese aid, or credits from the San Jose Accord.

d) APSA

The fees collected by APSA could be employed more effectively for

- financing repairs and upgrading of bunker installations or
- increasing revenues for the government or
- reducing the cost of bunker service and thereby making bunkering more competitive.

APSA's financial statement for the first half of 1990 shows

Total revenue, mostly from fees	\$ 3,746,000
Administrative and general expenses	1,527,000
Salaries	752,000
Maintenance and improvements	<u>726,000</u>
Total expenditures	3,005,000
Provision for income tax	327,500
Net after-tax profit	413,500

On an annual basis, APSA's total revenue is \$7.5 million, expenses \$6 million, and after-tax profits \$830,000. Administrative and general expenses are more than double that of salaries. APSA also holds notes payable to

"clients" of nearly \$400,000 and notes payable to "others" of \$430,000.

A careful audit and subsequent re-structuring of APSA's operations and investment proposals might bring existing bunker services in line with national objectives for bunkering. The intent should be to reduce any inefficient use of APSA fees in order to free a maximum amount for investment or taxes accruing to the government. Alternatively, the fee structure should be lowered as an incentive to increase bunker sales.

e) Oil Company Consortium

Should APSA's contract be terminated for some reason in the future, the government could invite competitive bids from companies to take over bunker services. The oil marketing companies have raised the possibility of jointly offering to organize the bunker service on a cost basis. While there may be difficulty to reach a common position on a bunker service proposal, not all marketing companies need to join such a bunker service consortium at the start. The fee structure could certainly be lower than the current APSA fees. The oil marketing companies could form an executive management committee or a board of directors and hire a company to operate bunker services under their supervision, similar to the airlines and Lockheed at the airport. The oil marketing companies could cooperate in actively supporting a financing plan for investments in repairs and upgrading of the installations. In the case of the airport

at Panama, the airlines guaranteed a loan for new installations. The LATSA fee covered loan service and Lockheed's operations. A similar approach could be adopted for bunkering providing the marketing companies would see improved bunker sales and safe, efficient operations resulting from the investment.

IV. AVIATION FUELS

Jet fuel demand in Panama decreased by nearly 50% during the past ten years to 23.5 million gallons. The number of international flights to Panama or stopping in Panama has decreased as some traffic became re-directed up the east coast of South America. Recurring political problems and neglect of tourism in Panama contributed to reduced flight scheduling.

The most important factor for the drop in jet fuels demand has been non-competitively priced jet fuel in Panama. As indicated in Table VII, the delivered price to airlines in Panama has been \$1.024 per gallon compared to \$0.67 per gallon in Miami in May 1989. Jets passing through Panama usually avoid fueling there and instead fuel at competing airports to save up to 30% on the difference in price. Panama's loading fee, airport fee, transport costs from refinery to airport, and distributing company margin aggregate only 7.2 cents per gallon--too small to affect the competitive difference in price.

Airlines using the Panama international airport formed an Airline Consortium and guaranteed a loan that financed

the installation of a modern hydrant fueling system. They hired Lockheed Air Terminal, S.A. to fuel the airplanes and to collect a fee from re-fueling airplanes through the marketing companies to re-pay the loan and to compensate Lockheed for its services. This fee is only 1.5 cents per gallon for consortium airlines and 6.5 cents per gallon for non-participating airlines--insufficient to be a decisive competitive factor choosing other locations for fueling.

The ex-refinery price for jet fuel established by Texaco in Panama has been \$0.952 per gallon, significantly above prices that prevailed at competing locations prior to the current Middle East crisis. Only Texaco is granted a license to import jet fuels. In 1989, Texaco imported 28.8% of total national requirements for jet fuel at a volume weighted average CIF price of \$0.625 per gallon, but sold the imported jet fuel at the refinery price of \$0.952 per gallon, thereby realizing a margin of \$0.327 per gallon. No taxes nor import duties were paid on jet fuel transactions. The profit margin on jet fuel imports made by the refinery was used to subsidize primarily refinery operating losses and secondarily losses on imports of LPG. Every 1 cent per gallon jet fuel price drop would lower the subsidy to the refinery by \$250,000. A 30 cents per gallon price drop means a \$7.5 million annual subsidy loss for the refinery. This subsidy loss would have to be compensated by higher prices for other products or in some other way to enable the refinery to realize a minimum 10% profit on employed capital

guaranteed by the government in its refinery contract with Texaco.

TABLE VII
JET FUEL PRICE STRUCTURE - 1989

\$/gal

	<u>Panama</u>	<u>Miami</u>
Delivered Price to Airlines	1.024	0.67*
Loading Fee**	0.015	
Airport Fee	0.015	
Transportation	0.032	
Distributor Margin	0.010	
Ex-REFPAN Price	0.952	0.952
REFPAN Import Margin***		0.327
CIF Import Price****		0.625
Insurance & Freight		0.0203
FOB Import Price Jet Fuel		0.6047

* May 1989

** Non-members of Airline Consortium (LATSA) pay a loading fee of 0.065 plus import duty equivalent of 0.19127 per gallon.

*** REFPAN import margin calculated on the difference between the CIF import price and the REFPAN price at which all jet fuel is sold.

**** CIF import price represents the import volume weighted price for the year.

Source: Esso Panama, Directorio de Hidrocarburos, Florida Aviation Fueling Co., Station Manager

Recommendations

Texaco currently establishes and maintains the price at which jet fuel is sold in Panama. Texaco also has an effective import monopoly for jet fuels, because the government does not grant others a license to import. In line with the new government policy of de-regulation, imports of jet fuel could be liberalized for all marketing companies in order to stimulate competition and driving down the jet fuel price to competitive levels. Jet fuel imports should remain exempt from import duties. The CIF price for jet fuels plus prevailing fees and margins and transport costs would become competitive with jet fuel prices at competing locations. Refinery operating costs can be financed in alternative ways rather than reliance on windfall profits from imports of jet fuel in a declining market.

