REPORT BY THE

# Comptroller General

OF THE UNITED STATES

# Status Of U.S. Participation In The International Energy Agency's Emergency Sharing System

As a central focus of their participation in the International Energy Agency (IEA), the United States and 20 other nations agreed to establish measures to reduce their oil demand, maintain emergency oil reserves, and share oil in an emergency. In 1981 and 1983 GAO reported certain problems with the workability of IEA's emergency oil sharing and the effectiveness of U.S. participation in it.

In its current review, GAO found that progress has been made in addressing a number of reported problems; but some problems and uncertainties continue or others have arisen. IEA members are studying several of these important issues.

The IEA has been the centerpiece of U.S. efforts to coordinate international energy policy with other industrialized nations for more than a decade. Effective U.S. participation in IEA is largely contingent upon the extension of authorities contained in the Energy Policy and Conservation Act which expires June 30, 1985. GAO believes that Congress should extend these authorities.





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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-217506

The Honorable Howard M. Metzenbaum
United States Senate

The Honorable Mike Synar, Chairman
Subcommittee on Environment, Energy,
and Natural Resources
Committee on Government Operations
House of Representatives

This report responds to your requests that we assess U.S. participation in the International Energy Agency's (IEA) emergency oil sharing program. It provides the current status of a key IEA program and identifies certain unresolved problems. The legislative authorities for U.S. participation will expire on June 30, 1985, unless otherwise extended. We believe this report will contribute to the deliberations on continuing U.S. participation in IEA. At your request, we did not seek agency comments on this report.

No further distribution will be made for 30 days from the date of issue, unless you authorize its release or publicly announce its contents earlier. At that time, we will send copies to the Secretaries of Energy and State, the Attorney General, the Chairman of the Federal Trade Commission, and to other cognizant congressional committees and interested parties.

Charles A. Bowsher
Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT

# STATUS OF U.S. PARTICIPATION IN THE INTERNATIONAL ENERGY AGENCY'S EMERGENCY SHARING SYSTEM

## D I G E S T

The International Energy Agency (IEA) is composed of 21 major oil consuming countries that joined together to reduce their vulnerability to oil supply interruptions. Under an emergency sharing system, IEA members agree to establish demand restraint measures for reducing their oil demand by at least 7 to 10 percent during a serious supply disruption; maintain emergency oil reserves equal to 90 days of net imports; and, in a supply disruption equal to or exceeding 7 percent, to share oil supplies under an IEA allocation system. (See p. 2.)

In 1981 and 1983 GAO reported certain problems with the workability of the IEA's emergency sharing system and the effectiveness of U.S. participation in that system. Senator Howard Metzenbaum and, subsequently, Congressman Mike Synar, Chairman of the Subcommittee on Environment, Energy, and Natural Resources, House Committee on Government Operations, asked GAO to follow up on these matters. This report summarizes previous GAO reports, taking into account changes since they were issued and addresses the specific issues raised in the requests.

GAO found that progress has been made in addressing a number of the problems reported. For example:

--In December 1983 IEA members agreed on a flexible standard for pricing oil shared during an emergency that increases the likelihood that oil companies will actively participate in correcting supply imbalances among members.

--Other IEA members became more confident in the U.S. ability and willingness to meet its IEA commitments when the United States announced in February 1984 that it would not rely solely on higher prices to achieve demand restraint but would generally draw down oil from its Strategic Petroleum Reserve in large amounts early in a severe disruption to supplement its free market approach.

U.S. government has been examining additional actions that could be taken to provide economic relief to poor and low-income groups during a supply disruption. However, it has not yet developed any legislative proposals for congressional enactment.

The United States is the only IEA country which has neither the authority nor the intention to rely on government-directed allocation to reduce demand. The United States is concerned that some other IEA countries' approaches, which rely considerably on allocation, may not yield sufficient, timely reductions in consumption and/or may result in higher economic costs which could also affect other countries. For example, member governments may be reluctant to impose stringent allocation measures early in a crisis because such measures would be politically unpopular. (See p. 18.) Largely at U.S. urging, the IEA agreed in July 1984 to further examine (1) economic impacts of serious oil supply disruptions on each member country and (2) anticipated effectiveness in quantitative terms of member country demand reduction measures and the range of economic consequences.

In early 1984 U.S. officials had assuaged foreign concerns about the U.S. demand restraint approach (to rely primarily on market forces) by restating their intention to build a 750-million barrel Strategic Petroleum Reserve and ordinarily to use large amounts of it early in a severe crisis as a supplement to its market approach. The current U.S. budget proposal to impose a moratorium on the filling of the Strategic Petroleum Reserve when it reaches 489 million barrels (it contained about 460 million barrels on May 1, 1985) may renew concerns about the adequacy of U.S. demand restraint measures. (See pp. 12 to 14 and 34.)

## AMOUNT AND AVAILABILITY OF OIL STOCKS

Several IEA members have been short of the 90-day oil reserve requirement for 2 years or longer, but most have reserves greater than 90 days and 5 regularly maintain stocks greater than 150 days. (See pp. 23 and 24.) The Strategic Petroleum Reserve, which the U.S. government has set up solely for use in emergencies, now exceeds the 90-day requirement. In aggregate, IEA oil stocks well exceed 90 days.

emergency sharing system in a real disruption. In December 1983 IEA revised its pricing guidelines to help clarify this question. However, the IEA lacks a mechanism, such as compulsory binding arbitration, for assuring resolution of price disputes in a timely and effective manner.

--Fair-sharing: All IEA countries, except the United States, have established or are establishing fair-sharing programs to ensure that no one company would be disproportionately penalized or benefitted by actions it takes to help the country meet its IEA supply obligation. We surveyed 15 U.S. oil companies and 12 indicated that the U.S. government should assume or be prepared to assume a role in assuring that voluntary oil sharing does not impose an unfair burden on participating companies in the United States.

--Data reliability: Lack of accurate data on each country's available supply of oil may delay implementing the emergency sharing system in a crisis, impede response to a disruption, and cause errors in calculating countries' allocation rights or obligations. The countries most heavily involved in trading oil, which include the United States, have the largest data discrepancies. According to IEA, during a 1983 test of the system these countries did not make sufficient efforts to resolve data problems that IEA identified and reported to them.

## MEASURES FOR DEALING WITH SMALLER DISRUPTIONS

Disruptions smaller than 7 percent of oil supplies are not covered by the IEA emergency oil sharing system. However, because of the economic damage some of these disruptions could cause, the IEA countries have agreed to support implementation of a process for deciding what actions, if any, each country could take to help offset an oil shortfall. They have not committed themselves in advance to take specific actions, believing that such decisions must depend on the particular circumstances.

Although the United States has agreed to fully support IEA efforts to correct serious supply imbalances during a small disruption, U.S. legislation authorizes the executive branch to order U.S. companies to participate in the international allocation of oil only when the IEA emergency oil

companies. However, major differences appear close to resolution except for the extent of recordmaking, recordkeeping, and reporting required by the companies.

Two previous drafts of the second plan of action (1981 and 1983) did not include antitrust and breach of contract defenses to companies for normal commercial transactions made independent of the IEA during an oil disruption nor provide antitrust and breach of contract defenses in cases where U.S. oil companies shared certain price data concerning voluntary offers to share or receive oil with oil industry representatives assisting the IEA in Paris. The Department is now considering modifying its position on these issues to allow the plan of action to provide antitrust and breach of contract defenses to oil companies for certain of those two types of activities.

Although these changes are intended to facilitate the effective operation of the emergency sharing system, there could also be important disadvantages. For example, providing antitrust and breach of contract coverage for certain commercial transactions could result in companies breaking contracts to obtain the benefit of rising prices during an emergency, and the resulting higher price could accelerate world oil prices, contrary to IEA objectives. In addition, the added workload that accompanies such coverage might inhibit effective monitoring by U.S. government antitrust observers of U.S. oil company participation in the emergency sharing system. (See pp. 68 to 78.)

## CONCLUSIONS

The IEA has been the centerpiece of U.S. efforts to coordinate international energy policy with other western industrialized nations for more than a decade. The IEA provides an important vehicle for coordinating the national energy policies of its members. While problems and uncertainties still exist, IEA has been making progress in its efforts to improve the workability of its emergency oil sharing arrangements.

## MATTER FOR CONSIDERATION BY THE CONGRESS

The authorities contained in the Energy Policy and Conservation Act of 1975 are necessary for effective U.S. participation in the IEA. Among other

# Contents

ILLUSTRATIONS

## ABBREVIATIONS

| | |
|---|---|
| AST | Allocation Systems Test |
| DOE | Department of Energy |
| EEC | European Economic Community |
| EPCA | Energy Policy and Conservation Act of 1975 |
| ESS | Emergency Sharing System |
| GAO | General Accounting Office |
| IAB | Industry Advisory Board |
| IEA | International Energy Agency |
| IEP | International Energy Program |
| ISAG | Industry Supply Advisory Group |
| MMB | Million barrel |
| NATO | North Atlantic Treaty Organization |
| OECD | Organization for Economic Cooperation and Development |
| OPEC | Organization of Petroleum Exporting Countries |
| SPR | Strategic Petroleum Reserve |

# CHAPTER 1
# INTRODUCTION

The International Energy Agency (IEA), an autonomous unit of the Organization for Economic Cooperation and Development, was established and became provisionally operational in 1974, following the Arab oil embargo, in an attempt to facilitate responses to short-term energy disruptions and long-term supply problems. The United States, a primary target of the embargo, was instrumental in IEA's creation.

The International Energy Program (IEP) Agreement authorizes the establishment of IEA, as well as important industry consulting groups, and sets forth IEA's basic goals and objectives. The Agreement entered into force definitively on January 19, 1976, after sufficient signatory states consented to be bound by it. It will continue in force unless the Governing Board, acting by majority, decides to terminate it.

The Agreement provides for: voluntary participation by its members to improve emergency sharing of oil supplies; development of an oil market information system; establishment of a long-term cooperative effort to reduce import dependence and develop alternative energy sources; coordination and harmonization of national energy policies; and establishment of consumer-producer dialogues.

Main organizational units of IEA are the Governing Board, composed of representatives of 21 major oil consuming nations,[1] which makes all final decisions; the Secretariat which has a standing professional staff; and industry advisory and reporting groups. A voluntary group of about 45 oil companies (18 from the United States) provides data on the oil market and implements emergency allocation decisions. These oil companies account for close to two-thirds of the available oil supply in IEA countries. A smaller group of these oil companies--about 15 companies (6 from the United States)--forms the Industry Advisory Board, which advises and consults with the Secretariat and the Governing Board. Although the Governing Board makes the final decisions, industry's influence is significant.

## SIGNIFICANCE OF THE IEA

The IEA's significance is derived from the importance of oil to modern-day economies and their dependence on imported

[1]Australia, Austria, Belgium, Canada, Denmark, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States, and West Germany.

oil. Dependence on oil has diminished in recent years but is still substantial. Oil imports account for 40 to 80 percent of total energy consumption for half of the IEA countries and 17 import 80 to 100 percent of their oil.

Supply disruptions can occur because of (1) internal political instability or civil war, (2) politically or economically inspired embargoes or production cutbacks, (3) terrorism and sabotage directed against oil producing fields, refineries, and transport facilities and sea lanes, (4) regional warfare, or (5) external aggression against oil producing nations.

In an oil supply disruption, users may bid prices up to get the oil they need; even a temporary oil supply shortfall can lead to large and rapid price increases, exacerbating the oil disruption's impact. Moreover, prices may remain high after the disruption if oil producing nations reduce production to maintain the higher prices. As a result, disruptions can result in enormous economic costs to countries. For example, the 1973-74 Arab oil embargo was estimated to have decreased the U.S. gross national product by over $300 billion (1983 dollars) during 1974-76.[2] Disruptions can also weaken or disrupt economic, political, and security ties between nations.

The IEA provides its member nations with an institutional mechanism for taking actions to reduce their oil-import dependence over the long run and for employing measures to reduce the impacts of oil supply disruptions over the short run. IEA's Emergency Sharing System (ESS) is designed to reduce the adverse consequences of serious oil supply disruptions and to promote balanced sharing of a shortfall among members. Under ESS, member countries agree to maintain emergency reserves equal to 90 days of net oil imports; to establish measures for reducing oil demand by at least 7 to 10 percent during a serious supply disruption; and, in the event of a supply disruption equal to or in excess of 7 percent, to subject their oil supplies to an international allocation system using a complex predetermined formula to calculate each country's right to receive oil or obligation to provide oil.

IEA tested the ESS on a limited basis in 1976. More comprehensive tests were conducted in 1978, 1980, and 1983. Each subsequent simulated exercise built upon the experience gained in the prior exercise, and continued to

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[2]Knut Anton Mork and Robert E. Hall, "Energy Prices, Inflation, and Recession, 1974-1975," The Energy Journal (July 1980), pp. 39 and 54. The authors' results were presented in 1972 dollars. The gross national product deflator was used to convert to 1983 dollars.

--assess the effectiveness of the procedures, communications, and data processing on which the allocation system is based;

--assess the effectiveness of each member nation's emergency planning organization; and

--train the Secretariat and industry personnel in implementing the oil allocation system.

Outside the ESS, member countries have also agreed to cooperate in responding to disruptions that are smaller than 7 percent but which can have serious economic impacts.

## U.S. PARTICIPATION IN THE IEA

U.S. participation in the IEA is authorized by an executive agreement signed by the United States in November 1974 and implemented by the Energy Policy and Conservation Act of 1975, as amended. However, this Act is scheduled to expire on June 30, 1985.

The Departments of Energy (DOE) and State share operational responsibility for U.S. government participation. The Department of Justice and the Federal Trade Commission monitor U.S. oil companies' activities in IEA to ensure that IEP goals are achieved in the least anticompetitive manner. The Treasury Department had a key role in developing IEA and initially managing U.S. participation but has had minimal involvement in recent years.

The United States can derive direct economic, foreign policy, and national security benefits as well as important indirect benefits from its participation in IEA. Disruptions can be more effectively resolved by coordinated multilateral action. Without coordinated action by oil-dependent countries to minimize any disruption, competition on the international market for scarce oil supplies could increase as countries independently seek the oil supplies they need. This competition would put undue upward pressure on prices, further damaging countries' economies both during and after a disruption.

The frantic scramble by consuming countries to gain assured access to oil supplies during the Arab oil embargo of 1973-74 clearly demonstrated this effect. Oil prices more than tripled, leading to inflation, decreased economic growth, and increased unemployment. The scramble for oil also challenged, and to some extent strained, the overall political, security, and economic ties binding together many of the industrialized countries.

Under many oil disruption scenarios, the United States would have an obligation to share oil with other IEA countries. However, it could receive oil from other IEA members during a disruption targeted at it, such as the 1973-74 Arab oil embargo. The risk of a politically motivated oil disruption targeted at the United States is less threatening today because of the current world oil glut and reduced U.S. dependence on oil imports. However, should U.S. oil import dependence increase and the world oil supply-demand balance tighten, the threat could again become serious.

The nature of oil markets is such that a temporary shortfall in supplies can lead to the price quickly overshooting the long-run equilibrium price, exacerbating the impact of any shortage. U.S. officials have concluded that the existence of the IEA system can dampen the rise of oil prices in an emergency, thus providing an economic as well as a political benefit.

The United States can gain collective security through the IEA, which includes many countries with which the United States has important economic, political, and security ties. All IEA members are members of the Organization for Economic Cooperation and Development (OECD) and 16 participate in major collective security defense treaties with the United States, such as the North Atlantic Treaty Organization (NATO).

Most IEA members are more vulnerable to oil supply interruptions than the United States. Should Europe and Japan be cut off from oil, their prosperity and stability and that of the entire international economic and political order could be jeopardized. Consequently, it makes good sense for the United States to encourage other nations to establish strong contingency programs that will enable them to manage oil disruptions. The IEA provides a means for both encouraging such activities and coordinating them with U.S. programs to ensure maximum benefits for all.

U.S. officials also believe that the IEA helps the member countries understand the changing oil market, providing insights into how to enhance energy policies and programs both unilaterally and collectively.

## OBJECTIVES, SCOPE, AND METHODOLOGY

This report responds to separate requests from Senator Howard Metzenbaum and Congressman Mike Synar. In September 1982, Senator Metzenbaum asked us to follow up on unresolved

issues identified in our September 8, 1981 report[3] on U.S. participation in the IEA. These issues concerned the workability of the ESS and the effectiveness of the U.S. government and U.S. oil companies in ESS development and operation. Senator Metzenbaum specifically asked us to address the (1) U.S. involvement in the IEA's 1983 test of the ESS, (2) IEA country policies and procedures for dealing with oil pricing in an emergency, (3) relationship between the ESS and similar European Economic Community and NATO emergency allocation programs, (4) IEA country policies and programs for managing and coordinating oil stocks in an emergency, (5) quality of the IEA's emergency data system, (6) responsibility for management of U.S. participation in the IEA, (7) extent of oil industry involvement in the above activities, and (8) status of the IEP requirement to conduct a general review of the IEP.

In response to Senator Metzenbaum's request, we have issued three reports[4]

--Determination of Oil Price in the International Emergency Sharing System--An Unresolved Issue (GAO/ID-83-15) Nov. 12, 1982.

--Assessment of U.S. Participation in the International Energy Agency's Fourth Test of Its Emergency Sharing Allocation System (GAO/NSIAD-84-4) Oct. 13, 1983.

--Relationship Between IEA, NATO, and EEC Arrangements to Meet Oil Emergencies (Confidential) (GAO/C-NSIAD-84-9) Nov. 15, 1983.

This report represents our final product in answer to the Senator's request.

While preparing this report, we received a request in May 1984 from Congressman Synar, asking us to ascertain the extent to which DOE and other responsible U.S. government agencies are taking appropriate action to correct problems identified in the IEA's 1983 test of the ESS. Those problems included how oil would be priced in international oil allocation among IEA countries, the lack of a U.S. fair-sharing program, participation in

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[3]Unresolved Issues Remain Concerning U.S. Participation in the International Energy Agency (ID-81-38) Sept. 8, 1981.

[4]See app. I for a list of reports we have issued on the International Energy Agency.

non-price-induced demand restraint programs, use of the Strategic Petroleum Reserve, and management of U.S. policy formulation and implementation. He also asked us to address the IEA's 1984 review of U.S. emergency response mechanisms.

In response to Congressman Synar's request, we issued one report on February 5, 1985, Survey of Oil Company Views on Fair Sharing in an International Oil Supply Disruption (GAO/NSIAD-85-45).

With the concurrence of both requestors, we are issuing this comprehensive report to satisfy both requests. This report recaps those reports previously issued, taking into account changes since they were issued, and addresses the remaining issues of the requests.

In line with the requests, this report focuses primarily on the ESS and U.S. participation in that system. It does not address other aspects of IEA operations, such as its programs to reduce oil dependence over the long run. To enable the reader to better understand the current status of the IEA and U.S. participation in the IEA, summary background information is provided on how various aspects of the ESS have evolved over the years.

Our audit work was conducted in accordance with generally accepted government auditing standards. We interviewed and obtained documents from officials of the Departments of Energy, Defense, Justice, and State and from the Federal Trade Commission and Federal Emergency Management Agency. We attended meetings of the IEA's Industry Advisory Board and Standing Group on Emergency Questions and of technical subgroups established by the IEA to deal with the 4th and 5th tests of the ESS, known as AST-4 and AST-5. We spoke with officials of the IEA Secretariat; the governments of Japan, Belgium, Italy, the United Kingdom, and West Germany; and the U.S. Mission to NATO. We also interviewed oil company representatives that serve as advisors to the IEA. To obtain oil companies' view on fair sharing of oil we sent out a questionnaire to 17 U.S. oil companies and received 15 responses.

## CHAPTER 2

## DEMAND RESTRAINT PROGRAMS OF IEA COUNTRIES

Demand restraint is a key component of the IEA's Emergency Sharing System; because it reduces each member country's oil consumption and thus helps to offset an oil shortfall and to prevent panic buying, thereby lessening the adverse economic consequences of a disruption. Scarce petroleum supplies can then be released for higher valued uses. However, demand restraint must work quickly to accomplish its objectives; otherwise, prices could rise rapidly in response to excess demand, and overshoot longrun equilibrium prices. Oil prices tend to be very sticky downward, not declining quickly or by large amounts following supply disruptions, because (1) disrupted production may not be fully restored and (2) producer nations may reduce production to maintain high oil prices.

Under the ESS various approaches to demand restraint are possible; the IEA does not prescribe any particular approach. The current U.S. approach is to rely essentially on market forces, supplemented by drawing down the Strategic Petroleum Reserve. Many other IEA countries will probably rely initially on moral persuasion to encourage voluntary reductions in consumption. All IEA members, except the United States, have stated an intention to rely on some form of mandatory allocation, if necessary, to reduce consumption to the necessary levels.

The United States is concerned about how effective the approaches of other countries will be in slowing demand. Largely at U.S. urging, the IEA has agreed that each member country will assess the anticipated effectiveness in quantitative terms of their demand restraint measures and the likely economic consequences of such measures.

### COSTS OF OIL SUPPLY DISRUPTIONS

A supply disruption can cause large rapid increases in oil prices, creating an oil price shock, disrupting economic performance, and causing inflation and recession. This occurred twice in the 1970's as a result of the 1973-74 Arab oil embargo and the 1978-79 Iranian cutoff. Price shocks weaken oil-consuming economies by tranferring revenues to producing nations and by increasing the cost of other products that use oil in their production and distribution.

After a disruption is over, the price of oil may remain high. For example, after the 1979 Iranian oil shortfall, Organization of Petroleum Exporting Countries (OPEC) nations reduced oil production by nearly 40 percent, or 12 million

barrels per day, which enabled OPEC to maintain and even increase prices through early 1981.

Even small disruptions like the 1978-79 Iranian disruption can have severe consequences. For example, between September 1978 and September 1980, crude oil prices increased 2-1/2 fold--from $13 to $32 a barrel. OECD, in an internal analyses, estimated that by the end of 1981 the higher oil prices since the start of the disruption had resulted in a total loss in real income to its member countries of nearly $1 trillion, or $1,300 for every man, woman, and child.

## IEA'S DEMAND RESTRAINT GUIDELINES

The IEA defines demand restraint broadly. Approaches include government communications designed to influence the voluntary behavior of market participants (i.e., public information and media programs and consultations with companies to encourage reduced oil consumption and fuel switching), direct government intervention via compulsory orders (i.e., emergency building temperature restrictions, restrictions on gasoline sales/purchases and vehicle use); and government mandated fuel switching, allocation, and rationing. To the extent such approaches lead to reduced demand for non-price reasons, they are sometimes referred to as non-price induced demand restraint measures.

The IEP also allows oil stocks held in excess of each member country's emergency reserve commitment to be drawn down as a demand restraint substitute. Finally, the IEA has recognized reliance on market forces or price as a legitimate measure for helping to reduce demand.

