

Originally Processed With FOIA(s):  
1998-0004-F[1]

FOIA Number:  
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# FOIA MARKER

**This is not a textual record. This is used as an  
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Library Staff.**

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|                                     |                                       |
|-------------------------------------|---------------------------------------|
| <b>Record Group/Collection:</b>     | George H.W. Bush Presidential Records |
| <b>Collection/Office of Origin:</b> | Chief of Staff, White House Office of |
| <b>Series:</b>                      | Sununu, John, Files                   |
| <b>Subseries:</b>                   | Cabinet Agencies Files                |

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|                          |           |
|--------------------------|-----------|
| <b>OA/ID Number:</b>     | 29191     |
| <b>Folder ID Number:</b> | 29191-003 |

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**Folder Title:**  
Watkins (Energy) (1990) [2]

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|               |             |                 |               |                  |
|---------------|-------------|-----------------|---------------|------------------|
| <b>Stack:</b> | <b>Row:</b> | <b>Section:</b> | <b>Shelf:</b> | <b>Position:</b> |
| <b>G</b>      | <b>15</b>   | <b>25</b>       | <b>7</b>      | <b>1</b>         |

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# Withdrawal/Redaction Sheet

## (George Bush Library)

| Doc. No. / Type                    | Subject/Title                                                                                                           | Date               | Restriction       | Classification |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------|----------------|
| 01. Memo                           | From James Watkins to John Sununu<br>Re: Newspaper Stories on Gasoline Exports (2 pp.)                                  | 9/14/90            | P-5               |                |
| <del>02a. Memo</del>               | <del>From James Watkins to John Sununu, Brent Scowcroft<br/>Re: SPR Drawdown (3 pp.)</del>                              | <del>9/14/90</del> | <del>(b)(1)</del> | <del>C</del>   |
| <del>02b. Chart</del>              | <del>Attachment 1<br/>Re: Net Worldwide Petroleum Supply Loss: 1990-1991 (1 pp.)</del>                                  | <del>n.d.</del>    | <del>(b)(1)</del> |                |
| <del>02c. Table</del>              | <del>Attachment 2<br/>Re: IEA Strategic Stocks on Hand as of July 1, 1990 (1 pp.)</del>                                 | <del>n.d.</del>    | <del>(b)(1)</del> |                |
| <del>02d. Draft Proclamation</del> | <del>Attachment 3<br/>Re: Draft proclamation by President Bush on Strategic Petroleum Reserve (2 pp.)</del>             | <del>n.d.</del>    | <del>(b)(1)</del> |                |
| 03. Memo                           | From Ede Holiday to John Sununu<br>Re: Alyeska Pipeline Enforcement Action (1 pp.)                                      | 7/20/90            | P-5               |                |
| 04. Memo                           | From Henson Moore to John Sununu<br>Re: Department of Energy's Weekly Assessment of Petroleum Market Conditions (5 pp.) | 8/23/90            | P-5               |                |
| 05. Report                         | Analysis of S. 324 Substitute (11 pp.)                                                                                  | n.d.               | P-5               |                |

Page 1 of 2

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**Record Group:** Bush Presidential Records  
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**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

**Pinksheet Number:** KO0711  
**OA/ID Number:** 29191-003  
**Date Closed:** 12/14/2004  
**FOIA/Sys Case #:** 1998-0004-F[1]  
**Re-review Case #:** 2005-0426-S  
**P-2/P-5 Review Case #:**



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|-----------------|---------------------------------------------------------------------------------------------------------------------|---------|-------------|----------------|
| 06. Memo        | From James Watkins to John Sununu<br>Re: Class Action Lawsuits Against Management and Operating Contractors (2 pp.) | 6/18/90 | P-5         |                |
| 07. Letter      | From James Watkins to John Sununu<br>Re: Math and Science Education (2 pp.)                                         | 5/25/90 | P-5         |                |
| 08. Outline     | Meeting w/Governor Sununu on National Energy Strategy (5 pp.)                                                       | 6/8/90  | P-5         |                |
| 09. Memo        | From James Watkins to John Sununu<br>Re: Monitoring of Global Temperature Trends from Satellites (2 pp.)            | 4/13/90 | P-5         |                |
| 10. Memo        | From James Watkins to John Sununu<br>Re: Johnston-Wirth-McClure Global Warming Bill (1 pp.)                         | 5/1/90  | P-5         |                |
| 11. Memo        | From David Bates to John Sununu<br>Re: National Energy Strategy (1 pp.)                                             | 3/22/90 | P-5         |                |
| 12a. Memo       | From Olin Wethington to Economic Policy Council<br>Re: EPC Meeting, Wednesday, September 5, 1990 (1 pp.)            | 9/4/90  | P-5         |                |
| 12b. Paper      | DoE Discussion Paper for EPC meeting (26 pp.)                                                                       | n.d.    | P-5         |                |
| 13. Note        | John Sununu's notes<br>Re: DoE Discussion Paper (1 pp.)                                                             | n.d.    | P-5         |                |

Page 2 of 2

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**Open on Expiration of PRA  
(Document Follows)  
By JP (NLGB) on 5/12/05**

|                                        |                                |
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| <b>Date Closed:</b> 12/14/2004         | <b>OA/ID Number:</b> 29191-003 |
| <b>FOIA/SYS Case #:</b> 1998-0004-F[1] | <b>Appeal Case #:</b>          |
| <b>Re-review Case #:</b> 2005-0426-S   | <b>Appeal Disposition:</b>     |
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| <b>AR Case #:</b>                      | <b>MR Case #:</b>              |
| <b>AR Disposition:</b>                 | <b>MR Disposition:</b>         |
| <b>AR Disposition Date:</b>            | <b>MR Disposition Date:</b>    |

### RESTRICTION CODES

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**The Secretary of Energy**

Washington, DC 20585

AC/ER

September 14, 1990

THE CHIEF of STAFF  
has seen

8  
MEMORANDUM FOR THE HONORABLE JOHN SUNUNU  
CHIEF OF STAFF TO THE PRESIDENT  
THE WHITE HOUSE

SUBJECT: Newspaper Stories on Gasoline Exports

John:

We have learned that the Wall Street Journal and the Oil Marketing Bulletin will be publishing stories on Monday that the U.S. has exported approximately seven million barrels of gasoline (mostly premium grade) since the Iraqi invasion.

The significance of these articles are that:

- o they are likely to lead to calls for export restrictions in Congress; and
- o they may lead to criticism of Administration statements on price restraint as having caused the price differential which give rise to the exports.

In addition, critics may compare the amount of exports against gasoline stocks which are below normal at 7.7 million barrels over Minimum Operating Inventories as of September 7. The argument may be made that these exported barrels would have brought U.S. stock levels within the normal range.

BACKGROUND

The spread between the spot price of premium gasoline in Rotterdam and unleaded regular in New York was negligible until mid-July. After the invasion, it increased sharply, to 16 cents per gallon by September 7. The rule of thumb is that it takes 5-7 cents to move product from New York to Rotterdam (and vice versa); the Gulf Coast would add perhaps 3-4 cents.

Most of the current exports are premium gasoline. While Rotterdam may be the most likely market, some are making their way to the Far East, where they are blended with naphtha to make regular gasoline.



The current movement of light product out of the country is a function of market incentives. Current downstream margins for gasoline are "tight," while wholesale (spot) prices remain high. The incentive for the refiner is to sell on the spot market. The trader, in turn, looks for the highest return, and today, the money is in exports.

RESPONSE

We would propose the following response:

- o As long as price and allocation controls are not imposed, we would expect that this is a short term situation and that the market will adjust.
- o During 1989, the U.S. imported an average of 369 thousand barrels of gasoline per month (about 5% of its consumption) and is therefore a significant beneficiary of the free flow of international trade.

  
James D. Watkins  
Admiral, U.S. Navy (Retired)





The Secretary of Energy  
Washington, DC 20585

September 14, 1990

THE CHIEF of STAFF  
has seen

~~CONFIDENTIAL~~ -- "EYES ONLY"

MEMORANDUM FOR THE HONORABLE JOHN H. SUNUNU  
CHIEF OF STAFF TO THE PRESIDENT

THE HONORABLE BRENT SCOWCROFT  
ASSISTANT TO THE PRESIDENT FOR  
NATIONAL SECURITY AFFAIRS

SUBJECT: SPR DRAWDOWN

John!

1. The purpose of this memorandum is to ask you to schedule an NSC meeting early next week for me to present my case for executing an integrated strategic oil stock drawdown in concert with our allies. I have concluded that a coordinated announcement should be made as soon as possible to allow delivery of SPR oil early in October (a minimum of 16 days is required from Presidential finding to oil delivery from the SPR).
2. In previous NSC and follow-on discussions with the President, I pointed out the fragility and potential volatility of the oil supply/demand situation we now expect in the fourth quarter of calendar year 1990. Attachment 1 was shown to the President on 30 August and depicts the ripple effect of the sudden, early-August 4.3 MMBD oil loss from the world-wide marketplace. This depiction takes into account all promised new production supply as well as price-induced demand reductions. On the other hand, effectiveness of international oil-conserving measures are not included and could help reduce amplitudes of net-loss standpipes shown; but just how much remains unquantifiable at this juncture.
3. While pre-conflict world-wide stocks were fortunately inflated above norms, they will no longer be so in October. Based on recent EIA projections, stocks of crude oil will be below normal by the end of October.

DECLASSIFIED  
PER E.O. 12958,  
AS AMENDED  
2005-0954-MR  
SCS 8/5/08

4. A thorough review of the SPR drawdown concept and process has been provided to you previously. I would propose modifying the earlier proposal and presenting the following implementing strategy for discussion and decision by the NSC:
  - a. Seek agreements from Japan's Prime Minister and Germany's Chancellor to commit to draw down our three strategic reserves by a total of one million barrels per day for three months commencing in early October. As you can see from Attachment 2, the combined government-owned or controlled stocks of the United States, Japan, and Germany amount to 96% of the IEA total.
  - b. Commit the United States to draw down at a rate not to exceed 500,000 B/D and ask Japan and Germany to come to a mutual agreement as to a fair split between them for the remaining amount.
  - c. Prior to a coordinated three-nation announcement, inform other IEA nations of our intentions and seek their support. Simultaneously, ask the Executive Director of the IEA to call for a ministerial meeting of the IEA in Paris to seek both unanimous support for our actions and contributions by other SPR holders as feasible.
  - d. Ask IEA to reassess the world-wide supply and demand situation during the fourth quarter and recommend changes to drawdown rates or termination as the situation clarifies and results of enhanced production and conservation measures can be seen and measured.
5. The draft proclamation at Attachment 3 is the Presidential finding document which the law demands under EPCA to be made.
6. In conclusion, I no longer see any significant "downsides" to what I am proposing. Rather, I believe the "upsides" are compelling as the following pros and cons suggest:

Pros

- o Additional crude into market at exact time and duration of shortage hitting the world market (Oct.-Dec.).
- o Supports other efforts to reduce supply shortfall and comes after OPEC agreement to produce to capacity (Saudi Arabia, UAE, Venezuela, United States and others). Therefore, an SPR draw is no longer a deterrent to enhanced OPEC production.



- o Will influence holders of commercial inventories to use stocks by providing assurance that additional supplies are forthcoming.
- o Will reduce likelihood of Congressional mischief (e.g. price controls, windfall profits tax).
- o Will not appreciably reduce SPR stockpile (less than 8% United States, 11% Japan and Germany together).
- o Action to prevent a probable shortage, higher prices and adverse political reaction just before elections.
- o Will have favorable effect on markets and reduce economic damage of oil price increase.

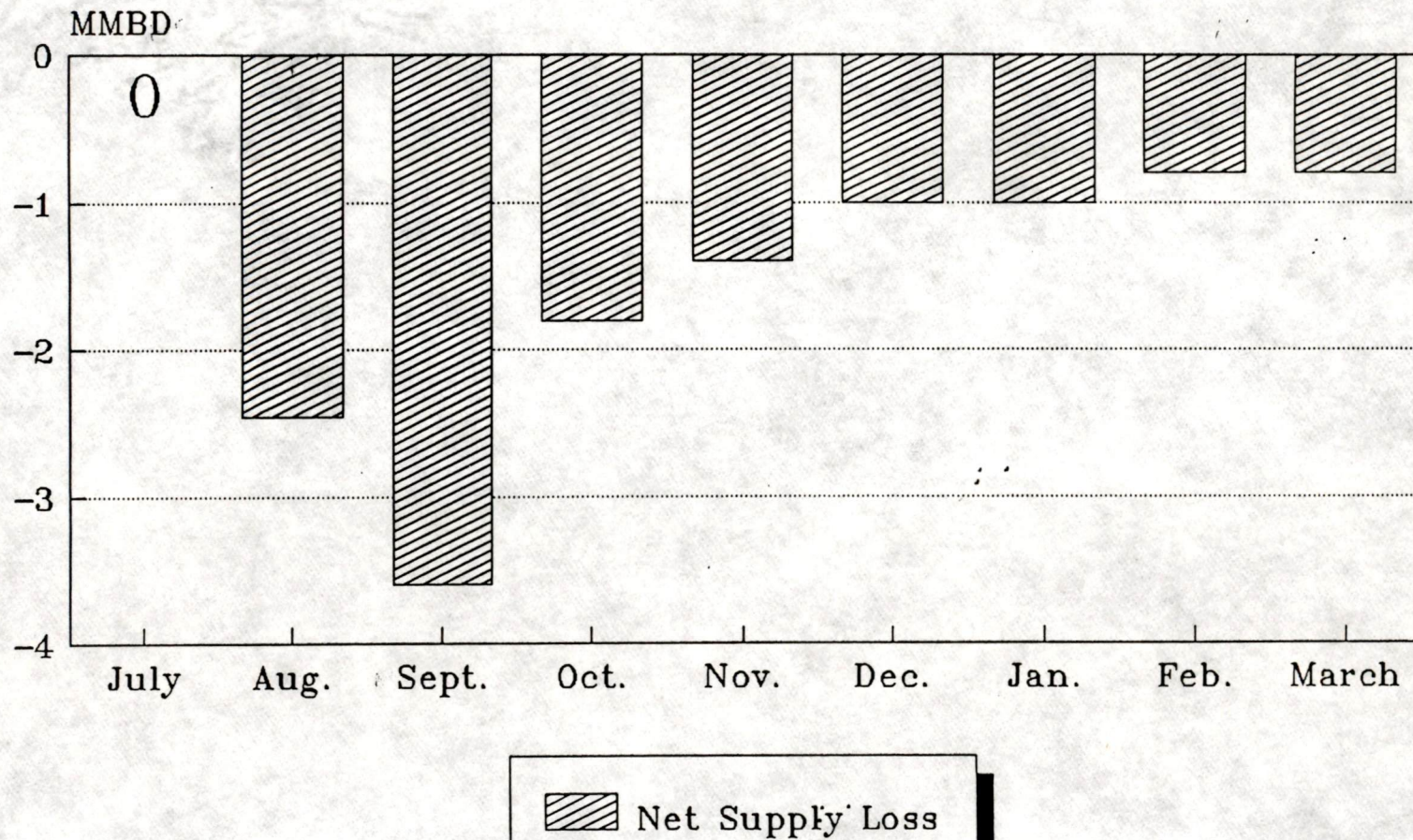
Cons

- o Uses a portion of the stockpile, as a result there will be moderately less oil available if the situation gets worse.
  - o Drawdown might not operate smoothly.
  - o May pay a price higher than selling price to replace oil drawdown.
  - o Resulting lower price will lessen the drive towards conservation and production.
  - o Could give impression that crisis is expected.
  - o Some would say it interferes with the market to affect prices.
7. I personally hold the only copy of this document. Only the following principals in my office are aware of its contents: Henson Moore, John Tuck, John Easton, Polly Gault and Linda Stuntz -- no others.
8. To this point, we have religiously supported the "not yet" approach to SPR drawdown. But now we feel it's time to move. Please let me present my case to the NSC.

  
James D. Watkins  
Admiral, U.S. Navy (Retired)



# Net Worldwide Petroleum Supply Loss\*: 1990-1991



\*Average Monthly Loss



IEA STRATEGIC STOCKS ON HAND  
AS OF JULY 1, 1990\*  
(Millions of Barrels)

|                |      |
|----------------|------|
| Australia      | 0    |
| Austria        | 2    |
| Belgium        | 0    |
| Canada         | 0    |
| Denmark        | 13   |
| Germany        | 189  |
| Greece         | 0    |
| Ireland        | 0    |
| Italy          | 6    |
| Japan          | 206  |
| Luxembourg     | 0    |
| Netherlands    | 17   |
| New Zealand    | 0    |
| Norway         | 0    |
| Portugal       | 0    |
| Spain          | 0    |
| Sweden         | 1    |
| Switzerland    | 0    |
| Turkey         | 0    |
| United Kingdom | 0    |
| United States  | 580  |
| IEA Total      | 1014 |
| France**       | 0    |

\* Preliminary Data

\*\* Not an IEA Member



Proclamation \_\_\_\_\_ of \_\_\_\_\_, 1990

By the President of the United States of America

A Proclamation

The Secretary of Energy has advised me that the recent events in the Persian Gulf have resulted in a national energy supply shortage constituting a severe energy supply interruption as defined in Section 3(8) of the Energy Policy and Conservation Act (42 U.S.C. 6202(8)). On the basis of the Secretary's advice, and other information available to me, I hereby find and determine, in accordance with Sections 161 and 3(8) of the Energy Policy and Conservation Act (42 U.S.C. 6241, 6202(8)), the existence of a national energy supply shortage constituting a severe energy supply interruption, which:

- (A) is of significant scope and duration and of an emergency nature;
- (B) may cause major adverse impact on national safety or the national economy; and
- (C) has resulted from an interruption in the supply of imported petroleum products.

I further find that implementation of the Distribution Plan contained in the Strategic Petroleum Reserve Plan is required by the severe energy supply interruption, and in the interest of the national defense. This Plan was transmitted by President Reagan to the Congress and took effect on December 1, 1982.

NOW, THEREFORE, I GEORGE BUSH, President of the United States of America, by the authority vested in me by the Constitution and laws of the United States, including Section 161 of the Energy Policy and Conservation Act (42 U.S.C. 6241), do hereby proclaim that:

Section 1. A severe energy supply interruption, as defined in Section 3(8) of the Energy Policy and Conservation Act (42 U.S.C. 6202(8)), currently exists with respect to the supply of imported crude oil and petroleum products.

Sec. 2. The Secretary of Energy is authorized to draw down and distribute the Strategic Petroleum Reserve, at such rate as he may determine, in accordance with the Distribution Plan contained in the Strategic Petroleum Reserve Plan which is in effect, or any amendment thereto which may take effect.



IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_\_ day of \_\_\_\_\_, in the year of our Lord nineteen hundred and ninety, and of the Independence of the United States of America the two hundred and fifteenth.

# Withdrawal/Redaction Sheet

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| Document No.<br>and Type | Subject/Title of Document                                                          | Date    | Restriction    | Class. |
|--------------------------|------------------------------------------------------------------------------------|---------|----------------|--------|
| 03. Memo                 | From Ede Holiday to John Sununu<br>Re: Alyeska Pipeline Enforcement Action (1 pp.) | 7/20/90 | <del>P-5</del> |        |

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 (Document Follows)  
 By JH (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
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THE WHITE HOUSE

WASHINGTON

July 20, 1990

*file*  
THE CHIEF of STAFF  
has seen 7/30/90

MEMORANDUM FOR GOVERNOR SUNUNU

FROM:

EDE HOLIDAY *EH*

SUBJECT:

Alyeska Pipeline Enforcement Action

The Alyeska Pipeline Service Company (run by a consortium of seven oil companies that operate on Alaska's North Slope) owns and operates the Trans Alaska Pipeline, which transmits crude oil from Prudhoe Bay to the Valdez marine terminal. Each pump station along the pipeline and the Valdez terminal is a major source of air pollution. Alyeska is in violation of the Clean Air Act and the Alaska State Implementation Plan, because it has made numerous constructed modifications to the pipeline without first obtaining permits from the Environmental Protection Agency and the State of Alaska.

EPA issued a "notice of violation" to Alyeska on June 19, 1990. The State of Alaska has chief responsibility to negotiate with Alyeska and has required the company to obtain necessary permits. In response, Alyeska yesterday threatened to shut down the pipeline and, as Secretary Watkins reported to you, actually began to reduce the amount of crude in the pipeline. (We are told that the pipeline was already scheduled for a shutdown or a significant flow reduction for routine maintenance; thus Alyeska's threat was really to extend a planned reduction or stoppage).

Alyeska last night obtained a temporary restraining order for a one-week cooling-off period. Alaska, EPA and the pipeline company welcomed this action. In fact all parties were already closing in on an agreement yesterday before the court acted. There is a long history on this issue, and Alyeska had apparently already agreed to or actually implemented various actions required by Alaska.

EPA reports this afternoon that negotiations have proceeded well. The parties have agreed to appropriate permit language. Alyeska is now seeking reassurances from EPA regarding their liability, and EPA expects that issue also to be resolved satisfactorily.

Bottom line: the problem seems to be resolved. Previous levels of oil flow have been resumed. Secretaries Watkins and Lujan have been following this issue and are fully aware of today's progress.

**THE WHITE HOUSE  
WASHINGTON**

**DATE:** July 20, 1990

**TO:** EDE HOLIDAY

**FROM:** **GOVERNOR JOHN H. SUNUNU**

Will you give me a one page  
synopsis on the attached?