Aside from lowering jet fuel prices, sales of jet fuel can also be raised by

- a) negotiating lower air fares for Panama,
- b) reviving tourism to Panama, and
- c) developing competitive air cargo volume through export growth and dynamic use of Panama as an important transshipment point and free port.

Benefits from increasing jet fuel sales would include

- a) greater airport and air transport activity, with attendant positive impact on the economy,
- b) growth in labor intensive activities: cargo and airplane handling, tourism, and
- c) increased income tax revenue.

V. PRICE STRUCTURE

The Ministry of Commerce and Industry, on advice from the Hydrocarbons Department, fixes and changes the price components, taxes, subsidies and margins for all products except bunker fuels and jet fuels. The price of bunker fuels is determined essentially by the CIF cost of imported bunker fuels and the price for jet fuels is set by the Texaco refinery. Prior to the Middle East crisis, refinery prices remained unchanged since 1986.

Before a price or margin change can be made, a detailed proposal has to be submitted to the Ministry of Commerce and Industry for discussion, analysis, and counterproposals by various government departments and oil company representatives. In August 1990, such a mixed price committee was formed to study a new price adjustment proposal and to submit a recommendation to the Ministry of Commerce and Industry which then announces its decision.

During 1989, six million barrels of crude oil were imported by REFPAN at an average FOB price of \$16.29 per barrel from Mexico, Venezuela, and Ecuador. The cost of freight and insurance added only \$0.64 per barrel or 1.5 cents per gallon to result in an average CIF crude import price of \$16.93 per barrel. Crude oil imports from Mexico and Venezuela are actually purchased by the government of Panama in order to qualify for a credit on 20% of imported crude oil from the two countries. These credits are used to pay debt service to these two countries and for new loans

under conditions determined by the creditor country. Crude oil purchased by Panama is immediately re-sold at the same price to REFPAN. Other countries, such as El Salvador, add a freight and crude price stabilization tax to the CIF cost of crude and arrange for crude oil transportation and then sell the crude oil to the private refinery at an arbitrarily inflated CIF price. This system has not worked well and is now being abandoned.

REFPAN's refinery operating costs, own energy use in refining and other adjustments add up to \$6.66 per barrel, compared to only \$2.05 per barrel for the RASA refinery in El Salvador. The refinery in Nicaragua shows similar low operating costs compared to REFPAN. It would probably be difficult to find another technically unsophisticated refinery elsewhere with an operating cost level as high as that of REFPAN. Earlier years, when the throughput volume was somewhat higher, show lower but still exceptionally high operating costs. For 1988, total operating costs amounted to \$6 per barrel and for 1987 they were \$4.26 per barrel. One has to go back to 1982 when throughput volume was nearly double the current levels (11.76 million barrels) to find operating costs of \$3 per barrel--still 50% higher than other Central American refineries.

REFPAN admits there is room for major cost savings as well as investments to achieve greater efficiency. Refinery management is developing plans to implement new measures. The REFPAN refinery still employs more than 400 people.

Annual payroll exceeding \$10 million is the major cost item of the refinery. Salvadorean and Nicaraguan refineries employ only 60-80 people. Panama's marine terminal and other ancillary facilities, however, require that the refinery complex employ some more people. In the past, REFPAN was discouraged from reducing manpower; however, last year it began a major cost reduction program that could eventually reduce total refinery employment by nearly 50%. The refinery cost structure includes loss operations of the marine facilities and other costs not directly related to refining.

Large excess capacity at the REFPAN refinery, in contrast to other Central American refineries, contributes to the excessively high per barrel operating costs. Last year, REFPAN operated at only about 20% of its capacity, partly due to increasing volumes of product imports. Direct product imports by REFPAN satisfy about 35% of total inland demand. These product imports offset the net loss operation of the refinery to produce a declared modest rate of return for REFPAN.

A rough analysis of REFPAN's profits and a comparison with previous years shows

- a) a decreased in profitability from 97 cents per barrel in 1987 to only 62 cents in 1989;
- b) a decrease in net total profits from \$9.32 million in 1987 to only \$3.79 million last year;

c) an increasing net refinery loss that has to be offset by increasing gains from direct product imports to realize an overall REFPAN profit.

(in millions of dollars)	<u>1989</u>	<u>1988</u>	<u>1987</u>
Net gains (loss) from products imports	8.53	7.41	(1.33)
Net refinery gain (loss)	<u>(4.74)</u>	<u>(1.29)</u>	<u>10.65</u>
Net overall profit for REFPAN	3.79	6.12	9.32
Profit per barrel (\$)	0.62	0.90	0.97

The main underlying cause for these trends is a significant drop in the volume of crude refined in the refinery, which dropped from 9.6 million barrels in 1987 to only 6.0 million barrels in 1989. This decrease was largely responsible for total operating costs to increase from \$5.38 to \$7.97 per barrel. Other factors changed much less dramatically or not at all. The total amount of operating costs increased only by \$1 million from \$38.44 million to \$39.44 million in 1989 compared to 1987. Ex-refinery prices remained essentially unchanged.

It is not sufficiently clear whether REFPAN has an incentive to further expand profitable product importing rather than resuming higher levels of crude imports and refining. The years 1988 and 1989 saw unusual political and economic difficulties which could have induced REFPAN's radical change in petroleum import policy. The refinery apparently plans to undertake cost cutting and efficiency investments. Investments that would enable the refinery

to displace gasoline and diesel imports by increased refined production would raise refinery throughput volume. REFPAN would take these steps only if profitability at the refinery were expected to improve. Otherwise, continued large product imports would prove to be more attractive; however, this would further threaten the viability of the refinery.

The net REFPAN profit in 1989 of \$0.62 per barrel, or \$3.79 million, was considerably below the net profit of \$2.00 per barrel of the refinery in El Salvador. Since REFPAN's profit fell below the guaranteed minimum 10% employed capital, the shortfall has been added to the employed capital and thus enlarged the base for calculating the guaranteed 10% minimum profit in future years.