The IEA recognizes that each member country's choice depends largely on its factual circumstances and national economic system and therefore has not prescribed the extent to which countries should rely on any type of demand restraint approach. However, each country is required to have a program of emergency measures that enables it to quickly reduce its oil consumption. Whenever the shortfall to the group, actual or expected, reaches 7 or 12 percent or more of consumption relative to a base period, each member agrees to reduce its consumption by at least 7 or 10 percent, respectively. The required degree of oil demand restraint is expected to be achieved by each participating country within 21 days after an IEA positive finding that the oil supply shortfall is sufficient to activate the ESS. This short time frame essentially necessitates that demand restraint measures be available for emergency use on a standby basis.

Although the IEA has not stipulated what program measures countries should use, it concluded several years ago that product allocation programs were required in most countries if demand restraint objectives were to be quickly achieved. An

alternative which at least some IEA countries are now considering is early draw down of emergency oil stocks (see chapters 3 and 5).

Demand restraint programs are expected to substantially offset disruptions in overall oil supply. As shown below, demand restraint programs should fully offset supply disruptions that reduce overall oil consumption by 7 percent. Even for disruptions that reduce oil consumption by 10 to 20 percent, demand restraint is supposed to offset most of the shortfall. Demand restraint obligations would even offset nearly one-third of a worst case disruption.

| | -----(percent)----- | | | |
|---|---|---|---|---|
| Oil supply shortfall | 7 | 10 | 20 | 33 |
| Demand restraint obligation | 7 | 7 | 10 | 10 |
| Demand restraint obligation as percent of oil supply shortfall | 100 | 70 | 50 | 30 |

## U.S. APPROACH TO DEMAND RESTRAINT DURING AND AFTER AST-4

The allocation system tests, held about every 2 years, have provided an opportunity for members to simulate how they would achieve demand restraint in a real emergency and for the IEA Secretariat to improve its understanding of each country's approach to demand restraint. The latest test, AST-4, was held in the Spring of 1983.

Following the test, many IEA countries indicated that sole reliance on market forces to achieve demand restraint commitments is inappropriate, since prices could rise to exaggerated and unacceptable levels. The issue surfaced when the United States chose during AST-4 to rely almost exclusively on market forces to fulfill its IEP obligations and to cope with the domestic economic impacts of the major world oil supply disruption simulated by the test.

DOE, which along with the State Department managed U.S. participation in AST-4, projected that crude oil prices would have to rise to a market clearing price of $98 a barrel in the United States for the United States to meet demand restraint and other IEA commitments. DOE assumed that (1) the $98 price would be realized within 2 months, from a $38 base price, (2) consumption would be reduced in aggregate by the 2.4 million barrels per day required to equal the U.S. supply right (the amount of oil the United States would be entitled to receive from available IEA supply) within the same 2 months, (3) no

substantial stock building by oil companies, suppliers, and consumers would occur, and (4) the $98 price would also balance world supply and demand within the same 2 months.1

The U.S. approach in AST-4 was criticized by the IEA Secretariat and other IEA member nations and raised concerns about the U.S. commitment to the ESS. Since the United States accounts for about half of the IEA's oil consumption, by using a pure market approach the United States alone could significantly affect international oil prices. The United States also depends considerably less on oil imports than most IEA countries (see table 1) and under many disruption scenarios would be expected to supply oil to other IEA members. Should the United States be unable to curb its oil consumption and fail to meet its IEA allocation obligation in a timely manner, these other IEA nations might seek oil on the spot market,2 putting greater upward pressure on international oil prices.

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[1]Assessment of U.S. Participation in the International Energy Agency's Fourth Test of Its Emergency Sharing System (GAO/NSIAD-84-4) Oct. 13, 1983.

[2]The spot market refers to a process whereby oil is exchanged on a day-to-day basis as compared to oil which is sold under long-term contract.

Table 1

## Oil Import Dependency of IEA Countries and France, 1982

| Country | Net oil imports as a percent of: Total primary energy requirements[a] | Total oil requirements[a] |
|---|---|---|
| Portugal | 76 | 98 |
| Italy | 63 | 100 |
| Greece | 62 | 87 |
| Japan | 62 | 99 |
| Spain | 59 | 95 |
| Denmark | 54 | 84 |
| Ireland | 52 | 99 |
| Belgium | 50 | 99 |
| France[b] | 47 | 94 |
| Switzerland | 47 | 99 |
| Netherlands | 43 | 89 |
| Sweden | 42 | 97 |
| West Germany | 41 | 93 |
| Turkey | 38 | 85 |
| Luxembourg | 34 | 100 |
| Austria | 34 | 82 |
| New Zealand | 27 | 79 |
| Australia | 14 | 34 |
| United States | 13 | 32 |
| Canada[c] | -1 | -2 |
| United Kingdom[c] | -15 | -36 |
| Norway[c] | -66 | -195 |

[a]Net oil imports include crude oil, refinery feedstocks, natural gas liquids, hydrocarbons not of crude oil origin, and petroleum products. Total primary energy requirements include fuels from all sources and equal indigenous production plus imports minus exports plus international marine bunkers plus or minus stock changes. Total oil requirements are calculated the same as total primary energy requirements but are for oil only. The source from which these figures were derived subtracts international marine bunkers in defining total primary energy requirements and total oil requirements. However, GAO believes that including international marine bunkers provides a more understandable picture of oil import dependency.

[b]France is not a member of the IEA, but is partly tied to the IEA's emergency oil sharing program through its membership in the European Economic Community. (See ch. 8.)

[c]A minus sign means that the country is a net oil exporter. For example, Norway exported oil equivalent to 66 percent of its total primary energy requirements and 195 percent of its oil requirements.

Source: Figures are from or based on figures reported in International Energy Agency, Energy Balances of OECD Countries 1970/1982 (Paris 1984). The source provides standardized energy balance sheets expressed in a common unit of metric tons of oil equivalent for all OECD countries. The balances are expressed in net calorific value.

Key IEA criticisms of the U.S. approach in AST-4 were as follows.

--While price increases can be a useful tool in a demand restraint program, sole reliance on the market could exacerbate price increases, thus creating politically unacceptable economic and social impacts that IEA was designed to avoid.

--Consumer reaction to price increases cannot be predicted reliably, since many factors affect consumption. Therefore, whether price alone is sufficient to meet demand restraint obligations cannot be forecast.

--The IEA allocation system may be jeopardized because higher prices in one country could affect the prices in others; companies may not make voluntary offers to share oil with other IEA members if they believe they can get a higher price elsewhere.

In September 1983, the IEA Standing Group on Emergency Questions requested that the Secretariat review several members' emergency response programs. Subsequently, intense discussions were held with U.S. officials at various levels. Thereafter, a detailed questionnaire inquiring into all major aspects of members' emergency response programs designed to meet IEP obligations was developed and initially sent to the United States, West Germany, Italy, the Netherlands, and Sweden.

During IEA review of U.S. emergency response programs, the U.S. government said it opposed a regulatory approach, such as an allocation program, to meet demand restraint obligations. The administration said that past experience with price and allocation controls showed that they inhibited efficient energy use; discouraged domestic production, thus requiring more oil imports; and distorted petroleum distribution because such programs could not anticipate or correctly adjust for shifts in demand caused by supply uncertainty or the impacts of higher oil prices, providing some areas and users with more than they needed while others received less than they needed. The administration concluded that the price controls and allocation programs of the 1970's provided little incentive for private sector emergency planning and in some ways may have penalized some firms that engaged in such planning. In addition, the administration opposed mandatory conservation measures, such as building temperature restrictions and employee-based commuter and travel measures, because it concluded the costs, burdens, and restrictions exceeded their benefits.

The administration indicated that reliance on the market continues to be its primary approach for meeting the U.S. demand restraint commitments during a disruption. Market forces, it is argued, respond promptly and efficiently to shifting patterns of demand and are more efficient and effective in dealing with a disruption than a regulatory approach. The government said that oil price increases would provide additional incentives for voluntary conservation and the United States would rely primarily on price to allocate scarce supplies. However, the government recognized that it was difficult to predict in advance how high prices would rise and how much consumption would decrease.

The administration said that market reliance would be supplemented by drawing down oil from the Strategic Petroleum Reserve (SPR). In what was a new policy statement on SPR use and demand restraint, the United States said its policy now would be to "ordinarily" draw down SPR oil rapidly and in the early stages of a major disruption to maximize the SPR's economic benefits, to have the maximum stabilizing impact on the market, and to discourage hoarding. The government also said it continued to be committed to completing a 750-million barrel (MMB) reserve by 1991.

The government would implement a public information plan designed to discourage panic or exaggerated stockbuilding and to encourage voluntarily reduced consumption. It would contact large consuming industries directly to encourage voluntary conservation efforts and fuel switching and also would encourage state and local governments to reduce oil consumption.[3] The government estimated that 0.4 to 1.2 MMB per day could be saved by industry switching fuel from oil to natural gas or electricity and that surge oil production from the private sector might provide an additional 0.2 MMB per day.

The administration would implement a mandatory program for reducing energy consumption on a percentage basis in each federal government department, which could save as much as 50 thousand barrels of oil a day. In addition, if necessary, the federal government could impose quotas or fees on oil imports.

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[3]Depending largely on public and industry appeals to voluntarily reduce consumption quickly to the required levels is debatable. Oil products are so integral to normal living that a major disruption would require considerable sacrifice. Many people may be reluctant or unwilling to make the necessary reductions voluntarily, particularly if they believe no one else is doing so or if they are not convinced that the situation is serious. Consequently, it may be necessary to require that they reduce consumption.

The IEA review of the U.S. program was completed in March 1984. Statements made by the United States about its SPR policy especially helped to satisfy the IEA and other member countries about U.S. willingness and ability to satisfy its demand restraint obligation during a disruption. Some concerns remained because the U.S. has no fallback mandatory restraint measures should public information and voluntary programs fail to sufficiently reduce demand. However, those concerns diminished because of the U.S. commitment to rapidly draw down large amounts of SPR oil early in a crisis as a partial substitute for demand restraint and to complete a 750-MMB SPR.

In February 1985, the administration proposed to cease filling the SPR when it reaches 489 MMB at the end of fiscal year 1985. The action was proposed as one means of cutting the federal budget deficit. The administration said that in future years it would consider whether to resume the filling. The proposal, if enacted, may negatively affect other IEA countries' perceptions of the adequacy of the U.S. demand restraint approach. As discussed in chapter 3, it may affect their willingness to improve their preparedness in other areas, such as emergency oil stocks.

## DEMAND RESTRAINT APPROACHES IN OTHER IEA COUNTRIES

All IEA members, except the United States, intend to or have plans to rely on some form of allocations to achieve their demand restraint obligations. The approaches emphasized in each country vary, reflecting differing national policies, legal structures, supply and stock positions, fuel switching capacity, refinery flexibility, and so forth. For instance, initially West Germany and the Netherlands would probably use a market-oriented approach of persuasion to induce voluntary reduced oil consumption. Both countries, however, would introduce regulatory measures, including allocation and even rationing, if necessary to secure reduced consumption. In contrast, Sweden would quickly ration most major products and would rely almost entirely on this measure.

During AST-4, all members except the United States simulated government-directed allocation controls on one or more oil products to meet their demand restraint commitments. In most cases, the governments established percentage targets to reduce consumption and instructed oil companies and traders to restrict customer deliveries accordingly. At least one government consulted its oil industry, which voluntarily agreed to effect such a program; the government had authority to implement mandatory measures if industry's voluntary actions did not yield sufficient results.

Demand restraint targets for specific products were established by 15 of the other 20 IEA members. Some imposed greater restraint on private consumers than on industry and public sector consumers to minimize reduced economic activity. This was reflected in higher reductions for motor gasoline, heating oil, and diesel oil and a lesser reduction for heavy fuel oil. In countries where industry had high fuel-switching capacities, higher demand restraint was imposed on fuel oil than on light products.

About half the countries simulated set-aside programs or other measures to assure supply to essential or high-priority users (i.e., hospitals, agriculture, and transportation of necessities). Eight countries considered or implemented rationing (about three-quarters of the countries have some sort of plans for using rationing, if necessary, during an emergency) and eight employed fuel switching.

Eighteen countries supplemented allocation programs by imposing gasoline use restrictions, such as prohibiting driving cars on certain days, minimum purchases, and odd/even license plate restrictions. Several imposed restrictions on recreational fuel use, outdoor illumination or advertising, and television broadcasting hours. A few relaxed their requirements on lead and sulphur content of petroleum products to increase product yields and raised taxes on specific products to stimulate increased conservation.

Most countries simulated greater demand restraint than required, which resulted in much lower stock drawdown. Two countries substituted excess stock drawdown to meet part of their demand restraint obligation.

## EFFECTIVENESS OF DEMAND RESTRAINT PROGRAMS

Demand restraint is designed to prevent a frantic scramble for oil on the world market and alleviate upward pressure on oil prices. A member's failure to implement effective demand restraint measures would not affect the calculation of its allocation right or obligation. However, the immediate consequences of failing to meet the required oil demand reduction would be an aggravated domestic oil supply shortfall. Moreover, to the extent that some IEA countries fail to quickly achieve their demand restraint requirements, the competition for scarce oil supplies could be increased, with attendant rises in oil prices. In this sense, one country's failure to establish and implement effective demand restraint can affect other member countries.

The IEP agreement requires IEA to continually review and assess each member's demand restraint program and the effectiveness of measures actually taken to reduce its rate of consumption. A full review cycle of all the countries' programs was made between 1979 and 1982. A new series of reviews was initiated in late 1983 focusing on the member countries' emergency response programs, including their demand restraint programs. As of January 1985, reviews of seven countries' programs had been completed. Four more were scheduled to be completed by mid-1985.

In these reviews, a country responds in writing to a Secretariat questionnaire, describing its program, including available legal authorities and how they likely would operate in an emergency. An IEA review team composed of Secretariat personnel and representatives from a few other member countries then discusses the program with country officials, raising questions and discussing possible weaknesses suggested by the written reply. The oral reviews last about one day. The review depends upon the reviewed country candidly describing its program and the stage of the program's development.

For the 5 reviews completed during 1984, IEA concluded the countries were generally capable of fulfilling their IEP obligations. Concerning demand restraint, IEA found that two countries had well-developed programs judged likely to operate effectively in an emergency, one had a well developed program but needed further development in public education, one was conceptually well-designed but lacked supporting legal authority and detailed plans and procedures. The U.S. program received a qualified endorsement, based on continued SPR buildup and early and rapid drawdown during a severe disruption. The two reviews completed in January 1985 commented favorably on the countries' demand restraint programs. In one case, concern was expressed about when a rationing program would be developed and about regional training for implementation of demand restraint measures.

The allocation tests are largely paper exercises. Cost and economic disruption factors make actual implementation of demand restraint programs impractical during a test. Each country decides the extent of testing for its demand restraint program and testing is done largely internally. Nevertheless, the tests can assess how decisions would be made; who would make them; which demand restraint measures would be used and in what sequence; and whether legal authorities, procedures, supporting information, data requirements, and other necessary operational elements are in place.

The IEA Secretariat does not directly observe the countries' testing, and its review of the results is limited. During AST-4, the Secretariat requested information from each country on the extent to which demand restraint was applied nationally (i.e., each country's percentage goal for reducing demand), an estimate of the savings that would result and the corresponding impact on consumption; and the measures used to achieve the reduction. Countries applying less than the minimum required IEA demand restraint percentage were asked to explain why. Countries were not asked to assess how well their tests of demand restraint programs went nor how well they could be expected to work in a real emergency. From all the information received, the Secretariat concluded that most demand restraint programs were appropriate and appeared achievable. All countries assumed their programs would have functioned sufficiently well in the disruption simulated, so they all achieved their demand restraint objectives. Nevertheless, whether they could do so in a real disruption remains an open question.

The effectiveness of the programs is also difficult to assess, because the IEA system has never been activated. Some countries had programs before IEA's which were applied to a degree during the 1973-74 Arab oil embargo. During the 1978-79 Iranian oil supply interruption, members agreed to try to reduce anticipated IEA-wide consumption by 5 percent by the end of 1979; however, except for a few members, including the United States, countries reduced anticipated consumption by an average of only 2.6 percent. The agreement was voluntary, and many countries either did not implement demand restraint measures or did so only on a limited basis. The U.S. reduction was mainly due to shortages rather than to DOE's plan.

## Relation of pricing policies to demand restraint effectiveness

If a country maintains prices below market levels, consumers may have less incentive to constrain their demand and may continue consumption at the pre-disruption rate. However, if a country which maintains price below market levels also has well developed allocation or rationing programs, demand may be reduced to the required level.

Pricing policy may also affect a country's ability to secure oil it is entitled to under the ESS. Supply tends to flow to areas where prices are highest. If prices are controlled below market levels, companies will be reluctant to provide supplies, and the allocation system would have difficulty functioning effectively.

Pricing issues are further discussed in chapter 4.

## COST/BENEFIT AND EQUITY CONSIDERATIONS OF ALTERNATIVE APPROACHES

The present U.S. administration believes that market pricing, supplemented by stock drawdown, is the best approach for achieving demand restraint. According to a DOE official, the administration thinks that the economic cost of holding stocks is less than the costs of demand restraint measures and doing without oil. He said, though, that it would take a major macro- and microeconomic analysis to demonstrate this. According to a State Department official, the administration is concerned that many IEA countries' demand restraint approaches may not yield sufficient, timely reductions in consumption and/or may result in higher economic costs, which could affect the costs of a disruption to the United States. For example, member governments may be reluctant to impose stringent allocation measures early in a crisis because such measures would be politically unpopular. Failure to impose stringent measures and reduce demand quickly will result in upward pressure on world oil prices.

At the same time concerns about fairness and equity may explain why other IEA members favor alternative approaches instead of relying largely on the market price rising enough to produce the needed reduction in consumption. Under a pure free market approach, those with a greater ability to pay can drain scarce and critically needed supplies away from those less well-off. The poor might be forced to make choices between food and energy to heat their homes or get them to work. In addition, competition may be adversely affected. For example, major oil companies with substantial domestic oil production capacity and access to international oil supplies might favor their own refineries and outlets over independent refineries and marketers of refined petroleum products.

Concerns about equity and competition were an important consideration leading to imposition of a mandatory allocation program in the United States during the 1973-74 Arab oil embargo. Although the authority to use price and allocation controls expired in 1981, both Congress and the executive branch continue to discuss possible measures for addressing some of these concerns.

Draw down of SPR oil can make an important contribution to equity and competition concerns, since stock use increases supply and helps keep prices from rising to higher levels than they otherwise would. Nonetheless, in a severe supply disruption price increases would still be substantial even with SPR draw down. Recognizing this, the administration has been examining additional actions that could be taken to provide economic relief to the poor and low-income groups during a supply disruption. In testimony before the Congress in September 1984, the Secretary of Energy said that the administration had

examined 23 federal transfer programs to determine their potential for providing additional aid to offset the effects of oil price increases. The Secretary, noting limitations in the various programs, said the administration had considered a wide range of options for improving aid to the needy and intended to submit to the Congress early in 1985 recommendations for an economic response program to help the needy. However, the administration did not do so, and in May 1985, the Deputy Secretary of Energy testified that to date the administration had nothing better to recommend.

A question exists about the utility of relying on free market pricing to the exclusion of all non-price demand restraint measures. In a study on energy demand restraint measures performed under contract to DOE,[4] the author noted that unconstrained price allocation is generally thought to secure the most efficient allocation of resources. However, the author states that where petroleum imports account for a significant share of total domestic consumption, sudden petroleum price shocks drain income from the national economy and retard economic growth. The resulting macroeconomic losses can be substantial. If compulsory demand restraint measures restrain prices from reaching higher free market levels, the efficiency losses associated with their use may be more than offset by the reduction in macroeconomic losses they achieve. Such measures, the author says, have not been explored in enough detail to know whether the net macroeconomic benefits exceed the sum of their costs. An important reason why is that current macroeconomic models are not conceptionally or empirically adequate.

A number of studies have concluded that emergency oil stock drawdown is one of the best measures for minimizing the economic costs of a supply disruption. However, emergency oil reserves are costly and take long lead times to establish. Moreover, stocks may not be sufficient to fully offset a serious supply shortfall. In any disruption, countries must consider whether they should (1) draw down their reserves at a maximum rate, (2) restrain the drawdown rate to guard against the disruption lasting longer than anticipated, or (3) restrain drawdown and/or retain their reserves for use should future shortfalls occur before the reserves could be replenished. Some countries which depend heavily on oil imports and have little or no domestic oil production may be inclined to rely on stock drawdown as a last resort, since the consequences of depleting stocks before a disruption ended could be severe. In addition, some countries question whether early stock drawdown, which increases

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[4]Scott A. Noll, An Economic Analysis of Energy Demand Restraint Measures, unpublished Discussion Paper D-82T (Washington, D.C.: Resources for the Future, Jan. 5, 1984).

supply, may be counterproductive at a time when governments are trying to convince consumers of the need to restrain demand. (The stocks issue is discussed further in chapters 3 and 5.)

## IEA decides to further examine costs and benefits

Primarily at U.S. urging, in July 1984 IEA decided to further examine (1) the anticipated effectiveness in quantitative terms and the range of economic consequences of members' oil consumption reduction measures and (2) the economic impacts of serious oil supply disruptions on each member country. The Secretariat has begun analysis of these issues but IEA members have not yet agreed on methods by which they would quantify the costs of supply disruptions and the costs and benefits of demand restraint versus stocks measures.

At IEA meetings in October 1984 and January 1985, the United States restated the importance it attaches to both efforts. However, reaching agreement on how to proceed may not be accomplished easily. For example, and as previously discussed, current macroeconomic models may not be conceptually or empirically adequate to assess the cost/benefits of various compulsory measures for restraining demand. In addition, numerous, complex factors can affect the cost-benefit analyses. These include: (1) the frequency of disruptions and their probable magnitude and length, (2) how high oil prices will rise during a disruption and what will happen to prices following the disruption, (3) alternative fuels availability and costs on a short-term basis, (4) costs of building, holding, and maintaining stocks, (5) the administrative and macroeconomic costs of various mandatory measures for allocating supplies or curtailing demand.

Not surprisingly, perhaps, some IEA countries are skeptical about the possibility of devising approaches which can yield realistic and meaningful results. In addition, the Secretariat believes the tasks will be difficult to achieve.

## CHAPTER 3

## MANAGING OIL STOCKS IN AN EMERGENCY

Under the IEP Agreement, each member country agrees to hold emergency reserves equal to 90 days of the previous year's net oil imports. To the extent that emergency oil stocks are available and used, economic losses and individual sacrifice can be averted. Unlike demand restraint, which requires reduced oil consumption, a barrel of oil stocks can directly offset a barrel of lost oil imports.

Our review of oil stock situations within the IEA showed that:

--As a group, the IEA countries maintain stocks well in excess of the 90-day requirement, but several individual members are considerably short of that level.