**The Secretary of Energy**  
Washington, DC 20585

July 19, 1990

THE CHIEF of STAFF  
has seen

MEMORANDUM FOR THE HONORABLE JOHN H. SUNUNU  
CHIEF OF STAFF TO THE PRESIDENT

SUBJECT: RESTORATION OF SERVICE OF THE TRANS-ALASKA  
PIPELINE SYSTEM (TAPS)

At 2:00 p.m. EDT, today, the Alyeska Pipeline Service Company, operator of the Trans-Alaska Pipeline System (TAPS), initiated action to shut down TAPS. This action would have resulted in the loss of approximately 1.5 million barrels per day (MMBD) of Alaskan North Slope (ANS) crude oil at current throughput.

As of 7:00 p.m. EDT, Alyeska had reversed its action and anticipates resumption of full production and transportation operations by 6:00 a.m. EDT tomorrow. Alyeska took this action to restore operations after receiving a temporary restraining order which suspended the running of EPA's Notice of Violation.

The next court hearing is July 27 in the U.S. District Court for Alaska. I will be monitoring the situation closely and will advise you of any further changes in the situation.

  
James D. Watkins  
Admiral, U.S. Navy (Retired)

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AC/ER

## Department of Energy

Washington, DC 20585

August 23, 1990

THE CHIEF of STAFF  
has seen AUG 25 1990

MEMORANDUM FOR The Honorable John H. Sununu  
Chief of Staff  
The White House

SUBJECT: Department of Energy's Weekly Assessment of  
Petroleum Market Conditions

The following is a brief assessment of the U.S. petroleum supply and demand situation based on the most current available data (unless otherwise noted, data is for the week ending August 17, 1990).

### Summary Conclusions

- o Current world supply loss is estimated at 4.3 million barrels per day (MMBD). Crude oil spot prices have hovered in the \$28 per barrel range for the past week on the expectation that excess production capacity will be brought on line, but jumped to over \$31 per barrel on August 22. Upward pressure on prices can be expected if these supplies are not forthcoming.
- o Spot gasoline and heating oil wholesale prices each rose 18 cents per gallon and jet fuel increased 23 cents per gallon over the past week. Retail gasoline prices rose only 4 cents to \$121.6 per gallon over the same time period. Further increases at the retail level are likely for gasoline and heating oil in the near term.
- o Supply data for the week ending August 17 were mostly favorable with increases in imports and crude oil, gasoline and distillate stocks:

Gasoline - After a surge in demand the prior week due to expected price increases, demand declined about 1.5 MMBD this past week and stocks increased over 3 million barrels. Supplies are expected to be adequate through mid-September in the absence of excessive panic buying or hoarding.



Distillate - Attention will increasingly focus on the adequacy of winter heating fuels. Stocks are now 8 percent above last year. The rise in heating fuel demand will coincide with the expected loss of crude oil imports due to the supply loss and industry will have to compete mainly with the European market for distillate imports.

Jet Fuel - Stocks are still above normal but continue to decline due to military demand.

- o Imports of crude oil are expected to decline in September as the U.S. shares the loss of world supplies. An accelerated drawdown of commercial stocks will be required to meet demand in the latter part of September (even if excess production capacity is brought on line now).

### Situation Overview

The current loss of supply to the world market is on the order of 4.3 MMBD. In addition the Department of Defense (DOD) estimates that to meet its mobilization requirements, it will require incremental supplies of 0.3 MMBD.

Markets are continuing to react as if a supply shortage has occurred even though there has been no noticeable reduction thus far in physical deliveries to the U.S. The market is being supplied by crude oil in transit at the time of the embargo, and by drawdown of inventory stocks. (Note transit time from the Persian Gulf to the U.S. is 4 to 6 weeks).

Price levels currently reflect expectations that some excess production will be brought on line to reduce the size of the shortfall. While an estimated 4 MMBD of excess production capacity exist worldwide only Saudi Arabia has stated that it is prepared to bring on line its 2.0 MMBD of excess production capacity.

The fact the Saudi Arabia has not actually announced when additional supplies will become available, and that other countries with excess capacity have not announced intentions to increase production, is creating uncertainty in the market. Over the past three weeks some 80 million barrels (MMB) have been lost from the market. The volume increases daily. U.S. companies must compete for the remaining supplies in the world market. It is likely that the U.S. will need to absorb a share of this loss and accept reduced imports during the September timeframe. Even if excess production capacity were brought on line immediately, a gap in deliveries will occur. U.S. commercial crude oil stocks in excess of normal levels are about 30 days equivalent of the expected loss in imports (assuming the U.S. loses to be about one-third of the current 4.3 MMBD supply loss). Industry might use these stocks to fill the gap in imports, if it presumes availability of future supplies. During past supply



interruptions, stocks were held and even built-up in the face of uncertainty about future supplies and rising prices.

Further delays in bringing excess production on line will exacerbate market uncertainty and result in upward pressure on prices. An accelerated drawdown of commercial stocks will be required to meet demand in the latter part of September (even if excess production capacity is brought on line now).

#### U.S. Demand for Petroleum

The U.S. consumed slightly over 17 MMBD per day of petroleum in the first seven months of this year. Petroleum demand is highest in the fourth quarter of the year as a result of winter heating requirements. Preliminary fourth quarter 1990 demand estimates are 17.2 MMBD assuming a world oil price of \$25 per barrel and normal weather patterns. These estimates are approximately one-half million barrels per day below those expected prior to the embargo of Iraqi/Kuwaiti crude oil. The reductions in demand estimates reflect a combination of price induced conservation, fuel switching, and lower economic growth associated with the higher prices. Weather can significantly affect demand, as demonstrated by the cold winter of 1989/90 when an unexpected increase of over 400 thousand barrels per day (MBD) had to be accommodated.

#### Crude Oil

Crude oil stocks increased slightly to a level of 379.5 MMB. This stock level is about 42 MMB, or 12.5 percent, above the level one year ago. It is also about 80 MMB above the minimum operating inventory level. Crude oil input to refineries during the week ending August 17, 1990, was down about 250 MBD from the previous week within the range of normal fluctuations. Crude oil imports were up by about 1.2 MMBD over last weeks level.

#### Motor Gasoline

U.S. refinery utilization is at 91.7 percent, and over the last few weeks has been among the highest observed since the early 1970's. This high level of capacity utilization cannot be sustained indefinitely. During the second week of August, motor gasoline demand, as measured by product supplied, reached 8.6 MMBD, suggesting that consumers topped off their auto tanks and that secondary stock holders increased their inventories in anticipation of increasing prices. This week, demand fell to 7.1 MMBD. However, the average for the last 4-week period was 7.7 MMBD. It is expected that consumer demand will decline with the end of the summer driving season and in response to higher prices.

Total motor gasoline stocks increased by 3.1 million barrels during the week and are now about 11.8 million barrels above minimum operating inventory, and 8 million barrels below stock



levels of the same period last year. Our data suggest that refiners are keeping the market supplied by increasing imports and drawing down their inventory in certain regions. While we expect supplies to be adequate through mid-September, future market conditions will depend on supplier and consumer behavior and on a smoothly operating refinery system.

#### Other Refined Products

Nationwide distillate fuel stocks are 8.0 percent higher than they were at the same time last year, and continued to increase in PADD I (East Coast). However, a draw on primary inventories may occur in the near future if supplies tighten and prices continue to increase. Refineries will increasingly turn their attention to production of distillate to meet winter fuel demand. Winter fuel demand requirements will coincide with post-September concerns about availability of crude supplies. In addition, the U.S. usually imports 300,000 to 400,000 B/D of distillate between September and April, and will need to compete for these fuels mainly with the European market.

#### Kerosine-type Jet Fuel

Stocks of kerosine-type jet fuel decreased by 0.9 million barrels during the week ending August 17, 1990, to 43.3 million barrels, a level which is still 4 percent higher than the level one year ago. Kerosine-type jet fuel supplied during the week increased slightly, while a small increase in production was offset by a slightly larger decrease in imports. DOD advises that it plans to procure one million barrels of jet fuel for September delivery at U.S. locations. No problems in the primary distribution system are apparent at this time, but continued surveillance is warranted because of increased military demand.

#### Crude and Product Prices (Spot Market)

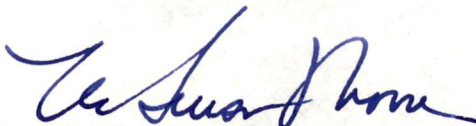
Between August 1 and August 21, crude prices increased by 31.8 percent to \$28.46 per barrel, declining slightly from the Friday, August 17 level of \$28.65. However, spot crude prices jumped sharply upward by about \$3.00 per barrel on Wednesday, August 22 to \$31.52 on increasing fears of a Middle East war and supply shortages. Wholesale gasoline prices rose 28.7 percent to \$0.87 per gallon from August 1 through August 13, followed by an additional 18.7 percent or \$0.16 to reach \$1.03 on August 21. Like crude oil, spot gasoline prices jumped upward on August 22 to \$1.06 per gallon. Price increases since August 13 have been attributed to increasing tensions in the Middle East, particularly growing concern over military confrontation and uncertainty over additional OPEC production, as well as tightening gasoline markets. With refineries operating at high utilization rates and stocks dropping, gasoline suppliers turned heavily toward cash markets and prices rose sharply. Retail prices rose by 13 percent from August 1 through August 22 to reach \$1.22 per gallon. The retail price roll-backs or freezes



announced by industry the week of August 6 are probably not sustainable, particularly in light of the \$0.19 increase in wholesale prices since August 13.

Department of Energy Response Measures

The Department of Energy is moving ahead with implementation of the immediate supply and demand measures announced last week, and is working with other agencies to develop a series of additional near-term measures that can be undertaken by the Administration to further increase domestic oil production and reduce consumption. These second phase measures will be presented for consideration to the Economic Policy Council by early September.



W. Henson Moore  
Deputy Secretary

# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document              | Date | Restriction   | Class. |
|--------------------------|----------------------------------------|------|---------------|--------|
| 05. Report               | Analysis of S. 324 Substitute (11 pp.) | n.d. | <del>P5</del> |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
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Open on Expiration of PRA  
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 By   JF   (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

### RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]  
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]  
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]  
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]  
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]  
 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]  
 (b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]  
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 (b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]  
 (b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]  
 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]  
 (b)(9) Release would disclose geological or geophysical information



## ANALYSIS OF S.324 SUBSTITUTE

The National Energy Policy Act of 1990 (S. 324) has four titles.

Title I - Energy Policy Initiatives. This title is the most important because it would have significant impacts on the U.S. economy and society. The overall effect of this title would be to have the U.S. unilaterally stabilize carbon dioxide and other greenhouse gases through central planning by DOE using energy targets and action plans. The major provisions in Title I would:

1. Require that DOE investigate a goal of a 20 percent U.S. reduction in carbon dioxide by 2005 (Sec. 5(3)).
2. Establish as national energy policy a goal to unilaterally stabilize and reduce U.S. CO2 and other greenhouse gases (Sec. 5(3)b).
3. Set a target goal for the U.S. to "establish" by 1992 an international global change agreement (Sec. 5(d)).
4. Require DOE to set Federal energy priorities in a National Energy Plan (and annual strategy updates) which would achieve the stabilization and reduction goals. (Subtitle A, Sec. 101(b)).
5. Require DOE's annual "energy strategy" to include targets for energy production, imports and consumption (Subtitle A, Sec. 101(c)(3)) and 2-year action programs for meeting targets (Sec. 101(c)(4)).
6. Instructs the President to implement "action programs" after they are submitted to Congress (Sec. 101(c)(d)).
7. Establishes a Director of Climate Protection in DOE (Sec. 111) and a Federal Energy-Environmental coordinating Council (Sec. 131) to prepare research plans, advise the President etc.

### DOE's Markup

DOE's proposed changes would:

- o Not eliminate or neutralize the goal of assessing a 20 percent CO2 reduction,
- o Leave intact the CO2 and greenhouse gas stabilization goal.
- o Require the National Energy Plan be developed with public input, emphasize market forces and use "fuel cycle costs" and "environmental externalities" in developing the Plan.

- o Eliminate the Bill's requirement to use energy targets and "action program" in the annual national energy strategy update and President's required implementation of the action program.

#### Additional Concerns About Title I of S. 324

##### The Bill:

- o Reverses current U.S. policy by requiring unilateral stabilization of U.S. greenhouse gases. Aside from undercutting current U.S. international policy, unilateral stabilization would be ineffective (assuming there is a global change problem) and harmful to U.S. economic interests because U.S. firms would incur higher costs or be forced to move plants and jobs abroad.

- o Undercuts U.S. bargaining power in international framework negotiations.

- o Requires DOE central planning of U.S. energy use.

- o Legislates energy policy thereby eliminating Secretary of Energy's and the President's flexibility under the current process to develop and implement a market-based energy policy.



Title II Energy Efficiency Initiatives. This title emphasizes and expands the Federal Government's role in increasing energy efficiency. It has two subtitles.

Subtitle A -- Energy Efficiency

1. Section 202 of the bill establishes a new DOE research program for energy intensive industries (which are undefined).
2. Section 203 amends existing Federal energy conservation programs mostly within DOE. This section:
  - o Amends the Federal Energy Management Program (FEMP) extending the programs's focus from energy conservation to renewable energy sources and "alternative clean energy sources".
  - o Substitutes for the statutory requirement that Federal agencies reduce energy consumption by at least 10% by 1995 (over 1985) a requirement that each agency, to the maximum extent practicable, install by the year 2000, the energy conservation, renewable, and alternative clean energy measures with paybacks of less than 10 years. Penalties for Federal agencies unable to meet the goal are provided. Penalties include forbidding agencies from spending money in States where goals have not been met. Penalties may be waived by Secretary of Energy.
  - o Seeks to promote shared energy savings contracts by specifying how agencies are to select qualified contractors. The bill requires all agencies to "endeavor" to have three shared savings contracts in 1991 and six in 1992.
3. Section 204. Repeals prohibitions on supply and installation of residential energy conservation measures by utilities.
4. Section 205. Requires that DOE promulgate guidelines for State regulations that would enable States to assign an energy efficiency rating to residential buildings. The DOE is also required to provide technical assistance and managerial support to the States in adopting such ratings or building codes.
5. The other sections of Title II require Federal test procedures and FTC labeling for windows (Section 206), authorize DOE collection of new data on energy efficiency and use (Section 207) and require study of the feasibility and effectiveness of requiring Federal agencies to use compact fluorescent lamps (Section 208).

#### DOE Mark-up - Subtitle A

DOE's mark-up improves Title II by eliminating required targets and energy efficiency planning reports to Congress and by reducing the required conservation investment threshold Federal agencies would have to achieve. DOE's changes also delete detailed shared energy savings contractor qualifications and substitute a requirement that EPA, GSA, DOD, and DOE will achieve use of shared savings contracts in a cost-effective manner. DOE's changes, however, would also require all government owned and leased space constructed after 1994 to meet Federal building standards for energy efficiency.

Subtitle B -- Amendments to the Public Utility Regulatory Policies Act of 1978 (PURPA). This subtitle would amend PURPA to require State regulatory authorities and regulated and unregulated utilities to adopt least-cost planning (demand reduction) measures and competitive bidding procedures. State public utility commissions (PUCs) could allow utilities to earn a higher rate of return for reducing energy demand than for increasing energy supply. Any PUC not supporting these two changes would have to consider them and explain why it is rejecting them.

#### DOE Mark-up - Subtitle B

DOE's mark-up would change the proposed bill language to make the provisions discretionary rather than mandatory. It would encourage the adherence to guidelines rather than standards and would provide for equal rather than preferential rates of return for demand reduction investments.

#### Additional Concerns about Title II

The provision in Section 205 creating a system for issuing energy efficiency ratings for houses and other residences could be controversial.

Industry objects to the data collection provisions in Section 207 on the grounds that they are intrusive, costly, and unnecessary.



## TITLE III

### **Subtitle A: General**

ENERGY RESEARCH AND DEVELOPMENT PRIORITIES (Sec. 301) Specifies seven criteria that the Secretary of Energy must use in establishing DOE R&D priorities:

- potential greenhouse gas reductions
- cost effectiveness
- environmental and public-health impacts
- national security (including energy security)
- obstacles to private industry development
- contribution to scientific knowledge
- anticipated impact on "special or targeted populations," like low-income or aged persons

MANAGEMENT PLAN (Sec. 302). Directs the Secretary of Energy to prepare a management plan for the conduct of R&D, consistent with S.324 and based on the priorities specified in the preceding section. The DOE budget submissions to OMB shall be based on that management plan. The plan should address energy use projections 20 years out, by end-use sector; it should specify the energy supply and conservation measures that could meet the requirements; and it should provide a research, development, and commercialization program plans for the technologies relevant to each end-use sector, and for joint R&D ventures consistent with this Act.

**Mark-up** Revises language of Sec. 301 so that the Secretary of Energy is requested to include consideration of the 7 specified criteria when he develops R&D priorities, rather than being forced to base his priorities solely on those seven criteria. DOE also adds an eighth criterion: contribution to U.S. competitiveness. Also deletes Sec. 302 (Management Plan) prescriptive requirements.

### **Subtitle B: Engine and Vehicle Fuel Research**

"VEHICLE ENGINE-FUEL RESEARCH. (Sec 311)" Mandates an R&D program of or advanced vehicle engine systems, particularly those that run on alternative fuels and reformulated gasoline.

"HIGH EFFICIENCY HEAT ENGINES. (Sec. 312)" Mandates RD&D of high-efficiency heat engines for power generation, such as advanced gas turbine cycles, and requires DOE to consult with ERAB in the writing of a program plan. DOE is to enter into joint ventures to construct and demonstrate the engines.

Authorizations: FY 91: \$25 million; FY 92: \$25 million; FY 93: \$25 million.

**DOE Mark-up** Deletes requirements for more program plans to be submitted to Congress. Also revises Sec. 312 so that the Secretary is directed to "continue to carry out" heat engine research, rather than to "establish and carry out" such a program.

### ***Subtitle C: Hydrogen***

"GOALS." Requires DOE to establish R&D goals to develop a hydrogen fuel capacity for the nation "within the shortest time practicable. (Sec. 321)" Those goals are to be transmitted to Congress at the same time as the President's budget. Requires DOE to prepare a program plan for the hydrogen R&D activities of Sec. 321.

Specifies that DOE shall initiate or expand research into hydrogen production, liquesfaction, transmission, distribution, storage, and use. Requires DOE to fund demonstrations of hydrogen technology, "prefereably in self-contained locations." DOE shall develop, in consultation with DOT and NASA, prepare a comprehensive large-scale demonstration plan, which will guide those demonstration projects. The plan would include a listing of the necessary R&D activities prior to demonstration, and an assessment of the appropriateness of running a demonstration as soon as the required R&D is completed. The plan shall also include an implementation schedule and budget estimates.

Authorizations: FY 91: \$10 million; FY 92: \$15 million; FY 93: \$20 million.

**DOE Mark-up** Removes language setting goal as "development of a domestic hydrogen fuel capability within the shortest time practicable," and rephrases the sections to direct research that addresses the various problems relevant to development of a commercially viable hydrogen energy industry. Deletes most of Sec. 323 (Establishment of a Program), except for two procedural paragraphs that are moved to Sec. 321. Deletes requirement that DOE fund small-scale demonstrations concurrently with more generic research.

### ***Subtitle E: Coal***

Requires DOE to establish RD&D goals for the clean production, transportation, and use of coal (Sec. 341). DOE shall submit a report on those goals to Congress at the time of the President's budget submission. Requires DOE to prepare a comprehensive program plan for coal RD&D. No specific funding level is authorized.



**DOE Mark-up.** Since DOE is already doing most of the things specified in Subtitle E, their revisions throughout the subtitle revise statements that imply new activities to instead refer to continuation of activities. They also eliminate references to coal R&D "goals," substituting "projects" instead, and eliminate a subparagraph on the process of amending goals.

#### **Subtitle F: Natural Gas**

**"MASS TRANSIT PROGRAM."** (Sec. 351) Requires DOE, in consultation with UMTA, to enter into cooperative agreements with, and to provide funding to, any local public transit authority in an urban area with a population over 100,000, to "demonstrate the feasibility of using natural gas or liquefied petroleum gas as a fuel for mass transit." The transit authority must be willing to pay 25 percent of the costs of the demonstration. A transit authority may petition DOE for priority in funding under this program, on the grounds that use of natural gas or liquefied petroleum gas would help the region to meet air quality regulations.

Authorizations: FY 91: \$30 million; FY 92: \$30 million; FY 93: \$30 million.

**"NATURAL GAS USE IN FLEET VEHICLES."** (Sec. 352) Requires DOE, in consultation with EPA *and the Gas Research Institute*, to provide financial assistance for fleet purchases of natural gas/liquefied petroleum gas single-fuel and dual-fuel vehicles. Both public and private fleets will be eligible. Priority may be given to regions with air quality problems. Also amends existing Federal vehicle anti-tampering regulations to allow for conversion of gasoline or diesel engines to natural gas or liquefied petroleum gas.

Authorizations: FY 91: \$30 million; FY 92: \$30 million; FY 93: \$30 million.

**"TRAINING PROGRAM."** (Sec. 353) Requires DOE to establish a training and certification program for technicians to provide engine conversions to natural gas or liquefied petroleum gas and maintenance of converted engines.

Authorizations: FY 91: \$5 million; FY 92: \$5 million; FY 93: \$5 million.

**"VEHICLE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM."** (Sec. 354) DOE, in consultation with ERAB, shall establish an RD&D program, requiring at least 25 percent cost-sharing, on improved natural gas/liquefied petroleum gas vehicles.

Authorizations: FY 91: \$10 million; FY 92: \$10 million; FY 93: \$10 million.

"NATURAL GAS RECOVERY, RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM." (Sec. 356) Mandates that DOE expand its natural gas research program, addressing both improved recovery of known resources and access to unconventional sources. DOE is to enter into cooperative agreements with companies in the gas industry or major end users to perform this research. Authorizations: FY 91: \$25 million; FY 92: \$25 million; FY 93: \$25 million.