Table VIII illustrates the volume-weighted average price for petroleum in the Panamanian market. A comparison with El Salvador shows that the average ex-refinery price was rather similar, because the large price equalization tax added to the CIF crude import price in El Salvador was fully offset by substantially higher refinery operating costs in Panama. The average final consumer price in Panama (excluding bunker fuel sales) was \$53.71 per barrel in El Salvador. The major differences are in

a) sales tax levels: \$15.89 per barrel in Panama versus \$12.24 per barrel in El Salvador (however, El Salvador imposed a freight and crude price equalization tax of \$4.3 per barrel); and

TABLE VIII
PANAMA PETROLEUM PRICE STRUCTURE,
Average 1989

	Panama				
	(1) \$/Bbl	(2) \$/gal	(3) \$/gal.	(4)	(5) El Salvador \$/Bbl.
Average FOB Crude Price	16.29	0.3879			15.63
Freight & Insurance	0.64	0.0152			1.40
Average CIF Crude Price	16.93	0.4031			21.61*
Refinery Operating Costs	5.22	0.1243			1.20
Energy Use in Refining	1.27	0.0302			0.85
Other Adjustments	0.17	0.0040			----
Refinery Profit	0.62	0.0148			2.00
Average ex-Refinery Price	24.21	0.5764	0.6421**	26.97	25.66
Subsidies & Surcharges			0.0000	0.00	
Econ. Reactivation Tax			0.1613	6.78	
Price Stabilization Tax			0.678	2.85	12.24
Import Equiv. Tax			0.1490	6.26	
Inland Transport			0.0202	0.85	
Distributing Co. Margin			0.0671	2.82	5.56
Retailer Margin*			0.1704	7.16	
Average Final Price to Consumers	50.95	1.213	1.2787	53.71	43.46

*Includes \$4.33/Bbl. price stabilization tax.

**Average ex-refinery price weighted by all products sold at the refinery was 58 cents per gallon; excluding bunker fuels, it was 64 cents per gallon.

Source: Directorio de Hidrocarburos.

b) much higher margins for petroleum product retailers in Panama than in El Salvador: 17 cents per gallon versus 7 cents per gallon in El Salvador. On premium gasoline, the retailer margin in Panama is 16.72 cents per gallon and in El Salvador 10.8 cents.

TABLE IX
COMPARISON OF PETROLEUM PRICE STRUCTURE
IN PANAMA AND EL SALVADOR

	<u>Panama</u>		<u>El Salvador</u>	
	\$/bbl.	% of total	\$/bbl.	% of total
Crude Oil				
Import Costs	16.93	33.2	16.86	38.8
Refining	7.28	14.3	4.05	9.3
Distribution	10.83	21.3	5.56	12.8
Taxes	<u>15.89</u>	<u>31.2</u>	<u>16.99</u>	<u>39.1</u>
Total	50.95	100.0	43.46	100.0

The above table clearly shows that refining and distribution costs are significantly higher in Panama than in El Salvador. Taxes are slightly higher in El Salvador because of the price equalization tax levied on crude, oil imports, which, however, is being removed. Without that tax, Panama's tax level on petroleum products is significantly higher. The overall net result is that consumers in Panama pay on the average \$10.25 per barrel, or 24 cents per gallon, more for petroleum products (excluding bunker fuels prices) than consumers in El Salvador.

How can consumer petroleum prices in Panama be brought closer in line with international prices?

Price de-control and import liberalization would stimulate price competition and lower price levels.

Removal of the price equalization tax in Panama would bring the sales tax level down to that prevailing in El Salvador.

Retail margins could be lowered. If these margins are high because of low average sales per retail outlet, there are possibly too many service stations and other petroleum retail outlets in Panama and the less efficient should close. Higher margins in Panama could also reflect a generally higher standard of living.

Incentives and or pressures could be applied for REFPAN to improve efficiency and increase capacity utilization. The alternative is to liberalize imports. Further analysis of policy alternatives is provided later in this Report.

VI. PETROLEUM TAXES AND SUBSIDIES

In 1989, the government collected an estimated \$93 million in various taxes, fees, duties, and surcharges from the oil sector in Panama. These taxes represent 22% of all direct and indirect taxes collected in that year. The total value of petroleum imports equals only 3.7% of the total gross domestic product. The petroleum sector clearly bears a disproportionate tax burden in the Panamanian economy.

There are essentially four different sales taxes levied on petroleum products. A uniform stabilization tax of 8.42 cents per gallon and an economic reactivation tax (ranging from 5.25 cents on kerosene to 31.58 cents per gallon on premium gasoline) are included in the ex-refinery price charged to marketing companies and collected by REFPAN for the government.

A consumption tax of 10 cents per gallon on gasoline and an import duty equivalent tax (varying from 2 cents per gallon on diesel to 40.5 cents on premium gasoline) is collected by the marketing companies for the government.

Import duties on petroleum products for sale in the internal market are set very high (ranging from 40 cents per gallon for fuel oil imports to 70 cents per gallon on premium gasoline) to protect the refinery. Very little revenue is collected from import duties, because licenses to import petroleum products are granted essentially only granted to REFPAN, which is exempt from paying import duties.

Total sales taxes collected on petroleum products range from 2.64 cents per gallon on LPG to 90.5 cents on premium gasoline. Colectivos (taxis) are privileged with somewhat lower taxes. Total sales taxes represent a substantial percentage of the final consumer price as seen in Table X.