--The IEA defines emergency reserves in a way that allows certain oil stocks to be counted which really would not be available in an emergency.

--The IEP implicitly assumes that stock draws will occur but does not prescribe a rate or timing for stock drawdown.

--Whether member countries will actually use their emergency reserves in a disruption and whether they have adequate programs to assure quick and effective stock draws during a crisis is uncertain.

In July 1984, the IEA countries agreed to consult during a supply disruption to determine what individual and coordinated stock drawdown actions they could take. The IEP does not commit countries to actually draw down stocks in future disruptions, much less commit them to a rate or timing for drawdown. Only a few other countries have indicated a willingness to draw down stocks early in a disruption. Willingness will depend on a variety of factors at the time of a disruption, especially the real level of a country's emergency reserves, the likely impacts of a particular disruption, effectiveness and costs of demand restraint measures, and the potential for fuel switching. In July 1984, the IEA countries decided to further study these questions. The willingness of member countries to add to their existing emergency oil stocks and to use them in a disruption will depend in part on their completing well-designed studies in each of these areas and the results are of these studies.

## THE 90-DAY EMERGENCY RESERVE REQUIREMENT

The IEP requires each member country to hold emergency reserves sufficient to cover 90 days of net oil imports for the previous calendar year.[1] Under the ESS, emergency reserves are theoretically used to make up any oil shortfall that remains after countries have implemented required demand restraint measures. IEA does not specify when or how much oil reserves are to be drawn down by the members. The emergency reserve drawdown commitment is obligatory only in the sense it is assumed to have been satisfied when calculating supply rights of member countries; i.e., the oil supply each country is entitled to during a disruption when the ESS has been activated. While the IEP implicitly assumes that stock draw will occur, countries can substitute additional demand restraint for use of emergency reserves if they wish. Actual stock drawdown is a matter for national decision by each member country.

In principle, the IEA emergency reserve commitment can be satisfied by oil stocks, fuel switching capacity, or standby oil production. However, most countries have little fuel-switching capacity or standby oil production. To date, the level of oil stocks is the standard IEA uses to assess whether countries meet the emergency reserves requirement.

## AMOUNTS OF EMERGENCY OIL STOCKS HELD

With some exceptions (i.e., Canada, Greece, Norway, Turkey, and the United States), most IEA countries have established minimum compulsory stock levels for private oil companies. These requirements are designed to ensure that companies regularly maintain stocks above their normal needs for use during emergencies and almost always to meet the IEA obligation. More than a third of the IEA countries (the United States, Greece, Ireland, Italy, Japan, New Zealand, Sweden, and West Germany) have government-owned reserves.

The U.S. government has said that private oil stocks represent an important element of its energy emergency preparedness policy. During the past several years, it has emphasized the

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[1] In December 1982 the IEA decided that members should try to keep stocks from falling below 90 days of the average net oil imports for the preceding 3 years if this were higher than the previous year's. An exception would be made where oil imports have declined because of clearly established long-term structural change. Each country decides for itself whether a decline in imports is due to structural change.

importance of removing disincentives, particularly oil price and allocation controls, to industry's establishing emergency oil reserves for its own purposes. However, the U.S. government has never required the oil industry to establish emergency reserves for IEA purposes and currently exercises no control over the level or use of private stocks and has no plans to do so. However, under EPCA the U.S. government has authority to issue mandatory supply orders during an international energy supply emergency to persons engaged in producing, transporting, refining, distributing or storing oil for the purpose of implementing U.S. obligations under ESS. As discussed on page 25, most of industry's stocks in the United States are required for normal operations.

The U.S. government also has the Strategic Petroleum Reserve, which was set up solely for use in emergencies; it alone now exceeds the 90-day IEA requirement. However, according to the Secretary of Energy, the nation's first line of defense for dealing with an oil import reduction is to rely on market forces to allocate available oil--from domestic production, remaining imports, and private inventories. The SPR is an additional source of supply to augment market forces.

Austria, Denmark, the Netherlands, Switzerland, and West Germany have established corporations or associations to assist oil companies in holding emergency oil reserves. The degree of industry involvement in these corporations and industry's claim on the use of the oil stocks in an emergency varies across the countries.

Canada, Norway, and the United Kingdom have averaged no net oil imports for the past 3 years or longer, and thus have no current IEA oil stock obligation. However, the United Kingdom has a stockholding obligation, via its membership in the European Economic Community, of about 76 days of the previous year's consumption of several oil products.

In a few IEA countries (i.e., Canada, Norway, and Turkey) companies are not required to hold minimum levels of stocks, stockholding associations do not exist, and the governments do not maintain strategic or government reserves for IEA purposes. However, as noted above, both Canada and Norway are net oil exporters and thus not obligated to hold 90 days of emergency reserves under the IEP.

Most of the 18 member countries with emergency reserve obligations maintain oil stocks equal to more than 100 days of net oil imports. In fact, 5 have regularly maintained stocks of more than 150 days. At the same time, though, several of the

countries have fallen short of their emergency reserve commitment. In October 1984, 6 member countries had oil stocks of less than 90 days; 4 were short by 10 or more days and had been generally below the 90-day level since early 1983 or before. Fortunately, as a group the 4 countries account for less than 10 percent of the IEA's total emergency reserves commitment.

The immediate consequences of a participating country's not achieving the required level of emergency reserves would be a reduced capability to draw down oil stocks in an emergency and probably less willingness to use stocks early in a supply interruption. Failure to establish the proper level of reserves does not affect the calculation of supply rights or allocation rights and obligations of member countries. Nevertheless, to the extent a country does not maintain adequate levels of emergency reserves or does not draw down reserves to meet its emergency reserves drawdown obligation, it consequently must increase its demand restraint to satisfy its IEA obligations.

A country's failure to achieve the 90-day emergency reserve obligation can affect other IEA countries. During a crisis, if a country does not draw down reserves and does not quickly achieve additional demand restraint, its added demand will put upward pressure on international oil prices and complicate effective working of the oil sharing (allocation) process.

## ADEQUACY OF EMERGENCY RESERVES NOT CLEAR

The IEP defined emergency oil stocks to include crude oil, major products, and unfinished oils held in working stocks, refinery tanks, bulk terminals, pipeline tankage, barges and intercoastal tankers, oil tankers in port, inland ship bunkers, and storage tank bottoms. Also covered are stocks held by large consumers as required by law or otherwise controlled by governments.[2] The IEP states that emergency oil stocks do not include "those stocks which can be technically determined as being absolutely unavailable in even the most severe emergency." The Agreement says that, until this concept was further examined and criteria established for measuring absolutely unavailable stocks, each member country would subtract 10 percent from its total stocks in measuring its emergency reserves. To date, no criteria have been established.

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[2]Stocks excluded are crude oil, major products and unfinished oils held in pipelines, rail and truck tank cars, seagoing ships' bunkers, service stations and retail stores, by other consumers, in tankers at sea, and military stocks. Also excluded is crude oil not yet produced.

The IEP also stipulated that the IEA Standing Group on Emergency Questions would continually review the effectiveness of the measures taken by each participating country to meet its emergency reserve commitment.

Over the years, the IEA Secretariat has regularly collected data on member country total stock levels. It has also collected some information on their emergency reserve programs and analyzed the emergency reserves situation of participating countries and the IEA as a whole. In June 1984 the Secretariat proposed that its members conduct studies of the minimum operating inventories required to keep their industries' oil supply and distribution systems functioning smoothly.

Because of differences between the supply systems of member countries, (i.e., domestic oil production, amount of imports and exports of crude oil and petroleum products, refinery capacity, geographical area served, transportation modes, location of refining and storage facilities) the minimum oil required to keep the oil supply system working varies widely from country to country. According to some estimates, the range may be anywhere from less than 10 days to more than 150 days supply of a country's oil consumption. A rough estimate sometimes used is that the United States requires 50 to 60 days of oil supply for working level purposes, and that many IEA European countries and Japan need about 30 to 45 days.

U.S. minimum operating inventory

Among the IEA member countries, the most detailed studies of industry oil inventories have been conducted by the United States. According to these studies, prepared by the National Petroleum Council, the majority of U.S. industry's primary oil stocks consist of "minimum operating inventory," defined by the Council as the level necessary to maintain smooth operations and avoid runouts and below which operating problems and shortages would begin to appear in a defined distribution system. (See table 2.)

Table 2

U.S. Industry's Minimum Operating and Total Inventory Levels in Primary Distribution Sector

| Type of inventory | 1978 Estimated minimum operating inventory | 1978 Actual inventory March 31 | 1983 Estimated minimum operating inventory | 1983 Actual inventory March 31 |
|---|---|---|---|---|
| | (MMB) | | | |
| Crude oil | 290 | 346 | 285 | 358 |
| Motor gasoline | 210 | 260 | 200 | 224 |
| Distillate fuel oil | 125 | 138 | 105 | 119 |
| Residual fuel oil | 60 | 62 | 40 | 46 |
| Total[a] | 685 | 806 | 630 | 747 |

[a]Does not include crude oil in the SPR or jet fuel, kerosene, unfinished oils, or other oils. Total primary stocks exclusive of the SPR were 1,149 MMB on March 31, 1978, and 1,064 MMB on March 31, 1983. Crude oil in the SPR on the two dates was 18 MMB and 312 MMB, respectively.

Source: National Petroleum Council, Petroleum Inventories and Storage Capacity, Nov. 1983, pp. 25 and 31, and Petroleum Storage and Transportation Capacities, Vol II, Dec. 1979, p. 16. Totals calculated by GAO.

The number of days supply of inventory above minimum levels for the end of 1978 and 1983, calculated by dividing the inventory above minimum levels at the end of the month by demand during the month, is shown in table 3. Figures for 1978 are presented to show how minimum operating inventory levels can change over time. As shown, industry had only about 3 to 7 days

of supply of inventory above minimum levels.

Table 3

U.S. Industry's Inventory Above Minimum Operating Levels

| Type inventory | March 31, 1978 (number of days) | March 31, 1983 (number of days) |
|---|---|---|
| Crude oil[a] | 3.9 | 6.6 |
| Motor gasoline | 6.8 | 3.5 |
| Distillate fuel oil | 3.1 | 4.7 |

[a]Excludes crude oil in the SPR.

Source: National Petroleum Council, Petroleum Inventories and Storage Capacity (Washington, D.C., Nov. 1983), p. 29.

Inventory above minimum levels exists to meet several needs of the market as it regularly functions, such as seasonal inventory, inventory held in anticipation of planned maintenance, and normal operating inventory. Normal operating inventory includes inventory normally available for sale. It may include inventory held due to changes in demand, production, or facilities and inventory held by companies for speculative and/or security purposes. Given the several purposes which inventory above minimum operating levels serves, the above figures indicate that the U.S. petroleum industry normally does not have much inventory left over or set aside to cope with oil supply disruptions.

According to the way the IEA measures oil stocks available for emergency purposes, at the end of March 1983 the United States had about 300 days of emergency oil stocks relative to 1982 net oil imports. Since oil in the SPR at the end of March 1983 equaled only about 73 days of stocks, the other 200 plus days of stocks were accounted for by industry stocks. However, as discussed previously, the majority of industry primary stocks held at that time were required for minimum operating purposes and would not be available for emergency purposes. Thus, the IEA figures are misleading about the real degree of protection inherent in U.S. stock levels.

Unlike most other IEA countries, the United States does not require industry to hold any emergency stocks. However, the U.S. case is nonetheless illustrative, because it indicates the large amount of industry stocks that can be required for minimum operating purposes.

If the amount of stocks required in each IEA country for minimum operating purposes were known with firm assurance, one could make a calculation to estimate what stocks could be counted on in a disruption to affect a shortfall. However, this information generally has not been available.

Members agree to further examine their real emergency reserves

In March 1984 the United States informed the IEA Standing Group on Emergency Questions that it was very concerned about the true level of emergency reserves within the IEA and proposed that the Industry Advisory Board prepare a study on

--the level of company usable stocks relative to minimum operating stocks;

--the degree to which company draw down of stocks could occur relative to government programs; and

--whether overall stock levels were adequate to cope with disruptions.

The Industry Advisory Board felt that the subject should be addressed by individual governments, which could in turn hold discussions with the companies operating within their borders.

In January 1985, the IEA members agreed that each country would survey its oil companies to secure estimates of the amount of their stocks required for minimum operating inventory. Countries agreed to try to complete the studies by mid-1985, but it was recognized that some countries would probably not meet the target date.

## UNCERTAINTIES ABOUT STOCK DRAWDOWN

Uncertainties about whether effective stock drawdowns will occur in a disruption exist principally because there is no prescribed rate or timing for a drawdown during a crisis, and the extent to which member countries' governments control their stocks in order to use them effectively in an emergency is not clear.

About three-quarters of IEA's oil stocks are owned by oil companies. The remainder is owned by governments (as, for example, in strategic reserves held by the United States, Japan, and West Germany) or by company stockholding associations (as in the Netherlands and West Germany). In some countries national oil companies, partly or fully owned by governments, account for some of the stocks held by oil companies.

Oil companies hold part of their stocks because national laws or regulations require them to hold minimum stock levels and part for their own purposes. Generally, companies integrate their regular stocks with those held to meet compulsory requirements.

During a disruption, governments can encourage companies to draw down stocks. Where minimum stock requirements exist, governments can facilitate draw down by eliminating or reducing the requirements, or if legal authority exists, by ordering companies to draw down stocks. However, simply reducing requirements will not guarantee that all or even most companies will actually draw down their emergency stocks or do so effectively. Companies whose access to supply is directly and significantly disrupted may use their emergency level stocks, while companies not so affected may choose to hold onto emergency stocks to protect their supply position or in anticipation of future price rises. Although such companies may be in a position to sell stocks to companies whose supply has been disrupted and at a substantial profit, their calculations must balance possible gains against (1) the future replacement cost of the oil should the disruption continue and they themselves later need the oil and (2) a probable requirement to rebuild stocks at the end of the disruption when governments reimpose minimum compulsory stock levels.

Another uncertainty exists about what happens to stocks which are drawn down. Unless the stocks actually get to those who really need them, the benefits of stock draw will be reduced. Stocks drawn down by some companies possibly may be purchased by others and put back into storage.

The IEA does not have complete information on whether various member countries are capable of effectively controlling draw down of company oil stocks or for that matter, government-owned stocks. For companies, the answer depends in part on whether the governments have adequate legal authority to order draw downs at prescribed rates, should that become necessary, and whether they have established programs capable of adequately monitoring and, if necessary, enforcing company compliance. For governments, the answer depends on whether adequate legal authorities and effective implementing programs are available. A related consideration for IEA countries which have government-owned reserves or emergency reserves held by stockholding associations is whether the governments have developed well conceived plans and procedures for drawing down these reserves, including coordinating the timing and rate of draw down with industry-held emergency reserves.

Until recently, the IEA has not paid much attention to whether and how member countries would draw down stocks during a supply disruption, because (1) until recently some countries did not have much emergency reserves and (2) the positive role that stocks can play early in a disruption was not given sufficient recognition.

The effectiveness of the IEA's Emergency Sharing System will depend importantly on member countries' preparedness to draw down stocks. Numerous studies have concluded that oil stock drawdown is one of the most effective measures available for averting or reducing the adverse economic consequences of a major oil shortfall. These oil stocks can directly replace lost oil, allowing economic and other activities to continue at pre-disruption levels. Stock drawdown may also temper the activities of traders and brokers, who might be tempted to purchase more oil and seek higher prices than they otherwise would. Consequently, stock drawdown at the onset of a crisis may be more effective in stemming panic buying and hoarding than demand restraint and other emergency response measures.

Factors affecting stock drawdown

All IEA countries will face the difficult questions of when and how (i.e., at what rate, for whom, at what price?) to draw down oil stocks in an emergency. The decision will depend, in turn, on the specific nature of a disruption and answers to such questions as:

--What is the likely extent and duration of the supply shortfall?

--What are the likely economic, political, and national security consequences of the shortage?

--To what extent can demand restraint and other measures effectively offset the interruption?

--How strong is the country's stock position; and how desirable is it to maintain emergency stocks as insurance against an unexpectedly long or worsening interruption or the likelihood of future disruptions?

One country's decision whether to draw down stocks may be related to decisions by other countries. Some countries may not be willing to draw as heavily on their oil stocks if other countries do not act similarly, since the latter will obtain what has been referred to as a "free-ride." This issue is complicated by the fact that some countries may have demand restraint programs

that could achieve results similar to a stock drawdown. Moreover, IEA countries more dependent on oil imports may prefer to hold onto stocks longer, since the consequences may be greater if the disruption lasts a long time and their stocks are exhausted.

What would be paradoxical and what has worried some observers is that the IEA countries, having gone to the effort and expense of building substantial emergency oil stocks, may go from one crisis to another without using them. In short, the concern is that the expected benefits for which the stocks were created in the first place may never be realized in a crisis.

## U.S. STOCK DRAWDOWN DECISIONS

In early 1984, the Secretary of Energy, in a major policy pronouncement, said that early and substantial stock drawdown is one of the most effective means for minimizing the severe economic damage which can result from supply disruptions, particularly in the early phases. According to the administration's assessment, stock draw can help to alleviate psychological uncertainty about future supply that in turn can lead to panic and speculative buying and stock building and hoarding. Stock draw can also reduce physical shortages, allowing economic activity to continue. This position is best summarized in testimony given by the Secretary of Energy on February 21, 1984, before the Subcommittee on Fossil and Synthetic Fuels, House Committee on Energy and Commerce:

> "In a major disruption, the early sale of SPR oil in large volumes ordinarily is the best policy for SPR use. This policy makes it possible to replace rapidly some oil lost because of a disruption and, therefore, to reduce price increases while worldwide supply and demand reach equilibrium. The marketplace needs to know in advance that this is our general policy so that unnecessary panic behavior can be avoided. . . The SPR . . . is an operational tool, and I have no hesitancy in declaring our willingness and intention ordinarily to use it to optimum advantage early in a serious oil supply interruption."

Subsequently, the United States urged the IEA to examine the adequacy of member country stock levels and the ability of member country governments to achieve effective stock draw. The United States strongly supported efforts by the IEA Secretariat to get member countries to agree on more specific measures for strengthening the IEA's capability for using stocks in both small and large disruptions.

Largely at U.S. urging, in the spring of 1984 the IEA agreed to re-examine a variety of stocks issues. This led to a Governing Board decision on July 11, 1984, which approved a new set of procedures concerning stocks and which applies to both "trigger" and "subtrigger" oil supply disruptions.3 Chapter 5 discusses the decision as it applies to measures for dealing with smaller disruptions.

JULY 1984 IEA DECISION

Under the July 1984 Governing Board decision:

--Member countries recognize that stock drawdown can be an effective and rapid means for restoring lost oil supply, particularly in the initial stages of a disruption when quick action is needed to prevent exaggerated market reaction and panic buying, resulting in more rapid rises in prices than market conditions may warrant, causing severe economic damage.

--Member countries acknowledge the value of coordinating individual stock draw efforts and avoiding actions that might limit the effectiveness of their efforts.

--When the Governing Board determines that a supply interruption involving a significant oil shortfall exists or is imminent, countries in a position to contribute meaningfully to a stock draw--either by means of physical drawdown or use of other mutually supporting actions (i.e., demand restraint, fuel switching, allocation)--shall consult to determine in what amount and for how long stock drawdown would be required to calm the market.

--The above countries would be free to decide on and implement a coordinated stock draw.

The July 1984 decision thus places special emphasis on the importance of coordinated stock draws for dealing with disruptions. It departs from earlier IEA decisions in that

[3]A "trigger" level disruption is one in which the ESS is activated as a result of one or more IEA countries sustaining a shortfall of 7 percent or more of their oil supplies. A "subtrigger" level disruption is one in which the shortfall is not big enough to trigger the ESS but which IEA countries may decide is serious enough to justify taking common measures.

it allows (1) a subset of IEA countries to take action on their own, thus recognizing that some countries lack the capability or authority to draw stocks early in a disruption and (2) other non-IEA but OECD countries to participate in such an action. Particularly important in the latter regard is France, a major oil-consuming, oil-importing nation.

The decision does not, however, alter the obligations of IEA countries under the IEP; it reaffirms that all member countries must act to help restore a supply/demand balance. Countries can do this by coordinated stock draw, other complementary actions, or both. The Governing Board will reach an overall decision on what actions are to be taken by the various members.

The Governing Board decision also called on those countries which have less than 90 days of stocks to intensify their efforts to build stocks to this level.

## Practical significance of decision not yet clear

The July 1984 decision is in one respect more of an agreement on procedures than on substantive actions to be taken. It does not commit countries to actually draw down stocks in future disruptions, which only a few IEA countries have indicated a willingness to do.

According to several U.S. government officials to whom we spoke, the decision depends on what follow up actions are taken by member countries. The decision includes an agreement that the IEA will further

--analyze minimum operating stock requirement in each country and whether additional emergency stocks are needed;

--study the effectiveness of different methods of holding emergency stocks and problems which may occur in trying to achieve effective stock drawdown;

--examine the economic impacts of serious oil supply disruptions on each country;

--examine the likely effectiveness of demand restraint measures in each country and the economic costs and benefits; and

--assess the potential for short-term fuel switching.

U.S. officials believe that other countries need to (1) establish more stocks for emergency use, particularily strategic or government stocks, and better legal authorities and other mechanisms to assure effective stock drawdown and (2) make a stronger commitment to using stocks in a disruption. The officials also believe that the proposed IEA studies will better demonstrate to individual countries the advantages of these actions.

The meaning of the July 1984 decision depends in part on future work to be done and the actions, if any, that flow from that work. The studies may show that some countries are better prepared in the stocks area than is currently thought to be the case and that in other countries demand restraint or other non-stocks measures would be particularly effective for coping with a disruption.

On the other hand, if the studies do indicate a need for higher levels of stocks and greater control, it may be difficult to make progress. Building stocks is expensive. In countries which require industry to hold emergency reserves, industry can be expected to vigorously oppose any increase in stockholding requirements. Governments may be reluctant to increase spending to establish or add to national strategic reserves. Securing sufficient political support in some countries will be particularly difficult at a time when there is a large amount of excess oil production capacity worldwide and when the U.S. dollar is so strong relative to other national currencies (oil is typically sold in dollars).

The IEA is still in the planning stage concerning how some of the studies should be conducted and partway into implementation for the others. It expects to continue its work on the issues through 1985 and during 1986. Consequently, it is likely to be a year or longer before all the work is completed and results agreed upon by the members.

## International implications of U.S. proposal to cease filling the SPR

In his budget submission to the Congress in February 1985, the President proposed a moratorium on SPR oil fill and storage capacity development at 489 MMB of oil, expected by the end of September 1985. The SPR contained about 460 million barrels on May 1, 1985. The proposal, if enacted, could affect other IEA country attitudes and policies on emergency oil stocks. Also, the administration has indicated that if the proposal is enacted, it would be prepared to resume construction and fill at a later data, depending on oil market and fiscal conditions.