"NATURAL GAS HEATING AND COOLING TECHNOLOGIES." (Sec. 356) Directs DOE, "in conjunction with the President of the Gas Research Institute," to expand the current program for RD&D on natural-gas fired heat pumps.

Authorizations: FY 91: \$10 million; FY 92: \$10 million; FY 93: \$10 million.

*DOE Mark-up.* Expand the subtitle's coverage to include other alternative transportation fuels. Also changes mandatory "shall's" to "may's." This is particularly important in Sec. 351, in which the original wording could be interpreted to mean that DOE *must* enter into a cooperative agreement with any urban (pop. > 100,000) transit authority that requests DOE assistance. Also deletes certain required "consultations" with other agencies or ERAB.

#### *Subtitle H: Federal Energy Technology Transfer Council*

Establishes a Federal Energy Technology Transfer Council to enhance development in LDCs by promoting transfer of renewable energy and conservation technologies to developing countries. (This role is already served by the Committee on Renewable Energy Commerce and Trade (CORECT).) The Act goes on to specify the membership of the proposed 18-member Council in considerable detail.

"COMPREHENSIVE ENERGY TECHNOLOGY EVALUATION." (Sec. 373) Requires DOE to submit biennial reports to Congress on "the full range of energy and environmental technologies necessary to meet the energy needs of developing countries while reducing the generation of carbon dioxide and other greenhouse gases." The report should also include country-by-country information from the Council's database regarding the needs of each country and on-going technical assistance projects. The report should also include recommendations for future programs to achieve the goals of the Council.

Sec. 374 "AUTHORIZATION OF APPROPRIATIONS."



Authorizations: FY 91: \$10 million; such sums as appropriate thereafter.

*DOE Mark-up* Revises the subtitle to refer to the Committee on Renewable Energy Commerce and Trade (CORECT -- already in existence) rather than to a new council. The DOE markup however, would not alter the new substantive requirements.

Additional concerns about Title III

The bill requires DOE to improve the management and planning of its R&D programs. In theory this is desirable. As a practical matter, however, the bill is overly prescriptive.

The bill calls for substantial increases of existing programs. In several cases it authorizes "such funds as may be necessary," so it is difficult to make a quantitative comparison with the base. A rough order of magnitude estimate: \$100 million per year increase on a base of \$500 million. In addition, the government commitment in some alternative fuels programs could be open ended.

The bill calls for an acceleration of the shift already underway in government energy R&D from basic to applied, with a special emphasis on demonstration programs. This could get expensive.

Title IV - Natural Resource Policy. This title requires the Secretaries of Agriculture, Energy, and Interior to complete three studies:

1. Ecological and environmental resources (to be done by Interior in consultation with Agriculture):
  - Estimate the effect of global warming on wildlife habitat, rivers, lakes, the sea coast, parks, national forests and other natural resources;
  - Identify actions that would mitigate these effects; and
  - Evaluate the cost-effectiveness of these actions.
2. Reforestation (to be done by Agriculture in cooperation with Interior):
  - Inventory forested lands and evaluate timber harvesting and reforestation.
  - Assess the potential for reforestation, including non-timber urban areas.
  - Evaluate the potential of a reforestation initiative to reduce, mitigate or prevent climate change.
  - Identify and evaluate measures needed to achieve those objectives.
  - Evaluate the benefits, effectiveness and costs of such initiatives.
3. Urban forestry and energy savings (to be done by Energy in consultation with Agriculture and others):
  - Assess the potential for reducing the need for air-conditioning through an urban tree planting program.
  - Evaluate the cost-effectiveness of such a program.
  - Identify a range of Federal, state and local policies and incentives to implement such a policy.



DOE Markup-Title IV

DOE made no changes in this title.

Comments and concerns on Title IV

The Administration plans to undertake some studies similar to those proposed in the bill. The Administration also has already adopted a number of proposals this title would study and evaluate, such as planting one billion trees per year as part of the "America the Beautiful" initiative.

At the same time these studies may pose future problems for the Administration. Promising to study an issue will imply to some a pledge of future action that may be costly and unwarranted.



The Secretary of Energy  
Washington, DC 20585

June 18, 1990

THE CHIEF of STAFF  
has seen

MEMORANDUM TO: John H. Sununu

FROM: James D. Watkins *Jim Watkins*  
Admiral, U.S. Navy (Ret.)

SUBJECT: Class Action Lawsuits Against  
Management and Operating  
Contractors

*John:*

This is to bring to your attention four class action lawsuits recently filed against contractors who have managed and operated Department of Energy nuclear weapons production facilities:

o On June 7, 1990, a suit was filed on behalf of an estimated 10,000 residents and property owners within a 6-mile radius of the Portsmouth Gaseous Diffusion Plant. This suit, titled Boggs v. Goodyear Atomic Corp., alleges that radioactive and hazardous materials have been released from the plant, and seeks to hold DOE's former M&O contractor (Goodyear Atomic), its parent corporation (Goodyear Tire & Rubber), and DOE's current M&O contractor (Martin Marietta Energy Systems) liable for \$300 million in compensatory damages and \$300 million in punitive damages. The suit also asks that a fund be established to finance medical monitoring for the class, that processing of radioactive and hazardous materials at the plant be enjoined, and for "response" (i.e., cleanup) costs under the Comprehensive Environmental Response Compensation Liability Act (CERCLA).

o On January 30, 1990, a suit was filed on behalf of an estimated 50,000 residents and property owners within a 6-mile radius of the Rocky Flats facility. This suit, titled Cook v. Rockwell International Corp., likewise alleges radioactive and hazardous releases. Compensatory damages of \$250 million and punitive damages of \$300 million are sought in this case against two former M&O contractors, Rockwell International and the Dow Chemical Company. In addition, the plaintiffs



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| Document No.<br>and Type | Subject/Title of Document                                                                                              | Date    | Restriction    | Class. |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|---------|----------------|--------|
| 06. Memo                 | From James Watkins to John Sununu<br>Re: Class Action Lawsuits Against Management and<br>Operating Contractors (2 pp.) | 6/18/90 | <del>P-5</del> |        |

**Collection:**

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| <b>AR Disposition:</b>                 | <b>MR Disposition:</b>         |
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### RESTRICTION CODES

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ask for establishment of a medical monitoring fund, CERCLA response costs, and an injunction against further releases.

o On January 30, 1990, a suit also was filed against Rockwell and Dow on behalf of an estimated 10,300 former and current Rocky Flats workers. This case, titled Building and Construction Trades Council v. Rockwell International Corp., alleges that workers were exposed to radioactive and hazardous materials in the workplace. Unspecified compensatory and punitive damages are sought, as well as a medical monitoring fund.

o Finally, on January 30, 1990, a suit was filed against the former M&O contractor (NLO, Inc.) at the Feed Materials Production Center (Fernald) and against its parent corporation (NL Industries, Inc.) on behalf of an estimated 10,000 former employees and their families. This suit, titled Day v. NLO, also alleges workplace exposure to radioactive and hazardous materials, and seeks \$200 million in compensatory damages, \$300 million in punitive damages, and medical monitoring.

These four cases are modeled on the Fernald class action case brought on behalf of local residents against our former contractor, NLO, that was settled last summer for \$73 million. In fact, the lead plaintiffs' attorney in that case (Stanley Chesley) is "of counsel" in all four new cases. In each of these cases the plaintiffs have made sweeping general claims that for years DOE's plants have been run in ways that exposed them to radioactive and hazardous materials, as a result of which they have suffered emotional distress (cancerphobia) and economic loss (decreased property values and/or job opportunities). No actual physical injuries have been claimed in any of the cases.

As was the case in "Fernald I," the defendant contractors in these new cases all have contracts entitling them to reimbursement from DOE for any liability they may suffer as a result of having run DOE's plants. (In "Fernald I," the Justice Department decided that the Judgment Fund is unavailable to pay such liability.) Contrary to the first Fernald case in



Page 3

which DOE exercised its contractual right to take over the defense of the litigation, we have declined to take over or direct and control the defenses in these new lawsuits. Private counsel has been retained by the defendant contractors and, consistent with our instructions to act in good faith, is providing a rigorous and aggressive defense to the plaintiffs' claims.

We anticipate that these four new cases are precursors of more litigation to come. Plaintiffs attorneys, including Mr. Chesley, have been actively soliciting clients at Oak Ridge and other sites. While we recognize the potential for significant damage awards to be rendered against our contractors which DOE would be contractually obligated to reimburse, it is our view that the best strategy to follow at this time is the one on which we and DOJ are embarked, i.e., encompassing the strongest defense possible by attorneys representing our contractors. Of course, we will closely monitor developments in the litigation.

cc: The Attorney General  
Director, OMB

# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                                                   | Date    | Restriction | Class. |
|--------------------------|-----------------------------------------------------------------------------|---------|-------------|--------|
| 07. Letter               | From James Watkins to John Sununu<br>Re: Math and Science Education (2 pp.) | 5/25/90 | P-5/        |        |

### Collection:

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
 (Document Follows)  
 By JP (NLGB) on 5/12/05

|                                        |                                |
|----------------------------------------|--------------------------------|
| <b>Date Closed:</b> 12/14/2004         | <b>OA/ID Number:</b> 29191-003 |
| <b>FOIA/SYS Case #:</b> 1998-0004-F[1] | <b>Appeal Case #:</b>          |
| <b>Re-review Case #:</b> 2005-0426-S   | <b>Appeal Disposition:</b>     |
| <b>P-2/P-5 Review Case #:</b>          | <b>Disposition Date:</b>       |
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**The Secretary of Energy**  
Washington, DC 20585

May 25, 1990

The Honorable John H. Sununu  
Chief of Staff to the President  
The White House  
Washington, D.C. 20500

Dear Governor <sup>John</sup> Sununu:

I was pleased when you outlined your views on improving math and science education at today's 1:00 p.m. meeting, because they are identical to mine. Only by providing our poorly trained, bored and burned out science teachers with a new, exciting (and remunerative) opportunity can we expect to have an impact. Our Federal labs as well as our science and technology-based businesses offer the greatest opportunity to retrain and revitalize these teachers. This can be done with private sector funds, and therefore should not be a new big ticket Federal spending item. I also share Dick Darman's view that of all the goals announced by the President and the Governors, this is the one for which we can and will be held the most accountable.

A Presidential Executive Order could launch a new Federal agency-private sector program, which would give direction to all Federal agencies to include as part of their mission, action-oriented programs to commence achievement of the national education goals. This Executive Order could be issued as part of the next step in the plan of action with the Governors. While I believe all agencies are ready to embark on these initiatives without further directive, this is such a major change in past hands-off Federal policy that it should probably have the President's direction at the outset of this ten year endeavor. Hence the Executive Order.

Examples of two initiatives which will help reach Goal #4 (By the year 2000, U.S. students will be first in the world in science and math education):

1. To augment the current math and science teaching work force by 10% by creating a highly qualified pool of adjunct teacher professionals drawn from the ranks of Federal and private sector scientific, engineering, and technical personnel, both active in their fields and retired;

Honorable Sununu  
Page Two

2. To open the doors of Federal and private sector scientific and engineering facilities and field programs to our Nation's math and science teachers, so that each year at least 10% (i.e. total 100% of teacher force by 2000) can participate in hands-on, state-of-the-art science and technology experiences that they can take back to their students and fellow teachers.

The draft Executive Order I gave you today is just that - a draft. It could be modified to apply to all six education goals, and not just to focus on math and science education. I would not recommend this, however. In either case, it will be a first step forward and utilize the Federal work force through volunteer efforts as well as formal programs. If you want to discuss further our positive feedback from the business community please let me know. They stand ready.

Sincerely,

  
James D. Watkins  
Admiral, U.S. Navy (Retired)



# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                                     | Date   | Restriction    | Class. |
|--------------------------|---------------------------------------------------------------|--------|----------------|--------|
| 08. Outline              | Meeting w/Governor Sununu on National Energy Strategy (5 pp.) | 6/8/90 | <del>P-5</del> |        |

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Energy file

MEETING WITH GOV. SUNUNU ON NES

Friday, June 8, 1990



## INTRODUCTION

- Based on all the work we have done over the last year, and consistent with the President's guidance to us when he directed us to lead the development of a National Energy Strategy last year, we think there are two sets of energy problems that need attention because of market inefficiencies, regulatory distortions or other market failures.
- One is Petroleum. The other is Electricity. A credible policy on energy must address both.

## ELECTRICITY

### A. STATUS

- Demand for electricity is expected to grow in line with GNP. Between now and 2000 we estimate a need for about 100 GW of new capacity. 40% of this amount is under construction or planned.
- The highly regulated electricity market will be strait-jacketed by existing and anticipated environmental regulations (clean air and global climate change); and other Federal regulations (PUHCA, PURPA, FPA).
- New nuclear generation will not be available in the near term.
- Hydropower capacity will decline because relicensing requires meeting more stringent environmental controls.
- Gas use will rise, but obtaining new pipeline and storage capacity is proving very difficult.
- The default option is oil. After declining for years, oil use for electric generation is up significantly, and is likely to go higher.
- In sum, market decisions in the electricity sector are constrained by Federal, State, and local regulation.

### B. RISKS

- Slow construction of new capacity, erosion of reserve margins and high risk of brown-outs and rolling blackouts.
- Forced rather than planned conservation.
- Inefficient investments in conservation (to avoid new capacity construction).

BASE  
MIN.  
SCENARIO

Some Focus  
on

BAD Policy

- Technology choices that minimize regulatory risk rather than maximize economic efficiency, with adverse consequences for coal and nuclear and for Federal investments in those technologies.
- Reduction of hydropower capacity.
- Reduced competition in bulk power supply options.
- Higher consumer costs/less competitive economy.

## **PETROLEUM**

### **A. STATUS**

- Today we use 16.8 million barrels/day; about 2/3 of this is for transportation fuels which are, and will for the foreseeable future be, predominantly petroleum-based. We import 7.5 MMbd.
- Under current trends, by 2000 we'll use 18.8 MMbd, and we'll import 10 MMbd. Half of those imports will be from the Persian Gulf.
- Oil imports account for 63% of our trade deficit now.
- On the supply side, the market is distorted by regulatory obstacles:
  - Leasing regulations forbid access to federal lands
  - Environmental regulations prevent construction of refineries, and force decommissioning of storage capacity
  - Tax regulations force investments overseas
- On the demand side:
  - Low oil prices drive higher demand in transportation and industry
  - Low oil prices discourage adoption of efficient technology
  - Low oil prices discourage use of alternative fuels

### **B. RISKS**

- Greater reliance on Persian gulf imports (where 70% of excess production capacity will be concentrated by 1995).



- More strident calls for (a) higher taxes at economically damaging levels; (b) larger investments in the Strategic Petroleum Reserve; (c) new investments in regional product reserves; (d) mandated inventory levels; (e) possibly price controls for heating fuels.
- Disinvestment in U.S. oil and gas sector.
- Higher imports of petroleum products. (Last winter's fuel oil crisis was due to (a) insufficient domestic capacity, and (b) unavailability of imports).
- Continued Congressional determination of agenda:
  - moratoria on OCS/ANWR drilling
  - inaction on oil and gas tax incentives
  - legislated (uneconomic) fuel efficiency levels for cars and disruption of domestic car industry.

#### **WHAT WE PROPOSE TO DO**

1. Analyze all key options, on an inter-agency basis, on both the demand and supply side.
2. Examine costs, benefits, impacts on energy, on the environment, and on economic efficiency.
3. Subject our analyses to professional and public scrutiny in order to assure support for the eventual choices made by the President.
4. Leave open the President's options.
5. Plan for a 1991 budget amendment to accommodate the choices the President will make in December.
6. Engage the States in our deliberations and analyses in order to assure action on their side.
7. Proceed with analysis of options aimed at addressing market inefficiencies, as summarized in matrix.

|                            | ELECTRICITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | TRANSPORTATION FUELS                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S<br>U<br>P<br>P<br>L<br>Y | <ol style="list-style-type: none"> <li>1. Develop New Technologies <ul style="list-style-type: none"> <li>- Nuclear, Clean Coal, Renewables, Gas</li> </ul> </li> <li>2. Remove Barriers to Efficient Markets <ol style="list-style-type: none"> <li>a. Regulatory Reform <ul style="list-style-type: none"> <li>- Nuclear Licensing</li> <li>- Power Plant Construction Risk</li> <li>- Transmission/Electricity Pricing</li> </ul> </li> <li>b. Statutory Reform <ul style="list-style-type: none"> <li>- PURPA / PUCHA / FPA / NGA</li> </ul> </li> </ol> </li> </ol> | <ol style="list-style-type: none"> <li>1. Alternative Fuels <ul style="list-style-type: none"> <li>- Regulatory (mandated markets)</li> <li>- R&amp;D</li> </ul> </li> <li>2. Increase Domestic Production of Petroleum <ul style="list-style-type: none"> <li>- Tax incentives</li> <li>- Access to Federal lands</li> <li>- R&amp;D</li> <li>- Regulatory Relief</li> </ul> </li> </ol> |
| D<br>E<br>M<br>A<br>N<br>D | <ol style="list-style-type: none"> <li>1. Market Disincentives to Consumption</li> <li>2. Reduce Barriers to Efficient Demand Side Investment</li> <li>3. Regulatory Actions <ul style="list-style-type: none"> <li>- Efficiency Standards</li> </ul> </li> <li>4. Develop/Demonstrate New Technology R&amp;DD</li> </ol>                                                                                                                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Market Disincentives to Consumption</li> <li>2. Regulatory Actions</li> <li>3. Develop/Demonstrate New Technology R&amp;DD</li> </ol>                                                                                                                                                                                                           |



THE CHIEF of STAFF  
has seen

THE SECRETARY OF ENERGY

5/18/90

John:

This letter and its attachment  
complete a commitment I made to  
the President some weeks ago  
after our Lawrence Livermore Lab  
briefing on SDI.

I hope it is useful to you  
and Brent, and that the President  
will find it in sync with his own (over)

philosophy.

Sincerely,  
Jm W.



BUSH LIBRARY PHOTOCOPY

Philosophy.

Sincerely,  
J. M. S.



## Lawrence Livermore National Laboratory

March 6, 1990

The Honorable Robert S. Walker  
U.S. House of Representatives  
2445 Rayburn House Office Building  
Washington, D.C. 20515-3816

Dear Congressman Walker:

During your recent visit to the Lawrence Livermore National Laboratory, we had the opportunity to discuss the U. S. involvement in the international fusion energy effort, and in particular, the forthcoming decisions regarding further U.S. participation in the International Thermonuclear Experimental Reactor (ITER). At that time, you suggested that if I would prepare a brief issues paper regarding the ITER decision, you would bring it to the attention of Governor Sununu.

Extension of the ITER collaboration is apparently very much on the minds of the Soviets, in preparation for the 1990 Summit in Washington. My colleagues in Europe tell me that Mr. Shevernadze has raised the subject of ITER several times in discussions with Secretary Baker.

I greatly appreciate your assistance in this matter, and am enclosing a brief summary of the issues related to the ITER decision. I shall of course be available at any time to provide any further information which either you or Governor Sununu should desire.

Yours sincerely,

Alexander J. Glass  
Associate Director for Programs

Encl.

AJG90-29



## THE 1990 ITER DECISION

### Highlights:

- ITER is an international, magnetic fusion engineering test reactor project, sponsored jointly by the U.S., Japan, the USSR, and Euratom.
- The ITER project was established at the Geneva Summit in 1985, and is expected to be an agenda item at the 1990 Washington Summit.
- The current phase of the ITER activity ends in December 1990, with the completion of the conceptual design for the reactor.
- The next phase of the ITER project is the Engineering Design Activity, comprising detailed design, site selection and qualification, and construction of sub-system prototypes.
- The U.S. should be prepared to take a position on the continuation of ITER, by mid-summer of 1990.
- Delay or deferral of discussion of continuing the ITER collaboration could jeopardize the future of the project.
- Further U.S. participation in ITER would not only advance fusion energy development in a cost-effective way, it would also have a beneficial effect on future U.S. collaboration in other international scientific megaprojects.

## THE 1990 ITER DECISION

### Continued U.S. Participation in the World Fusion Energy Program

#### Introduction

For the past forty-five years, scientists around the world have pursued the goal of harnessing fusion energy for electrical power production. Fusion has proven to be difficult to master. The fuel, heavy isotopes of hydrogen, must be heated to temperatures rivalling those of the solar interior, and kept there long enough for fusion reactions to occur, releasing energy. The primary technical approach to containing the super-hot fuel, which is in the form of a plasma, or electrically charged gas, is a Soviet invention called a Tokamak, a doughnut-shaped arrangement of powerful magnetic fields and electrical currents. Fusion research funding totals approximately \$1.6 Billion worldwide each year. This unprecedented effort is beginning to pay off, and in experiments recently conducted at the Joint European Torus (JET) facility in Culham, England, plasma conditions came within a few percent of the elusive objective of "breakeven", the point at which the energy released from the burning plasma equals the energy invested to heat the fuel to fusion temperatures.

In 1990, the U.S. will spend \$325 Million on Magnetic Fusion Energy. The U.S., Japan, and the Soviet Union each represent about one-fifth of the world effort in Fusion research. About one-third of the global effort is in Western Europe, with the remaining few percent in Canada, India, China, and South America. In 1987, the U.S., the Soviet Union, Japan and Western Europe launched the International Thermonuclear Experimental Reactor (ITER), with the objective of designing, constructing and operating an experimental test fusion reactor. The ITER device is expected to provide both the scientific data and the engineering experience to allow the construction of a demonstration fusion power plant.