TABLE X
MAJOR TAXES AND DUTIES ON PETROLEUM
(\$/gal)

	Price Stabilization Tax	Economic Reactivation Tax	Import Duty Equivalent Tax and Consumption Tax	Total Tax % of Final Price to Consumer
Premium Gasoline	0.0842	0.3158	0.5050	45.7
-- Taxis Reg.	0.0842	0.2889	0.4010	46.4
Gasoline	0.0842	0.3090	0.4320	43.4
-- Taxis	0.0842	0.2953	0.3600	46.5
Kerosene	0.0842	0.0525	0.1700	27.9
Diesel	0.0842	0.1448	0.0200	20.9
Fuel Oil	0.0842	0.0720	0.0750	45.7
--Power Plant	0.0842	0.1476	0.0750	60.7

REFPAN also collects a surcharge on gasoline, kerosene and diesel to compensate the refinery for selling at a subsidized price LPG, fuel oil to the power plant (IRHE), and diesel to the fishing fleet. The amount of surcharge collected and the amount of subsidy granted are supposed to cancel each other out. The large volume of LPG sold, however, may cause a somewhat negative overall balance absorbed by the refinery.

Subsidies granted via lower taxes and prices to specific classes of consumers, in this case users of electricity, fishermen, taxi drivers, and households using gas for cooking, lend themselves easily to abuses that distort or defeat the original objectives of the subsidies. Currently 23% of total national consumption of gasoline was sold at the lower price and tax reserved for taxis. It is unlikely, however, that taxis alone consume 23% of all gasoline sold in Panama. The large subsidy on the price of LPG is designed as a subsidy to the poor when cooking with gas. If a study were conducted, however, it would show that a substantial part of LPG is consumed by households that could afford to pay the CIF import price of LPG. Currently, REFPAN incurs a loss of 8 cents per gallon on the sale of LPG and consumers of other oil products subsidize LPG users by another 16 cents per gallon (Table XI). To avoid middle class families from substantially benefiting from this subsidy designed for the poor, the government could replace the LPG subsidy with some other form of more direct subsidy to poor households via food stamps or an LPG discount coupon distributed to poor households via some church or charitable organization that is normally in contact with poor households.

The fuel oil subsidy for the government-owned power plant could be phased out, eliminated, or replaced by a direct cash subsidy as part of a reform plan for the electricity sector.

The diesel subsidy to the fishing fleet could be replaced with incentives, such as low cost loans, designed to modernize the equipment of the fleet in order to improve their yield and hence income levels.

The gasoline subsidy for taxis, to eliminate widespread abuses, could be replaced by higher fares that would be more in line with taxi fares in neighboring countries.

Elimination of these subsidies would result in a reduction of the high consumer prices for petroleum products. The price of premium gasoline, for example, could be reduced by 10 cents per gallon without any loss of revenues to the government. The replacement of subsidies within petroleum prices or taxes with more visible subsidies paid directly to targeted groups would greatly reduce opportunities for abuse by consumers not eligible to receive these subsidies. Consumers who can afford to pay the full price could be eliminated from the benefit of subsidies. In this way, the government would recover some tax revenues lost by subsidies. As the taxi owners pay lower taxes than other gasoline consumers, every gallon sold to taxis and then diverted to other consumers means some loss of tax revenue to the government.

The price stabilization tax of 9.4 cents per gallon was originally imposed to provide a cushion to neutralize the effect of frequent fluctuations in international oil prices on the internal price structure of petroleum products. To minimize the full impact of large oil product price

increases caused by the current temporary Middle East crisis, the price stabilization tax could be suspended. This could be the government's contribution to the sacrifice imposed upon Panama from abroad. Once world crude oil prices fall again substantially, say, below \$20 per barrel, the tax could be reimposed simply by not reducing consumer oil prices by the full amount of the fall in international crude prices.

As oil consumers already pay a high proportion of total taxes collected in Panama, the tax burden on petroleum products should not be raised further in the future. Tax reform should develop new revenue sources elsewhere.

TABLE XI

20% - 1989

LPG PRICE STRUCTURE -1989

(\$ per gallon)

Average FOB price	0.31
Freight and insurance	<u>0.30</u>
Average CIF price	0.61
Loss at REFPAN	<u>(0.08)</u>
REFPAN price before subsidy	0.53
LPG subsidy	(0.16)
Economic reactivation tax	<u>0.03</u>
Ex-refinery price	0.40
Total distribution costs	<u>0.42</u>
Final price to consumer	0.82

Source: Directorio de Hidrocarburos

VII. REFINERY AGREEMENT

Refineria Panama, S.A. (REFPAN) was established by Contract #44 of 1956 and subsequently amended several times to define contract terms more concretely, such as a guaranteed reasonable profit, or to take into account new developments, such as preferential crude supplies under the San Jose Accord.

The refinery agreement grants REFPAN an effective monopoly in the sale of petroleum products to marketing companies, except for bunker sales. The contract terms require the government to take measures to protect REFPAN against "unfair competition" from product imports. This situation arises whenever REFPAN has to sell its products below cost plus a reasonable profit. In practice, REFPAN's refined products are protected from imports by high import duties and by import licenses granted exclusively to REFPAN. REFPAN is obligated to grant a 10% discount on all sales to government accounts, which amounts to a substantial subsidy for the government.

Under the agreement, prices of all petroleum products are fixed by the government, except jet fuel (set by REFPAN) and bunker fuels (freely imported), at levels to guarantee REFPAN, in the aggregate a minimum 10% rate of profit on "employed capital." The definition of "employed capital"

includes book value not adjusted for inflation, but including loans, notes receivable, crude and products inventory and in transit, and other inventories less notes payable.

REFPAN is exempt from income tax up to a return of 16.5% on "employed capital." Income above that level is taxed at the rate of 100%. REFPAN pays stamp tax and a 1 cent per barrel tax on crude oil imports which brings in about \$60,000 per year. REFPAN is exempt from any property taxes or taxes on loan interest payments to Texaco, its parent company, or any other creditor. REFPAN's refined products that are exported or sold as bunkers or in the aviation business are exempt from all taxes, duties, fees and charges. Also exempt are all products imported by REFPAN. All vessels loading or unloading for REFPAN are exempt from docking fees, APSA or any other charges.