In September 1985, 489 MMB would represent an emergency reserve of about 100 days of the previous year's net oil imports, exceeding the 90-day IEA requirement. However, that could change if the administration decided to continue the SPR at that level. Based on the Energy Information Administration's 1984 Annual Energy Outlook (mid-case scenario), the following shows the expected daily levels of net imports for 1985 through 1990 and 1995 and the equivalent number of days that a 489 MMB SPR could supply.

| Year | Projected net oil imports[a] | Equivalent days of imports supply by SPR of 489 MMB |
|---|---|---|
| 1985 | 4.85 | 101 |
| 1986 | 5.11 | 96 |
| 1987 | 5.53 | 88 |
| 1988 | 5.95 | 82 |
| 1989 | 6.31 | 77 |
| 1990 | 6.59 | 74 |
| 1995 | 8.65 | 56 |

[a]Million barrels per day.

As shown, 489 MMB would allow the United States to meet its IEA commitment from the SPR inventory only through 1986. Thereafter the level of protection would steadily decline to only 56 days supply by 1995, far below the IEA requirement. (As discussed earlier in the chapter, under the IEA definition, U.S. private oil stocks also count towards meeting the requirement. However, in the United States most private oil stocks are minimum operating inventory that are not available for use. In addition, the U.S. government does not require industry to hold emergency reserves and exercises no control over the level or use of private stocks. See p. 23.)

Since the July 1984 Governing Board decision, the United States has stressed to other IEA countries the importance it attaches to their building oil stocks to higher levels and to committing themselves to early use of stocks in severe oil disruptions. Until the recent budget proposal, the United States could point to its plans to build the SPR to 750 MMB, more than half again larger than it was in 1984 and well in excess of the IEP 90-day emergency reserves obligation. It could also point to its stated policies to use SPR drawdown as a partial substitute for demand restraint and to ordinarily draw down the SPR in large amounts early in a severe oil supply disruption.

Other IEA countries will probably recognize the direct link between a proposal to stop filling the SPR and the objective of reducing the federal budget deficit. At the same time, though, the decision may affect the willingness of other member countries to embark upon costly programs to increase their emergency oil stocks. In addition to maintaining emergency oil stocks of their own, and unlike the United States, many IEA countries also maintain allocation programs for curtailing oil consumption.

## CHAPTER 4

## INTERNATIONAL OIL ALLOCATION PROBLEMS: OIL PRICING, FAIR SHARING, OIL DATA

In the past, we reported that problems with oil pricing, fair-sharing, and data reliability could threaten the successful implementation of the IEA's Emergency Sharing System. Questions still remain in these areas, although progress has been made on the price issue.

--Pricing: For a number of years, lack of clarity about how to price oil allocated from a company in one IEA country to a company in another member country raised questions about the viability of the ESS in a real disruption. A recent IEA decision has helped to clarify this question but has not necessarily fully resolved it. The IEA lacks a mechanism, such as compulsory binding arbitration, for assuring that price disputes will be resolved promptly and effectively; so as not to interfere with the effective operation of the ESS.

--Fair-sharing: All IEA countries except the United States have established or are establishing fair sharing programs to ensure that an IEA supply obligation is borne proportionately or fairly by all oil companies in each country's jurisdiction. A majority of the U.S. oil companies that we surveyed indicated that the U.S. government should assume or be prepared to assume a role in assuring that voluntary oil sharing does not impose an unfair burden on participating companies in the United States.

--Data reliability: IEA has made repeated attempts to resolve ESS data problems; improvements have been made, but data problems still exist. IEA can identify discrepancies but not their causes. The latter must be done by the participating countries. The countries most heavily involved in trading oil, which includes the United States, show the largest data discrepancies with their trading partners. According to IEA, during AST-4 these countries did not make sufficient efforts to resolve the data problems that IEA identified and reported to them.

## HOW ALLOCATION WORKS

To "trigger" or activate the ESS, the IEA Secretariat must find that a member country, or the group as a whole, is experiencing or can be expected to experience a 7-percent or more supply shortfall below a base period level of consumption. (The base period is the most recent four quarters, with a delay of one quarter necessary to collect information.) The Secretariat's finding will go into effect unless the Governing Board rejects it within 8 days. If confirmed, IEA members are expected to implement the prescribed measures within 15 days.

Emergency information and data systems developed by the Secretariat permit it to estimate total quantities of available oil supplies. Once the ESS is triggered, a complex allocation formula is used to determine how much oil each country is entitled to receive or obligated to supply after subtracting its demand restraint obligation (either 7 or 10 percent of historical consumption) and its emergency reserve drawdown obligation.

The ESS consists of three types of oil distribution, which are designed to be implemented in sequence depending on the need, but which can operate simultaneously.

1. Type 1 is essentially a continuation of normal commercial transactions by the oil industry, where each company voluntarily rearranges its own individual supply schedule to meet a crisis as it chooses.

2. Type 2 is the formal involvement of companies interacting with IEA. The IEA facilitates reallocation by matching voluntary company offers to receive and provide oil so as to satisfy country allocation rights and obligations.

3. Type 3 requires that the IEA Allocation Coordinator notify member governments with allocation obligations (or members with jurisdictions over particular oil companies) that they must order a company or companies to ship oil to countries with allocation rights.

Type 1 and type 2 activities are essentially voluntary and are expected to handle most reallocation rights and obligations. However, should allocation imbalances still remain, mandatory allocation may occur.

The allocation mechanism has never been used in a real disruption. During AST-4, which simulated a major world oil supply disruption, type 1 activities reduced allocation rights and obligations by one-half and type 2 voluntary offers reduced the remaining imbalance to almost zero. Whether the same success would be attained in a real emergency where ESS were activated is not known. Much will depend on whether oil pricing problems develop.

## POTENTIAL PRICING PROBLEMS

The ESS guarantees members access to essential volumes of oil, but not necessarily at the same prices. Differences over how shared oil would be priced has long raised concerns about the ESS viability in a real disruption.

The pricing issue is raised in two contexts: (1) the price at which allocated oil will be shared and (2) how price disputes between parties will be settled. A December 1983 Governing Board decision allowing spot prices as well as term prices[1] to be used to determine price has helped to clarify the question but not necessarily resolved it. The decision allows wide latitude for setting prices, leaving considerable potential for price disputes. At the same time, the IEA has not established a mechanism for assuring that price disputes will be resolved promptly and effectively. A related question concerns IEA's response to a member's refusal to accept shared oil if the member believes the oil price is too high. No practical solution to this issue has been developed.

### The price at which oil will be shared

Ideally, price is to be determined by negotiation between contracting parties. The International Energy Program Agreement does state, though, that the price for allocated oil should be based on the price conditions prevailing for comparable commercial transactions.

In 1975 the IEA adopted and incorporated the following language in its Emergency Management Manual.

--As far as possible, an emergency should not result in higher oil prices.

--No abnormal profits or losses should result from the emergency.

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[1]Spot prices refer to the price of oil not under contract and which can fluctuate on a daily basis; term prices refer to contractual prices that generally remain constant for a longer duration.

--Similar prices should be charged to affiliates and nonaffiliates where oil movements are determined by the IEA.

--Term and not spot prices should be used.

During the 1978-79 Iranian supply interruption, term prices for oil disappeared and available oil could be bought only at spot prices, according to oil industry members. The majority of the members believed that spot prices should determine the prevailing price for allocated oil even though term prices might still be in effect for some oil contracted for before the disruption. The Industry Advisory Board (IAB) recommended that the provision favoring the use of term prices rather than spot prices be deleted from the Emergency Management Manual.

The U.S. government believed that restricting allocated oil prices in an emergency to term prices would be inconsistent with the IEP and U.S. energy policy. However, some other member governments viewed the pricing issue differently, opposing the use of spot pricing in an actual emergency on the grounds that it would substantially raise crude oil prices. They supported the use of term pricing.

The issue was debated within the IEA for several years; however, in December 1983 the Governing Board amended the Emergency Management Manual language to read that the price for allocated oil should be based on price conditions prevailing for comparable commercial transactions and that comparable transactions do not exclude any types of market transactions.

On the basis of this decision, allocated oil prices can range from pre-disruption contract prices that continue in effect through part or all of the disruption to peak spot market prices at the height of the disruption.

Fifteen of 17 U.S. reporting companies responded to a survey we conducted.[2] Twelve said that price should be based on the prevailing market price at the time of the diversion; three of the 12 believed the IEA decision to base voluntary offer transactions on market prices had resolved the pricing issue. However, one company said the decision did not ensure that spot pricing would be accepted as the basis for transactions and that there definitely was a difference of opinion over the meaning of the words "comparable commercial terms." The company expressed concern about how IEA members with supply rights would interpret

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[2]Survey of Oil Company Views on Fair Sharing in an International Oil Supply Disruption (GAO/NSIAD-85-45) Feb. 5, 1985.

the decision and said that companies might not complete a voluntary offer if the government of a country with supply rights refused to allow imports of oil at prices higher than some administratively set level.

Some IEA observers believe that price disputes could occur in an actual disruption because many member countries may oppose spot market pricing of allocated oil. Others disagree.

Settling price disputes

In our 1981 report on the IEA, we reported that lack of a comprehensive mechanism to resolve price disputes between members raised questions about the ESS's workability.

The December 1983 amended language in the Emergency Management Manual allows such wide latitude for setting prices that considerable potential for price disputes remains. For instance, companies selling oil may ask what they believe is an appropriate price, but companies seeking oil may believe that the price asked is exploitive or designed to put them at a competitive disadvantage. Also, governments of member countries with allocation rights may view spot prices as discriminatory and forbid their companies from agreeing to any price which exceeds a certain price level. Either case could impede the success of the allocation process.

In July 1980, the Governing Board adopted a charter providing for a Dispute Settlement Center. However, use of the Center is voluntary and, under the charter, mutual and written consent by all parties in a dispute is required for submission of a dispute. The charter does provide that consent by the parties to the jurisdiction of the Center constitutes a binding agreement and excludes any other remedy.

Since adopting the charter, the IEA has secured qualified persons to act as arbitrators and taken other steps to make the Center ready for operational use. However, the Center is not designed to deal with differences that occur in the negotiation process or to settle broad questions of pricing in an emergency. Because of this, and since both parties must agree to

binding arbitration before the Center can act, the Center is not expected to play a major role in resolving price disputes during an emergency.3

Pricing policies of other IEA members

Past experience indicates that, in tight market situations, crude oil and petroleum products tend to flow to areas where prices are highest. If price controls are in effect in a country with allocation rights and if the government does not allow companies to pass through the full cost of oil imports, companies will be discouraged from importing oil and/or have an incentive to export products to countries where controls are not in effect.

About half of IEA's 21 members use price controls as a normal procedure and most other countries have standby authority to establish controls during an emergency if conditions are judged sufficiently serious. The United States does not now use price controls nor does the administration have any plans to do so in an emergency. There is no existing authority to do so.

All IEA countries except the United States either regularly allocate oil products, have specific plans to do so in a disruption, or intend to establish plans for allocating or rationing oil products during an emergency. Thus, it is possible that most IEA members will use price and allocation controls in future disruptions.

Possible problems arising from price controls may be reduced, however, if members allow importers to pass through their increased oil costs to consumers. Also, a company may sell at controlled prices even if it cannot pass though all the costs if it perceives the disruption will be short-term or it is unwilling to cut off established customers and risk permanently losing market share. Alternatively, those IEA countries which have national oil companies could require them to sell refined products at reduced profits or possibly at a loss for a temporary period. Finally, for countries whose companies normally obtain considerable supply at contract prices, contract prices may not rise as fast as spot market prices during a disruption, making it politically easier to permit cost pass-through.

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[3]The Center could play a role in price disputes where two parties, which had previously reached an agreement, disagree about the interpretation of specific price provisions of their contract. In these cases, however, the Center could take 6 months or longer to resolve a dispute. This need not affect the allocation process if the transaction went forward and was not delayed pending settlement.

While most European IEA countries control the retail price of gasoline and heating oil routinely, as well as in emergency periods, historically governments have increased prices with a short lag, so domestic prices closely follow world prices.

IEA analyzed members' crude and product pricing policies during the 1978-82 period. The ESS was not implemented then, but oil prices rose dramatically in response to the tight market conditions and to the Iranian oil supply interruption of 1978-79. The analysis showed that 18 of 21 members used price controls throughout the period; 8 of them experienced no supply difficulties; 7 experienced some supply difficulties but no significant shortages and 3 anticipated or experienced more serious difficulties because their price controls did not permit full cost pass-through of replacement supplies at spot prices. One of the countries resolved its problem, in part, by raising its price ceilings; to deal with future contingencies, it has decided to subsidize expensive oil imports by a special fee on consumers.

## Governments could refuse to accept oil because of price

For several years, the IEA Secretariat has worried about how to respond to a member which refuses to accept high-priced oil. The cumulative carryover of allocation rights from one month to the next over an unlimited period could create problems in reallocating oil between IEA countries.

To deal with this possible problem, the Secretariat suggested that its Executive Director mediate price disputes, and, if that failed, the Dispute Settlement Center be used. If a country or a company persistently rejected offers because of price and if the Executive Director felt the price offers to be reasonable, he could have the option available to refer the cases to the Center. According to the proposal, if both parties consented, the Center would be given authority to determine an appropriate price. If both did not agree, the allocation right would be suspended. In the interim, the Center would still assess what was a fair price. Once the Center made a determination, the allocation right of the country of the prospective purchaser would terminate if the purchaser still refused to pay the price.

The above suggestion has not been adopted. This is not surprising, since it could effectively impose binding arbitration on companies and could result in potential adverse consequences to affected countries.

In the final analysis, whether member pricing policies will significantly impede operation of the ESS in a crisis cannot be forseen with certainty. However, all countries have subscribed to language that presumably allows companies to ask whatever price they feel is reasonable. Problems could arise if one or more countries with allocation rights refused to allow imports because the asking prices were judged exorbitant or discriminatory. The issue may be largely academic, since in a major supply crisis both country and company interests in securing oil may override concerns about high prices.

## FAIR SHARING

The agreement by IEA countries to international oil sharing depends largely on oil company participation. Oil company involvement depends in turn on the equitable sharing of an IEA oil allocation obligation among the companies operating in a country having an obligation.

Under the ESS, the majority of international oil allocations are expected to be achieved by (1) actions taken by the oil industry as part of its normal commercial conduct and/or (2) transactions resulting from the matching by the IEA Secretariat in Paris of oil company voluntary offers to share oil with other company offers to receive oil. If these activities are not sufficient to meet a country's obligation to share oil, a government can issue mandatory supply orders to oil companies to ship oil to countries with receiving rights.

To increase the likelihood that member nations can satisfy allocation obligations without issuing mandatory supply orders, the IEA has long held that members should establish domestic fair sharing. Such a system would assure that the burden of sharing oil by a country which has an allocation obligation is borne proportionately by all companies within the country by reallocating oil supplies among companies. This view is consistent with that adopted by the international oil companies when the IEA was created. Most companies indicated that they would not volunteer oil supplies unless they were assured that the burden would be fairly shared with their domestic competitors.

In recognition of differences among member countries with respect to antitrust laws and competition, the IEA has placed responsibility for fair sharing on member country governments. All IEA countries except the United States have established or are establishing programs for fair sharing. These programs vary considerably across the countries but typically rest upon some kind of allocation system.

For example, several countries allocate petroleum even in non-emergencies. In a disruption they presumably can use their programs to achieve fair sharing without serious difficulty. Other countries have established standby systems that are based on historical market shares. In some countries, companies are expected to work out a fair sharing of supplies voluntarily amongst themselves, based on guiding principles; but if serious problems develop, the government has the authority to mandate sharing to implement the process.

U.S. approaches to fair sharing

When the United States joined the IEA in 1974, fair sharing within the country was to be carried out as part of the broader domestic crude oil allocation system. However, in 1981 the United States abolished its oil allocation and price controls, thus eliminating the existing mechanism for achieving fair sharing during emergencies. The elimination of controls was generally well received by the U.S. oil industry, but according to the National Petroleum Council, industry representatives felt that a limited standby program for emergency oil distribution should be available for use in severe emergencies. Industry officials said this was necessary to encourage companies to make voluntary international reallocation offers of their oil.[4]

In July 1981, DOE informed the Congress that it planned to develop a contingency plan for a limited crude oil fair-sharing system during emergencies as a backstop to voluntary offers should the President deem it necessary to meet U.S. supply obligations to the IEA. However, such a system was not developed.

The IEA's Fourth Test of the ESS, commonly referred to as AST-4, indicated that many U.S. oil companies still felt a fair-sharing system was needed.[5] In fact, 10 of the 14 U.S. reporting companies[6] that made voluntary offers during the test told DOE officials well before the test that fair sharing would be necessary to induce them to make voluntary offers through the IEA system and/or they specifically assumed during the test that a fair-sharing system was in place. The combined offers of

[4]National Petroleum Council, Emergency Preparedness for Interruption of Petroleum Imports into the United States (Apr. 1981), pp. 7, 10, 12, and 232.

[5]Assessment of U.S. Participation in the International Energy Agency's Fourth Test of Its Emergency Sharing Allocation System (GAO/NSIAD-84-4) Oct. 13, 1983.

[6]Reporting companies are major oil companies invited by the IEA and approved by their respective governments to actively participate in IEA activities. They agree to report to the IEA directly about their volume and flow of oil in an emergency.

these companies accounted for 88 percent of net reporting companies' voluntary offers. Following its post-test assessments, the IEA expressed concerns about whether the absence of a fair sharing program in the United States would adversely affect company voluntary offers and the operation of the ESS.

U.S. position on fair sharing

In early 1984, following a re-examination of the fair-sharing issue, the Secretary of Energy informed the Congress that a fair-sharing program was not needed. He said that given planned policies for dealing with a disruption, the United States is not likely to incur an IEA allocation obligation, but if it should do so he felt that sufficient voluntary offers will be forthcoming from the oil companies. The Secretary commented that (1) when the government draws down SPR oil, companies can seek to replace oil sold by voluntary offers by bidding on the SPR oil, (2) companies can also seek replacement oil in the open market at spot prices and can charge spot prices for their voluntary offers, (3) the government will strongly encourage the companies to make voluntary offers, and (4) companies must contend with the possibility that the government may issue mandatory supply orders to specific companies if sufficient voluntary offers are not made. The Secretary felt that the companies would prefer making voluntary offers to government intervention.

The Energy Secretary acknowledged that some companies had a different view, and he said that the administration would consider a fair-sharing program if it can be shown that the proposed program

--is supported by substantial industry consensus;

--does not involve the government in administering a complex regulatory system; and

--achieves an equitable result among all affected competitors.

The Secretary indicated a willingness to consider fair sharing if the domestic oil companies or anyone else could devise a plan that met the three criteria. He recognized, however, that existing legal authority does not provide antitrust and other protections needed by domestic oil companies that attempt to develop such a plan.

IEA review of U.S. approach

In February 1984 an IEA review team examined the latest U.S. fair-sharing policy. The U.S. government essentially provided the same rationale to the IEA as stated above. It told

the IEA that it had consulted with many companies in reaching its views. An additional reason offered to the IEA for why its approach would work was that the United States would also consider allowing U.S. companies that make voluntary offers to replace supplies by purchasing oil from the SPR through directed sales of 10 percent of the volume drawn down during that month, if any. Directed sales are those made to primarily domestic customers outside the normal auction sales which go to the highest bidder. The difference between directed sales and the auction process is that, under the former, the Secretary of Energy can direct to whom the oil goes and a buyer does not have to be among the highest bidders (price will be the average price of SPR oil sold at the contemporaneous competitive sale).

In March 1984, the IEA accepted the U.S. government position that it would be difficult to establish a fair-sharing program in the United States. The IEA stated its view that the United States should continue to consult with U.S. oil companies to assure that they are confident of their ability to participate in the voluntary offer process in the absence of a formal fair-sharing program. In May 1984, the Secretariat asked the Industry Advisory Board (IAB) if oil companies had confidence in the U.S. fair-sharing program, in particular, as well as those of the other four members whose emergency response programs the Secretariat had recently reviewed. However, IAB declined to comment on individual national programs.

Possible weakness in U.S. approach

We believe that in most disruption scenarios that would trigger the ESS, the United States would initially incur an allocation obligation because, relative to most other IEA countries, it imports a small proportion of its total oil supply. In addition, U.S. oil imports are generally from more diversified and secure sources.

The Secretary of Energy's testimony that the United States is not likely to incur an allocation obligation presumably assumes that oil companies, suppliers, and consumers will not engage in substantial buying and stock building for security or speculative reasons. This assumption may be overly optimistic. During past small disruptions, stockbuilding has occurred, with adverse economic consequences. DOE may also have assumed that as oil prices increase U.S. oil consumers will generally restrain their demand for oil at a rate at least comparable to consumers of other IEA countries. If one or both of these assumptions proves wrong, the United States could exceed its supply right and incur a substantial allocation obligation. In fact, in another analysis, the administration has recognized that depending on the rate of SPR drawdown, what happens to world prices, and whether stockpiling occurs, the United States could incur allocation obligations in many cases.

It is possible that the U.S. policy to ordinarily draw down large amounts of SPR oil early in a major disruption could significantly affect the outcome. If such a decision is made early in a crisis, panic oil buying may be averted. Oil supplies which companies had intended to make available for domestic demand could be used by them to help meet an IEA allocation obligation since they could bid on SPR oil. However, the outcome would still depend on whether oil companies chose to build stocks or to divert some oil to IEA countries short of oil.

Other weaknesses in the administration's fair-sharing rationale are as follows.

--The administration has not guaranteed that SPR drawdown will occur when voluntary offers to the IEA are needed. If draw down does not occur at the right time, other measures may be needed to induce companies to make offers.

--Should draw down occur, there is no guarantee that companies seeking SPR oil to offset voluntary offers will not be outbid by other companies not interested in making offers. Consequently, companies may be reluctant to make offers until SPR auction results are announced and replacement oil secured.

--Under the administration's current approach, companies are not guaranteed that SPR replacement oil will not cost more than companies receive for oil shared with the IEA. Companies may be reluctant to volunteer their oil to other IEA countries until they know the cost of SPR replacement oil. Alternatively, companies could hedge their risk by asking a higher price for shared oil, but that might inhibit matching of offers.

--There is no guarantee that directed sales of SPR oil will be used. The quantity of SPR oil that can be made available for directed sales is limited to 10 percent of SPR oil drawn down during that month. Should directed sales occur, it may not be feasible to use much if any of the oil for IEA purposes. Congress and state governors may persuade DOE to use the set-aside to meet pressing domestic needs.

--Obtaining replacement oil in the open market at spot prices is a valid alternative only if sufficient quantities of spot oil are available; in the 1978-79 Iranian disruption and the early phase of the Iran-Iraq war, the spot market dried up at times and little or no oil was offered for purchase.