#### History of the ITER Project

The ITER project arose out of discussions between President Reagan and General Secretary Gorbachev at the Geneva Summit meeting in 1985. After consultation with representatives of Japan and the European Community (represented by Euratom), the U.S. proposed a quadripartite collaboration to construct the next major fusion facility. In 1987, representatives of the four national Parties met, under the auspices of the International Atomic Energy Agency (IAEA), to develop a joint-venture plan, and establish Terms of Reference for the activity. They agreed to initiate a Conceptual Design Activity (CDA), extending through the end of 1990, to establish a technical concept, scope, and approximate cost for the ITER facility. The CDA has been centered in Garching, on the outskirts of Munich, FRG. Each of the four Parties has sent ten to fifteen scientists and engineers to Garching, to staff the design effort. Additionally, each Party conducts supporting research in its own country. The U.S. budgets \$16 Million per year to support the CDA.



The CDA has progressed well, and will complete its report on schedule. The next logical step for the ITER project is to enter the Engineering Design Activity (EDA). The EDA will extend over a five-year period, during which the design will be developed from the conceptual stage to engineering drawings, supported by the construction of prototypes of all critical components of the system. Industry is expected to play an expanded role in this phase of the activity. Site selection and qualification will take place midway through the EDA period. At the end of the EDA, the project will be ready to start construction. The construction of the ITER facility is expected to take seven years, with an estimated capital cost, in 1989 dollars, of \$4.9 Billion. Again in 1989 dollars, the average U.S. outlay during the construction period is anticipated to be \$175-\$200 Million.

Under the ITER process, the four Parties are expected to share in the costs of developing and constructing the device, and will also have equal access to all technology developed by the project. The site for the ITER reactor has not yet been chosen. Neither has the site for the Engineering Design Activity. Several locations in the U.S. are expected to submit strong proposals to host the EDA.

#### ITER Objectives

On this schedule, the ITER will start operation in 2003. It will operate for up to fifteen years. In the first phase, its operation will be geared to confirmation of the physics of burning plasmas. ITER will achieve ignition, which describes the conditions under which the energy deposited in the fuel from fusion reactions is sufficient to sustain the fusion reaction. ITER will operate with long pulses, of durations from hundreds to thousands of seconds. Its superconducting magnets will allow essentially continuous operation. Experiments on ITER in this phase will be oriented toward learning how to control and stabilize an ignited, "burning" plasma.

In its second phase, ITER will address the engineering issues of a fusion power reactor. It will be fitted with blanket modules for the development of heat transfer technology. It will provide neutron fluxes suitable to test materials lifetimes, nuclear activation, and breeding of tritium from lithium. Other fuel cycles, particularly those involving  $^3\text{He}$ , can also be tested in ITER. ITER is intended to provide the complete scientific and engineering database to allow the confident design of a demonstration fusion power reactor.

#### The 1990 Decision

As the CDA approaches its conclusion, planning has already started within the ITER project for the transition to the EDA. Under the Terms of Reference, the ITER project is directed by the ITER Council, which comprises representatives from each of the four Parties. The ITER Council has suggested to the governments of the four Parties that they consider entering discussions at the end of April, 1990, with a view toward initiating negotiations for the EDA. Additionally, ITER is expected to be an agenda item at the forthcoming



Washington Summit meeting. Mr. Shevernadze has repeatedly introduced the subject of ITER in high-level discussions with the U.S. State Department.

The decision to participate in discussions concerning continuation of the ITER project is necessarily linked to the annual budgetary process. Congress is currently considering the Administration's proposed budget for FY '91. In 1989, Congress and the Secretary of Energy agreed to postpone any substantive change in the Fusion Energy budget, pending the outcome of an intensive review of the U.S. Fusion Energy Policy by a high level committee to be appointed by the Secretary. This committee has just been appointed, and will not complete its deliberations for several months. In the meanwhile, pressure is building within the international community to move forward with negotiations to structure the transition to the Engineering Design Activity. It would be unfortunate if decisions regarding further participation by the U.S. in ITER were deferred, awaiting the outcome of the Fusion Policy Review.

In the current climate of international amity, the summit process offers a unique opportunity to institute bold and imaginative initiatives in international collaboration. The ITER project, which originated in a summit discussion, represents one such bold initiative. At the present time, there is a concentration of interest in, and unity of support for the project, which could easily dissipate if there is an unnecessary hiatus in the transition to the Engineering Design Activity. Governments change, priorities are altered, and new obstacles can arise which impede international scientific collaboration. The U.S. has been presented with a unique opportunity to participate in a technological project which enjoys wide support in both the scientific and technological communities of the other participating nations. It is also an opportunity to advance the science and technology of fusion energy in a cost-effective way. It would be a shame to miss that opportunity.

A decision to continue participation in ITER would not only accelerate the development of fusion energy, but would also benefit other areas of potential international collaboration. The U.S. is currently seeking international support for a number of scientific megaprojects, such as the Superconducting Supercollider and the Mars Exploration. Continuing commitment to ITER would send a signal to our international partners which would support and encourage our collaboration in future international scientific projects.



Congress of the United States  
House of Representatives  
Washington, DC 20515

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M.C.

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THE CHIEF of STAFF  
has seen

# National Energy Strategy

## ***WORK PLAN***

May 1990

Office of Policy Planning and Analysis  
U.S. Department of Energy



## **AGENDA FOR NES DEVELOPMENT**

### **APRIL INTERIM REPORT TO DECEMBER SUBMISSION TO PRESIDENT**

#### April-May

Narrow options. Conduct analysis of options. Interagency staff working groups to review and comment on options as completed.

#### June-August

Review public comment on Interim Report. Additional public hearings and workshops held to collect comments on options and analysis. Complete analysis and identification of options.

#### September-October

Interagency staff and senior level working groups conduct final review and analysis of options. Complete first draft of NES Report to the President.

#### November

Sets of options are approved by senior interagency review group.

#### December

National Energy Strategy Report submitted to the President.

#### January-March 1991

National Energy Strategy published as approved by the President.



# OUTLINE OF NES FINAL REPORT TO THE PUBLIC

## Table of Contents

### Preface

### Part I

#### Anticipating America's Energy Future

- Global Energy Outlook
- Scenarios of U.S. Energy Future
- Challenges and Opportunities
- Executive Summary

### Part II

#### Developing Elements of Strategy to Address Challenges

##### Increasing Energy Efficiency

- Transportation Energy Use
- Residential Energy Use
- Commercial Energy Use
- Industrial Energy Use

##### Securing Future Energy Supplies In a Manner that Respects the Environment

- Oil
- Natural Gas
- Coal
- Nuclear Power
- Fusion Energy
- Renewable Energy
- Electricity

##### Fortifying Foundations

- Fundamental Science and Engineering Research
- Education: Investing in Human Resources
- Technology Transfer

##### Appendices

- Summary of Scenario Analysis
- Methodologies for Options Analysis





Preface Outline

**Preface**

- The President's Charter / NES Goals / Guiding Principles
  - The Need for a National Energy Strategy
  - The NES Process: Dialogue and Consensus Building
  - Summary of Publicly Identified Concerns
- 



## **Part I Outline**

### **Anticipating America's Energy Future**

#### **1. Global Energy Outlook--Setting the Proper Context**

- Energy Resources, Availability, and Costs
- Near-Term Outlook (to year 2000)
- Long-Term Outlook (to year 2030)
- Summary of Global Trends and Major Concerns

#### **2. Scenarios of U.S. Energy Future**

- Understanding Consequences of Energy Alternatives
- Criteria for Assessing Futures
  - Economic Impacts
  - Environmental Impacts
  - Energy Security Impacts
- Comparisons of Eight Scenarios

#### **3. Challenges and Opportunities (Re: Scenario Analysis)**

- Greatest Challenges
  - Meeting Requirements for Electricity Demand
  - Transportation Fuels and Rising Oil Imports
  - Potential for Global Climate Change
  - Technological Leadership
- Opportunities: Assessments of Potentials for Change

#### **4. Executive Summary (Strategy Decisions Responding to Major Challenges)**

- Electricity Demand
- Rising Oil Imports
- Potential for Global Climate Change
- Technological Leadership



Part II  
Sample Outline--Individual Chapter

TRANSPORTATION ENERGY USE

**Sector Profile**

**Energy Trends and Future Scenarios--Transportation Sector**

**Elements of Strategy**

• ***Improve Vehicle Fuel Efficiency***

- o Public Concerns / Obstacles to Progress
- o Policy Options Considered
- o Options Selected for Analysis
- o Summary of Options Analysis
- o Administration Recommendations

• ***Develop Alternative Transportation Fuels***

- o Public Concerns / Obstacles to Progress
- o Policy Options Considered
- o Options Selected for Analysis
- o Summary of Options Analysis
- o Administration Recommendations

• ***Increase Efficiency of Overall Transportation System***

- o Public Concerns / Obstacles to Progress
- o Policy Options Considered
- o Options Selected for Analysis
- o Summary of Options Analysis
- o Administration Recommendations

**Summary of Expected Contributions to NES Challenges**



NES SCENARIOS  
MODELED TO THE YEAR 2030

0. Base Case:

Business as Usual (BAU) practices. Continuation of technology and efficiency trends. No major policy changes. No Clean Air Act Amendments. Gradual retirement all nuclear plants; no new orders. Significant growth in coal use. Declining U.S. oil production. Restricted access to ANWR and California OCS.

1. Clean Air:

Assumes enactment of Clean Air Act Amendments. Reduced SOx and NOx emissions. High conservation in transportation and industrial sectors. Increased use of clean fuels.

2. Greenhouse Gas Reduction:

Controlled carbon emissions. Reduced SOx and NOx. New nuclear orders. High conservation all sectors. Higher renewables. Higher imports of oil and natural gas.

3. Greenhouse Gas Reduction, Heightened Concern About Nuclear Power:

Same as Scenario #2, except no new nuclear plant orders. Gradual retirement of all existing nuclear plants.

4. Acceleration of New End-Use Technologies:

Very high conservation. Major investments in advanced, energy efficient technologies all sectors.

5. Acceleration of New Supply Technologies:

Technological optimism. Major improvements in exploration, drilling and recovery techniques. Advanced electric technologies. Acceleration of advanced renewable technologies. Clean liquid fuels. Coal liquids. Nuclear revival not included here.

6. Increased Access to Energy Resources:

Relaxed restrictions on access to domestic resources. No new restrictions. Access to ANWR and California OCS. Higher imports of oil/natural gas. Accelerated renewables. High recovery of domestic resource base based on improved technologies in exploration, drilling, and recovery. Coal liquids.

7. Increased Concern About Vulnerability:

High conservation all sectors. Expanded access to denied areas. New nuclear orders. High renewables. High recovery of domestic resource base based on improved technologies in exploration, drilling, and recovery. Coal liquids.



**Department of Energy**

Washington, DC 20585

February 8, 1990

**MEMORANDUM TO GOVERNOR SUNUNU,  
White House Chief of Staff**

**FROM: Admiral James D. Watkins, *J. D. Watkins*  
Secretary of Energy**

**SUBJECT: Press Briefing on National Energy Strategy/Global  
Climate Change**

This afternoon Deputy Secretary Henson Moore and I met with several reporters to discuss the National Energy Strategy (NES) hearing tomorrow, which focusses on "Energy and Science." Of course a key facet of this hearing will be the subject of global climate change. We had a very extensive, and I believe productive, hour long discussion.

I am attaching an outline of my discussion. I took this opportunity to voice strong support for the President's position on Global Climate Change, his leadership on this issue, and the content of his IPCC speech. On the subject of the President's speech, I explained that other Cabinet members and I had agreed to the outline of the speech and the final speech matched the outline that we all agreed to.

The reporters in this group were:

Mathew Wald, New York Times;  
Bill Loveless, Inside Energy;  
Joseph Hebert, Associated Press;  
Roy Nikkelsen, Reuters;  
Marshall Ingwerson, Christian Science Monitor;  
and Steve Kurkjian, The Boston Globe.

**ADMIRAL WATKINS**  
**ON**  
**GLOBAL CLIMATE CHANGE**  
February 8, 1990

- We are having a very important hearing as part of the development of the National Energy Strategy here in Washington tomorrow. Dr. Bromley and I will chair the hearing that will consider science issues.
- One major topic will be potential global climate change, including discussion of some of the science uncertainties. For example:
  - I have seen Dr. Frieman's paper as an advance copy.
  - He discusses impact of oceans on climate change and the dramatic uncertainties of today's models.
  - We have several other speakers who will deal with science and global climate change.
- This is a good time for me to tell you a little more about what we are doing to address global climate issues.
- The President's policy is well reflected in the editorial of the *Washington Post* yesterday. The *Times'* editorial also supported his primary thoughts but
  - It spoke to a standoff on the subject.
  - There is no standoff -- We are aggressively improving science and improving our economic models, but we are also moving ahead on a number of actions that will reduce greenhouse emissions and make sense for other reasons.
- I agree with the *Post*, the editorial is the President's policy.
- They said it well: "No case would exist yet for the kind of emergency action that would require disruptive and hugely expensive changes in economy." But there are many indisputable reasons for doing sensible things that, incidentally, will also curb the greenhouse effect.



- I'd like to discuss some new developments that support the President's statement on Monday.
- o Recent scientific results show a move to more moderate predictions of global climate change:
  - The issue is not whether the climate is changing but how much? how fast? Also, what are the natural and human-induced contributions to this change.
  - Examples of recent scientific results:
    - A recent National Academy of Sciences panel has concluded that current climate change models predict a global warming closer to 2 degrees Celsius. The previous range of predictions was 1.5 degrees Celsius to 4.5 degrees Celsius. (January 1990) # THERE WILL BE
    - Also, last December the American Geophysical Union has revised the earlier estimate of sea level rise by the year 2100 to between 0 and 30 inches. The previous range was between 20 and 120 inches.
    - U.K. scientists have recently introduced better representation of cloud processes in their climate change model. For effective doubling of CO<sub>2</sub>, their estimate of warming dropped from 5.2 degrees Celsius to 1.9 degrees Celsius. (Fall 1989)
    - Two months ago NOAA reported results of their climate model predictions using more realistic ocean simulations. For an effective doubling of current CO<sub>2</sub> levels, these results showed that the Southern Hemisphere will not be warming and some areas will in fact be cooling.
  - We are becoming increasingly aware that the oceans have a large, but poorly understood capacity to absorb heat from the atmosphere. Just the upper two meters of the oceans have enough thermal capacity to match that of the entire atmosphere and, therefore, can have a huge damping effect on the climate response to increasing carbon dioxide. The oceans cover 75% of the planet's surface.
  - We still do not understand the role of clouds in a changing climate. While we now know that clouds cool the planet, it is unknown whether in a warming

climate they will continue to do so or, in fact, may enhance the greenhouse effect.

- We are unable to adequately represent oceans and clouds in the climate models because even the most powerful supercomputers cannot incorporate the necessary details.
- o In the area of research
  - U.S. budget in FY 1991 is \$1,034 million, a 57% increase over FY 1990 -- We estimate this is half of the worldwide global change research.
  - At DOE we are concentrating on rapidly improving the climate change prediction models with focused studies of clouds and oceans and with enhanced supercomputers. The DOE budget request for FY 1991 is 66 million, up from 17 million in FY 1989.
  - The Committee on Earth Sciences (NASA, NOAA, NSF, DOE, EPA, DOI/USGS, USDA) coordinates the U.S. research efforts. The CES represents the U.S. scientific program internationally.
- o We expect significant reduction in scientific uncertainties by 1995 -- but this must be a long-term, sustained effort.
- o As the *Post* and *Times* articles point out -- good research is showing us that we need to reduce these science uncertainties and be careful not to take any precipitous, costly steps until we understand these processes better.
- o Let's look at potential costs of some of the more precipitous actions proposed by other countries, by some Congressmen, and by interest groups.
- o One action often proposed is that we should act now to stabilize emissions and then decrease them by 20% compared to today. The usual way suggested to do this would be to have a carbon tax.
  - If a carbon tax is implemented to reduce emissions by 20%, by 2025, coal prices are projected to rise from \$30/ton to \$250/ton by 2025 in 1989 dollars.
  - As a result, consumer electricity prices would double by 2025, compared to the expected price without that tax.



- By 2005 to stabilize and begin to reduce emissions would cause at least a 1% reduction of GNP -- this, at today's economic levels, would be over \$50 billion per year.
- But the economic methods for long-term analysis are preliminary -- we need to do development here, too, to improve what could be the economic and social impacts.
- But we should be doing a number of things -- and we are doing a number of things that can reduce greenhouse gases.
  - I characterize this, as the President has, as actions that reduce these gases -- but that we also are doing for other reasons. In fact it is the other reasons that have been the principal motivation to take these actions.

Examples:

- DOE's Conservation and Renewable Program Plan initiative on end-use efficiency and renewables, announced January 26:
  - Saves money, cuts acid rain pollutants and, if the program is fully realized by year 2000, could reduce CO<sub>2</sub> emissions by up to 800 million tons. Present U.S. CO<sub>2</sub> emissions are about 4.5 billion tons. By 2000 these emissions would grow to about 5.5 billion if none of the added actions occur. This action could represent a reduction of 14% of the year 2000 CO<sub>2</sub> emissions.
  - Other efficiency and renewable initiatives have been announced or are being planned.
  - Appliance standards were revised in November; the energy savings, compared to total national energy use is small -- but it is one of many actions being done for a number of reasons, each of which cause some reduction of greenhouse gases from where they would otherwise grow.

--- The President's proposal for clean air will promote greenhouse cuts:

-- The acid rain provisions provide flexibility in private choices.

-- These choices can include reduced demand, switching to other fuels such as natural gas, and modernizing plants using Clean Coal Technologies. We can't estimate what will happen but each of these options lowers CO<sub>2</sub> levels.

--- Chlorofluorocarbons. President Bush last March proposed that the presently controlled CFCs be phased out by 2000 if safe substitutes are available. These CFCs contribute about 15-20% to the greenhouse gas effect. We believe that the future global greenhouse gases effect due to these compounds would be cut by up to 75% if this phaseout occurs as proposed.

--- President's planting trees program -- over a billion trees per year -- this stores carbon equivalent to 13 million tons of CO<sub>2</sub> per year. This program will cost \$175 million in FY 91; the 13 million tons of carbon sequestered is about 1% of the U.S. total of carbon released per year from burning fossil fuels.

--- And to sustain cuts we are also doing research for initiatives later -- once again they would meet several national goals.

-- Conservation and Renewable budget increase in 1991 to total \$336 million.

-- Clean Coal Technology Program - These technologies improve supply efficiency, thus cut burning of fuels. For example, Integrated Gasification Combined Cycle would provide improved efficiency improvements of 25% over today's power plant with its SO<sub>2</sub> scrubbing. This provides potential to avoid future emissions that could occur due to needed power supply growth.



- o I've talked about actions that help us cut greenhouse gases domestically and that also support other goals. We are also acting internationally and these actions also support other national goals. One of these goals is to improve our trading position by creating greater international markets for technology.
- o First, some statistics on what has happened on global emissions:
  - U.S. CO<sub>2</sub> emissions has been more or less constant since early 1970's.
  - Our share of global CO<sub>2</sub> emissions in 1950 was 42%; in 1987 was 22%.
  - U.S. CO<sub>2</sub> emissions probably would grow 25% by 2005 if we do not take actions such as those given in the examples above.
  - This rate of increase is similar to other western industrial countries.
- o But Eastern European countries will increase their CO<sub>2</sub> emissions 60% by 2005 and developing countries will increase by over 100% by 2005, according to IEA.
- o Some projections show that, by 2025, even if all industrial countries cut all fossil fuel use, this would not reduce global emissions by 20% from today's levels because of increases in emissions from other parts of the world.
- o We must lead in forming an international consensus and draw in all nations.
- o We are leading several international actions that complement our domestic program --
  - We are strongly committed to the IPCC process of international cooperation to assess science, examine impacts, and explore mitigation strategy.
    - Using substantial DOE resources.
    - Providing analytical and policy support (particularly for the Energy and Industry Subgroup meeting today).
  - Through our trade export initiative, we can reduce greenhouse gas emissions in both developing and industrialized countries.

- Energy efficient technology
- Renewable energy
- Clean coal technology

Our interagency committees for promoting technology such as the Committee on Renewable Energy, Commerce, and Trade (CORECT), will help stimulate our trade initiative.

- We are looking for more ways to help developing countries.
  - Hosting experts in our labs to learn about climate change research.
  - Organizing seminars for these countries.
- We will have substantial involvement in the President's White House conference on science and economic research on the environment using our laboratories research results. This conference will be in late April.
- I welcome the opportunity to be involved in the first negotiating session for a framework convention that the President has proposed to be held in the U.S.
- o The President has taken the international lead in dealing with the climate change issue. While we are making the research investments to reduce the scientific uncertainties, we are also taking aggressive but sensible actions to curb the greenhouse effect which are justified for other reasons. No case exists for the kind of emergency action that would require disruptively expensive changes in the economy.



# Withdrawal/Redaction Sheet

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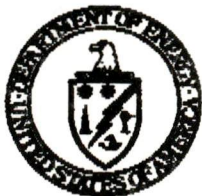
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**The Secretary of Energy**  
Washington, DC 20585

April 13, 1990

THE CHIEF of STAFF  
has seen

MEMORANDUM FOR THE HONORABLE JOHN H. SUNUNU  
CHIEF OF STAFF TO THE PRESIDENT

SUBJECT: MONITORING OF GLOBAL TEMPERATURE TRENDS  
FROM SATELLITES

I have just returned from Huntsville, Alabama, where I was briefed by representatives of the University of Alabama and NASA's Marshall Space Flight Center on Spencer and Christy's research regarding the monitoring of global temperature trends from satellites. I believe that Spencer and Christy's work represents a critical milestone in global change research and that we need to actively promote it as a means underscoring the true scientific uncertainty that surrounds global change. My observations from this briefing include:

- o Analysis of the first 10 years (1979 to 1988) of satellite measurements of lower atmospheric temperature changes reveals a monthly precision of 0.01°C, large temperature variability on time scales from weeks to several years, but no obvious trend for the 10-year period.
- o The researchers have been both diligent and successful in the calibration of their data. The data pool does not contain erroneous information.
- o Although the researchers have taken some hits through the general media, scientific peer review indicates that the research is sound.
- o Satellite monitoring of temperature trends allows for measurement of the entire globe whereas conventional ground thermometer monitoring cannot account for the oceans.
- o The research indicates that there is no obvious warming trend in the tropospheric temperature as measured by satellites during the 10-year period examined (1979-1988). Although critics charge that a 10-year period does not represent a long enough sample, this is the very same period that is reported to have experienced such a dramatic temperature increase.