The government has the right under the contract to charge a docking fee and REFPAN to impose other fees for the use of the marine facilities constructed by REFPAN. Should the refinery terminate operations, the marine installations and the refinery's pipelines would pass to the government free of charge. Texaco has the right, within two years of closing the refinery, to remove all other installations belonging to it, without any payments to Panama. Texaco would not be obligated to finance an environmental clean-up after closing the refinery. Under the contract, the refinery and any of its installations are protected against confiscation by the government.

If investors wanted to build a new refinery in Panama, the government is obligated to impose on them the same obligations that are in force for REFPAN. If the new refinery were to obtain more favorable terms, then REFPAN has the right to the same terms. At the same time, the government can insist that REFPAN accept the same obligations as the newcomer. REFPAN is obligated to grant a 10% discount on all sale to government accounts.

Products refined by REFPAN that are used for internal aviation are also protected against imports, while aviation gasoline virtually no longer used by international carriers is specifically exempt from protection. Nothing is said in the main contract about jet fuels used in international traffic. In practice, however, REFPAN sets the price for jet fuel and is granted exclusive rights to import jet fuel.

Overall, the terms of the Refinery Agreement are very favorable for REFPAN. They were concluded in a world environment when every country, regardless how small, wanted to have its own refinery, its own airline, its own steel mill, its shipping line etc., and was willing to pay virtually any price to obtain these investments. Efficiency, competition, cost to consumers and the nation took secondary place to national pride, self-sufficiency, and import substitution. Countries held a misguided view of independence and economic advancement.

VIII. OIL POLICY ALTERNATIVES

There are three major alternative ways for lowering Panama's consumer oil prices and moving them closer to international price levels:

a) lower taxes on petroleum sales in the internal market and lower fees for taking on bunker fuels discussed earlier in this Report;

b) cost cutting, greater efficiency and capacity utilization at the refinery;

c) petroleum product import liberalization and price and margin de-controls.

Lower taxes, fees, and subsidies were discussed earlier in this Report. A future government policy toward the refinery needs to be based upon an assessment of the benefits and costs of several available options:

- continuation of status quo
- revised refinery agreement
- a change of refinery operator
- a new refinery replacing REFPAN
- petroleum import liberalization.

A. STATUS QUO

The continued operation of the Texaco refinery under present conditions brings substantial benefits for Panama.

The refinery is a key factor for petroleum supply security for Panama in case of emergencies or world crises. Mexico and Venezuela guarantee Panama crude supplies. This

guarantee is renewed annually each August at the option of the supplier or the recipient country. Although such a guarantee is confined to crude oil in the case of Panama, Belize received a guarantee under the San Jose Accord for petroleum products, while a similar guarantee for product imports from Mexico and Venezuela is being negotiated by Haiti. In times of world shortages, it is generally considered easier to secure supplies of crude than products. It is easier to arrange imports for one product, crude oil, than for nearly a dozen different petroleum products. Texaco, with worldwide supplier connections, crude reserves, and shipping, would be in a better position to arrange supplies than the Panamanian government in times of crisis.

The refinery is an important factor for regional economic activity in the depressed Colon area. It is a major source of employment and training where many Panamanians started their professional careers. The refinery provides many ancillary business opportunities for a multitude of Panamanian contractors, suppliers, and services. REFPAN estimates that the measurable benefits from the refinery in terms of refinery and contractor salaries, social security payments and other worker benefits, taxes and petroleum product discounts add up to \$29 million per year. REFPAN is an efficient operator of a major marine terminal. It sells petroleum products at a 10% discount to all government customers. It carries out barge bunkering in the Canal Area at lower overall cost. If

discontinued, bunker sales volume in the Canal Area would decline further.

Continuing the refinery agreement essentially unchanged would enable REFPAN to continue operating.

The costs of continuing the status quo of the refinery appear substantial for Panama. The annual subsidy or protection of REFPAN against competition from direct product imports is calculated at \$20-30 million. A saving of this magnitude would go far in compensating potential losses from closing the refinery. Some non-competitive ex-refinery prices have contributed to the decline in sales volume of petroleum products. Future improvements in efficiency and higher volumes will not eliminate excess capacity and operating costs well above international levels. Therefore, continued protection will remain a burden for Panama. The monopoly position of the refinery together with price controls has inhibited price competition.

A guaranteed minimum profit level based on employed capital of REFPAN ties the government's hand with regard to lowering oil prices. Should the government want to lower the ex-refinery price of one product, it would have to raise the ex-refinery price of other products in order to assure REFPAN a continued minimum 10% rate of return. Only if the return were to exceed this level, would the government have greater freedom of action. While the government guarantees REFPAN a minimum rate of profit, REFPAN, on its part, does not guarantee the government that the refinery will keep operating.

The right to add a profit shortfall in one year to employed capital broadens the base for profit calculation for all years in the future. Texaco could potentially earn up to 16.5% per year tax-free on this "phantom" addition to the capital base.

The government needs to weigh these positive and negative factors to determine whether to extend the existing contract terms when the refinery agreement is to be renegotiated next year. Other policy options are available.

B. RE-STRUCTURED REFINERY AGREEMENT

Next year the government will have an opportunity to negotiate a new refinery agreement with REFPAN. The decisions that will be made with regard to the refinery can have important near term and long term effects for the Panamanian economy. Therefore, any future negotiations need to be preceded by a careful analysis and clarification of the national objectives and priorities for the oil sector.

A decision about the refinery will be influenced by broader economic issues whether to protect domestic industries or to encourage competition and an open economy. A decision will also be guided by the effects of the present Middle East crisis and the importance of energy supply security versus low cost energy.

Assuming it is considered desirable to keep the refinery operating and protected against competition from direct product imports, it may still be advisable to negotiate significant revisions to the existing refinery agreement or to develop an entirely new agreement. The original agreement of 1956 and subsequent revisions were concluded within a different world environment.