One final weakness in DOE's rationale is the belief that companies will make voluntary offers rather than have the government issue mandatory supply orders. Non-reporting companies[7] account for about one-third of U.S. oil supply and many may not participate because (1) they do not receive antitrust and breach of contract protections for actions taken to make their oil available to the IEA, (2) they depend less on oil imports than do reporting companies, so they may be less concerned about whether the burden is proportionately distributed among all U.S. oil companies, and (3) they are not as knowledgeable about the IEA and are less involved in the international oil trade.

At the same time, some U.S. reporting companies may be less inclined to make voluntary offers if non-reporting companies do not shoulder a fair share of the burden. Thus some reporting companies might find mandatory supply orders preferable if that increased the likelihood that all U.S. oil companies would equitably share an IEA allocation obligation.

Recent U.S. reporting company views on fair sharing

In August and September 1984 we surveyed 17 U.S. reporting companies, which accounted for about 70 percent of U.S. crude oil imports; 15 responded.[8]

A majority of these companies believe the U.S. government needs to assume or be prepared to assume a role in assuring that voluntary oil sharing does not impose an unfair burden on participating companies, but they do not support a domestic allocation system. Some suggested that the use of SPR oil to replace volunteered oil would encourage companies to make voluntary offers.

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[7]"Non-reporting companies" refers to companies operating in IEA countries engaged in oil production, imports or exports, or holding certain kinds of oil inventories but not regularly participating in IEA activities and not reporting directly to the IEA during an emergency.

[8]See footnote 2, p. 40.

The responses showed that:

--7 companies (representing about 55 percent of total reporting companies' crude oil imports during a recent 6-month period and including 4 major U.S. oil companies,9) indicated they would not or probably would not volunteer oil supplies to help meet U.S. international oil sharing obligations if a new government initiative (either an allocation system or guaranteed access to SPR oil) was not in place. Six companies (representing about 35 percent of the imports and including 3 majors) said they would or probably would make offers. One was undecided and one said it would probably not provide oil regardless of the circumstances.[10]

--8 companies (including 4 majors) favored some form of government fair-sharing program (4 wanted domestic oil allocation and 4 proposed guaranteed access to SPR oil) when the ESS was triggered. The 7 other companies said that establishing a fair-sharing program was not or probably was not needed, but 4 of them suggested that the government should be prepared to subsequently use SPR oil to compensate companies if the free market approach proved to be inadequate.

--11 companies (representing a large majority of reporting companies' crude oil imports) opposed a domestic oil allocation program.

--12 companies (representing about 80 percent of total reporting companies' crude oil imports) indicated the need for the government to assume or be prepared to assume under at least some

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[9]For the purpose of the survey, we defined a company as a "major" if it was among the top 7 U.S. reporting companies in terms of crude oil inputs to refineries during a recent 6-month period. The 7 majors accounted for nearly three-quarters of U.S. reporting companies' inputs to refineries.

[10]Many of the companies qualified their responses. For example, a few companies which said they would not make offers indicated they might do so if their customers would not be hurt. Several companies which said they probably would make offers indicated they would not do so if they lacked excess oil supplies or if their supplies were severely disrupted.

obtainable. Among these are protection of public health, safety, welfare, and the national defense; maintenance of all public services and agricultural operations; preservation of an economically sound and competitive petroleum industry; allocation of oil to permit U.S. refineries to operate at full capacity; equitable distribution of oil at equitable prices among all regions and areas of the United States and sectors of the petroleum industry; allocation of oil to maintain exploration for and production or extraction of minerals and fuels; economic efficiency; and minimization of economic distortion, inflexibility, and unnecessary interference with market mechanisms.

These objectives were originally designed to apply to mandatory domestic oil allocation in the United States. The United States no longer has domestic allocation and authority for it (the Emergency Petroleum Allocation Act of 1973) expired in 1981. However, under EPCA the objectives would still apply to mandatory supply orders. DOE's existing standby regulations for such orders do not provide guidance or criteria on how the Department would implement and apply these objectives. In fact, most of the objectives are not even mentioned. In the event DOE found it necessary to issue orders, one or more companies might seek modification or rescission on the ground that the orders were not designed to meet the law's objectives.

An effective mandatory supply orders program seems to require many of the same elements as a fair-sharing system. At a minimum the government needs a system to identify which companies have access to what amount of supplies and to select some sort of standard (i.e., base period supply position, forecast supply position, etc.) for determining which companies must supply oil to other countries. Without such a system, targeted companies can seek administrative and judicial relief on the basis that an order is inequitable or unduly burdensome.

If DOE has an adequate capability for quickly and reasonably assessing the supply position of oil companies, it may be possible to use that capability in establishing a fair-sharing program. The government could inform companies what standard to use in determining whether a company needs to offer oil to the ESS. Companies would then be expected to fulfill their responsibilities voluntarily. This type approach is used in some other IEA countries. If the system were not working well, the government could investigate what companies were not meeting their responsibilities and then issue mandatory supply orders.

An alternative approach to fair sharing could be to sell some SPR oil, up to 10 percent of the amount drawn during each month, to U.S. oil companies to offset oil they shared with the IEA, as discussed above. If SPR oil were to be used for this purpose, we believe DOE would have to devise rules and

obligations. For instance, possibly some members should have had higher allocation rights, others higher obligations, and some allocation rights, not obligations.

IEA recognizes that some data discrepancies are to be expected, particularly in a system the size and complexity of the ESS. Many are not errors but rather inevitable consequences, such as shipping time lags, which over time cancel out and do not cumulatively affect allocation rights and obligations calculations. Some are easily corrected errors, such as incorrect source or destination data; however, IEA considers that some are significant errors which can affect allocation rights and obligations calculations.

Main causes of trade discrepancies as identified by IEA include incomplete oil trader coverage in country reporting systems; double counting; inconsistent conversion of different oil types into a standard unit; including export sales to foreign military forces outside a country; and inconsistent reporting procedures where oil moves through transshipment terminals, both within and outside IEA. Oil trade data reported by the United States, Norway, the United Kingdom, and Canada contain most of the large trade discrepancies.

IEA procedures make participating members responsible for reducing discrepancies. IEA can identify discrepancies but not the causes, so affected members must confer to determine whether their data systems are consistent and identify procedures for quickly remedying large differences during a real emergency. In many cases, discrepancies can be resolved only by examining individual discrepancies on a cargo-by-cargo basis.

IEA believes that it is essential for members to identify the causes of import/export discrepancies and to minimize the effect of those which cannot be remedied. IEA also believes that members responded inadequately to specific recommendations it made in late 1981 and that some members, including the United States, did not vigorously seek solutions to significant trade discrepancies it identified during AST-4. For example, IEA officials pointed out that DOE would not coordinate efforts to resolve U.S. discrepancies involving reporting companies. This was a significant departure from the previous U.S. practice. DOE said coordination would have to be handled directly by the companies because of the proprietary nature of the data. Further, DOE did not inform the reporting companies about the discrepancies, so no action was taken to resolve them.

The IEA did convene numerous government and industry meetings to address the problem. The most tangible result was a March 1979 decision whereby member countries agreed to reduce anticipated consumption by 5 percent. However, the target was never met, since the countries did not implement sufficiently strong measures. The IEA also exhorted its members to stop purchasing high-priced spot market oil, but it reluctantly admitted that without a 7-percent shortage there was no mechanism in place to stabilize the market.

The 1979 shortfall also revealed the IEA's inability to coordinate the oil stock policies of its members. Because the ESS was not activated, member countries were free to build oil stocks if they wished. Following an initial drawdown of primary oil stocks, a frantic scramble to build primary stocks did occur and was a major contributor to upward pressure on oil prices. As a group, the IEA countries increased their stocks by 14 percent, or 387 million barrels.

Following the 1979 experience, the IEA Secretariat sought to develop member country support for a systematic approach to dealing with subtrigger or smaller type disruptions which could lead to sharply higher prices and cause severe economic damage. The Secretariat recognized that uncertainty about future supply in the early phases of a disruption and attempts to cover an expected shortage by panic buying, abnormal stock building and recourse to the spot market could lead to quick and substantial world oil price increases not justified by the underlying oil supply/demand balance. It also recognized that once oil prices were increased, they might not revert to former levels when the disruption ended.

The Secretariat outlined a variety of possible measures which might be taken, many of them similar to those which would be employed if the ESS were activated. In addition, the Secretariat recommended that an expanded information system be established for use in non-emergency periods to permit regular monitoring of oil demand, supply, and stock trends, including forward estimates for forecasting and planning purposes. The system would be used to provide early warning of any emerging subtrigger disruption and to assist in formulating a quick and effective response.

Focus on stock options

Of the proposed measures for responding to a smaller disruption, oil stocks received considerable attention by the Secretariat. It was recognized that the potential of many other measures was limited. For example, physical capabilities for increasing domestic oil production or fuel switching were not substantial. Reducing consumption rapidly is politically difficult to achieve and if overdone could itself produce

restraint measures in a smaller disruption also be required to draw down stocks and if so at what rate? What about countries which maintained price controls that in effect encouraged greater consumption than otherwise would be the case? Finally, in what kind of subtrigger disruptions should actions be taken? In at least some cases, relying on the market alone might balance supplies without severe economic consequences.

## DECEMBER 1981 AGREEMENT

Because of the considerations discussed, efforts within the IEA to formulate a precise program or set of measures for automatic use in smaller disruptions did not advance far. Members did agree in 1981 to establish an information system for continuously monitoring supply/demand and stocks trends in non-emergency periods.[2] They agreed in principle that (1) the IEA should seek to offset serious market pressures which could lead unnecessarily to higher prices and damage the world economy and (2) if in a smaller disruption some member countries drew down stocks disproportionately to others, the burden should be evened out if the disruption worsened and led to activation of the ESS.

The members also agreed upon a process for determining whether a smaller disruption required action to supplement market forces and, if so, deciding what specific actions should be adopted. Accordingly, the Secretariat would assess the disruption situation, and member governments would consult with each other and with the Secretariat to refine the assessment. The Governing Board would review the assessment, decide whether action was required to avoid serious economic damage, and determine measures to be employed. Among measures to be considered were discouraging abnormal spot market and other undesirable purchases, mainly through consultation with oil companies; demand restraint measures; short-term fuel switching; increased indigenous production; use of stocks and stocks policies through governmental consultation with oil companies; and informal

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[2]The December 1981 decision was preceded by an agreement in the fall of 1980 that governments would try to persuade their companies to draw down stocks to ameliorate supply losses resulting from the outbreak of war between Iran and Iraq. In addition, the IEA countries temporarily adopted an informal sharing system for redressing imbalances in, between, or among the members. The agreements may have partly accounted for IEA success in coping with shortfalls. Observers differ about this point. Some contend that the principal factor underlying the oil companies' response to the disruption was the fact that oil company stocks were at high levels when the war began. Other factors cited were declining IEA oil consumption and increased oil production by some OPEC countries.

JULY 1984 AGREEMENT

In 1984, following a review of its emergency response measures, the United States concluded that early and substantial stock drawdown was one of the most effective means for minimizing the economic damage which could result from supply disruptions, particularly in the early phases. According to its view, stock drawdown could help to alleviate psychological uncertainty about future supply that in turn could lead to panic and speculative buying and stock building and hoarding, all of which puts upward pressure on oil prices. Stock drawdown could also reduce the shortages, allowing economic activity to continue.

Subsequently the United States urged the IEA to examine the adequacy of member country stock levels and the ability of their governments to achieve effective stock drawdown. The IEA agreed to consider the issue in the spring of 1984, and in July the Governing Board approved a new set of procedures for stocks which applies to subtrigger as well as trigger level disruptions. Under the agreement:

--Members recognized that stock drawdown can be an effective and rapid means for restoring lost oil supply, particularly in the initial stages of a disruption when quick action is needed to prevent exaggerated market reaction and panic buying, causing more rapid rises in prices than market conditions may warrant and severe economic damage.

--Members acknowledge the value of coordinating individual stock drawdowns and avoiding actions that might limit the effectiveness of their efforts.

--When the Governing Board determines that a supply interruption exists or is imminent, involving any size oil shortfall, which threatens to cause severe economic damage countries in a position to contribute meaningfully to stock drawdowns, (through physical drawdowns or demand restraint, fuel switching, or allocation) shall consult to determine in what amount and for how long stock drawdowns would be required to calm the market.

--These countries would be free to decide on and implement a coordinated stock draw.

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--In July 1984, the IEA countries agreed to consult each other during a supply disruption to determine what individual and coordinated stock drawdown actions they could take.

However, GAO also found that some problems and uncertainties continue to exist or others have arisen. IEA members are conducting or plan to conduct comprehensive studies which address several of the important issues.

Concerning U.S. participation in the IEA, the most immediate issue requiring attention by the Congress is whether to re-enact or extend the legal authorities, which expire June 30, 1985, related to U.S. government and oil companies' participation in the IEA. However, other issues also exist.

## DEMAND RESTRAINT EFFECTIVENESS

To meet their demand restraint commitment to IEA, member countries can use a wide range of approaches, including moral persuasion to encourage voluntary reductions by individuals and private industry; compulsory orders, such as restrictions on gasoline sales and purchases; and mandating fuel switching, allocation, or rationing. A country can also rely on market forces to increase oil prices and thus reduce demand. In addition, countries can draw from their oil stocks held in excess of their IEA emergency reserve commitment in lieu of reducing oil consumption. (See p. 8.)

The IEA has not prescribed the extent each type of demand restraint approach should be relied on by member countries; however, many IEA countries have indicated that sole reliance on market forces is inappropriate. The use of a market approach alone in a severe disruption would drive up the price so high as to promote the kinds of economic consequences that the IEA system was designed to combat. (See pp. 8 to 12 and 18 and 19.)

The current U.S. plan is to rely primarily on market forces, supplemented by use of its Strategic Petroleum Reserve oil.

Using the Strategic Petroleum Reserve to help keep up supply levels during an emergency can help reduce pressure for rapid price increases. Nonetheless, in a severe disruption price increases would likely be substantial. Recognizing this, the

The actual amount of emergency oil reserves readily available in an emergency in many member countries, however, is not clear because the IEA definition of emergency reserves includes industry oil stocks which are needed to maintain normal operations. These vary widely across companies and countries.

Uncertainties also exist about whether emergency oil reserves will be used effectively. Although the United States has announced its policy to generally use Strategic Petroleum Reserve stocks in substantial amounts early in a disruption, most other IEA members have not expressed such clearcut policies.

In addition, it is not clear whether some members have sufficient control of the oil stocks in their countries to enable effective use of the oil in an emergency. Additionally, while member countries agreed in July 1984 that coordinated use of emergency oil reserves can be an effective and rapid means of restoring lost oil, members are not obligated to use these reserves early in a supply disruption.

In July 1984, IEA members also agreed to study industry's minimum operating stock requirements in each country, whether additional emergency stocks are needed, and the effectiveness of members' methods for holding and using the stocks. These studies are currently underway. (See pp. 33 and 34.) Members also agreed that those who have 90 days or more of reserve stocks but do not feel these are sufficient to participate in an early coordinated drawdown of oil stocks will promptly make their best efforts to raise their stock levels. However, it is not evident which countries classify themselves in this category or what plans, if any, each has to increase its stocks.

## INTERNATIONAL OIL ALLOCATION

In the past, GAO reported that problems of pricing, fair-sharing, and data reliability could threaten the successful implementation of the IEA's allocation system. Questions still remain in these areas, although important progress has been made on the price issue.

--Pricing: For many years, lack of clarity about how to price oil allocated from a company in one IEA country to one in another member country has raised questions about the viability of the

sharing system is triggered. In lesser disruptions, the U.S. government will have to rely on persuasion to obtain U.S. company cooperation.

## AUTHORIZING LEGISLATION EXPIRES JUNE 30, 1985

Important authorities for U.S. participation in the IEA contained in the Energy Policy and Conservation Act expire on June 30, 1985. The act authorizes the President to require companies to provide oil to other IEA countries if necessary to meet U.S. allocation obligations. It also authorizes the Attorney General to make available limited antitrust and breach of contract defenses to U.S. oil companies that participate in certain IEA activities.

If the act expires before new authorities are enacted, problems could arise. Without the antitrust and breach of contract defenses provided in the law, U.S. oil companies have said they would not voluntarily participate in the IEA emergency oil sharing system. Other IEA countries may view failure to extend these authorizing provisions as reflecting a lack of serious commitment by the United States to the IEA. By July 1985 the IEA countries will be well into preparations for the fifth test of the IEA emergency oil sharing system, which is scheduled for October-November 1985. A lapse of the authorities at the end of June would almost certainly mean that U.S. oil companies would drop out of preparations for this major exercise, and a meaningful test cannot be conducted without them. (See p. 81.)

## U.S. COMPANY INVOLVEMENT AND ANTITRUST ISSUES

The voluntary participation of oil companies is considered by the U.S. government and the IEA as vital to the successful operation of the IEA emergency oil sharing system. The current U.S. Plan of Action, outlining what oil company actions taken to implement the IEA emergency oil sharing system will receive antitrust and breach of contract defense coverage, dates back to 1976 and is widely considered too broad and general in nature; more specific language is required.

The Department of Energy has been drafting a second plan of action since 1979 but has not completed a version satisfactory to the U.S. government, the IEA Secretariat, and U.S. oil

things, they provide authority for international oil allocation, for U.S. provision of energy industry information and data to the IEA, and for limited antitrust and breach of contract defenses for actions oil companies take to implement both the IEA information and allocation programs. Current authorities expire on June 30, 1985. GAO did not find any circumstances that would invalidate the original and continuing justification for U.S. participation in the IEA. Therefore, GAO believes that Congress should extend these authorities.

circumstances a role in assuring an equitable sharing of the burden of providing oil to meet U.S. commitments to the IEA. (As shown above, 8 of the 12 preferred some form of fair-sharing program when the IEA system was triggered and 4 felt the government should be prepared to respond if the market approach failed.) The remaining 3 companies said that the free market approach combined with the current SPR drawdown plan alleviated the necessity for any further government efforts.

--8 companies (accounting for about 75 percent of reporting companies total crude oil imports and including 6 of 7 major U.S. oil companies) recommended the government use or be prepared to use SPR oil to help companies meet U.S. supply obligations under the ESS. (Four said SPR oil should or could be used to guarantee replacement oil to companies making voluntary offers, 3 suggested the SPR be used to compensate companies if the free market approach did not generate sufficient voluntary offers, and 1 company said that if the government found it necessary to issue mandatory supply orders, the companies issued such orders should be guaranteed SPR replacement oil.)

Fair sharing versus mandatory supply orders

Our analysis of the administration's rationale for not having a fair sharing program and our survey of U.S. reporting companies suggests that some type of a fair-sharing program still may be needed in the United States.

In the event the administration does not establish fair sharing and sufficient voluntary offers are not forthcoming, the Energy Policy and Conservation Act of 1975 (EPCA) authorizes the President to issue mandatory supply orders. This authority will expire on June 30, 1985, unless otherwise extended. DOE has established regulations which are available for issuing orders should the need arise. However, it is not clear whether DOE has an effective standby capability for determining which companies should be issued orders and for what amounts because, under existing DOE regulations, supply orders must not be inequitable or unduly burdensome. Implementing mandatory supply orders will be difficult because the oil supply system is complex.

It may also be difficult because EPCA would require that mandatory supply orders meet, to the maximum extent practicable, a wide variety of objectives that are not necessarily mutually

procedures for determining which companies qualified for SPR replacement oil and may have to modify its existing SPR Drawdown Plan.

DATA PROBLEMS

Data error is another factor that has raised questions about the ESS workability.[11] Data on each IEA member's oil supply and forecasted supply must be accurate and timely to assess whether a shortfall is sufficient to activate the ESS and to calculate allocation rights or obligations. Activating the ESS could be delayed because the data may not accurately reflect the significance of a shortfall and could impede efforts to respond quickly to a disruption.

Inaccurate data can significantly affect the calculation of individual countries' available supplies and allocation rights or obligations, with inequitable effects. This, in turn, may affect smooth operation of the ESS during a real emergency as member countries seek causes for the differences and may affect members' confidence in and support for the ESS.

Trade data discrepancies have always been a major problem to the ESS. For example, the data the IEA received during the 1978-79 Iranian disruption was so unreliable that IEA could not determine with firm assurance whether a 7-percent shortage existed in order to trigger the ESS. Subsequently IEA took steps to improve data quality, but problems persisted. During the third test of the emergency sharing system (AST-3) in 1980, oil was lost from the system in the simulated exercise and international flows could not be balanced. DOE assessed the test results and concluded that the IEA data system could not then function and that arbitrary balancing of oil flows would be highly controversial and could lead to a breakdown of the ESS.

After AST-3, between 1981 and AST-4, the IEA again took steps to identify the sources of trade data discrepancies and to improve the reporting system's quality. Although numerous improvements had been made, AST-4 revealed trade discrepancies of a magnitude similar to past discrepancies. IEA told members about the trade discrepancies during the test, but many did little to resolve them.

The discrepancies in AST-4 represented only about one percent of total IEA members' supply but as much as 5 percent of some members' individual supply. Discrepancies may have resulted in inequities in calculating allocation rights and

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[11] Unresolved Issues Remain Concerning U.S. Participation in the International Energy Agency (ID-81-38) Sept. 8, 1981.

# CHAPTER 5

## MEASURES FOR DEALING WITH SMALLER OIL SUPPLY DISRUPTIONS

In 1981 and again in 1984 the IEA countries agreed on a set of procedures for developing a coordinated response to disruptions big enough to cause severe damage yet not large enough to activate the ESS. The December 1981 agreement was intended to provide a flexible framework for responding to a subcrisis while allowing individual countries to abstain in any action that would not be authorized under their national laws or that they considered inconsistent with the IEP. The agreement provides that actions could vary by country while aimed at achieving the overall desired result on an integrated basis. The July 1984 agreement placed special emphasis on the importance of coordinating stock drawdowns and the need for IEA countries to consult in advance on actions each country plans to take in dealing with subtrigger level disruptions.

The impact of these agreements depends on subsequent actions of the member countries. Both agreements establish forums for IEA members to work together on problems in a subtrigger situation, but neither agreement actually commits countries to take specified actions.

### 1978-79 IRANIAN OIL SUPPLY DISRUPTION

The Iranian oil disruption did not result in a 7-percent shortfall to IEA countries, so the ESS was never activated[1] and demand restraint and emergency reserve drawdown obligations were not imposed. Yet, implementation of effective demand restraint measures alone, and at less than the 7 percent level, could have more than offset the shortfall.