- o Conventional ground thermometer monitoring does indicate a surface temperature increase over the same 10-year period.
- o The fact that the troposphere's temperature is remaining constant while the surface temperature may be rising indicates that there may be a warming trend in place that is not related to greenhouse gases. Perhaps, for example it may be that surface thermometers (covering less than half of the globe) are telling us more about population growth and urbanization than greenhouse gas effects on temperature.
- o If there is a warming trend unrelated to greenhouse gases, then the accuracy of current modeling on global change are placed into serious question.

All of this only stresses once again the need to gain a far better scientific understanding of global change before any dramatic policy decisions are made. I have attached the following for your review:

1. The Spencer and Christy article.
2. A graph that depicts the difference between satellite and surface thermometer temperature reading for the period 1979-1988 (I understand that "The White House" asked for and received a copy of this graph earlier this week).
3. A film that provides a visual depiction of the temperature changes, plotted over time; that occurred during the 1979-1988 period. This film clearly depicts the El Nino warming phenomenon in the Pacific Ocean that cannot be accounted for by conventional surface thermometers.

I have asked Dick Truly to sharpen up the Christy/Spencer presentation to 20 minutes and have it ready Monday, April 16. I have also discussed this with Dr. Bromley.

  
James D. Watkins  
Admiral, U.S. Navy (Retired)

Attachments

cc: Dr. D. Allan Bromley  
✓ RADM Richard Truly, USN (Ret.) w/o video tape

# SCIENCE

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R. W. SPENCER AND J. R. CHRISTY

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## This Week in SCIENCE

### Complex genetic diseases

EART disease, manic-depression, cancer, Alzheimer's disease, obesity, high blood pressure, and diabetes are some of the targets of molecular genetics research in the 1990s (page 1540). Susceptibility or resistance to these and other diseases appears to be in part dependent on one's genetic makeup, but unlike the comparatively "simple" single-gene diseases (such as cystic fibrosis) more than one gene—probably from three to six genes—may typically be involved. Solving the complex genetics of these diseases is one part of a two-pronged problem: figuring out how to modify the effects of susceptibility genes (for example, altering diet when there is a susceptibility to diabetes or high blood pressure or minimizing exposure to carcinogens in cases of susceptibility to cancer) is the other. Recent approaches, progress, and setbacks in research into the genetics of complex diseases are described by Marx; though difficult, the task of untangling the diverse factors that contribute to multigene diseases is considered worth the effort because of the tremendous personal suffering and public costs now associated with these very common diseases.

### Soft x-ray lasers

THE usefulness of x-rays has generally been limited by a lack of sufficiently intense x-ray sources. However, recent advances in soft x-ray laser technology have greatly improved prospects for the development of technologies such as high-resolution imaging of living cells and new forms of microlithography for the electronics industry (page 1553). Soft x-ray lasers were first successfully generated in 1984; they work at wavelengths shorter than 25 nanometers. The thrust of current efforts is to push the technology toward shorter wavelengths (the "water window" region that is important for biologic specimens is between 2.4 and 4.4 nanometers) while concurrently improving the efficiency of existing x-ray

lasers and developing low-cost systems. Suckewer and Skinner discuss the physics and technology of soft x-ray lasing and show the type of image that currently can be made of human cells when wavelengths of 18.2 nanometers are used. The development of small-scale high-performance lasers will be fundamental for applying this technology.

### Satellite measurements of global temperatures

SCERTAINING whether the earth's atmosphere has been warming has been difficult. What is needed is a method for measuring temperatures all over the earth on a short (daily) time scale, and this can only be done with satellites. Spencer and Christy now present global temperature data that were obtained with microwave radiometers aboard orbiting NOAA weather satellites (page 1558). The radiometers were originally intended for spot measurements but have been gathering data for 10 years and actually provide global coverage; they measure the thermal emission of radiation by atmospheric oxygen, which, because of its constant concentration in the lower atmosphere, serves as a stable temperature tracer. Although some dramatic temperature changes have been recorded over the short term, no trend toward increased heating of the earth is apparent in the last decade. Since 1979, only one year (1981) was considered an "average" year; the other nine were either cool or warm. Abelson addresses some of the uncertainties that surround the issue of global warming on page 1529.

### Primitive anthropoid skull

crushed but nearly complete skull (see cover) found in the Fayum badlands of Egypt may be the earliest skull specimen known in the anthropoid family line, the line that leads to humans (page 1567). The fossil was recovered from a green shale quarry called locality L-41 from which fossils of other primates, other mammals,

birds, and fish have also been recovered. The L-41 fossils are thought to be of Eocene age (greater than 38 million years old) and are thus the most primitive primate fossils so far recovered in the Fayum badlands, which is the world's major recovery site for earliest higher primate fossils. Simons describes the configuration of the skull and features of the skull bones and teeth that identify this specimen as a member of *Catopithecus browni*. *Catopithecus* is a new genus that belongs to the new subfamily Oligopithecinae in the family Propliopithecidae. Although *Catopithecus* has a number of advanced characters, it is a very primitive anthropoid, and features of its dental anatomy appear to link it and other members of its subfamily to the Eocene adapids, which are thought to be the ancestors of modern lemurs and orises.

### Self tolerance

SELF tolerance is established in an individual's immune system during the time in early development when the thymus is differentiating. "Physiologic combinations" of self peptides and self histocompatibility molecules are presented to potentially reactive cells of the immune system. Cells that react with such combinations are permanently eliminated, but there remain in the body immunoreactive cells that recognize the universe of self peptides and self histocompatibility molecules that were not scrutinized by the developing system. Some of these cells are shown by Schild *et al.* to react with "nonphysiologic" combinations of self peptides (from various common proteins) and self histocompatibility molecules (page 1587). The tested combinations were probably not presented in the right form or in the right amount during thymic differentiation. The converse of self tolerance—autoimmunity—may result when these remaining immunoreactive cells are stimulated by nonphysiologic combinations of self components that perhaps are released from cells or are altered as a result of the disease process.

■ RUTH LEVY GUYER



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## Uncertainties About Global Warming

Virtually everyone, children included, is concerned about global climate change and especially about the greenhouse effect. They have learned of increases in the atmospheric concentration of carbon dioxide. They have been told repeatedly that temperatures will increase 9°F. Political pressure is mounting to take action regardless of cost, and to take action now. But how good is the evidence, and how likely is there to be substantial global warming arising from anthropogenic causes? When might it happen? If the situation is analyzed applying the customary standards of scientific inquiry one must conclude that there has been more hype than solid facts. Some of the questions include: Are the computer models that predict large-scale warming rigorous? What has been the effect on climate of anthropogenic additions of greenhouse gases? Will atmospheric concentrations of CO<sub>2</sub> double by the middle of the next century.

Modeling of global climate is being carried out intensively by at least 14 different groups. They have largely concentrated on examining effects of doubling the atmospheric content of greenhouse gases. As might be expected, the answers they get are functions of the models they employ. The spread is from 1.5° to 5°C; that is, there is great uncertainty. In addition, if one examines some of the scientific articles on the subject, one finds virtually unanimous agreement that the models are deficient. For example, they do not adequately incorporate effects of clouds, which are expected to increase with warming. Clouds have both negative and positive effects on warming. Clouds exert a negative effect on temperature in part by reflecting sunlight off into space. They have a positive effect by trapping heat from below. The sensitivity of computer models to the properties of clouds was illustrated in a recent paper. \* When the water content of clouds was recognized in the model, the predicted global average warming dropped from 5.2° to 1.9°C.

What have been the warming effects, if any, of anthropogenic gases? The typical answer is 0.5°C. But the answer depends on what time interval is chosen. There was substantial increase in temperature from 1880 to 1940. However, from 1940 until the 1960s, temperatures dropped so much as to lead to predictions of a coming ice age. New precise satellite data raise further questions about warming.† From 1979 to 1988 large temperature variability was recorded on weekly to multiyearly time scales, but no obvious temperature trend was noted during the 10-year period.

A fashionable estimate of the time when doubling of atmospheric CO<sub>2</sub> will occur is the middle of the next century. But past predictions of energy usage have been notoriously inaccurate. At the current rate of emissions of CO<sub>2</sub> the future doubling time would be of the order of 200 years. For a doubling to occur by 2050 would require a very large continuing exponential increase in CO<sub>2</sub> emissions. What fuels would be burned? Has the potential availability of the necessary fossil fuels been adequately considered? The large easily produced reserves of oil are in the region of the Persian Gulf. The principal reserves of coal are in the Soviet Union, the United States, and the Peoples Republic of China. Most of the less developed countries (LDCs) are comparatively bereft of fossil fuels. Yet the typical prediction of global emissions of CO<sub>2</sub> assumes large-scale enhanced expansion of burning by LDCs. Ten years from now (or before), when the Organization of Petroleum Exporting Countries is in full control of prices, who will be able to buy expanded amounts of oil? Not impoverished LDCs. Will the Soviet Union, the United States, or China be willing to ship to LDCs large amounts of coal gratis?

Production of oil in the United States is dropping rapidly, and imports are expanding. Were current trends of imports and trade deficits to continue, a crisis in energy usage and a sudden decrease in CO<sub>2</sub> emissions from automobiles is possible.

What should be the national response to the above uncertainties? Even were there to be a negligible greenhouse effect, we should be taking actions. For example, we should induce conservation and enhanced energy efficiency by increasing taxes on fuels, especially gasoline. We should greatly expand efforts to develop renewable resources, including biomass. But whatever we do should be based on well-thought-out long-range goals. It should not result from a half-baked political response.—PHILIP H. ABELSON.

\* J. F. B. Mitchell, C. A. Senior, W. J. Ingram, *Nature* 341, 132 (1989).  
† R. W. Spencer and J. R. Christy, *Science*, p. 1558.



# Precise Monitoring of Global Temperature Trends from Satellites

ROY W. SPENCER AND JOHN R. CHRISTY

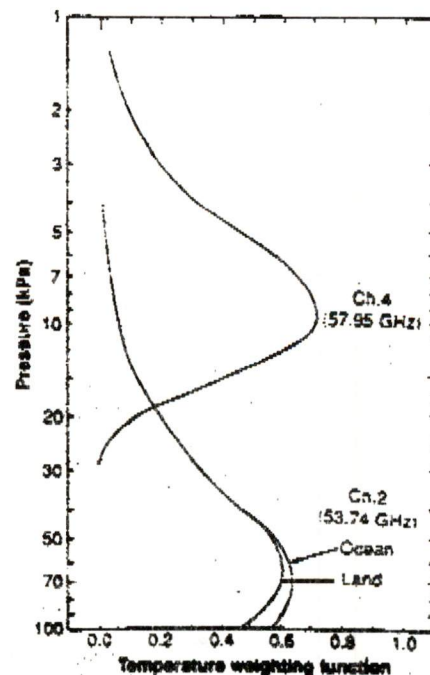
Passive microwave radiometry from satellites provides more precise atmospheric temperature information than that obtained from the relatively sparse distribution of thermometers over the earth's surface. Accurate global atmospheric temperature estimates are needed for detection of possible greenhouse warming, evaluation of computer models of climate change, and for understanding important factors in the climate system. Analysis of the first 10 years (1979 to 1988) of satellite measurements of lower atmospheric temperature changes reveals a monthly precision of  $0.01^{\circ}\text{C}$ , large temperature variability on time scales from weeks to several years, but no obvious trend for the 10-year period. The warmest years, in descending order, were 1987, 1988, 1983, and 1980. The years 1984, 1985, and 1986 were the coolest.

ACCURATE ESTIMATES OF GLOBAL ATMOSPHERIC TEMPERATURES are needed for evaluation of global climate models, detection of climate changes, and a better understanding of the climate system. Global temperatures have generally been estimated from surface temperature records, but there has been much debate regarding, for example, whether these data provide evidence of recent greenhouse warming (1). The primary source of uncertainty is the relatively sparse distribution of thermometers over the surface of the earth. Most of the earth is covered by oceans, and vast oceanic areas go unmeasured. Even over land, the coverage is greatest where the population is greatest; therefore, remote land areas also go unmeasured. An additional problem is that urban sites, which represent only a small part of the globe but where many long-term measurements have been made, have warmed because of heat from man-made structures, and thus these records are difficult to interpret (2, 3). Depending upon how the thermometer data are analyzed, various answers can be expected. In contrast to surface thermometers, sensors on satellite platforms can provide nearly complete earth coverage in as little as one day and can obtain measurements from various levels of the atmosphere. Calibration of satellite sensors is particularly difficult, however. For climate temperature monitoring a precision of  $0.1^{\circ}\text{C}$  is needed, a goal that has been perceived as difficult for any earth viewing radiometer. The difficulty arises from uncertainty about the long-term stability of satellite sensors. In this article, we show that accurate long-term global temperature measurements can be obtained from satellites

now operating and discuss data obtained from 1979 to 1988.

**Methodology.** In late 1978, a series of passive microwave radiometers was launched aboard the TIROS-N series of National Oceanic and Atmospheric Administration (NOAA) satellites. These radiometers, or microwave sounding units (MSUs), are Dicke-type radiometers designed to measure the thermal emission of radiation by atmospheric  $\text{O}_2$  at four frequencies near 60 GHz (4). The atmospheric concentration of  $\text{O}_2$  is constant in both space and time (5), and thus  $\text{O}_2$  provides a stable temperature tracer. The strong interaction of radiation from 50 to 70 GHz with  $\text{O}_2$  through rotational energy transitions causes absorption and emission. As the channel frequency of the MSU approaches the 60-GHz peak in this absorption complex, higher levels in the atmosphere will be measured (Fig. 1) (6). We have analyzed data from MSU channel 2, which measures the temperature of the middle troposphere at 53.74 GHz. At 57.95 GHz, MSU channel 4 can be used to monitor temperatures of the lower stratosphere. MSU channels 1 and 3 are more difficult to interpret for climate purposes because channel 1 is too sensitive to surface effects on the earth and cloud water, whereas channel 3 detects radiation from a strong temperature-transition region between the troposphere and stratosphere (the tropopause). The four channels have traditionally been used to obtain vertical profiles of temperature in remote regions of the earth where weather balloon data are not available. However, because the weighting

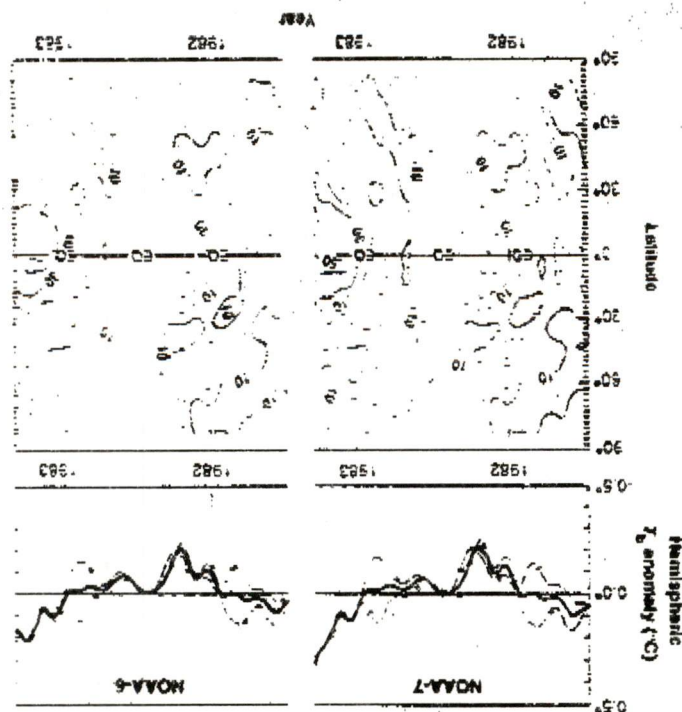
Fig. 1. Temperature weighting functions (unitless) for MSU channels 2 (mid-troposphere) and 4 (lower stratosphere). Also shown are the different channel 2 weighting functions for ocean and land surfaces, which arise because the less emissive ocean reflects more of the downwelling atmospheric radiation back upward. Sensitivity to the surface radiation itself cannot be applied from the magnitudes at the intersection of the curves with the surface. (Adapted from (6))



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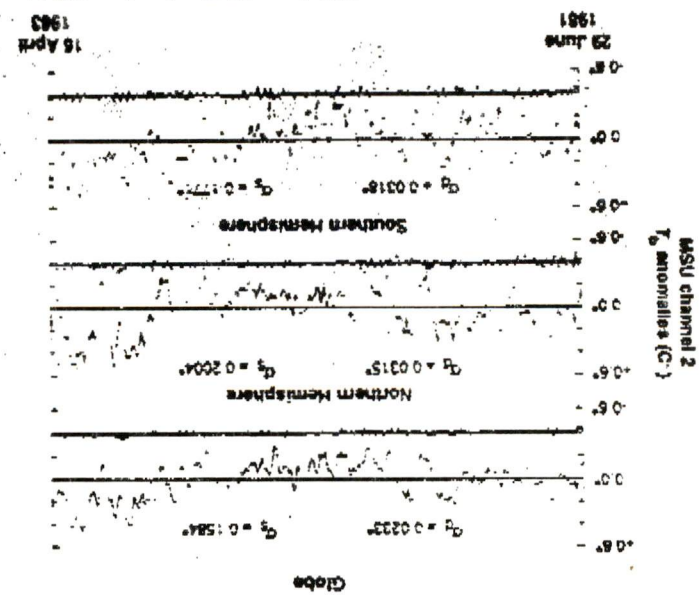
Fig. 3. Low-pass filtered hemispheric, top, and zonally averaged bottom MSU channel 2  $T_b$  anomalies during the 2-year overlap period of NOAA-6 (right) and NOAA-7 (left).  $T_b$  labels represent Northern and Southern hemispheres, respectively, and the global time series is the heavy line. The time series do not agree near the beginning and end of the period because of the low-pass filter and the lack of data past the end of the period for NOAA-6 or before the beginning of the period for NOAA-7. Warm zonally averaged anomalies are omitted.



1. The standard deviation (SD) of the sums of the data from the two satellites is much larger than the SD of their differences. This relation means that both satellites were measuring nearly the same temperature variations and implies that hemispheric temperature anomalies can be measured with relatively little error from a single satellite. The 2-day average difference between these satellites was about  $0.011^\circ\text{C}$ . Similar noise was found in monthly comparisons between data acquired from sensors on (i) TIROS-N and NOAA-6 ( $0.012^\circ\text{C}$ ), (ii) NOAA-7 and NOAA-9 ( $0.012^\circ\text{C}$ ), (iii) NOAA-9 and NOAA-10 ( $0.006^\circ\text{C}$ ), and (iv) NOAA-10 and NOAA-11 ( $0.008^\circ\text{C}$ ), although much shorter overlap periods were available. Thus, we estimate that the precision of monthly satellite measure-

2-day intervals over both the Northern and Southern hemispheres in  $2.5^\circ$  latitude bands with cosine-latitude weighting to account for the decrease in surface area of these bands toward the poles. We reduced contamination of the measurements by large thunderstorm complexes, which cause infrequent depressions in  $T_b$  over small areas (e.g., by excluding any scan lines that had individual footprint measurements that deviated by more than  $1.5^\circ\text{C}$  from their average relationship to both neighboring footprint measurements. The resulting variations in the 2-day averages are dominated by the seasonal change of temperature (8), termed the annual cycle. This annual cycle is sinusoidal in shape, and a smoothed cycle was computed for each satellite individually. Then this cycle was subtracted from the original 2-day time series to arrive at the anomalies in temperature, that is, the temperature deviations from the average temperature for a particular time of year. A period of data considerably longer than 2 years is necessary for a more representative annual cycle, and thus, more representative anomalies, but the short-term data are utilized only for satellite intercomparison. Several revealing observations can be made from the data (Fig. 2):

Fig. 2. Comparison between global MSU channel 2  $T_b$  values from NOAA-6 and NOAA-7 during a nearly 2-year period (29 June 1981 to 16 April 1983) when both satellites had MSUs operating. Time series of global and hemispheric satellite averages (sum divided by 2) and differences (difference divided by 2) are shown by the large variation and small variation curves, respectively. The difference time series are offset  $-0.4^\circ\text{C}$  for legibility. The SD of the two satellite sums ( $\sigma_s$ ) and differences ( $\sigma_d$ ) are also listed.