A set of new parameters or goals should underlie a revised refinery agreement designed to

- a) move ex-refinery prices closer to prevailing international oil price levels;
- b) introduce greater flexibility and more frequent consumer oil price changes to reflect more closely international oil price movements;

c) liberalize petroleum product imports by reducing import duties and no longer granting import licenses exclusively to REFPAN.

d) reduce the cost of protecting or subsidizing the refinery without displacing it by product imports;

e) offer incentives for REFPAN to become more efficient and the freedom to cut costs, reduce excess capacity, and separate expenditures that are not closely related to the refinery;

f) apply income taxes to all levels of refinery profits as well as tax deductibility for refinery losses;

g) change the profit formula from guarantees related to capital employed to rewards for improvements in efficiency and competitiveness;

h) change the emphasis from monopoly and discrimination to competition and market-driven decisions in a new refinery agreement.

Separation of refinery costs from those not closely related to the refinery would improve the transparency of the cost structure at the refinery and establish the true profitability of the refinery. Currently, gains from product imports are used to offset refinery losses. Losses from operating the marine terminal are lumped with refinery costs to expand total costs used to arrive at the net refinery profit. Investments essential to the oil business but not part of the refinery are added to the employed capital base to calculate the minimum rate of return

guaranteed to the refinery. Separate profit centers for different oil operations would present a clearer picture about the viability of the refinery and what parts and how REFPAN's various oil activities are being subsidized.

If the refinery provides services at a loss that are not directly connected to the refinery, ways should be found to separate these services from the refinery or to make them self-supporting or to provide for a separate clearly identifiable subsidy.

The 10% discount the refinery grants on oil product sales to all Panamanian government agencies, departments, and institutions should be discontinued, because it is discriminatory to the private sector in Panama and it unfairly contributes to losses at the refinery unrelated to market forces or the efficiency of operations.

REFPAN has an unfair advantage in sales of bunker fuels directly by the refinery to ships. Profits from bunker sales are lumped together with profits or losses from all other activities of the refinery. Profits from bunker sales are, therefore, exempt from income tax unless total refinery profits from all activities exceed 16.5% of employed capital. Profits from bunkering by all other marketing companies operating in Panama are taxable regardless of the size of these profits. This is another case supporting the argument for considering separate profit centers for activities that are not defined as refining and/or applying income taxes at all levels of refinery profits.

Under the provisions of a 1981 amendment to the original refinery agreement, REFPAN is guaranteed a tax-free minimum rate of return of 10% of employed capital. If this return falls below this minimum, as it did last year, then the government is obligated to increase ex-refinery prices or make other adjustments to bring the profit rate at least back to the guaranteed minimum. Subsequent earnings above the minimum are not counted toward making up the difference. Earnings above 16.5% of employed capital, however, incur a 100% income tax. By not allowing asset revaluation for inflation, the depreciating value over time reduces the "employed capital" base for calculating the 10% minimum rate of return--unless new investments are undertaken.

These are unsatisfactory elements in the profit formula. Moreover, there is no clear, continuous incentive to improve efficiency, to lower costs, and to utilize capacity. In fact, it was more profitable for the refinery to import products directly in 1989 than to refine crude oil.

Depending on government oil policy objectives, a preferred alternative for the government would probably be to tax refinery profits at normal corporate rates regardless of the amount or rate of return. Rather than guarantee a profit to the refinery, market forces should be allowed to operate and to determine the refinery's profitability.

In El Salvador, the rate of profit of the refinery is fixed by the government at \$2 per barrel of crude oil used

in the refinery process. This profit level is considerably higher than the per barrel rate at REFPAN. El Salvador's fixed profit is largely insensitive to market forces, because it depends essentially on the input volume of crude. Profit guarantees based on production volume are not a desirable alternative from Panama's point of view.

In Guatemala, the Texaco refinery operates in competition against direct oil product imports by the marketing companies. Prices of imported products determine essentially the controlled ex-refinery price level.

C. OTHER OPTIONS

The transfer of the operations of the refinery to some other oil company has been mentioned as an alternative objective to achieve more efficient operations and lower refinery prices. This alternative could only be considered after Texaco were to sell or in some other way transfer ownership of the refinery to the government, because Texaco made the investment and owns the refinery. It is not clear whether a newcomer, another oil company could manage the refinery better than Texaco, given equal conditions.

A major investment in a new refinery in Panama while closing REFPAN has also been mentioned as a policy alternative. The impetus for a new refinery would come from the fact that large excess capacity in REFPAN is a major factor for its high cost operation and high product prices. The refinery underwent capacity expansion designed to produce fuel oil for bunkering and for export. This capacity is not competitive in the present market suffering from excess fuel oil supplies. It is felt that a new refinery could be dimensioned and technically-oriented to operate efficiently for the internal market of Panama like similar refineries elsewhere in Central America.

This policy alternative also does not appear to be viable. A small new refinery of around 25,000 barrels per day built to meet Panamanian demand would probably cost \$160-200 million requiring a rate of return before taxes of at least \$30 million per year. This small refinery could

probably not compete against product imports from efficient, very large refineries in the Caribbean Area and Gulf Coast. As such an investment would not be viable without protection or subsidy, it appears very doubtful that any wellknown oil company would assume the risks of such an investment. Speculators or investors inexperienced in the oil business should not be given the green light for such a venture because they may merely want to pre-empt a government approval hoping to re-assign it to an oil company. This process would not work out in the best interest of Panama.

D. IMPORT LIBERALIZATION AND PRICE DE-CONTROLS

A viable policy alternative to the continued monopoly and protection of the refinery is product import liberalization. Last year, the refinery imported petroleum products at average CIF prices 13 to 32 cents per gallon lower than the prevailing ex-refinery price of these products. A similar situation (10 to 32 cents per gallon price difference prevailed in 1988. If terminal costs of around 2.5 cents per gallon are added to the cost of importing, product imports are still cheaper than locally refined products and would be the most effective way for aligning domestic prices closer to prevailing international price levels. While the current Middle East situation may temporarily distort this price relationship due to a lag in approving internal price adjustments, the basic cost elements will continue to show that ex-refinery prices under current cost conditions are not competitive with prices of imported products.