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[1]Several IEA countries encountered situations in 1979 which threatened to selectively trigger the ESS, which is applicable when only one or more countries, but not the group as a whole, has at least a 7-percent oil shortfall. In the spring, Sweden experienced a supply shortfall of greater than 7 percent and requested that the ESS be triggered. The IEA Secretariat consulted with the Swedish government and involved oil companies and determined that no real oil emergency existed and that the situation would remedy itself if the Swedish government took certain domestic actions, including raising national price ceilings. These consultations headed off a potential dispute within the IEA, and the Swedish situation eventually improved. The IEA used similar informal crisis management measures to alleviate similar supply shortages in other IEA countries.

economic damage. In contrast, stocks could directly substitute for lost supplies. Moreover, according to analysis by the Secretariat, use of stocks equal to about 6 days of consumption could have offset the shortfall which occurred during the first 3 months of the Iranian interruption and significantly affected oil prices.

Stock options focused on allowing those members experiencing supply difficulties to draw on their stocks. In addition, countries enjoying favorable supply or stock situations would also be allowed to draw stocks; this might help facilitate balancing of supply among member countries. Other stock options focused on member countries increasing stocks beyond the 90-day emergency reserve requirement, with the added increment earmarked for use in subtrigger situations; allowing members to set aside a portion of their existing 90-day requirement (for example, 5 days' worth of stocks) for use in smaller disruptions; and increasing stocks beyond the 90-day level and assigning them to a pool from which countries in need could draw.

Other options focused on how stocks could be controlled to ensure their use in a disruption. Most of the IEA's stocks are held by oil companies, and they might prefer to hold onto the stocks even if governments removed obligations during a disruption. Governments might require legal authority and enforcement capabilities to ensure prompt and effective drawdown. Even if governments held the stocks, domestic political considerations or lack of legal authority might inhibit or prevent stock draw down in a subtrigger situation. Some countries' emergency response programs are legally tied to the IEP; therefore, since the IEP provides for emergency reserve drawdown only in shortfalls equal to or greater than 7 percent of supply, stock drawdown in lesser disruptions might not be authorized.

Also of concern to the Secretariat was how oil would be moved from countries enjoying a favorable supply position to those which were shorted. Stock drawdown alone would not assure this. Companies could be encouraged to move the oil, but that might not be effective. Price was also a concern. How would or should companies price the oil (i.e., average cost, prevailing contract prices, spot or replacement cost)?

Proposals for developing subtrigger stocks and other measures raised other problems. Stock drawdown in small disruptions could reduce security if the disruption evolved into a major disruption or if another disruption occurred before the stocks were replenished. Increasing stocks beyond the 90-day level could address this problem, but stocks are expensive and this would pose an additional financial burden on member countries. Some countries had not yet reached the 90-day requirement. Should countries which implemented effective demand

efforts to minimize and contain the effects of supply imbalances.

Under the last measure the Secretariat could

--identify serious imbalances in supplies among members which remain after other measures have been employed and which are likely to result in undue market pressures on price; and

--consult with both individual countries and oil companies, identify possible measures and sources of oil for correcting the imbalances, and make proposals to governments of the countries for action.

The Secretariat would seek to resolve supply imbalances among member countries on an informal basis. No predetermined formula would exist for resolving a problem and the Secretariat would not have authority to prescribe actions to be taken. The decision was intended to provide a flexible framework for responding to smaller disruptions while at the same time giving individual countries the right to abstain in any action that would not be authorized under their national laws or that they considered to be inconsistent with the IEP. The decision provides that actions could vary from country to country while aimed at achieving the overall result desired on an integrated basis.

While the 1981 agreement represented a formal commitment by member countries to take additional action beyond that contemplated in the IEP, the flexible process it established for reacting to smaller disruptions raised some question as to whether the IEA could act promptly and effectively to implement it should the need arise. For example, members did not specifically commit to raise their stock levels beyond 90 days, establish authorities and procedures to assure that companies could be required to draw stocks quickly, or design and establish standby demand restraint measures for short-term results.

The U.S. government supported the December 1981 agreement, including the reactive ad hoc approach prescribed.[3] The government stated its understanding that while the agreement established a basis for future IEA consultations in the event of subtrigger supply disruptions, it did not commit IEA countries in advance to the specific actions they might take in such circumstances. The government also said that it remained committed to reliance on the free market as the most effective response to supply disruptions.

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[3]U.S. participation in informal sharing of supplies raises certain antitrust issues, as discussed in ch. 6.

The agreement thus allows any group of IEA countries to take action on their own; however, it does not alter IEA countries' obligations under the IEP. Countries do not reduce their obligation to keep 90 days of emergency reserves at all times for use in a trigger level disruption. The 1984 agreement stresses that all members must take action to help restore the supply/demand balance. Countries can do this by coordinated stock drawdown, other complementary actions, or both. The Governing Board will reach an overall decision on what actions are appropriate for the various members to take.

The decision recognizes that the adequacy of stock levels and the ability to bring about stock drawdowns are central to the ability to implement a meaningful draw down in a supply disruption. The decision therefore calls on member countries to use their best efforts to improve their stock positions promptly when stock levels are at lower levels in relation to net imports than would permit them to make a meaningful contribution to coordinated stock drawdowns.

The agreement also recognizes the importance of coordinated stock drawdowns for dealing with disruptions smaller than that required to trigger the ESS. Furthermore, at least some countries may be committed to seriously considering coordinating early stock drawdowns. However, the agreement does not go as far as some of the stock options proposed earlier by the Secretariat for coping with smaller disruptions; for example, allowing use of stocks below the 90-day requirement or establishing a specific amount of stocks above 90 days (such as 5 to 10 days) and earmarking them for use in subtrigger situations.

Like the 1981 agreement, the 1984 agreement is more of an agreement on procedures; it does not commit countries to actually draw down stocks in future disruptions, much less to a rate or timing for draw down. Whether members decide to draw stocks depends on (1) the circumstances of each disruption, (2) the Governing Board determining that a disruption may involve a significant oil shortfall or threaten severe economic damage, and (3) the Governing Board agreeing on what to do about it. The latter necessarily means that member countries must individually decide what actions, if any, they can take to contribute to coordinated stock drawdowns, directly or indirectly by other means.

In one sense, the IEA's approach to dealing with subtrigger disruptions is pragmatic, recognizing that some or perhaps many smaller disruptions may not warrant special action to supplement reliance on market forces alone. Thus, no commitment has been made to a specific formula for triggering use of particular programs by all member countries.

In another sense, however, there is some uncertainty about the IEA's approach to dealing with smaller disruptions. While all member countries have made commitments to deal forcefully with subtrigger situations which appear likely to cause severe damage to the world economy, they have not identified specific actions they are prepared to take to implement the commitments. And, the IEA has not examined in depth whether the individual member countries are well prepared to implement the commitments or under what specific circumstances it would be desirable for them to do so.

We believe there may be value in a flexible arrangement that allows for a variety of actions to be taken in smaller disruptions and permits members to adopt different measures to implement their commitments. However, flexibility need not be incompatible with advance planning and preparation to ensure meeting commitments or the IEA carefully reviewing each member's plans and preparations for dealing with smaller disruptions. The IEA could conduct reviews similar to those it holds for the ESS. Each country could be asked to identify measures it would most likely choose in dealing with a subtrigger disruption and steps it has taken to develop a standby capability for achieving a quick and effective response.

In a subtrigger disruption, each country will have to choose specific policies and programs for responding. Among possible choices are (1) demand restraint, (2) fuel switching measures designed to achieve quick results, and (3) stock drawdown, or any combination of them. For each option, important questions can be raised about how well prepared a country is to take effective action. For example, the stock drawdown option would pose the following questions.

--How much stocks could be drawn in a subtrigger situation and whose would be drawn--companies, governments, or those of other stockholding entities?

--Does a government have legal authority to draw or to permit companies to draw stocks in smaller disruptions?

--Does a government have the capability to enforce prompt and effective stock draw, if necessary?

--Has stock drawdown been tested?

--If a country has a surplus and a serious imbalance exists among IEA countries, does its government have a capability to assure that some of its supplies could be effectively transferred to those other members?

Similar questions could be raised for other possible measures.

If member countries do significantly augment their capabilities for dealing with smaller disruptions, use of such capabilities could reduce the need to implement the ESS. U.S. officials would welcome such a development, since they believe the ESS is a complicated mechanism to operate. However, as discussed in chapter 3, the full meaning of the July 1984 agreement for subtrigger situations depends on the subsequent actions of the member countries. These actions include, for some nations, building oil stocks to the 90-day level required for the ESS; for others it may include increasing stocks already at or in excess of the 90-day requirement should they decide to use stock drawdown. For countries which prefer to rely on non-stock measures, such as demand restraint, it may mean securing necessary legal authorities to restrain demand in subtrigger emergencies.

The meaning of the agreement also depends on whether the IEA periodically assesses members' plans and preparations for coping with smaller disruptions and develops procedures for evaluating member performance during a disruption and making appropriate adjustments. For example:

--On what basis will the contributions of countries which choose to employ demand restraint be evaluated? Will base period final consumption be the standard as it is when the ESS is activated?

--If a disruption worsens and the ESS is triggered, what happens if not all countries have made their expected contribution during the subtrigger phase? Would the emergency reserve drawdown obligation be adjusted downward for countries which had drawn stocks and increased for countries which had not?

The results of ongoing or planned studies (as discussed in ch. 3) on minimum operating stock requirements, methods of holding and drawing stocks, the likely effectiveness and costs and benefits of demand restraint measures, the economic impacts of serious oil supply disruptions for each country, and the potential for short-term fuel switching will contribute useful information on responding to subtrigger disruptions.

# CHAPTER 6

## ANTITRUST, BREACH OF CONTRACT, AND OTHER LEGAL ISSUES

The IEA Emergency Sharing System cannot operate without the voluntary participation of major oil companies. Voluntary U.S. oil company participation in the ESS may end unless (1) EPCA, which expires June 30, 1985, is extended and (2) a more up-to-date plan of action is developed specifying what oil company actions taken to implement the ESS will receive antitrust and breach of contract defense coverage.

EPCA authorizes a voluntary agreement and plan of action, which in turn describe the specific actions that oil companies can take when participating in the IEA. The current plan of action dates back to 1976 and is widely considered too broad and general in nature. More specific language is required to meet today's situation. DOE has been drafting a second plan of action since 1979 but has not yet completed a version satisfactory to the U.S. government, the IEA Secretariat, and oil companies.

Two previous DOE drafts (1981 and 1983) of a second plan of action denied antitrust and breach of contract defenses to companies for normal commercial transactions that they make independent of the IEA during an oil disruption to distribute their supply. The drafts also denied antitrust and breach of contract defenses where companies provide price data concerning voluntary offers to share or receive oil to industry representatives assisting the IEA Secretariat in Paris. Industry and IEA objections to these positions have delayed agreement on a new plan of action.

DOE is now considering modifying its position on these issues, and appears close to agreement with industry on a new draft plan, except for the extent of recordmaking, recordkeeping, and reporting required on type 1 transactions.

Although these changes are intended to facilitate the effective operation of the ESS, there also could be important disadvantages. For example, providing antitrust and breach of contract coverage for certain commercial transactions could result in companies breaking contracts to obtain the benefit of rising prices during an emergency, and the resulting higher prices could accelerate world oil prices contrary to IEA objectives. In addition, the added workload that accompanies such coverage might inhibit effective monitoring by U.S. government antitrust observers.

## ANTITRUST MONITORING

The U.S. government recognized early that the success of the IEP Agreement depended on participation of the major U.S. international oil companies; yet, that participation could have anticompetitive consequences and result in antitrust suits against the companies. To ensure the assistance of these oil companies, EPCA provides them with a statutory defense against any civil or criminal suit brought under federal or state antitrust laws[1] for actions taken pursuant to an approved voluntary agreement or plan of action to participate in the ESS, provided the actions were not taken to injure competition. EPCA also provides a breach of contract defense, provided that the alleged breach was caused predominantly by action taken during an international energy supply emergency to carry out a voluntary agreement or plan of action.

EPCA authorizes oil companies to participate in developing and implementing voluntary agreements and plans of action, provided that Justice and the Federal Trade Commission monitor such development and implementation "in order to promote competition and to prevent anticompetitive practices and effects, while achieving substantially the purposes" of the act; and the Attorney General approves them. DOE administers voluntary agreements and plans of action dealing with oil internationally with the approval of the Attorney General after each has consulted with the Federal Trade Commission and the State Department.

The Attorney General approved a combined Voluntary Agreement and Plan of Action in 1976 and also approved participation in it by specific U.S. oil companies, subject to their written acceptance. This agreement sets forth the circumstances under which industry can participate in IEA activities. Upon approval for participation in the Voluntary Agreement, a company can assert the antitrust defense for actions it takes to carry out a plan of action but only if it demonstrates that the actions were specified in, or within the reasonable contemplation of, an approved plan of action. A party that disputes the antitrust defense and brings suit must demonstrate that the actions were taken for the purpose of injuring competition to defeat an otherwise valid antitrust defense.

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[1]U.S. antitrust laws, among other things, prohibit price fixing, divisions of the market, and other contracts, combinations, or conspiracies in the restraint of trade. The Justice Department and Federal Trade Commission share responsibility for enforcing antitrust laws.

However, EPCA and the Voluntary Agreement and Plan of Action also set forth antitrust safeguards to which companies must adhere. Primarily, companies must give U.S. officials advance notice of IEA industry advisory meetings; U.S. government monitors must attend all of these meetings; verbatim transcripts must be maintained of most meetings and complete records of other industry advisory meetings and communications outside of industry advisory meetings; discussions at meetings are limited to the published agenda; most IEA pre-emergency industry activities are confined to meetings; exchange of confidential or proprietary information is permitted only with advance government approval; and Justice and the Federal Trade Commission are required to make semiannual reports on their IEA monitoring. (Concerning the last point, since January 1982 the Commission has issued only 4 reports and the Justice Department 5 reports, whereas at least 6 reports should have been issued between 1982 and 1985.)

## BURDEN OF ANTITRUST REGULATIONS

In our 1981 report on the IEA, we noted that some representatives of other participating governments and foreign oil companies, as well as some IEA Secretariat officials, expressed frustration with U.S. antitrust requirements, particularly in the context of ESS tests and the problems anticipated in an actual emergency. In assessing AST-3, the Industry Supply Advisory Group concluded that, although U.S. antitrust monitoring did not significantly disrupt the operation of the test, it did cause several delays which in an actual emergency could prove quite detrimental. The IEA Executive Director said that the legal requirements of U.S. antitrust laws could prove burdensome to the operation of the ESS and to the members' optimum reaction to sub-trigger oil supply disruptions.

AST-4 provided an opportunity to determine whether improvements had been made since the previous test. Following AST-4, the Industry Supply Advisory Group reported that the U.S. legal requirements had improved but remained somewhat burdensome. The report criticized the number of U.S. observers present at certain meetings as being excessive for their task of record-keeping. It pointed out, for example, that four U.S. observers from as many as four departments and agencies, plus a court reporter, were present to monitor the activities of one or two U.S. members of the Industry Supply Advisory Group at daily managers' meetings, causing a degree of formality at the meetings that may inhibit the normal flow of discussion. The report concluded that the requirement that U.S. observers be present generally inhibited managers from calling impromptu, brief meetings.

The report said that the matching of voluntary offers is an informal process, with 10 or more industry supply experts in the room, data displayed on the viewing screen, and computer formats spread about. Many activities and conversations occur spontaneously. However, to facilitate their recordkeeping mandate, U.S. observers asked that simultaneous side conversations be minimized, thereby disrupting somewhat the process of analyzing and selecting voluntary offers.

The report noted that the requirement that U.S. members of the Industry Supply Advisory Group keep a daily log of unwritten communications with other Group members, National Emergency Sharing Organizations, and reporting company personnel was a burden during the rushed voluntary offer portion of the test. Having to take "time-off" to bring records up-to-date disrupted the normal train of thought.

The IEA Secretariat and the AST-4 Group of Experts and Design Group commented that the antitrust monitoring and recordkeeping requirements remained somewhat burdensome and suggested that means be found to streamline procedures and reduce the number of observers.

U.S. antitrust representatives stated that such comments do not take into account the responsibility imposed by law on the Departments of Energy, Justice, and State and the Federal Trade Commission; representatives of these departments must be trained in the operations of the ESS and must understand what is going on. They also reported that on some occasions during AST-4 a number of U.S. observers were present at meetings at the request of counsel for the companies; for example, when a number of conversations were taking place at once during the voluntary offer matching process or a number of working groups were functioning at the same time.

One official from a major U.S. oil company pointed out that crowded conditions during AST-4 made the presence of antitrust observers more apparent than it otherwise would have been. He stated that the observers had done a good job and suggested that the more they learn about the allocation process the better off everyone will be.

A State Department official, who was head of the U.S. post-test assessment delegation, supported the U.S. antitrust monitoring position. He suggested that the individuals who have been charged with carrying out U.S. law have done a good job.

U.S. antitrust officials emphasize that substantial progress has been made in reducing U.S. restrictions and requirements for each successive test. U.S. antitrust officials have also stated that the United States will consider any further proposals to streamline the antitrust monitoring process.

## DRAFT OF SECOND PLAN OF ACTION

The 1976 Voluntary Agreement and Plan of Action is very general with respect to types of activities and actions that companies can take in participating in the IEP, primarily because the details of the ESS operation were undetermined in 1976. The agreement contemplated that, before an international supply emergency occurred more specific plans of action would be developed elaborating and applying the allocation principles and measures established by the IEA.

Since 1979, the government has been preparing a second plan of action which would identify more specifically those activities covered by an antitrust defense. This plan would depict activities expected to occur during an international energy supply emergency, including the necessary industry advice and assistance to the IEA in implementing the ESS. In preparing drafts of a second plan of action, DOE consulted with U.S. reporting companies and IEA's Industry Advisory Board and Secretariat. It also invited and considered comments from the public. However, a second plan of action has not been finalized.

In our 1981 report on the IEA, we noted that circumstances had changed since the Voluntary Agreement became effective in 1976 which justified a new plan setting forth in greater detail the substantive actions companies might legally take during an emergency to minimize uncertainty about the propriety of their actions and the risk of anticompetitive conduct. A second plan of action describing specific actions oil companies may take is needed before a disruption occurs. Otherwise, reporting companies may be hesitant about participating in the ESS during a disruption, since their actions might be considered part of a conspiracy in violation of U.S. antitrust laws. Of course, if a supply emergency occurred before a second plan of action was finalized, rapid approval of the latest draft could be sought. Sections for which agreement could not be reached easily could be dropped. Whether the reporting companies would subscribe, however, would depend upon the extent to which they felt their needs were met.

## CONCERNS ABOUT PROPOSALS FOR A SECOND PLAN OF ACTION

We identified two areas of concern regarding a second plan of action: (1) whether type 1 (ordinary commercial) transactions taken by companies in response to an emergency should be accorded antitrust and breach of contract protection, and if so, what record requirements should apply and (2) whether the IEA and oil industry representatives assisting it should receive

reporting companies' pricing data for type 2 voluntary offers. Each alternative has important advantages and disadvantages. The crucial question is whether the effective operation of the ESS would be frustrated if companies did not receive antitrust and breach of contract defenses for type 1 transactions and/or if IEA and its oil industry assistants do not have access to price information on type 2 offers. (The three types of transactions are discussed on page 38.)

Until recently, the government has opposed antitrust defense coverage for type 1 oil transactions and for a company's giving the IEA and its oil industry assistants information on oil prices for type 2 offers. However, during the latter part of 1984 and early in 1985 the administration indicated it was prepared to reverse its previous positions on these issues. Language was drafted for a second plan of action that would give U.S. companies antitrust coverage for certain type 1 transactions and for price data voluntarily submitted to the IEA and its oil industry assistants as part of certain type 2 offers.

One important obstacle that remains is differences over the recordmaking, recordkeeping, and reporting requirements for companies that request antitrust defense coverage for certain type 1 transactions. The industry's view is that the requirements should be not more than and possibly less than those required for type 2 voluntary offers. Government officials are considering whether and under what specific conditions this might be appropriate.

We reviewed the issue of whether companies should receive antitrust defense for type 1 activities and for price data submitted to the IEA on type 2 offers. While important advantages can be cited for providing such protections, significant disadvantages also exist.

## PROTECTION FOR NORMAL TRANSACTIONS

Twice--in 1981 and 1983--DOE developed a draft second plan of action excluding type 1 transactions from antitrust defense coverage and requested public comments. Industry, on both occasions, strongly commented that type 1 transactions should have antitrust defense coverage.

In response to the May 1981 draft, industry commented that its ESS test experience indicated that IEA may urge U.S. oil companies to undertake type 1 transactions that will move oil quickly from countries that otherwise would be expected to have allocation obligations to those which would have allocation rights. Companies said that should they do so, the distinction between normal oil company transactions made independently of

any specific requests by the IEA (type 1 activities) and transactions arising from voluntary offers of oil to IEA (type 2 allocations) could break down. IEA influenced type 1 transactions could subject the U.S. oil companies to the same risks for which they receive antitrust defense in type 2 and type 3 (government-directed mandatory allocations) transactions. Therefore, the companies argued, the antitrust defense should apply to type 1 activities. Many companies also recommended that these type 1 activities not be subject to the full-scale recordmaking, recordkeeping, and reporting requirements associated with type 2 activities, on the grounds that, because of the far greater number of transactions involved, those requirements could impose a crushing burden on the companies.

In October 1983, DOE's revised plan of action again excluded type 1 transactions from antitrust defense coverage. DOE observed that coverage for all type 1 transactions would seem out of the question, since they include transactions that industry would have undertaken in any event as normal international business activity. However, selective coverage might be acceptable if a satisfactory method could be devised for distinguishing between type 1 transactions which should and should not receive such coverage.

Industry responded again, citing the need for antitrust defense coverage for type 1 transactions. It suggested that coverage be provided only if a transaction's specific purpose is to help the ESS.

The IEA suggested that the antitrust defense be extended to all type 1 transactions initiated by the companies or the IEA in response to express or implied requests, solicitations, or suggestions of the IEA, including those occurring before the Secretariat's first transmission of allocation rights and obligations to the companies. The IEA noted that the ESS is predicated on the assumption that a large proportion of supply actions in an emergency will be taken as type 1 transactions, voluntarily and independently undertaken by the industry without advance approval by the IEA. The IEA reasoned that without antitrust coverage for those type 1 actions for which antitrust risk might arise, companies might hesitate in making those transactions or hold them back for use as type 2 voluntary offers in response to specific requests from the IEA. These would be undesirable developments, it said, because they would slow down the process of adjusting to the supply disruption and substantially increase the efforts required of the IEA. According to one IEA official, there is concern that the burden on the IEA might be so great as to jeopardize effective operation of the ESS.

There are several possible disadvantages for providing antitrust defense coverage for type 1 transactions. Such coverage could drastically increase the monitoring workload of the Justice Department, Federal Trade Commission, and DOE, since a large part of the companies' world oil trade is likely to be categorized as type 1 activities. The paperwork for both companies and government monitors would increase, since each type 1 transaction claimed for antitrust defense coverage would have to be supported and documented by the oil company and reviewed by government monitors. U.S. government monitors might be overwhelmed by the total type 1 and 2 transactions which had to be evaluated.