We averaged the channel 2  $T_b$  data from the separate satellites at about 2000 km wide beneath the satellites.

across the satellite subtrack, and thus paint out swaths of coverage areas of the globe sampled by the two satellites. The MSUs scan single day there are many differences (but also many overlaps) in the The precession rates of their orbits are quite different so that in a times of 7:30 a.m. and p.m. and 2:30 a.m. and p.m., respectively, synchronous, near-polar orbits, and have constant local crossing years (29 June 1981 to 16 April 1983). These satellites are in sun-MSUs were simultaneously operating during a period of nearly 2 years and gives an estimate of errors. The NOAA-6 and NOAA-7 measures and shows how different sensors agree in their measure- simultaneously operating on separate satellites, a comparison be-

Satellite intercomparison. Because two MSUs have usually been MSU channel 2. condition is nearly true of measurements of the atmosphere from when the emitting body is completely "black" (nonreflective). This radiative brightness and is only equal to a thermometric temperature edges that the temperature measurement is actually based upon reference extremes. The term "brightness temperature" (T<sub>b</sub>) by interpolation between these two out. The earth-viewing measurements are then calculated as a temperature changes in the instrument components are canceled to be the best available for microwave radiometers because any platinum resistance thermometer. This calibration design is considered instrument that has its temperature monitored with redundant (for our purposes, constant at 2.7 K), and a warm target in the instrument, by measurement of the cosmic background radiation

The MSUs are externally calibrated, after each earth scan of the some respects, for climate monitoring. specific pressure levels, is completely adequate, even preferable in pressure depth, however, rather than at traditionally measured been difficult. The temperature measurement within a constant- sphere that are needed for computer modeling of the weather has adequate data on the vertical temperature structure of the atmo- functions for each channel are vertically broad (Fig. 1), retrieval of



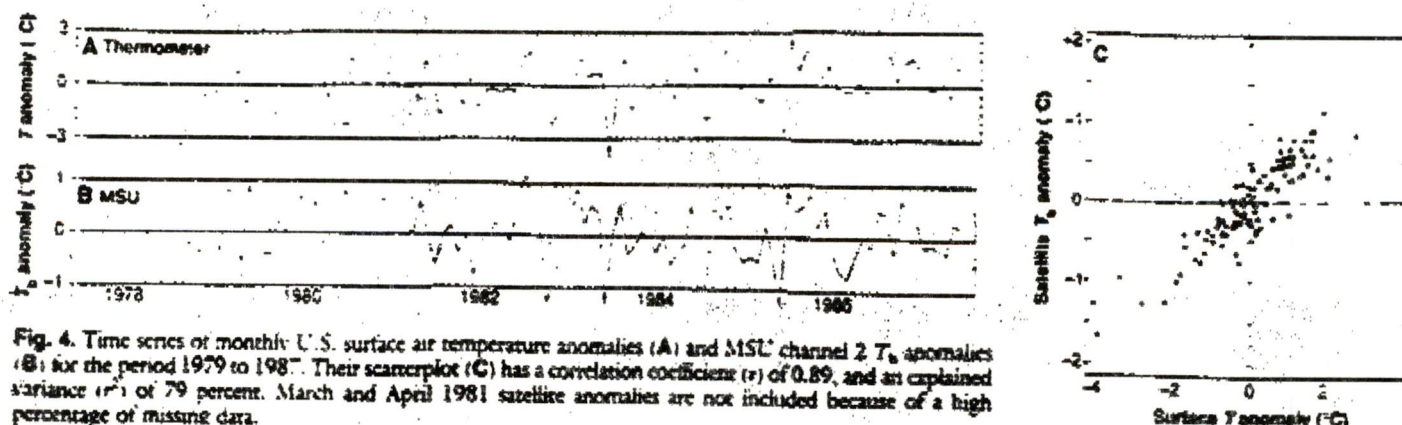


Fig. 4. Time series of monthly U.S. surface air temperature anomalies (A) and MSU channel 2  $T_b$  anomalies (B) for the period 1979 to 1988. Their scatterplot (C) has a correlation coefficient ( $r$ ) of 0.89, and an explained variance ( $r^2$ ) of 79 percent. March and April 1981 satellite anomalies are not included because of a high percentage of missing data.

ments is about  $\pm 0.01^\circ\text{C}$  for the globe.

2) The sums of the two sets of data reveal that dramatic globally averaged warming and cooling events of greater than  $0.5^\circ\text{C}$  can occur in less than 2 weeks. The warmings, representing huge energy exchanges, are possibly associated with stormy periods when large amounts of latent heat were released in precipitation of moisture previously evaporated from the sun-warmed ocean. The coolings might be from formation of widespread low-level cloudiness, which reflects significant amounts of incoming solar radiation.

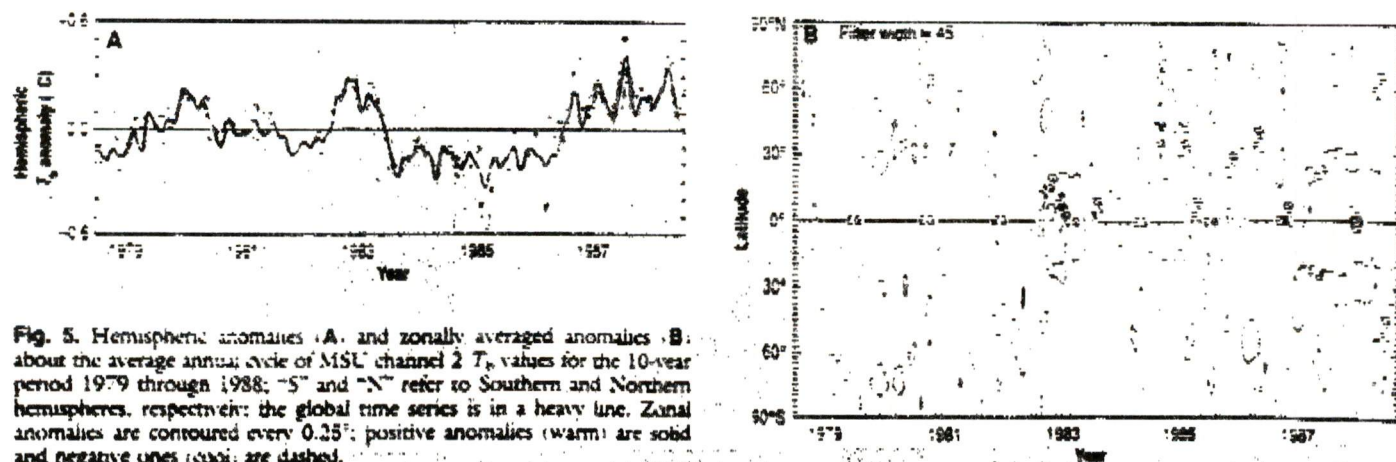
3) The long-term drift of one instrument relative to the other, seen in the difference time series in Fig. 2, is so small that it is virtually unmeasurable. Any trend is less than  $\pm 0.01^\circ\text{C}$  for the 2-year period. This high degree of stability was unexpected. The four other satellite overlaps mentioned above also gave no indication of drift.

Further evidence that the measurements were repeatable is shown by low-pass filtered (9) times series of hemispheric (and global) temperature anomalies from NOAA-7 and NOAA-6 data and the zonally averaged distribution of those anomalies (Fig. 3). The zonal averages allow examination of which latitude bands of the earth were responsible for the warm or cool events seen in the hemispheric and global time series. The zonal average patterns are nearly identical between satellites. Such agreement improves our confidence that even regional areas can be studied to find the origins of the hemispheric anomalies.

Comparisons with United States and global thermometer measurements. Although the above results indicate that the sampling provided by a single satellite is geographically extensive and that the measurements are radiometrically stable enough to be useful for monitoring climate, it still must be demonstrated that MSU measurements are closely related to temperature. Earlier investiga-

tors have made point comparisons between weather balloon data and satellite measurements (10-12). The differences between individual radiosonde and satellite measurements are generally less than  $1.0^\circ\text{C}$ . These differences are usually attributed to (i) the isolated balloon sampling compared to the large area represented by a single satellite measurement (a circular footprint 110 km in diameter); (ii) errors in calibration of the balloon thermometer before its release; (iii) the random noise of a single MSU measurement, about  $0.3^\circ\text{C}$ ; and (iv) time mismatches between the satellite and balloon observations. We compared the 1980 through 1988 MSU observations to  $T_b$  data obtained from radiosondes launched twice daily by 66 National Weather Service offices around the United States. The  $T_b$  data were calculated with the radiative transfer equation for MSU channel 2, and thus the radiosondes had to reach a fairly high-pressure altitude, 2 kPa or less. Only MSU data within 200 km of the radiosonde location and within 3 hours of its release time were included. The comparisons revealed that there were biases of up to  $\pm 1^\circ\text{C}$  between the two data sets; the biases are most easily related to the difference in time between the release time of the radiosondes (all simultaneous at 00 and 12 GMT) and the MSU observation times, which are sun synchronous. After correction for these biases on a station-by-station basis, we found no long-term trend in the 9 years of differences between MSU and radiosonde-calculated  $T_b$  values and a monthly SD of  $0.068^\circ\text{C}$ .

The MSU data also can be compared to records of temperature variability from near-surface thermometers. Even though they are different variables, their common variability helps to assess how well coupled the near-surface temperature variations are to the deep layer variations. Although the global distribution of thermometers is suspected by many researchers as being inadequate for accurate monitoring, the distribution over the United States is widely





accepted as good enough for climate work. We compared monthly temperature anomalies from thermometers over the contiguous United States for the period 1979 through 1987 (13) to our monthly mid-tropospheric temperature anomalies from the satellites. The resulting anomaly time series (Fig. 4, A and B) are similar, as verified by a scatterplot (Fig. 4B) and a correlation coefficient of 0.89. This correlation agrees with those between radiosonde near-surface and upper air measurements, for which monthly temperature anomalies range from 0.8 for the eastern United States to greater than 0.9 for the western United States. The surface anomalies are typically two to three times as great as the MSU anomalies. This relation is probably a result of daytime solar heating and nighttime cooling of the surface, which largely control the deeper air mass temperatures over the United States on monthly and seasonal time scales.

Two major research groups have been responsible for hemispheric calculations of temperature anomalies from thermometer measurements, and we refer to them by their leading authors names: Jones (14, 15, 16) and Hansen (17). Their results have been sufficiently different to spark debate in the climate community and have led to conflicting reports in the popular press regarding global temperature trends. We have compared our satellite-measured hemispheric anomalies to the thermometer-based anomalies from these two groups (Table 1). Again, when the separate systems are viewed as a bivariate distribution in which we wish to determine the level of common variability, these comparisons reveal that the level of

agreement between the calculations by Jones and the satellite data is about 40% better than that between the calculations by Hansen and the satellite data. As might be expected for two land-dominated data sets, the Jones and Hansen data are much better correlated with each other, with an explained variance of 94%, than either is with the MSU data. The much lower explained variances for the hemispheres and globe (Table 1) compared to the United States are the result of both poor thermometer coverage over much of the earth and weak thermal coupling between the middle and lower troposphere over much of the oceans. This latter effect was deduced from radiosonde near-surface and deep layer temperature comparisons. When monthly surface temperature anomalies from radiosonde are compared to the corresponding radiosonde-calculated channel 2 anomalies for United States-controlled ocean stations, the explained variances drops to about 35% for the Caribbean, 0 to 20% for the tropical Pacific, and 25% for the tropical south Atlantic. Although there are few high-latitude ocean radiosonde stations, the data suggest that the thermal coupling increases poleward (for example, 52% in Iceland), probably because of the wider range of air mass temperatures encountered there. Thus we would not expect as good agreement between MSU anomalies and tropical ocean surface air temperature anomalies as are obtained over land, even if the oceanic thermometer coverage were adequate. This conclusion is substantiated by the somewhat poorer agreement between the satellite data and combined thermometer and sea surface temperature data from

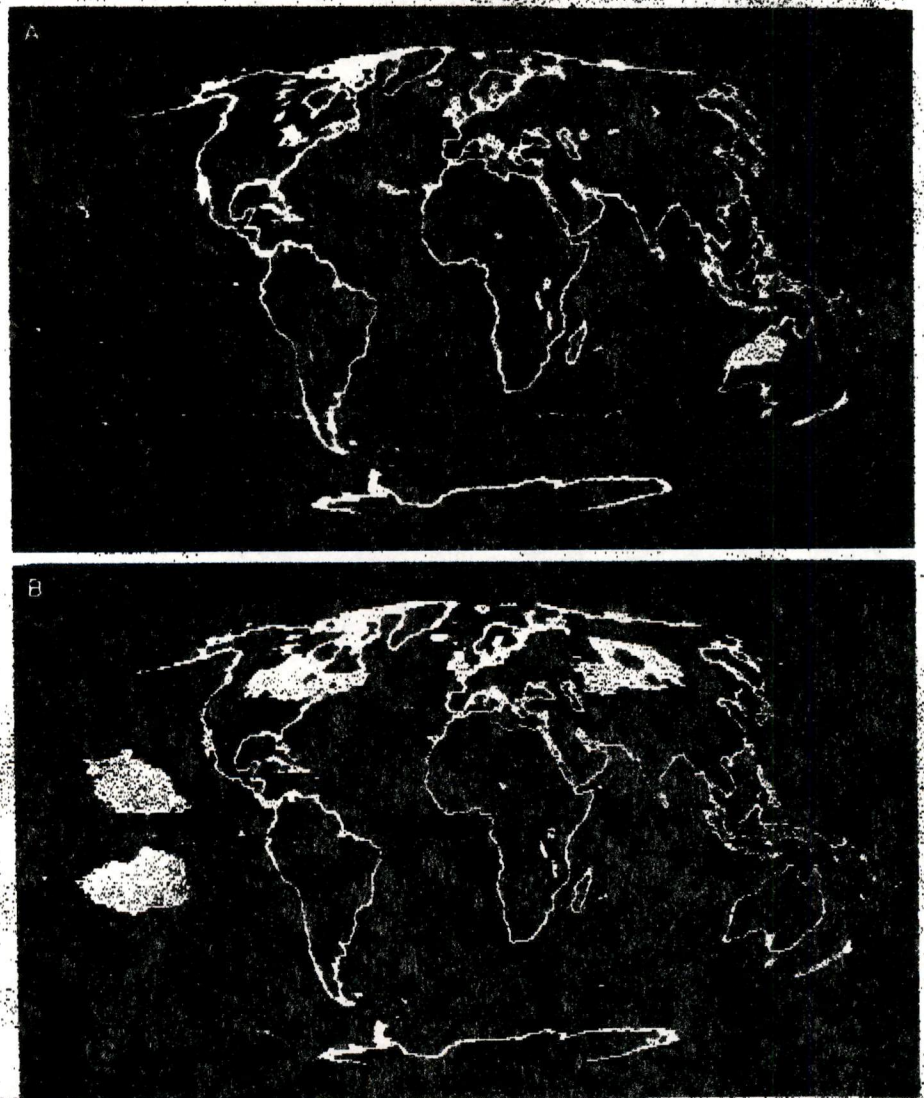


Fig. 6. Average MSU channel 3  $T_b$  (A) during the 10-day period 26 January to 5 February and temperature anomalies (B) for the same 10-day period during the 1983 ENSO climate anomaly. Temperatures range in top image is gray, representing 235 K, to red, representing 260 K, in 1 K increments; temperature anomalies in bottom image change color every 0.25 K, the blue side of dark gray is colder, red side is warmer.



Table 1. Monthly and annual explained variances (in percent) between MSU and thermometer-measured temperature anomalies for United States (U.S.), Northern (NH) and Southern (SH) hemispheres, and the globe from 1979 to 1988. Thermometer-based calculations for the United States are from Karl (13); monthly and annual hemispheric and global thermometer anomalies are from Jones (14-16); annual anomalies are from Hansen and Lebedeff (17), and hemispheric and global anomalies, which also include sea surface temperatures, are from Farmer *et al.* (18).

| Source         | U.S. | NH | SH | Globe |
|----------------|------|----|----|-------|
| <i>Monthly</i> |      |    |    |       |
| Karl           | 77   |    |    |       |
| Jones          |      | 33 | 10 | 35    |
| Farmer         |      | 26 | 11 | 28    |
| <i>Annual</i>  |      |    |    |       |
| Karl           | 77   |    |    |       |
| Hansen         |      | 67 | 27 | 53    |
| Jones          |      | 72 | 66 | 74    |
| Farmer         |      | 77 | 24 | 69    |

Farmer *et al.* (18) (Table 1). The poor agreement raises the important issue of whether near-surface temperatures or deep layer temperatures should be monitored for detection of climate change. Because they are often different from one another over the tropical oceans, it would be best to monitor both in order to gain an understanding of how the entire troposphere behaves. Indeed, it might well be that the oceanic surface air layer is so strongly coupled to sea surface temperature variations that a deep layer mean would provide an earlier signal of possible greenhouse warming.

Global temperature anomalies 1979 to 1988. The first 10 years of satellite data reveal large fluctuations in the hemispheric and global temperatures (Fig. 5A). The Northern and Southern hemispheres trends follow each other for the slower, interannual trends, but often oppose each other on monthly to seasonal time scales. The warmest years, in decreasing order, were 1987, 1988, 1983, and 1980. There is no obvious long-term trend, and anomalies during the first 5 years nearly balance those during the last 5 years. The 1988 warm event was traced to the mid-latitudes, as was the 1980 warm anomaly. Both years included summer heat waves in the United States. The largest warm anomaly in the Northern Hemisphere for the 10-year record occurred in 1987 and 1988 (Fig. 5B). The 1987 and 1983 warm events were associated with El Niño/Southern Oscillation events [ENSOs (19)]. During the 1983 ENSO, transfer of heat from record-setting sea surface temperatures in the eastern Pacific to the atmosphere caused major changes in atmospheric flow that impacted weather conditions worldwide. Warming locally exceeded 2°C in two Pacific anticyclones (Fig. 6) that straddled an equatorial zone of intense convective activity caused by the warm water. This event caused globally averaged temperatures to rise more in several months than what is expected within several decades if enhanced greenhouse warming is occurring. Although the 1987 ENSO has been considered weaker than the 1983 ENSO, it was associated with higher temperatures that were more uniformly spread throughout the tropics. The mid-latitudes in both the Southern and Northern hemispheres in 1988 experienced warm conditions that appear to be coupled to the 1987 tropical warmth. The period 1984 to 1986 was dominated by cooler than normal tropical air. The 10-year time series exhibits bifurcation in that there are nine cool or warm years, and only one year (1981)

that could be considered "average." This pattern makes the definition of what is "normal" for global temperatures uncertain, for as shown above normal can mean either warm or cool conditions.

The future. Our data suggest that high-precision atmospheric temperature monitoring is possible from satellite microwave radiometers. Because of their demonstrated stability and the global coverage they provide, these radiometers should be made the standard for the monitoring of global atmospheric temperature anomalies since 1979. Their use will allow relatively precise monthly determinations of the locations and magnitudes of temperature change events. The resulting data should provide a greater focus of scientific debate on why temperature anomalies occur rather than whether they occur. The advanced microwave sounding units (AMSU) will replace the MSU on NOAA satellites in the mid-1990s, and these units will allow extension of the time series into the next century. Various computerized climate models, which predict future changes through time-dependent equations representing physical processes, can now be evaluated with accurate global temperature measurements. These data should result in improved specification of processes in these models, which still require independent verification. These improvements should facilitate more informed policy decisions concerning the effects of anthropogenic greenhouse gas production.