While some temporary problems would have to be solved during a transition from complete reliance on the refinery to permitting the marketing companies to import supplies, managements of marketing companies feel confident that the transition period would be short. Product imports could be phased in as storage capacity becomes available. Panama certainly has more infrastructure for direct oil product importing in place than other Central American countries. Some marketing companies might be able to rent tankage space

in the Canal Area or from Texaco. If each marketing company were to invest in the building of its own tankage capacity, the total investment would reach approximately \$12 million. An acceptable rate of return on this investment plus the cost of products in stock plus additional manpower, insurance, losses, maintenance, etc. would amount to an estimated \$1 per barrel or less than 2.5 cents per gallon of products sold. In a competitive, non-discriminatory, free market, marketing companies would probably be willing to make the necessary investments to stay in business.

To implement viable import liberalization, the government would probably place the marketing companies on the same basis as REFPAN by either permitting all of them to import oil products duty free or to place REFPAN's product imports under the same duty levels as the oil marketing companies.

Import duty levels would have to be eliminated or reduced from their current prohibitive, protective levels of 40-70 cents per gallon to a level that will make imports possible and also bring in revenues for the government. Opening up product imports duty free would in fact eliminate the protection or subsidy to REFPAN and very likely lead to the closing of the refinery.

An alternative policy option would be to phase out duty protection in pre-announced stages to give REFPAN time to try to adjust to the changed situation or to decide to close the refinery. For example, a duty of 15 cents per gallon or

an ad valorem duty of 20% could be applied initially together with an announcement of specific annual reductions in duties in the future. In this way, everybody could plan to adjust to the new situation of gradual reduction of the protection for the refinery.

A revised or a new refinery agreement may then no longer be necessary.

Import liberalization will work efficiently and achieve the goals expected if it is accompanied by price and margin de-controls. Marketing companies will probably not make the needed investments in tankage and compete strongly for market share if price competition is not allowed.

Import liberalization means that products will be imported at fluctuating international price levels which have to be rapidly and fully reflected in internal product price changes. Long delays in price adjustments inherent to price controls would result in major windfall profits or unsupportable losses to marketing companies and supply shortages. Consumers can be expected to adjust better to small, even though more frequent, price adjustments than large infrequent ones.

In Guatemala, marketing companies freely import oil products in competition against the Texaco refinery. Prices of imported products determine the price levels prevailing in Guatemala and the refinery prices are adjusted to the levels of imported prices. Import liberalization and lower taxes have produced a significantly lower price structure in Guatemala than in Panama.

TABLE XII

FINAL PRICE TO CONSUMER*
(cents per gallon)

	Guatemala	Panama
Premium gasoline	1.11	1.98
Regular gasoline	1.07	1.90
Kerosene	0.89	1.10
Diesel	0.65	1.19
Fuel oil	0.44	0.51

*Prices prior to Middle East crisis.

Source: Esso Guatemala
Directorio de Hidrocarburos de Panama

Closing the refinery and relying on product imports would entail a substantial loss of employment and income in the Colon area not only directly at the refinery but via a multiplier effect on service and supplier firms dependent on the existence of the refinery. This loss would be offset to some extent by greater tax revenue from import duties and a reduction in the cost of administering government price controls in the oil sector. A subsidy for LPG might still be necessary. The overriding favorable impact of import liberalization and price de-controls, however, would be lower oil product prices to the final consumer in future years with a consequently positive impact on the economy and on the cost of living.

APPENDIX A

PERSONS CONTACTED IN CONNECTION WITH PETROLEUM STUDY

Government of Panama

Ministry of Planning and Economic Policy (MIPPE)

Dra. Luisa de Soto, Secretary General

Nuvia Zarzaville de Jurpa, Director of Economica
and Social Planning

Dr. Juan Luis Moreno, Economic Advisor

Hernan Arboleda, Economic Advisor

Ministry of Commerce and Industry (MICI)

Juan B. Chevalier, Minister

Roberto Alfaro E., Vice Minister

Department of Hydrocarbons, Ministry of Commerce and
Industry

Ing. Nitzia R. de Villareal, Director General

Ing. Cervantes Escalona, Asst. Director General

Gaspar Jose Estribi, Economic Analyst

Ministry of Finance

Pedro Mora

National Port Authority

Lic. Jerry Salazar, Director General

Carlos Uriola

IRHE - Public Electricity Company

Jose Felix Coronado, Economist

Government (U.S.)

U.S.-A.I.D. - Panama

Thomas W. Stukel, Director

Kermit Moh, Manager, Economic Analysis

Douglas Chiriboga, Economist

U.S. Embassy Panama

John Dawson, Economic Counselor

Companies, Internal

REFPAN - Refineria de Panama (Texaco)

A.G. de la Reza, President
Ing. Victor J. Fabrega Jr., Executive Director
Roberto Arosemena, Bunkering Manager

BP Caribbean Trading Co.

Enrique A. Pringle, General Manager

Chevron Marine and Services Company Ltd.

Carlos Navarro, Manager

Esso

Ing. Francisco de Ycaza, Manager
Carlos Palm, Planning Manager
Ing. Olmedo Alfaro, Bunker Manager

Shell Company (W.I.) Limited

Pedro J. Alvarez Chamorro, General Manager
Ing. Adrian Ramos L., Manager Bunker Jet Fuels

C.B. Fenton & Co., S.A. (Steamship Agents & Brokers)

Neville Simons

Companies, External

ESSO CCA

Sture Bengston, Vice President Coordination
Peter Jung, Manager Supply
John Yeamans, Manager Bunker Sales
Joey Proudfoot, Manager Aviation Sales

Texaco Latin America/West Africa

Roger L. Ebert, General Sales Manager,
Central America
Derek E. Lyth, Director of Operations,
Manufacturing and Marketing

William D. Sherman, Senior Co-Ordinator
Manufacturing and Marketing, South
America

ESSO El Salvador

Mauricio Jimenez

ESSO Guatemala

Luis Movil, General Manager

Other

APSA - Atlantic-Pacific, S.A. (Bunker Terminal
Management)

German Chacin, President

LATSA - Lockheed Air Terminal, S.A.