On the other hand, those supporting type 1 coverage assert that the proportion of total type 1 transactions for which antitrust protection is contemplated is small, suggesting therefore, that U.S. government monitors would not be overwhelmed. However, if only a small proportion of type 1 transactions require coverage, a question arises as to why such transactions could not be submitted as type 2 offers. The fact seems to be that no one really knows the number of transactions that would be affected. The present proposals, at least in the first instance, would leave it to the companies' discretion whether to attempt to qualify contemplated transactions for the antitrust defense.

Of critical importance is whether clear and practical criteria can be found for differentiating between (1) those type 1 transactions which are responsive to the ESS, put the companies at real risk, and deserve antitrust defense coverage, and (2) those which are not responsive and/or do not put the companies at substantial risk, and thus do not deserve coverage. The Department of Energy, the Justice Department, the Federal Trade Commission, and the companies have not yet been able to agree on clear, usable criteria for distinguishing between those type 1 transactions that should be accorded antitrust protection and those that should not. This is a difficult and complex matter requiring delicate balancing of IEA system requirements with the requirements of U.S. antitrust law. Efforts to design criteria have thus far led to complicated definitions, which nonetheless are quite subjective.

Some have argued that the only type 1 transactions that need coverage are those that are made in direct response to specific requests made by the ISAG or IEA Secretariat, and not transactions which are simply in accord with balancing allocation rights and obligations. According to this view, any type 1 transactions which fell into the former category could be submitted as "closed-loop" type 2 offers, and thereby receive antitrust coverage. In a "closed-loop" type 2 offer, the identities of both the supplying and receiving companies to a

prospective transaction are submitted to the ISAG, so the ISAG does not have to search for a match. Since the work of the ISAG associated with closed-loop type 2 offers is considerably less than that for other type 2 offers and the number of closed-loop offers resulting from specific requests from the IEA might not be too great, the ISAG may be able to handle this additional load without being overburdened.

If one is going to provide antitrust protection to any type 1 transactions, intimately related questions are what kinds of type 1 transaction records should be made, kept and reported to the U.S. government, and when the records process should begin.

During meetings in December 1984 and January 1985, industry and U.S. government representatives were unable to agree on the degree of recordmaking, recordkeeping, and reporting requirements for type 1 transactions. Industry representatives proposed that the requirements be substantially less than those proposed by the government. Government officials believe, however, that additional record requirements are needed for such type 1 transactions, since the government does not have the same ability to monitor their development as it does for type 2 and 3 transactions and since there is uncertainty about what impact type 1 tranactions (having antitrust defense coverage) will have on the system. How these differences are resolved could have an important impact on the ESS. On the one hand, industry representatives suggest the proposed record requirements are overly burdensome on the companies and could affect effective allocation. Presumably, some companies might choose not to participate as actively in the ESS if the burden is judged too great. On the other hand, the government has to consider whether effective antitrust monitoring is possible if sufficient records are not made, kept, and made available to antitrust observers on a timely basis.

Providing antitrust defense coverage for type 1 transactions could reduce the ability of the U.S. government to prevent and penalize collusive conduct, particularly if the requirements for recordmaking, recordkeeping, and reporting that are still being worked out are not adequate. Type 1 transactions occur without the advance knowledge or participation of either U.S. government monitors or IEA officials. In contrast, industry type 2 voluntary offers are received and reviewed by the Industry Supply Advisory Group (ISAG) in the presence of U.S. government antitrust monitors. In addition, matches of type 2 offers require formal review and approval by the ISAG and the IEA Executive Director before they can be consummated by the involved companies. Type 1 transactions are not subjected to such advance, independent scrutiny.

Moreover, providing antitrust protection would also make it more difficult for a party injured by a covered type 1 transaction to demonstrate that the intent of the companies making the transaction was to injure competition. If the companies were to submit records of the transaction to the government as proposed, such records could be introduced by the companies as evidence of intent to facilitate balancing IEA allocation rights and obligations, with any alleged competitive injury being a consequence.

Breach of contract protection and type 1 transactions

Another possible disadvantage to providing antitrust defense coverage for certain type 1 transactions concerns breach of contracts. EPCA provides a breach of contract defense to companies provided that an alleged breach was caused predominantly by action taken during an international energy supply emergency to carry out an approved voluntary agreement or plan of action.

Consequently, if the plan of action provided antitrust protection to type 1 transactions and unless the plan of action specifically provided otherwise, a U.S. reporting company could probably breach a contract with a party, sell the oil to a second party for a higher price, and be protected by the breach of contract defense.

Whether the breach of contract defense would apply depends in part on whether the government construed EPCA to say that companies have a breach of contract defense whenever they have an antitrust defense. Although the breach of contract defense appears under the section of EPCA which deals with voluntary agreements and plans of action, it is discussed separately from the antitrust defense. One might argue that because of the separation, an action entitled to the antitrust defense does not automatically qualify for the breach of contract defense. Alternatively, one might argue that the statutory language creating the breach of contact defense is sufficiently clear on its own merits (independent of the antitrust defense) to cover a breach of contract made primarily to carry out a plan of action--unless the plan specifically provides otherwise. Industry representatives have indicated that their interpretation is that the two are co-extensive, while recognizing that the legislative history says little about the matter.

The larger question about the breach issue, though, is whether there is a real need to have a breach of contract defense to secure sufficient type 1 transactions. The companies and the IEA Secretariat favor providing the breach of contract defense, because they believe that without the defense fewer type 1 transactions might be made. The Departments of Energy

and Justice believe that extension of the breach of contract defense to certain type 1 activities may have the desirable effect of facilitating more market-oriented type 1 transactions and that it is desirable to encourage as many voluntary supply responses as possible without resort to type 2 offers.

However, to what extent type 1 transactions would be reduced without a breach of contract defense is not clear. Data on company in-transit oil volume now under contract, as well as the contract provisions, are not readily available. Companies without substantial in-transit oil volumes under contract may not need a breach of contract defense. One recent report indicated that a large part of world oil trade now occurs in the spot market, with the long-term contract market being rapidly rendered obsolete.[2] Moreover, existing contracts could contain language allowing the oil company to break the contract with little or no risk of lawsuit.

Providing a breach of contract defense offers potential advantages of significantly increasing the numbers of transactions and amounts of oil redistributed by type 1 transactions and of reducing the time required to balance member country allocation rights and obligations. These possible advantages must be weighed against several important disadvantages. First, the injury that would result to intermediary suppliers and, in turn, to consumers from contracts that are breached. Second, if a breach of contract defense is provided for certain type 1 transactions and many companies choose to breach contracts to obtain the benefit of rising prices as well as in furtherance of the ESS, world oil price increases could accelerate, contrary to ESS objectives. Third, non-reporting companies are not signatories to the Voluntary Agreement or Plan of Action and consequently would not have the benefit of either an antitrust or breach of contract defense for type 1 transactions. They could be placed at a competitive disadvantage relative to reporting companies, who would have these benefits.

One could reason that a plan of action should provide antitrust and breach of contract protections only for those actions which have the least anticompetitive risk--barring presentation of a strong case that effective operation of the entire ESS may be jeopardized. One way of securing better information on the need for the proposed actions would be to test the effects of allowing or not allowing an action to occur during one of the ESS tests. For example, the impact on the system if during a test the U.S. government specifically said that the antitrust and breach of contract defenses would not be provided for type 1 transactions. Companies could be asked to

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[2]Frank E. Niering, Jr., "Oil Industry's Changing Structure," Petroleum Economist (Jan. 1984), p. 9.

simulate how they would act in a real emergency if such a rule were in effect. Alternatively, the government could allow an antitrust, but not breach of contract, defense for type 1 transactions.

Inclusion of such matters in a future test could also provide an opportunity to examine how recordmaking, recordkeeping, and reporting requirements for type 1 transactions would affect operation of the ESS and the ability of U.S. antitrust monitors to assess possible anticompetitive activities. In fact, during AST-4, the U.S. government did not provide an antitrust defense for type 1 transactions. Even so, during the first cycle of the test, type 1 transactions made by companies (U.S. and foreign, reporting, and non-reporting) reduced the supply imbalance among IEA countries by more than 50 percent. And more than enough type 2 offers were made and handled comfortably by the system. If sufficient type 1 transactions occurred, without antitrust protection, to reduce supply imbalances by 50 percent and the Industry Supply Advisory Group was not overloaded with type 2 offers, this suggests that the antitrust defense for type 1 transactions may not be necessary. However, two points are in order. First, since AST-4 was only a simulation, companies could probably assume less risk of being sued. Second, the government made an important qualifying assumption, which reduced the risk, by telling companies that "type 1 transactions will be assumed to have occurred without inter-company communications . . ." Presumably, in a real disruption inter-company type 1 transactions would not occur without inter-company communications. This raises certain questions. Did the assumption prompt companies to restrict type 1 transactions to deals with their own affiliates? Did some companies assume that transactions were made with other companies that might not have been consummated had communications occurred?

A more realistic way to conduct the test might have been to (1) inform companies that an antitrust defense would not be available for type 1 transactions, (2) allow companies to communicate on type 1 transactions, and (3) request that companies, in deciding whether to make specific type 1 transactions, simulate as realistically as possible whether they would do so in the real world absent an antitrust defense. A test conducted this way might provide a better indication as to whether companies (1) think they need the defense for many situations, and (2) would make many more type 2 offers, and if so, with what possible impact on the ESS.

## PROTECTION FOR TRANSMISSION OF OIL PRICE DATA

Another area of concern in proposals for a second plan of action is whether the IEA should receive pricing data from the reporting companies on type 2 voluntary offers and, if so,

whether the companies should receive an antitrust defense for providing such information.

DOE's May 1981 draft did not provide antitrust defense coverage for this purpose. Some U.S. oil companies and IEA commented that companies should be given antitrust protection for submitting the data. However, certain post AST-4 assessments by IEA consultants concluded that providing pricing information could create a number of difficult problems for the voluntary offer system. DOE's October 1983 draft again excluded antitrust defense coverage. However, DOE was open to further discussion of the issue.

IEA asked DOE to reconsider, reasoning that with price data it could more easily match offers to provide oil with requests to secure oil where buyer and seller prices converged. Buyers and sellers would then be more likely to complete transactions. Without the price information, potential matches might fall through if the buyer and seller could not agree on price. IEA also believed it would not be able to quickly match all the voluntary offers and requests received each month unless it had information on price and other commercial terms. It warned that without such information, the entire voluntary offer process could break down, forcing government-directed mandatory transactions and resulting in heavy burdens for both IEA and member governments. However, a number of oil companies have said that withholding price information should not delay the voluntary offer process very much, since their normal business regularly involves negotiating prices.

Company comments on this issue have varied over time. Companies have frequently opposed providing price information. However, companies present at a meeting of an IAB subcommittee in June 1984 generally favored a system where they are allowed but not required to provide such information. It was noted that in some situations a company might want to provide information on the price sought for an open offer to more quickly facilitate a match. However, these companies did not indicate that they would provide price information for most of their type 2 offers.

There are several possible disadvantages of allowing companies to provide price information to the IEA. Price-setting, or at least influencing of world oil prices, would be possible, as well as misuse of the data submitted, because the asking prices and offering prices for petroleum on a global basis would be centralized as never before. This could contribute to pressure on oil prices. For instance

--By matching offers on the basis of price, the ISAG and Secretariat could themselves contribute to the establishment of an international equilibrium price. Presumably the IEA would match those offers,

all other things being equal, where the asking and offering prices were the closest together. In the absence of price data, offers matched by the ISAG and Secretariat would probably be characterized by greater divergence between asking and offering prices. How the parties would negotiate these differences and with what impact on worldwide prices is not clear. But the price established by each method could be different.

--The Secretariat might use price information to try to become actively involved in setting world oil prices. For example, it might seek to influence particular countries and companies to change their asking or offering prices.

--One or more ISAG members, who are from reporting companies, could try to misuse the information to benefit their own companies at the expense of others. For example, an ISAG member could recommend matching high-priced "receive offers" (i.e., requests to secure oil) with supply offers from his/her company; or make the company aware of prices other companies were willing to pay.

Moreover, the need for providing price information on voluntary offers to the IEA has not been demonstrated. Since the ESS has never been activated, the need during real world events has not been shown. Nor has the need been examined in tests of the ESS. In fact, the pricing of allocated oil in general, as well as oil exchanged in normal commercial transactions, has not been included in a test of the ESS.

In fairness, it is not clear what effect IEA access to price information would have on prices. If companies do not supply price information on most of their offers, the potential for using the information to affect world oil prices or to advantage one company over another would be reduced. The IEA Secretariat has indicated that it did not seek price information for the purpose of influencing or determining prices. Should the Secretariat seek to do so, member countries opposed to such activities could quickly make their views known. The Secretariat is answerable to the Governing Board, composed of representatives from each participating country, which makes all final decisions. Company representatives, who directly assist the Secretariat in coordinating the voluntary rearrangement of supplies by oil companies during a supply emergency, are subject to IEA rules and regulations. They are prohibited from disseminating information about specific IEA activities to individual companies and to any other outsiders who do not have a need to know. They must observe applicable antitrust rules and regulations. They are supposed to ignore economic

advantages or disadvantages for a particular company when evaluating receive and supply offers for matching; they do not make the final decision on which offers to match.

Finally, U.S. government monitors attend all IEA industry meetings. A complete record is kept, usually a verbatim transcript, and limitations exist on what can be discussed. Justice and Federal Trade Commission personnel who monitor the meetings are required to assess the anticompetitive impacts, if any, of such meetings in semiannual reports to the Congress. In addition, the Justice Department must have advance notice of all such meetings, must approve such meetings, and can modify its approval at any time.

At IAB meetings held in May 1985, companies reconsidered the issue, focusing on operational problems that might arise if some companies provided price information and others did not. They reached a consensus that price information on voluntary offers should not be provided to the IEA.

## POSSIBLE NEED FOR ANTITRUST DEFENSE FOR SMALLER DISRUPTIONS

Under a December 1981 IEA decision (see ch. 5), the United States agreed to fully support efforts to correct serious supply imbalances during a small disruption should IEA decide such efforts are needed to avoid serious economic damage. How the United States can support such efforts is the question.

Existing legislation authorizes antitrust protection to U.S. companies volunteering to contribute to international allocation of oil only when the ESS is triggered. Similarly, legislation authorizes the U.S. government to order U.S. companies to contribute only when the ESS is activated. In lesser disruptions, the government could use persuasion to obtain U.S. company cooperation, which may not suffice to induce companies into playing an active role. The companies generally object to IEA intervention in sub-trigger disruptions because they believe the market can successfully handle smaller disruptions and that governments and the IEA should not interfere with the market, particularly if the primary objective is to affect the price of oil.

In addition, the companies believe they do not have antitrust defense coverage for actions they take to help balance supply in a subtrigger disruption, thus their participation could subject them to an antitrust suit. Even if each company's decision to help was based on individual requests from the U.S. government and each company had not discussed with other companies what they could do in concert to be of assistance, the company could be considered a participant in a conspiracy with the government at the center. We were advised by an IEA official

that IEA supports U.S. companies receiving an antitrust defense for smaller disruptions, because the Secretariat and Industry Supply Advisory Group might have to act as a central clearing point for information and coordinate informal allocation by companies to solve supply problems. Company antitrust concerns would probably lessen if EPCA were amended to provide limited antitrust defense for such situations. However, in passing the Energy Emergency Preparedness Act of 1982, Congress indicated that it was not willing to provide an antitrust defense for sub-trigger disruptions.

Short of amending the EPCA, perhaps the anticompetitive risk could be reduced if the Justice Department and the Federal Trade Commission monitored government-company consultations to minimize any potential adverse domestic and international implications of actions the government proposes to the companies. A preliminary determination by these two agencies that such actions would probably have little or no anticompetitive impacts might also help to induce companies to cooperate.

## GENERAL REVIEW OF THE IEP AGREEMENT

Article 74 of the IEP Agreement provides that the Agreement shall be subject to a general review after May 1, 1980. The term "general review" is not defined, but presumably the Governing Board would make the review, including evaluating all the provisions in the Agreement and considering whether any changes are needed. The Governing Board would probably appoint a subcommittee to do much of the work.

To date, no general review has been made, because members have not felt the need for or sought one nor is one planned at this time. The Agreement states that it "shall be subject" to a general review; it does not specify that a review must be made.

As our discussion in this report indicates, the IEA continues to evolve in many ways. The active participation of member countries and the fact that the Governing Board meets frequently to provide guidance on important issues and make decisions means that the Agreement is, in a certain sense, under routine review.

## EXPIRATION OF EPCA IEP AUTHORITIES

EPCA provides the following authorities in Title II, Part B, for U.S. participation in the IEA and in the ESS.

--Section 251 authorizes the President to require that persons producing, transporting, refining, distributing, or storing petroleum products take such actions as he determines necessary for implementing IEP obligations relative to the international allocation of petroleum products.

--Section 252 authorizes the Secretary of Energy, with the approval of the Attorney General (after each has consulted with the Federal Trade Commission and State Department), to prescribe rules, standards, and procedures for oil companies to develop and carry out voluntary agreements and plans of action required to implement the allocation and information provisions of the IEP. Section 252 also authorizes antitrust and breach of contract defenses for developing or carrying out these agreements and plans.

--Section 254 authorizes the Secretaries of Energy and State to provide information and data about the energy industry, including company proprietary data, to the IEA, provided that the IEA employs safeguards to protect such information.

These and other authorities contained in Title II, Part B, will expire on June 30, 1985.[3] Without these authorities, the United States will not be able to participate effectively in the IEA. For example, U.S. reporting oil companies and DOE will be unwilling or unable to give the Secretariat the information it needed to decide whether to trigger the ESS and for operating it once activated. U.S. reporting companies would probably be unwilling to participate in IEA activities without an antitrust defense.

On June 4, 1985, the House of Representatives passed H.R. 1699, 99th Congress, which, among other things, would extend IEA authorities in EPCA to June 30, 1989. The Senate has not yet considered the EPCA extension. However, on May 22, 1985, the Senate Committee on Energy and Natural Resources reported S. 979, 99th Congress, to the Senate. This bill would extend IEA authorities to June 30, 1987. As of June 12, 1985, the Senate bill had not been scheduled for floor debate. The bills' provisions differ not only in the duration of the extension but also in other areas not applicable to the IEA authorities.

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[3]Section 531 provides that, except as otherwise specified, all authority under Title II and any rule, regulation, or order issued pursuant to such authority shall expire at midnight, June 30, 1985. EPCA initially specified that authority for Section 252 would expire June 30, 1979. Congress has extended 252 authority on several occasions. On December 31, 1983, authority for Section 252 expired and was not renewed until March 20, 1984. During the interim, U.S. reporting companies declined to participate in IEA activities and the IEA's Industry Advisory Board ceased activities as well. Under the most recent extension, authority for Section 252 is now scheduled to expire with EPCA on June 30, 1985.

Other IEA countries may view inaction on re-enactment as reflecting a lack of serious commitment by the United States to the IEA. A lapse in authority would be particularly disruptive at this time. By July 1985 the IEA countries will be well into preparations for the fifth test of the ESS, which is scheduled for October-November 1985. A lapse of authorities would almost certainly mean U.S. oil companies would drop out of preparations for this major exercise, and a meaningful test cannot be conducted without them.

## CONCLUSION

The IEA has been the centerpiece of U.S. efforts to coordinate international energy policy with other Western industrialized nations for more than a decade. Despite problems and uncertainties identified in this report with ESS, the IEA provides an important vehicle for coordinating the national energy policies of its members, with particular emphasis on responses to short-term disruptions and long-term supply problems. As discussed in chapters 1 and 2, even small oil supply interruptions can result in enormous economic costs and can weaken economic, political, and security ties between nations. Thus, IEA has the potential to result in a very large payoff should one or more disruptions occur in the future. Its existence may also help to deter certain politically motivated disruptions that could be directed at one or more IEA members. Whether it will in fact do so depends in part on how well prepared member countries are to implement the ESS and other IEA commitments. Problems discussed in this report, as well as those identified by others, will hopefully serve as an impetus for making improvements to enhance this preparedness.

## MATTER FOR CONSIDERATION BY THE CONGRESS

The authorities contained in EPCA are necessary for effective U.S. participation in the IEA. We did not find any circumstances that would invalidate the original and continuing justification for U.S. participation in the IEA. Therefore, we believe Congress should extend these authorities.

# CHAPTER 7
# MANAGEMENT OF U.S. PARTICIPATION IN THE IEA

In our October 1983 report assessing U.S. participation in AST-4, we found that the management of U.S. participation in that test was marked by inadequate preparation and coordination and failure to resolve disagreements within the executive branch on important test-related issues.

Since that time, the Secretary of Energy has assigned a high priority to U.S. energy emergency preparedness for oil supply disruptions and to U.S. participation in the IEA. A DOE reorganization combined the energy emergency preparedness and international affairs functions, and two senior-level interagency working groups were instructed to develop policy options and improve coordination with the numerous issues of energy emergency preparedness. Both groups involve many of the executive branch departments and agencies at the Assistant Secretary level or above.

According to DOE, State, and IEA officials with whom we spoke, there has been a marked improvement in the management of U.S. participation in the IEA since AST-4.

## ROLES OF KEY AGENCIES

U.S. participation in the IEA is authorized by an executive agreement signed by the United States in November 1974 and implemented by the Energy Policy and Conservation Act of 1975, as amended.[1] DOE and State share primary operational responsibility for U.S. participation.

The Secretary of Energy usually represents the United States at IEA ministerial meetings, and the Assistant Secretary of State for Economic and Business Affairs usually heads the U.S. delegation to regular official Governing Board meetings,

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[1]In addition, the Department of Energy Organization Act provides that DOE, in coordination with the Secretaries of State, Treasury, and Defense, establish and implement international energy policies directly affecting research, development, use, supply, and conservation of energy in the United States. It authorizes DOE to undertake activities involving the integration of domestic and foreign energy policy, including providing independent technical advice to the President on international negotiations involving energy resources and technologies or nuclear weapons issues. It also provides that the Secretary of State shall continue to exercise primary authority for the conduct of foreign policy for energy and nuclear nonproliferation pursuant to policy guidelines established by the President.

with the Assistant Secretary of Energy for International Affairs and Energy Emergencies occasionally acting in that capacity. The United States maintains continuous liaison with the IEA through its permanent delegation to the OECD. DOE and State share responsibilities for representing the United States in various short and long-term activities. Development and integration of U.S. policies on participation in the IEA occurs in various high-level interagency forums.

Significant to U.S. participation in the IEA has been the antitrust defense provided to U.S. oil companies to meet as a group, advise the IEA Secretariat, and participate in the allocation of supplies once IEA has made an emergency sharing decision. Under section 252 of the EPCA, the Department of Justice and the Federal Trade Commission are primarily responsible for monitoring the IEA activities of U.S. oil companies to insure that IEP goals are achieved in the least anticompetitive manner. (See ch. 6.) These two agencies are required to submit semiannual reports to the Congress summarizing their antitrust monitoring activities.