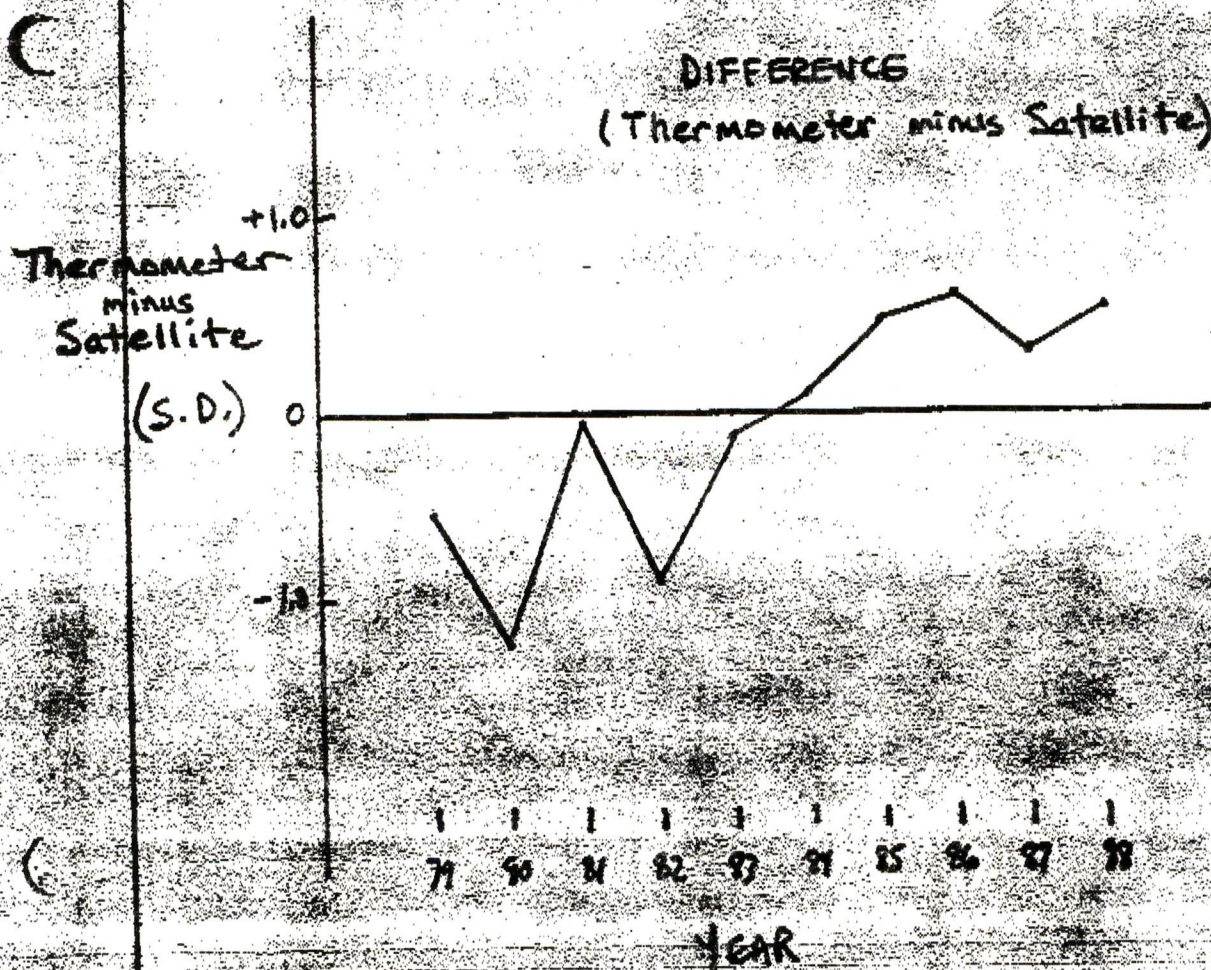
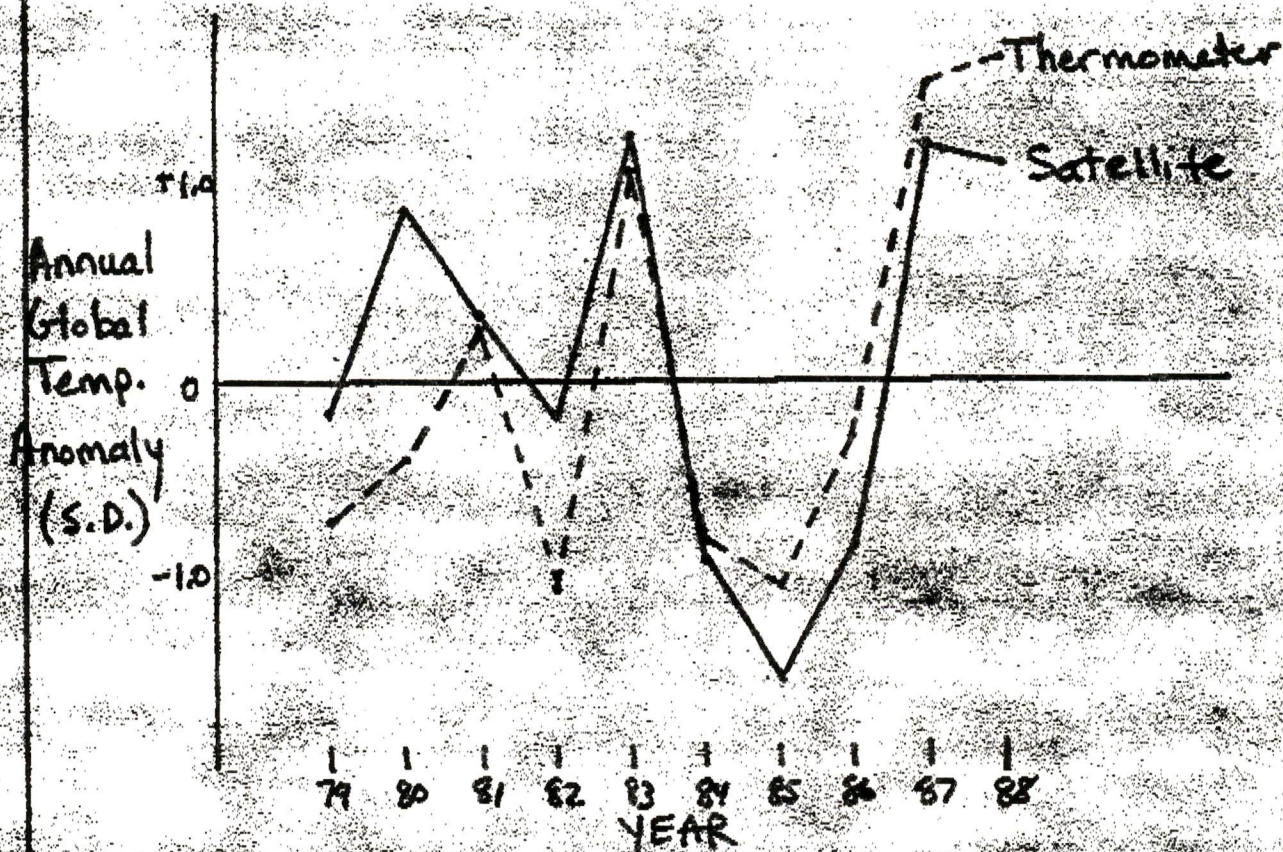
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8. Other, smaller signals are also present in the measurements. These include a small surface temperature contribution (5 percent of the total over land, 4 percent over the ocean), wind-induced roughening of the ocean surface, cloud liquid water effects, water vapor variations, sea surface temperature changes, and soil moisture changes. The effects of variations in each of these parameters on the measured  $T_b$  values have been theoretically evaluated, and have been determined to be small for MSU channel 2 (0.01°C or less) on a hemispheric and global basis. Larger effects could conceivably occur over small regions. In contrast, MSU channel 4 is essentially unaffected by any of these changes. The radiative transfer theory involved in the analysis of these effects is covered in (6).
9. Low-pass filtering of the time series allows isolation of the more slowly varying temperature variations that are of interest to climatologists. Here, the filter retains 50 percent of the power of cycles having 90-day periods, progressively less power of periods shorter than 90 days, and more power of longer periods.
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18. G. Farmer, T. M. L. Quigley, P. D. Jones, M. Salamon, *Documenting and Explaining Recent Global Mean Temperature Changes* (Climate Research Unit, University of East Anglia, Norwich, 1989).
19. R. S. Quinn, *Mon. Weather Rev.* 111, 1685 (1983).
20. R. Jenne and D. Joseph provided the MSU data used in this study. A. Hood provided data processing and programming support. N. Grody collaborated on portions of this research and provided general advice. F. Wines provided updated sea surface temperature estimates. P. Olson, F. Solari, and J. Swanson assisted in obtaining technical data on the MSU. G. Wilson helped obtain the satellite data sets; discussions with I. Dodge and R. McNider led to the present research.

27 October 1989; accepted 23 February 1990

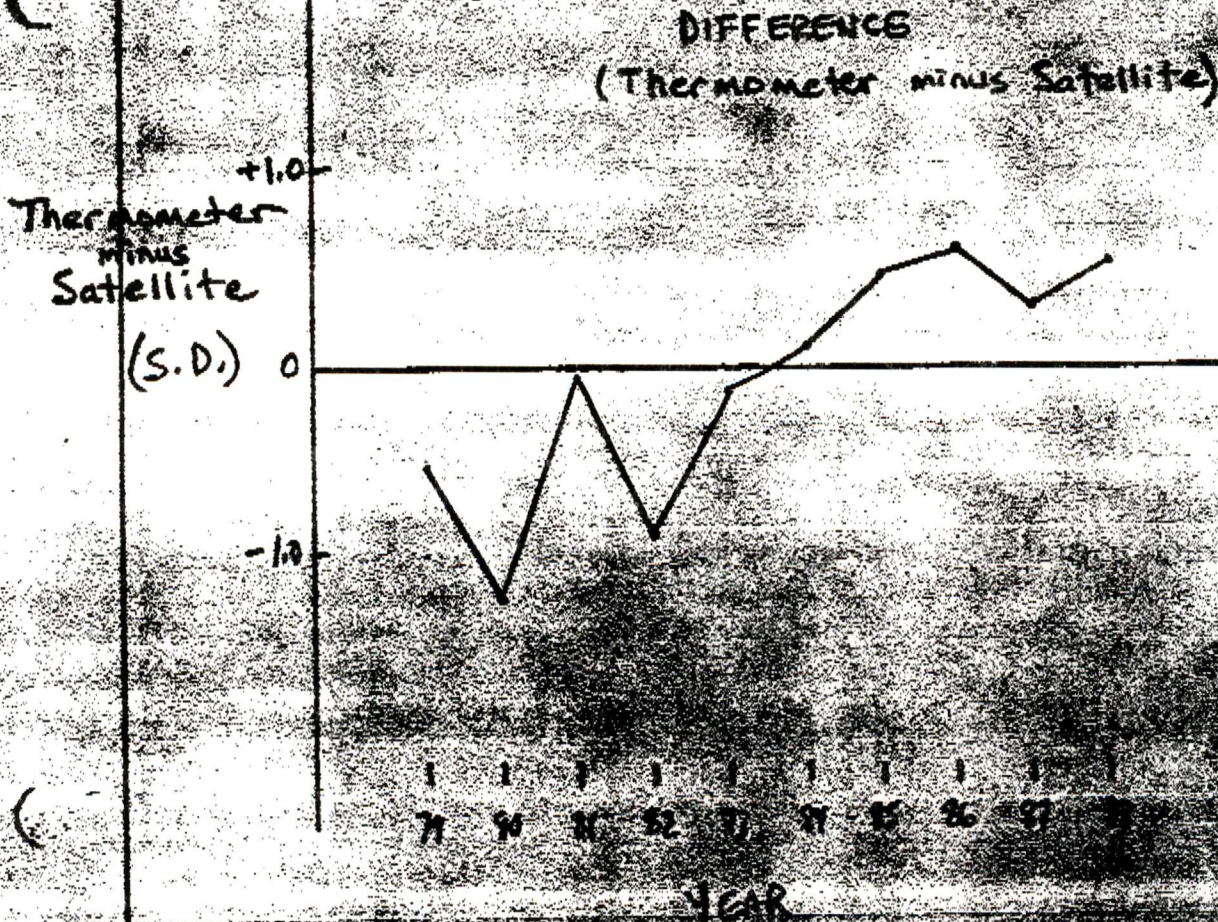
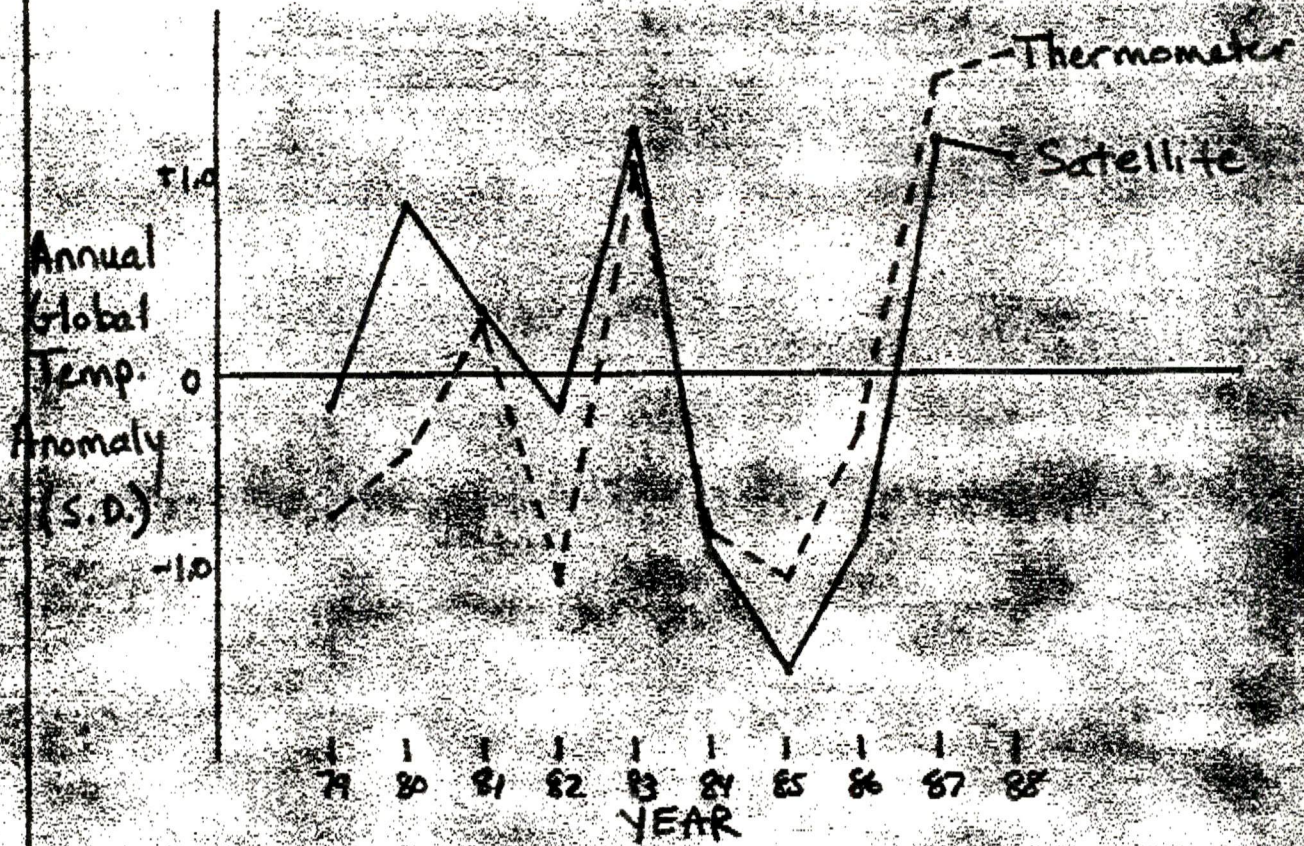


# SATELLITES vs. THERMOMETERS 1979-1988





# SATELLITES vs. THERMOMETERS 1979-1988







**The Secretary of Energy**  
Washington, DC 20585

April 30, 1990

THE CHIEF of STAFF  
has seen

The Honorable John H. Sununu  
Chief of Staff to the President  
The White House  
Washington, D.C. 20500

Dear Governor Sununu:

On March 14, 1990, I informed you of the Savannah River reactor restart plan briefing which I received and promised that, following my final review of the plans, I would make a public announcement of the intended restart schedule in April.

On May 1, 1990, during my hearing before the Senate Committee on Armed Services, I will announce that the first reactor will be ready for criticality and low power testing in December 1990, with tritium production scheduled for the following month. The second reactor is planned to restart in March, 1991, with production commencing the succeeding month. In September 1991, we will follow the same procedure for the third reactor.

This schedule is predicated on completing the NEPA decision-making process for reactor operation, including the resolution of public comment on the reactor operations environmental impact statement. Other schedule uncertainties may derive from potential legal challenges to reactor operation, new issues raised by governmental oversight groups which are following the restart process closely, or unforeseen technical problems that may emerge as we continue to review readiness for restart.

The Defense Nuclear Facilities Safety Board has been fully briefed on the restart effort and maintains a continuing review of a number of important safety issues associated with this effort. I will continue to give the Board's recommendations careful consideration during this process.

As I indicated to you in my March 14 letter, this projected schedule will allow us to meet our tritium requirements. I will keep you apprised of any significant changes which may occur. Additionally, I am continuing to review preparations for the resumption of plutonium operations at our Rocky Flats plant. The new EG&G management team is doing an impressive job, and I hope to be able to confirm in mid-May that operations will be resumed beginning in the second quarter of this year. I will notify you shortly of the specific plans.

Sincerely,

  
James D. Watkins  
Admiral, U.S. Navy (Retired)



# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                                                                   | Date   | Restriction   | Class. |
|--------------------------|---------------------------------------------------------------------------------------------|--------|---------------|--------|
| 10. Memo                 | From James Watkins to John Sununu<br>Re: Johnston-Wirth-McClure Global Warming Bill (1 pp.) | 5/1/90 | <del>P5</del> |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
 (Document Follows)  
 By JP (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

### RESTRICTION CODES

**Presidential Records Act - [44 U.S.C. 2204(a)]**

P-1 National Security Classified Information [(a)(1) of the PRA]  
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]  
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]  
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]  
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]  
 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

**Freedom of Information Act - [5 U.S.C. 552(b)]**

(b)(1) National security classified information [(b)(1) of the FOIA]  
 (b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]  
 (b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]  
 (b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]  
 (b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]  
 (b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]  
 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]  
 (b)(9) Release would disclose geological or geophysical information



**The Secretary of Energy**  
Washington, DC 20585

*file*

May 1, 1990

MEMORANDUM FOR THE HONORABLE JOHN H. SUNUNU  
CHIEF OF STAFF TO THE PRESIDENT

SUBJECT: Johnston-Wirth-McClure Global Warming Bill

*John.*

S.324, the Johnston-Wirth-McClure Global Warming Bill currently scheduled for mark-up next week, may be the best vehicle for the Administration to promote its policy on global change.

Yesterday, Senator Mitchell announced that he will move on a global warming bill this session. I am concerned that he is thinking about using the Environment and Public Works Committee version which is much worse than the Energy Committee bill.

I would like your assent to work with Bob Grady to make sure that the bill reflects and supports the Administration's view, in other words, to turn it into a Global Change bill. To date, Bob Grady has been reluctant to negotiate with any congressional staff or members on this issue because he didn't want to unwittingly encourage movement of legislation in this area.

I think we are likely to see a bill this year out of the Senate, so we might want to make our mark now, on the energy bill.

  
James D. Watkins  
Admiral, U.S. Navy (Retired)



# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                                               | Date    | Restriction    | Class. |
|--------------------------|-------------------------------------------------------------------------|---------|----------------|--------|
| 11. Memo                 | From David Bates to John Sununu<br>Re: National Energy Strategy (1 pp.) | 3/22/90 | <del>P-5</del> |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
 (Document Follows)  
 By JF (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

### RESTRICTION CODES

**Presidential Records Act - [44 U.S.C. 2204(a)]**

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 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]  
 (b)(9) Release would disclose geological or geophysical information

THE WHITE HOUSE

WASHINGTON

March 22, 1990

MEMORANDUM TO GOVERNOR SUNUNU

FROM: DAVID Q. BATES   
SUBJECT: National Energy Strategy

Background

In July 1989, the President directed the Secretary of Energy to begin development of a National Energy Strategy, which is scheduled for completion by the end of 1990. An Interim Report based on extensive public hearings has been completed. Together the Interim Report and the final report will serve to satisfy a Congressional statute requiring a national energy plan.

March 21 EPC Meeting

The EPC met yesterday to discuss the Interim Report, which DOE will deliver to Congress on April 2. At the request of the interagency Working Group, DOE had withdrawn all policy initiatives from the Interim Report, which now contains no recommendations or specific policy statements. It is essentially a compilation of views expressed at public hearings. In contrast, the final report, which Secretary Watkins has described as a "blueprint" for meeting U.S. energy needs, is intended to chart long-term U.S. strategy based on projections to the year 2030.

To underline the limited scope of the Interim Report and to distance the Administration from the views expressed at public hearings, the EPC decided to add the following subtitle to the report: "A Compilation of Public Comments." The EPC agreed that the Interim Report should be transmitted to Congress.

DOE distributed a draft agenda outlining the process for developing the final report (see attached). The agenda provides for broad interagency participation.

The EPC requested that the draft agenda be modified in two ways: (1) the subcommittee working groups should develop "options," not "recommendations"; and (2) the final report should not be released until after the President's budget announcement, although any initiatives with budgetary impact should be finalized in time for OMB to include them in the budget.

cc: Andy Card



THE WHITE HOUSE  
WASHINGTON

DATE: May 4, 1990

TO: Bob Grady

FROM: GOVERNOR JOHN H. SUNUNU

Please discuss this with me.

Grady sent  
Side-by-side  
Comparison.



**Department of Energy**  
Washington, DC 20585

**DRAFT**

**TENTATIVE AGENDA FOR NES DEVELOPMENT:**

**APRIL INTERIM REPORT TO DECEMBER SUBMISSION TO PRESIDENT**

April - May

Interagency Staff Working Groups to:

- (1) review, modify and approve action items (7) completed to date.
- (2) identify potential options which warrant analysis for final report.

June

Interagency Staff and Senior Working Groups complete preliminary analysis and begin to develop staff draft recommendations for additional action items.

June - August

Additional public hearings and workshops held to collect comments on Staff draft recommendations and analysis. Complete analysis and staff draft recommendations.

September - October

Interagency Staff and Senior Level Working Groups determine recommendations to be proposed to EPC Principals.

November

Final recommendations are approved by EPC Principals.

December 1

National Energy Strategy Recommendations submitted to the President. DOE and other agencies, as required, submit revised budgets to OMB on December 1 reflecting recommendations approved by EPC Principals for the National Energy Strategy.

January - March 1991

National Energy Strategy published as approved by the President.





**The Secretary of Energy**  
Washington, DC 20585

March 13, 1990

THE CHIEF of STAFF  
has seen

The Honorable John H. Sununu  
Chief of Staff to the President  
The White House  
Washington, D.C. 20500

Dear Governor Sununu: *John*

Today, I received a comprehensive briefing by Westinghouse senior management on the status of the Savannah River reactor restart effort. Based on Westinghouse's presentation, I feel that the definition of remaining tasks to be completed is clear. My review of Westinghouse's restart plan should be completed in the next few weeks, and I will make an announcement on the restart schedule in April.

Since Westinghouse's last briefing to me on Savannah River reactor restart status last year, a number of tasks were added to the scope of the restart effort by me and Westinghouse, to provide additional assurance of safe reactor restart and operation. The projected restart schedule, including these additional tasks, does not significantly impact the earlier announced schedule for power operations of the first reactor in late calendar year 1990. Further, this schedule modification should not impact adversely on our ability to meet tritium requirements in 1991.

A copy of the press release on this issue is enclosed.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim", is written over the word "Sincerely,".

James D. Watkins  
Admiral, U.S. Navy (Retired)

Enclosure

# DOE

# NEWS

BEING RELEASED ON WEDNESDAY

NEWS MEDIA CONTACT:  
Catherine Kaliniak, 202/586-5806

FOR IMMEDIATE RELEASE  
March 14, 1990

## WATKINS BRIEFED ON STATUS OF SAVANNAH RIVER REACTOR RESTART

Secretary of Energy James D. Watkins received a comprehensive briefing today by senior managers of Westinghouse on the current status of the Savannah River reactor restart effort. The briefing included a substantial discussion of key improvements made to date in reactor systems as well as enhancements to personnel training and the improved controls being put in place to assure that the reactors can be safely started and operated. In particular, Admiral Watkins was briefed on the improvements being implemented both in the near term and long term to make operations of the Savannah River reactors more consistent with the practices used at commercial nuclear facilities. Admiral Watkins has indicated that DOE will conduct a detailed review of Westinghouse's plans and schedules and make an announcement of the projected restart schedule in April.