Jan Mirrop, Vice President & Company
Representative - Panama

Florida Aviation Fueling Co.

David Gallagher, Station Manager

American Airlines

Josue Mesa, Manager

APPENDIX B

BIO-SUMMARY

SIEGFRIED MARKS

Senior Economist

EDUCATION: Ph.D., Economics, Vanderbilt University.
M.A., Economics/Latin American Studies,
Vanderbilt University.
B.A., Economics, University of British
Columbia, Vancouver, Canada.

QUALIFYING
EXPERIENCE:

Senior Economist with thirty two years of experience in Latin America. Experience includes development of country oil and other energy balances and forecasts, assessment of government energy policies and legislation, evaluation of state oil company plans and strategies, and analysis of the global international oil and energy market and price outlooks. Presently provides extensive consulting services for USAID, and various international governments and businesses, as President of Sigmar International. Previously served as Chief Economist and Political Advisor for Latin America and the Caribbean at Exxon Corporation.

PROFESSIONAL
HISTORY:

1986-Present: President and owner of Sigmar International Inc., a firm offering advisory services on Latin America and the Caribbean. Clients include: USAID, UNDP, Latin American governments and businesses, multi-national companies and banks, US universities, foreign export companies, and the Center for Strategic and International Studies. Representative assignments include an analysis of developing country oil and other energy policies and legislation; evaluation of state oil company plans and strategies;

and an analysis of the global international oil and energy market and oil price outlook.

1969-1986

Chief Economist and Political Advisor for Latin America and the Caribbean, Exxon Corporation. In charge of all economic, political, and oil policy forecasts as well as the analysis and interpretation of government policies affecting Exxon in Latin America and the Caribbean. These studies served as essential inputs for the corporate business planning cycle, for the top management decision-making process, and for major investment and divestment projects. Worked with local Exxon planning and treasury departments and held in-depth discussions with a wide range of local contacts in government and business in order to develop the analysis.

As Exxon's Chief Advisor on Latin American political, economic and energy policy trends, his analysis served as a basis for decisions to plan and implement investments in oil marketing, refining and exploration throughout Latin America; to analyze oil policies in Guatemala, Ecuador and Argentina and the conditions for mineral and chemical investments.

1962-1969

Economist, Mobil Oil Corporation, New York and Germany. Analyzed and interpreted European energy policies and market conditions. Developed a gas marketing study and cost cutting proposal in oil marketing as well as forecasts for energy and oil products demand and changes in energy policies.

1961-1962

Chief Editor of "Business Latin America," Business International in New York. Responsible for a weekly business publication and advised nearly 100 major U.S. client firms.

1957-1961

Economist for Latin American Region, Sears Roebuck & Company, Illinois. Reported to the Finance Committee on the business implications of new legislation, foreign exchange

regulations and other issues affecting
Sears operations in various countries.
Prepared marketing studies for major
appliances following investigations.

LANGUAGES:

Spanish, German, Portuguese - fluent
English - native

BIO-SUMMARY

DORRIT K. MARKS

Economic Analyst

EDUCATION:

"License" (M.A. equivalent) with distinction, International Studies (Economics, Politics and International Law), Graduate Institute of International Studies, Geneva, Switzerland.

B.A., Political Science, University of Michigan, Ann Arbor, Michigan.

QUALIFYING EXPERIENCE:

Economist and Government Relations Consultant, with more than ten years experience working on projects relating to petroleum and energy analysis, export promotion and training, institutional development, marketing studies, democracy training and effective communication. Experience in strategic planning, economic research, policy reform and program evaluation. Previously worked as Research Economist in the international economics and planning department of Mobil Oil Corporation, developing country oil balances, energy and economic forecasts, political risk and competitive evaluations.

PROFESSIONAL HISTORY

1988 - Present

Vice-President and owner of Sigmar International, Inc., a Miami-based, private sector development firm providing economic, government and business advisory services on Latin America and the Caribbean. Services provided include export promotion, market strategy development and training assistance for Latin American manufacturers. Developed business training programs with the University of Miami International Business and Banking Institute on effective marketing and

management practices for executives
doing business in Latin America.

1983 - 1988

Vice President for Trade Advisory Services and Director of Legislative and Regulatory Affairs for Sandler, Travis & Rosenberg, P.A., an international trade and customs law firm. Developed firm's trade advisory services, media relations, seminars and publications. Organized export training seminar in Colombia, import workshops in Miami and trade programs for Brazil and Argentina. Coordinated Miami's Congressional Workshop on U.S./Latin American relations for U.S. Congressmen, Latin American leaders and policy advisors. Advisor and organizer of Women's Action for Progress Conference, a training workshop for women business owners from Central America and the Caribbean. Prepared project proposal bids on free zone applications in Texas and export promotion programs in Haiti, Grenada and Colombia.

1978 - Present

Past-President of the League of Women Voters of Dade County, a non-partisan political organization promoting civic education, women's political participation, voter registration and election debates. Created community awareness programs to assess community needs, monitor government, and mobilize forces to influence legislation and government policy. Led discussion groups to reach consensus on economic and political issues. Project Director for a two-year multi-ethnic citizenship and voter outreach program.

1960 -1965

Research Economist and Strategic Planner in international economics and planning department of Mobil Oil Corporation. Investigated world outlook for crude petroleum and products and Mobil's competitive position. Forecast West German energy demand and market potential for energy use by sector--electricity, transportation, industry and household. Coordinated corporation's regional forecasts of energy and economic growth for Latin America, Europe and the Far East.

Investigated foreign government attitudes and policies towards U.S. investments. Developed political risk assessments and economic forecasts as input for corporate investment decisions in Indonesia, Malaysia and the Philippines. Investigated the feasibility of minerals processing in Saudi Arabia.

LANGUAGES:

Spanish, German, French
English - native