State Department

State Department participation in the IEA is implemented through the Office of the Deputy Assistant Secretary for International Energy Policy, which includes the Offices of Energy Consumer Country Affairs and Energy Producer Country Affairs. IEA matters are primarily conducted through the former.

Six professional staff members in this office spend approximately 50 to 60 percent of their time on IEA issues, preparing U.S. position papers on topics coming before the Governing Board, coordinating those papers with other U.S. agencies, monitoring all IEA functions, representing the United States at IEA standing group meetings, and providing staff assistance for Governing Board meetings at the official and ministerial levels.

Energy Department

The Deputy Assistant Secretary for International Affairs is responsible for DOE's role as lead U.S. support agency for IEA. The Office of the Director for International Energy Policy, Analysis and Integration, under his guidance, is generally responsible for managing U.S./DOE participation in IEA. It has a staff of about 15 professionals that work on IEA and other international energy issues. In addition, the Deputy Assistant Secretary for Energy Emergencies has lead responsibility for IEA oil emergency matters and develops contingency plans for DOE's participation in ESS. About 8 professionals in this office spend time on IEA issues.

Coordination between DOE and the State Department is an informal process so staff efforts are often more complementary than redundant, with each agency alternating primary and secondary roles on various IEA issues. Each agency's focus changes periodically, and both agencies cover all IEA areas, at least on an informational level, to insure proper, integrated understanding of IEA activities.

As part of its responsibility for developing and coordinating emergency preparedness planning, DOE develops contingency plans for U.S. participation in the ESS and serves as the U.S. National Emergency Sharing Organization under the IEP. In conjunction with State, DOE develops international energy policy, assesses the international implications of U.S. contingency plans, develops positions for international negotiations, and maintains relationships with foreign governments and international energy organizations.

In practice, DOE generally assumes lead responsibility for the initial drafting of energy emergency policies for U.S. participation in the IEA and for representing those policies before the IEA's Standing Group on Emergency Questions. It also has prime responsibility for developing policies and plans concerning other aspects of the IEA, such as the Standing Groups on the Oil Market and on Long-Term Cooperation.

U.S. Mission

The U.S. Mission to the OECD in Paris is the primary U.S. coordinator with IEA. A Foreign Service Officer serving as energy advisor within the Mission is the permanent U.S. representative on IEA matters. The advisor is the Mission's link to the Secretariat and to energy policy specialists of the other 20 national delegations. As the resident member for OECD/IEA meetings on energy policy and the principal U.S. representative to a number of working-level committees, the advisor is the principal day-to-day link between DOE, the State Department, and the IEA. This role is essentially one of liaison and coordination.

Decisionmaking process

An informal interagency U.S. decisionmaking process has been in existence since the inception of the IEA. No formal executive order, procedure, or legislation delineate management of U.S. participation at the operational level. DOE and State officials describe their recent coordination as effective.

Interagency groups used to help coordinate policy toward the IEA have at various times included the Energy Coordinating Committee, the Interdepartmental Group on International Energy Policy, the International Energy Security Group, the Cabinet Council on Natural Resources, and the National Security Council.

## MANAGEMENT OF U.S. PARTICIPATION IN AST-4

Our review of the management of U.S. participation in AST-4 revealed a number of problems. Although the United States committed a number of people to the test (for example, over 80 DOE personnel were involved part- or full-time during the test) and began preparations 17 months in advance, it was not ready for the test in a number of areas.

DOE's Office of Energy Emergencies was not adequately familiar with IEA test procedures. The Deputy Assistant Secretary for Energy Emergencies, who heads the day-to-day operations of the U.S. National Emergency Sharing Organization said that his staff was generally not well acquainted with the details of the ESS and, therefore, had difficulties in complying with specifics of the system. A comprehensive management manual delineating organizational responsibilities and procedures for carrying out U.S. emergency management responsibilities in an IEA test or in an actual crisis was never finalized. Only draft manuals with incomplete information were produced.

During and after the test, DOE's Office of Energy Emergencies was criticized by DOE's Office of International Affairs and by the State Department for inadequately understanding the IEA test guide procedures on reporting energy information, making voluntary offers, and conforming to test assumptions and conditions.

From the onset of test preparations, disagreements surfaced among the two DOE offices and the State Department's International Energy Policy Group, partly because

--responsibility for U.S. domestic and international involvement in AST-4 was divided between agencies and subagencies and there was inadequate communication and coordination among them, and

--differing interpretations concerning the nature of the U.S. commitment under the IEP were not resolved in a higher level interagency forum.

Decisions during the test on fair sharing, demand restraint, and use of the SPR were made without adequate coordination. In each of these cases, DOE's Office of Energy Emergencies had ample advance opportunity to seek a governmentwide consensus on a series of acceptable options before the test but chose not to do so.

Despite these obvious disagreements on key assumptions and decisions, the established interagency process was not used to resolve them. These disagreements helped to foster the impression among other IEA members, the Secretariat, and participating oil companies that the U.S. approach to AST-4 was confused and somewhat contradictory.

Activities since AST-4

Following AST-4, the President and the Secretary of Energy gave higher priority to U.S. energy emergency preparedness for oil supply disruptions and to U.S. participation in the IEA. One reason was the escalating Iran-Iraq war, which threatened to affect the flow of oil from the Persian Gulf. The Secretary's executive assistant became deeply involved in managing the energy emergency preparedness function and DOE's policy for participation in the IEA.

In January 1984, the Energy Secretary announced a reorganization within DOE which essentially merged the energy emergency preparedness and international affairs functions under a single Assistant Secretary instead of being under separate officials. DOE said that this change reflected "the close relationship of DOE's emergency planning activities to international energy security and the need to monitor international events closely to ensure effective development and testing of emergency response plans."

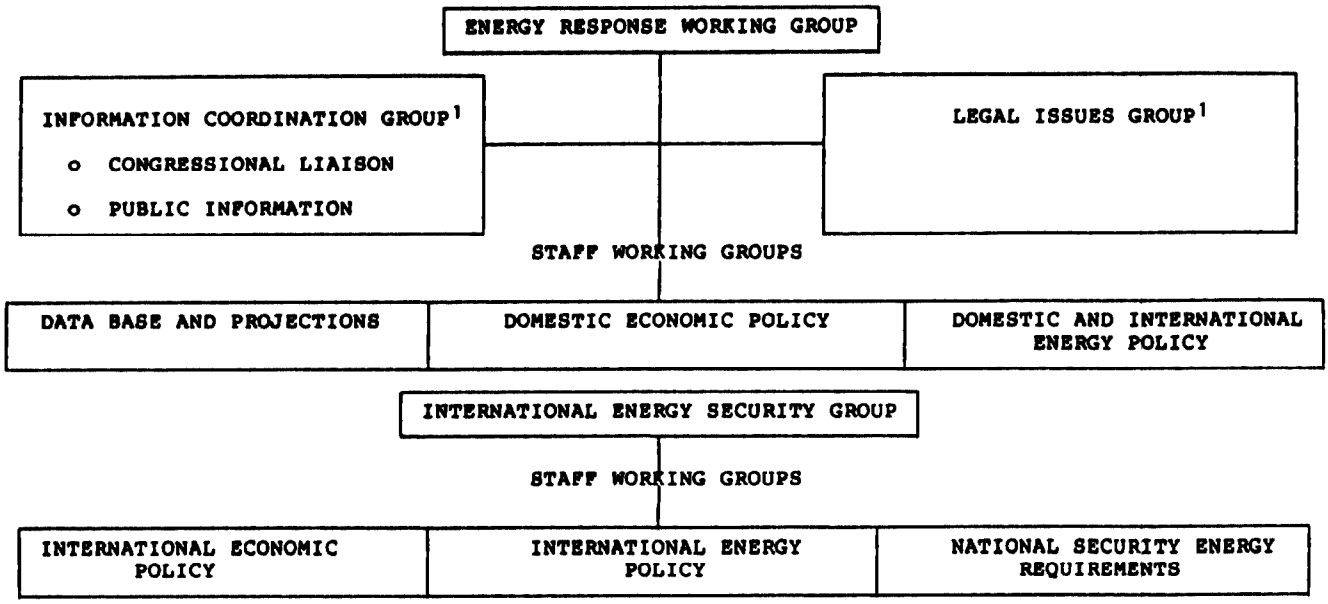
Moreover, the interagency Energy Response Working Group and the International Energy Security Group were charged by the President with reassessing the adequacy of existing policies and programs for energy emergency preparedness issues and for identifying and developing new policy options. Both interagency working groups involve many departments and agencies in the executive branch at the level of the Assistant Secretary or above.

According to DOE, these two groups are not "crisis management" groups, but rather are charged by the President with examining and evaluating on an ongoing basis a multiplicity of issues regarding energy emergency preparedness and developing policy options for the President's Cabinet and the National Security Council. The structure of the two groups is shown in figure 1.

Figure 1

INTERAGENCY WORKING GROUP FOR COORDINATING POLICY ON

ENERGY EMERGENCY PREPAREDNESS ISSUES




[1]To be constituted at the direction of the Energy Response Working Group Chairman.

Source: Department of Energy Report to House Committee on Government Operations Concerning the Committee's Energy Emergency Preparedness Recommendations, July 30, 1984.

The Energy Response Working Group is chaired by the Secretary of Energy. The International Energy Security Group is chaired by the Department of State Under Secretary for Economic Affairs; it reports to the National Security Council.

Staff groups for both the DOE and State working groups are composed of individuals at the Deputy Assistant Secretary level or the equivalent and are charged with identifying and developing policy options to resolve issues that cut across Department and agency lines.

The DOE working group has responsibility for issues that principally concern domestic energy policy and programs. However, it also helps formulate policy for U.S. participation in the IEA that is consistent with an extension of domestic energy policy. The State group has responsibility for issues that principally concern how the energy policies and activities of other nations can affect U.S. energy policy and other U.S. interests, including financial, economic, and national security interests.

According to DOE, State, and IEA officials we interviewed between March and August 1984, there had been a marked improvement in the management of U.S. participation in the IEA from that provided during AST-4. These officials attributed much of the improvement to the serious attention given to the issue by the Secretary of Energy, to more effective use of the interagency process, and to the adoption of more realistic policies by the United States. Congressman Mike Synar, Chairman of the Subcommittee on Environment, Energy, and National Resources, House Committee on Government Operations, has asked GAO to assess the management of U.S. participation in the upcoming AST-5 test, scheduled for October-November 1985.

# CHAPTER 8

## RELATIONSHIP BETWEEN IEA AND OTHER INTERNATIONAL ARRANGEMENTS TO MEET OIL EMERGENCIES

In addition to IEA's oil emergency program, the European Economic Community (EEC) and NATO have oil crisis response arrangements. The IEA and EEC programs are designed to deal with civil oil emergency problems, whereas the NATO program is meant to meet the Alliance's collective defense and essential civilian needs in crisis or war.

The IEA and EEC programs are coordinated both informally and formally, and an interface arrangement includes specific provisions aimed at ensuring that both systems are able to work harmoniously in an oil supply crisis. The IEA and NATO programs are not formally coordinated. Although questions have been raised about this approach, U.S. officials believe it is appropriate.

All three programs are designed to meet oil emergencies, but their organizational frameworks and policies for how and when to share oil differ. The IEA, EEC, and NATO programs have different member nations, objectives, activation and distribution criteria, stockpile requirements, and degrees of industry involvement. Eight countries participate in all three organizations and another eight belong to two, as shown in table 4. The United States belongs to the IEA and NATO.[1]

[1]In addition to these multilateral commitments, the United States has an emergency oil sharing arrangement with Israel. Under this arrangement, patterned in part after the IEA agreement, the United States in essence assures Israel's access to oil through November 1994 if Israel is unable to get the oil it needs on the world market.

Table 4
IEA/NATO/EEC Members
(as of April 1985)

| IEA members | NATO members | EEC members |
|---|---|---|
| Australia | | |
| Austria | | |
| Belgium | Belgium | Belgium |
| Canada | Canada | |
| Denmark | Denmark | Denmark |
| | France[a] | France |
| Greece | Greece | Greece |
| | Iceland | |
| Ireland | | Ireland |
| Italy | Italy | Italy |
| Japan | | |
| Luxembourg | Luxembourg | Luxembourg |
| The Netherlands | The Netherlands | The Netherlands |
| New Zealand | | |
| Norway | Norway | |
| Portugal | Portugal | |
| Spain | Spain | |
| Sweden | | |
| Switzerland | | |
| Turkey | Turkey | |
| United Kingdom | United Kingdom | United Kingdom |
| United States | United States | |
| West Germany | West Germany | West Germany |

[a]Participates in NATO's civil structure.

The IEA system, which focuses largely on crude oil, provides for oil sharing based on allocation levels keyed to net oil imports, emergency reserves, demand restraint, and past consumption. The EEC assures continued "solidarity" among its members through intra-Community trade controls to prevent abnormal trade movements and through demand restraint measures which include possible allocation based on reduced consumption, first of oil and secondly of energy more generally. NATO's program, which focuses primarily on petroleum products, such as jet fuel, is geared toward meeting the Alliance's collective defense and essential civilian needs in crisis or war. It is concerned with the West's entire oil supply and distribution and, therefore, has been conceived in flexible terms to enable it to respond to prevailing conditions.

The EEC program is keyed to the IEA "trigger," which may be activated when one or more members suffer a 7-percent or greater supply shortfall. NATO's system can be activated whenever the defense needs of one or more of its members are not being met, either in a peacetime crisis or in wartime.

The IEA and EEC emergency systems redistribute oil based on allocation formulas, under which historical consumption and imports are primary determinants for receiving oil. Under NATO's oil emergency system, it is assumed that historical import and consumption patterns would be largely irrelevant, since defense and security needs would have overriding priority.

The IEA stockpile requirements stipulate 90 days of the previous year's net imports, while the EEC calls for 90 days of the previous year's consumption. NATO requirements are classified.

Oil company participation ranges from a limited role in the EEC to a narrowly focused role in NATO to an extensive role in the IEA. Only the IEA has an Industry Advisory Board that meets regularly to provide advice and assistance on emergency oil sharing and related questions.

Table 5 summarizes some of the above points and provides additional comparisons.

Table 5

## Comparison of IEA/NATO/EEC Emergency Programs

| | IEA | NATO | EEC |
|---|---|---|---|
| **Political decisions** | Governing Board | Council/Defense Planning Committee | Council/Commission |
| Political monitoring | Standing Group on Emergency Questions (SEQ) Subgroup | Senior Civil Emergency Planning Committee, NATO Oil Executive Board | Energy Committee |
| Crisis management | Allocation Coordinator, Secretariat Staff-possibly augmented | International Staff, augmented as necessary | Energy Committee Crisis Group-possibly augmented |
| **Crisis operations** | | | |
| International | Industry Supply Advisory Group (ISAG), Secretariat | Joint Operational Staff (JOS) | |
| National | National Emergency Sharing Organizations (NESOs) | National Oil Boards (NOBs) | Energy ministries, possibly IEA-NESOs |
| **Industry assistance** | | | |
| Conceptual | Industry Advisory Board | JOS Directors | Industry lobby (UNICE) |
| Operational | ISAG | JOS | |
| Company advice | Bilateral consultations with SEQ or Secretariat | | Bilateral consultations with Commission |
| **Stocks** | 90 days of previous year's net imports | Classified | 90 days of previous year's consumption |
| **Stock drawdown** | Implicitly assumed but not required, can substitute additional demand restraint | | |
| **Demand restraint** | 1. 7% at 7%-11% disruption<br>2. 10% at 12% or more disruption<br>3. coordination of increased mandatory demand restraint if draw down obligation approaches 50% of emergency reserve drawdown commitments | Classified | 1. up to 10% at 7% disruption, for 2 months<br>2. 10% for non-substitutable oil & about 10% for substitutable oil (differentiated by country), 7%-10% disruption<br>3. more than 10% for oil or total energy (differentiated by country), more than 12% disruption |
| **Import/export restrictions** | | | Possible suspension, revocation of export licenses |
| **Data sources** | | | |
| Imports/ exports, stocks, indigenous production | IEA Questionnaires A/B | NATO Oil Forecast Report, Tri-MNC Military Petroleum Stock Report | IEA Questionnaires A/B |
| Substitutable & non-substitutable energy | | | EEC statistics and member state submissions |
| **Base Period** | Four most recent quarters for which data available | | Four most recent quarters for which data available |

Source: IEA documents and comparative material provided GAO by the U.S. Mission to NATO.

## PATTERNS OF COORDINATION

The relationship between those involved in the IEA and EEC oil emergency systems is characterized by informal and formal levels of contact. On the formal level, for example, a concerted effort was made in the late 1970's to "harmonize" certain key facets of the IEA and EEC emergency plans and procedures. The outcome was a so-called interface arrangement, which includes specific provisions aimed at ensuring that both systems are able to work cooperatively in the event of an oil supply crisis. IEA and EEC officials also sometimes attend each other's meetings and participate in one another's emergency system tests; as a result, contacts between them are somewhat routine. In addition, country representatives who participate in IEA and EEC energy activities can be either the same person or be known to each other because they work in the same government office or department.

No formal coordination exists for IEA-NATO and NATO-EEC oil emergency system contacts. Contact occurs informally and virtually entirely between IEA and NATO representatives. Informal IEA-NATO contacts consist primarily of intra-governmental interaction arising out of the fact that some of the same people and/or offices are involved in both areas. Informal IEA-NATO interaction can also be inferred from the occasional movement of officials to or from the respective Secretariats. At least one example of this occurred recently when one of the two NATO civil petroleum staff officers took a position with the IEA, with the resultant vacancy being filled by a European country representative who had been working on IEA affairs for his government.

## ADEQUACY OF IEA-NATO COORDINATION

Concerns about the adequacy of informal IEA-NATO contacts were raised by oil industry advisors and government officials. Some industry representatives and government officials involved in NATO oil emergency program activities said they knew little, if anything, about the parallel IEA program. Lack of mutual familiarity could present problems if both systems were triggered.

While the possibility of simultaneous operation of the IEA and NATO systems may be remote, it cannot be altogether ruled out. Moreover, a situation could arise where close and effective coordination between the two systems might be needed, even if the NATO system had not been formally activated. For example, as a result of a major oil supply disruption and associated events, NATO countries might determine that their oil defense needs were not being fully met. They might, however, be reluctant to trigger the NATO oil sharing system and deactivate the IEA system lest the actions themselves worsen the crisis atmosphere. They

might prefer to have the IEA system continue to operate, with each IEA member country informally deciding what part, if any, of its resulting supply could be allocated to other NATO members with critical needs. In this kind of situation, NATO's ability to act effectively could depend significantly upon how well its staff understood the IEA system and how effectively NATO and IEA personnel could coordinate information and analyses with one another.

U.S. officials and others recognize that, if the IEA and NATO oil sharing systems were activated to deal with the same disruption, a number of difficulties could arise; they note, for example, that operational problems could occur during any transition from one system to the other. The potential for confusion and problems in this regard can be seen in the likelihood that non-NATO European countries, such as Sweden and Switzerland, would probably raise strong objections to having IEA's oil emergency program superseded by NATO's. Depending on whose security interests were threatened, IEA Far East members, such as Japan, Australia, and New Zealand, might also object.

Measures which could be considered for improving coordination are

--development of briefing materials for common use among emergency system personnel;

--expanded personnel contacts, inter- and intra-governmentally and between staff of the two Secretariats;

--increased efforts to harmonize emergency data bases and computation systems; and

--common testing and/or participation in one another's exercises or tests.

For a number of reasons, some DOE officials believe that the current informal coordination between the IEA and NATO oil emergency programs is appropriate. They assert that it is extremely unlikely that both programs would be activated simultaneously. They maintain that adequate international coordination prior to any decision to activate a particular program would take place because most of the countries involved belong to at least two, if not all three, organizations. These officials further expect that the ESS would be deactivated at the point of the NATO system's activation. The Secretary of Energy recently reaffirmed this view by stating that the NATO system would likely "supersede" IEA's if the latter had been made operational and NATO's military needs were not being met.

DOE officials also commented that the relevant member governments are represented either by the same person at each organization or by people who work with or near each other within the DOE's own organizational structure and that same offices are responsible for U.S. interface with all three international organizations.

Finally, the Assistant Secretary of State for Economic and Business Affairs has said that the design of the NATO system is aimed at maintaining maximum flexibility and compatibility with the IEA system so that the option of melding the two programs together in some way is retained. The Secretary of Energy has expressed the view that if necessary a transition from IEA to NATO oil sharing could be accomplished on the basis of common peacetime data reporting systems now being developed and through existing informal channels of communication between their respective international staffs.

## LIST OF GAO REPORTS ON THE INTERNATIONAL ENERGY AGENCY

--Survey of Oil Company Views on Fair Sharing in an International Oil Supply Disruption (GAO/NSIAD-85-45) Feb. 5, 1985.

--Relationship Between IEA, NATO, and EEC Arrangements to Meet Oil Emergencies (Confidential) (GAO/C-NSIAD-84-9) Nov. 15, 1983.

--Assessment of U.S. Participation in the International Energy Agency's Fourth Test of Its Emergency Sharing Allocation System (GAO/NSIAD-84-4) Oct. 13, 1983.

--Oil Supply Disruptions: Their Price and Economic Effects (GAO/RCED-83-135) May 20, 1983.

--Information on the Operation of the International Energy Agency's Coal Industry Advisory Board (GAO/ID-83-44) Apr. 21, 1983.

--Analysis of Department of Justice Memorandum Concerning President's Statutory Authorities in Oil Crises (GAO/OGC-83-6) Mar. 4, 1983.

--Analysis of the Comprehensive Energy Emergency Response Procedures Report (GAO/RCED-83-106) Feb. 17, 1983.

--Determination of Oil Price in the International Emergency Sharing System--An Unresolved Issue (GAO/ID-83-15) Nov. 12, 1982.

--The Changing Structure of the International Oil Market (GAO/ID-82-11) Aug. 11, 1982.

--Demand Restraint and Fair-Sharing Under the International Energy Program (B-206525) April 6, 1982.

--The United States Remains Unprepared for Oil Import Disruptions (two volumes) (EMD-81-117) Sept. 29, 1981.

--Unresolved Issues Remain Concerning U.S. Participation in the International Energy Agency (ID-81-38) Sept. 8, 1981.

--Analysis of the Energy and Economic Effects of the Iranian Oil Shortfall (EMD-79-38) Mar. 5, 1979.

--U.S. Energy Conservation Could Benefit From Experiences of Other Countries (ID-78-4) Jan. 10, 1978.

--U.S. Oil Companies' Involvement in the International Energy Program (HRD-77-154) Oct. 21, 1977.

--Issues Related to Foreign Sources of Oil for the United States (B-179411) Jan. 23, 1974.

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