Since Westinghouse's last comprehensive briefing to Admiral Watkins last year, a number of tasks have been added to the scope of the restart effort by DOE and Westinghouse to further enhance the safe operations of the reactors. The projected restart schedule presented by Westinghouse, including these additions, does not significantly impact the earlier announced schedule for power operations of the first reactor in late calendar year 1990.

-DOE-

R-90-0



Date 3/13/90

Office of the Secretary  
U.S. Department of Energy

No. 03332

To: The Honorable John H. Sununu

Chief of Staff to the President

The White House - Room 1/WW

Return

Receipt

(name)

Yvonne West/Department of Energy

To:

(bldg. & room no.)

Forrestal Building - Room 7-E-054

Subject Enclosed: Restart of the Savannah River Reactor

Receipt Acknowledged:

(signature)

(date)

3/13/90

(time)

7:40

**DOE****NEWS**

Super Collider

✓ file

NEWS MEDIA CONTACT:  
Jeff Sherwood, 202/586-5806

FOR IMMEDIATE RELEASE  
March 12, 1990

**BUSH ADMINISTRATION REAFFIRMS  
SUPPORT FOR SUPER COLLIDER**

The Bush administration has reaffirmed its strong support for the construction of the Superconducting Super Collider, Secretary of Energy James D. Watkins announced today.

"On Friday, I met with Governor John Sununu, White House Chief of Staff; Richard Darman, Director of the Office of Management and Budget; and Dr. Allan Bromley, Assistant to the President for Science and Technology," said Admiral Watkins. "I briefed them on the status of the project. We had an excellent discussion and are all fully in support of proceeding with the Super Collider as planned. This commitment to create the world's largest scientific instrument reflects a decision by the Bush administration to continue to invest in our scientific and technological future. We can now move out aggressively to make that investment."

The administration's proposed plan for international participation in the project was also discussed at the meeting. Following appropriate discussions with the Congress, Deputy Secretary W. Henson Moore plans to lead delegations to begin formal negotiations with several nations as early as June.

(MORE)

R-90-060



-2-

Deputy Secretary Moore and Acting Director of Energy Research Dr. James P. Decker also attended the White House meeting.

The Super Collider will be the world's most powerful particle accelerator, a basic research tool to explore the fundamental properties of matter and energy. Two rings of magnets will guide beams of protons in opposite directions in a 54 mile oval tunnel, to be brought into collision in experimental areas where detectors will capture for analysis the resulting shower of subatomic particles.

-DOE-

R-90-060



The Secretary of Energy  
Washington, DC 20585  
March 2, 1990

The Honorable Les Aspin  
Chairman  
Committee on Armed Services  
United States House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

The purpose of this letter is to inform  
Department of Energy's (DOE) Rocky Flats

Last November plutonium operations at the  
suspended in preparation for a semi-annual  
Normally operations would have been resumed  
since our new contractor, EG&G took over  
resumption of operations was delayed in

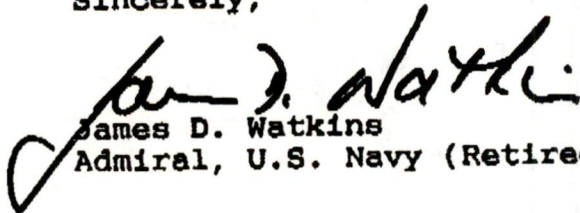
- o allow EG&G's new management to get in place;
- o allow EG&G to fully understand operations and problems at the Rocky Flats Plant;
- o allow EG&G to implement policy and procedures to support DOE objectives; and
- o allow improvements to increase the margin of safety at the plant.

EG&G has prepared a resumption of operations plan which is in the final stages of DOE approval. Resumption of plutonium operations is expected at the second quarter of calendar year 1990 and full production at the third quarter. While this schedule is achievable, it may be optimistic, for issues raised by the Defense Nuclear Facilities Safety Board, the Advisory Committee on Nuclear Facility Safety, or legal proceedings could jeopardize the schedule.

As a result of the plutonium operations outage, weapon deliveries in 1990 will be reduced. We are working with the Department of Defense to minimize the impact.

I will keep you informed as the situation at the Rocky Flats Plant progresses.

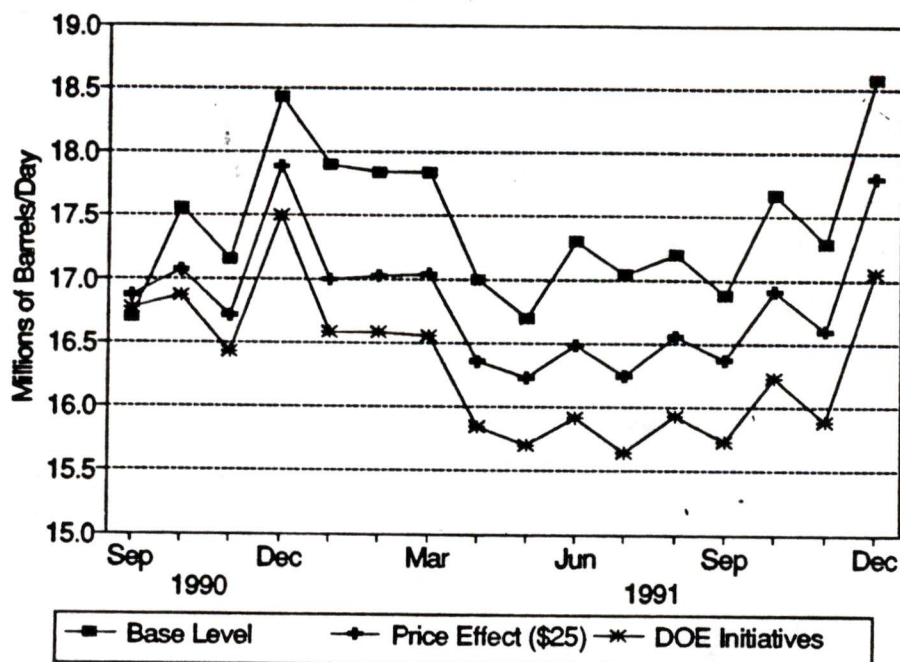
Sincerely,

  
James D. Watkins  
Admiral, U.S. Navy (Retired)

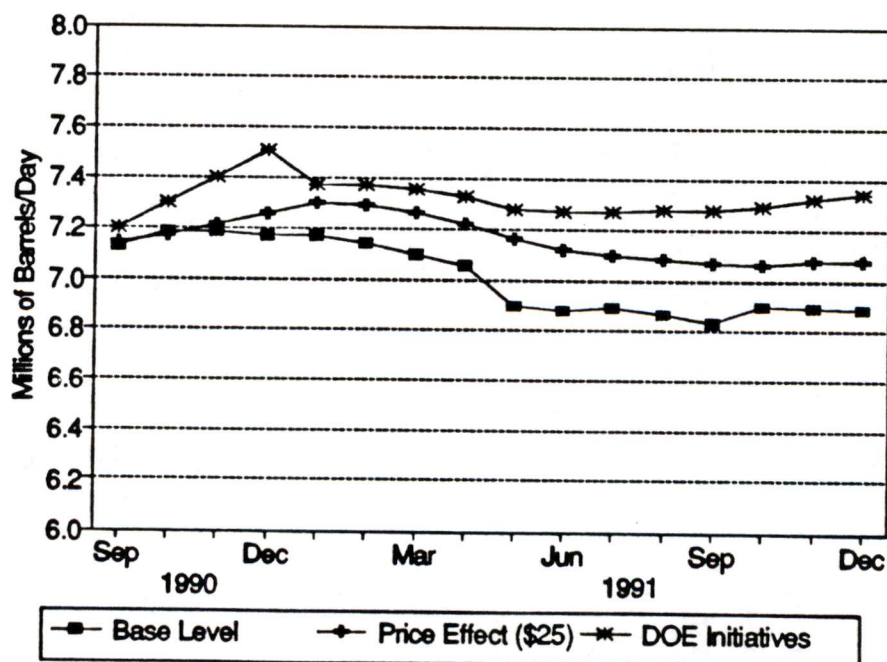
Same letter sent to Senator Nunn



## U.S. Consumption of Petroleum Products



## U.S. Crude Oil Production



\*Source: Base level from Short-Term Energy Outlook, April 1990

September 5, 1990

Response to Iraqi Situation  
Immediate Measures (by Dec. 1990)

I. Efficiency Measures

Note (1)

|                                | <u>Goal (B/D)*</u> | <u>Achieved (B/D)</u> |
|--------------------------------|--------------------|-----------------------|
| Exhortatory Campaign           |                    |                       |
| - Proper Tire Pressure         | 100,000            |                       |
| - Compliance with Speed Limits | 50,000             |                       |
| - More Efficient Vehicle Use   | 40,000             |                       |
| - Car Pool/Van Pool            | <u>90,000</u>      |                       |
| <u>SUBTOTAL</u>                | 280,000            |                       |

II. Fuel Switching Measures

Note (2)

|                               |               |
|-------------------------------|---------------|
| 1. Utility/Industry Switching | 100,000       |
| 2. Gasohol Use                | <u>10,000</u> |
| <u>SUBTOTAL</u>               | 110,000       |

III. Supply Measures

|                                  |               |                 |
|----------------------------------|---------------|-----------------|
| 1. Increase Alaska Production    | 100,000       | 226,000         |
| 2. Increase States Allowables    | 30,000        | 20,000          |
| 3. Increase NPR Production       | 5,000         | 5,000           |
| 4. Start Pt. Arguello Production | <u>75,000</u> | <u>Note (3)</u> |
| <u>SUBTOTAL</u>                  | 210,000       | 251,000         |
| <u>TOTAL</u>                     | 525,000       |                 |

Note (1): Cannot be measured without new data collection effort.

Note (2): System in place to track.

Note (3): Transferred to Medium Term measures. Excluded from  
Immediate Measures Total

\* Exclusive of market price effects on supply and demand.



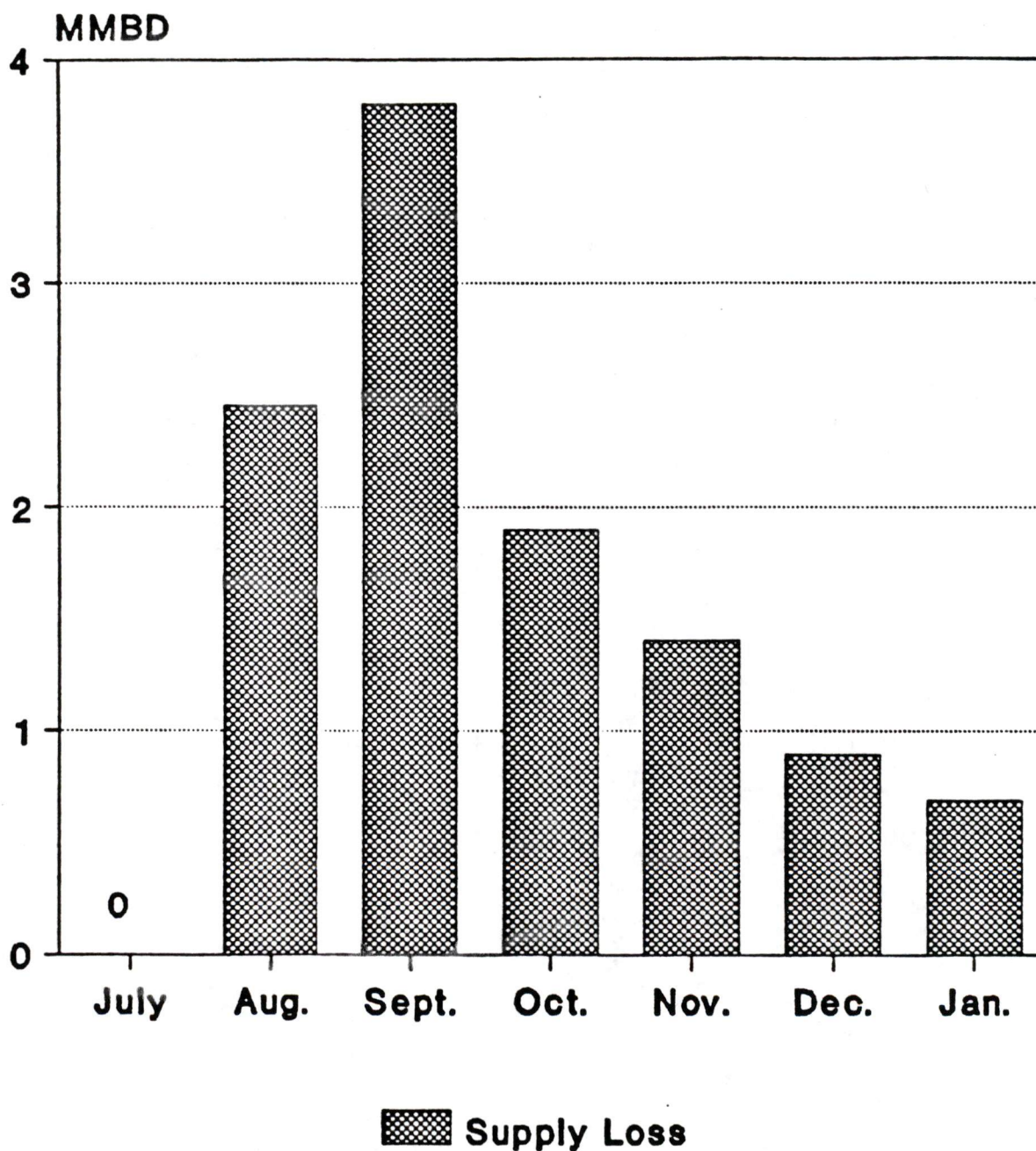
Response to Iraqi Situation  
Medium Term Measures

| <u>I. Efficiency Measures</u>         | <u>Goal (B/D)*</u> | <u>Achievement Date</u> |
|---------------------------------------|--------------------|-------------------------|
| Exhortatory Campaign                  | (feasible)         | Response                |
| 1. Lower Octane Gasoline              | 50,000             | Dependent               |
| 2. Oil Burner Tune-Up/Replacement     | 45,000             | On Consumer             |
| 3. Better Driving Habits              | 120,000            |                         |
| 4. Utility/Industrial Conservation    | 75,000             |                         |
| 5. Tax-Free Treatment of Demand       |                    |                         |
| Investments                           | N/A                |                         |
| 6. Federal Energy Efficiency          | <u>10,000</u>      |                         |
| <u>SUBTOTAL</u>                       | 300,000            |                         |
| <u>II. Fuel Switching Measures</u>    |                    |                         |
| 1.a. Natural Gas Pipeline Projects    | 55,000             | By Dec. 1991 (1)        |
| 1.b. Dispatching Oil-Fired Generation | N/A                | Winter 1990/1991        |
| 2. Accelerated Use of Alt. Fuels      | N/A                | By 1992                 |
| 3. Waste-to-Energy Permitting         | N/A                | To Be Determined        |
| 4. Renewable Energy Tax Credit        | <u>N/A</u>         | To Be Determined        |
| <u>SUBTOTAL</u>                       | 55,000             | By 1991                 |
| <u>III. Supply Measures</u>           |                    |                         |
| 1. Point Arguello Production          | 75,000             | By Dec. 1991            |
| 2. New Alaska Production              | 100,000            | By 1992                 |
| 3. California Heavy Oil               | 100,000            | Probably 1992           |
| 4. EOR Tax Incentive                  | <u>95,000</u>      | Probably 1992           |
| <u>SUBTOTAL</u>                       | 370,000            |                         |
| <u>TOTAL</u>                          | 725,000            |                         |

(1) Sixteen projects under regulatory consideration would increase gas supply by an additional 540,000B/D of oil equivalent by 1994.

\* Numbers do not include market price effects on supply and demand.

# Net Worldwide Petroleum Supply Loss 1990



**Average monthly loss**

NOTE: Reflects price induced reductions in demand of 500,000 MMBD.

September 5, 1990



**MOST LIKELY SURGE PRODUCTION**  
(Thousand barrels per day)

|               | <u>July</u> | <u>Aug</u> | <u>Sep</u>  | <u>Oct</u>  | <u>Nov</u>  | <u>Dec</u>  | <u>3Q Avg</u> | <u>4Q Avg</u> |
|---------------|-------------|------------|-------------|-------------|-------------|-------------|---------------|---------------|
| Saudi Arabia  | 0           | 400        | 1500        | 1800        | 1900        | 1900        | 620           | 1870          |
| Iran          | 0           | 100        | 200         | 200         | 200         | 200         | 100           | 200           |
| UAE           | 0           | 0          | 200         | 300         | 400         | 400         | 70            | 370           |
| Venezuela     | 0           | 100        | 200         | 200         | 200         | 300         | 100           | 230           |
| Nigeria       | 0           | 100        | 200         | 200         | 200         | 200         | 100           | 200           |
| Mexico        | 0           | 0          | 50          | 100         | 0           | 0           | 20            | 30            |
| Libya         | 0           | 0          | 100         | 100         | 100         | 100         | 30            | 200           |
| United States | 0           | 30         | 0           | 100         | 200         | 300         | 10            | 200           |
| North Sea     |             | -100       | 0           | 0           | 300         | 270         | -30           | 190           |
| Total         | <u>0</u>    | <u>630</u> | <u>2450</u> | <u>3000</u> | <u>3500</u> | <u>3670</u> | <u>1020</u>   | <u>3390</u>   |

**World Oil Market Shortfall**  
(Million Barrels per day)

| Month     | Monthly Average<br>Production<br>Loss | Surge<br>Production | Military (1)<br>Demand | Average<br>Loss |
|-----------|---------------------------------------|---------------------|------------------------|-----------------|
| August    | 2.15                                  | .0                  | .3                     | 2.45            |
| September | 4.3                                   | .6                  | .3                     | 3.8             |
| October   | 4.3                                   | 2.5                 | .1                     | 1.9             |
| November  | 4.3                                   | 3.0                 | .1                     | 1.4             |
| December  | 4.3                                   | 3.5                 | .1                     | 0.90            |
| January   | 4.3                                   | 3.7                 | .1                     | 0.70            |

The average loss to the world market in August is 2.15 rather than 4.3 million barrels per day. This is due to the fact that there was in transit a substantial quantity of Iraqi and Kuwaiti oil at the time of the embargo. It takes an average of one month for Persian Gulf oil to reach world markets. Thus, oil lost to the world market for the month of August is 2.15 million barrels instead of 4.3 million barrels.

The average losses reflect the increased output from known foreign and domestic sources recognizing that increased production must be phased in and will peak in November. Average loss will continue between 0.7 and 0.9 MMBD after January.

(1) U. S. military only. Data not available for mobilization efforts of other nations.

# WHITE HOUSE STAFFING MEMORANDUM

DATE: 09/04/90ACTION/CONCURRENCE/COMMENT DUE BY: -----SUBJECT: ECONOMIC POLICY COUNCIL MEETING--ADDITIONAL PAPERS FOR 09/05, 11:00AM  
MEETING

|                | ACTION                   | FYI                                 |               | ACTION                   | FYI                                 |
|----------------|--------------------------|-------------------------------------|---------------|--------------------------|-------------------------------------|
| VICE PRESIDENT | <input type="checkbox"/> | <input checked="" type="checkbox"/> | MCCLURE       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUNUNU         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | NEWMAN        | <input type="checkbox"/> | <input type="checkbox"/>            |
| SCOWCROFT      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PORTER        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| DARMAN         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | ROGICH        | <input type="checkbox"/> | <input type="checkbox"/>            |
| CARD           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | UNTERMAYER    | <input type="checkbox"/> | <input type="checkbox"/>            |
| CICCONI        | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <u>BOSKIN</u> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| DEMAREST       | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____         | <input type="checkbox"/> | <input type="checkbox"/>            |
| FITZWATER      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____         | <input type="checkbox"/> | <input type="checkbox"/>            |
| GRAY           | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____         | <input type="checkbox"/> | <input type="checkbox"/>            |
| HAGIN          | <input type="checkbox"/> | <input type="checkbox"/>            | _____         | <input type="checkbox"/> | <input type="checkbox"/>            |
| HOLIDAY        | <input type="checkbox"/> | <input checked="" type="checkbox"/> | _____         | <input type="checkbox"/> | <input type="checkbox"/>            |

## REMARKS:

The attached is for your information.

## RESPONSE:

James W. Cicconi  
Assistant to the President  
and Deputy to the Chief of Staff  
Ext. 2702



THE WHITE HOUSE

WASHINGTON

September 4, 1990

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: OLIN L. WETHINGTON, EXECUTIVE SECRETARY

SUBJECT: SUPPLEMENTAL APPENDIX TO DOE ENERGY PAPER FOR  
EPC MEETING, WEDNESDAY, SEPTEMBER 5, 1990,  
THE ROOSEVELT ROOM, 11:00 A.M.

Attached please find an appendix to the DOE discussion paper for tomorrow's EPC meeting. This appendix sets forth preliminary estimates as to the revenue effect of the various tax proposals contained in the DOE paper.

Attachment

APPENDIX

PRELIMINARY REVENUE LOSS ESTIMATES FOR TAX OPTIONS, 1991-95  
(\$ millions)

| <u>Proposal</u>                                                   | <u>Dept. of Energy</u> | <u>Treasury</u>     |
|-------------------------------------------------------------------|------------------------|---------------------|
| I-5 Tax Treatment of Electric<br>Utility Rebates to Consumers     | \$ 183                 | \$ 250              |
| II-4 Restructured Renewable<br>Energy Production Tax<br>Incentive | \$2000                 | \$1900              |
| III-3 Increased Tax Incentives<br>for Enhanced Oil<br>Recovery    | \$ 375 <sup>1</sup>    | \$1700 <sup>2</sup> |

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<sup>1</sup>At \$18.00 per barrel; \$715 million at \$21 per barrel.

<sup>2</sup>For a 5-year price path ranging from approximately \$19 per barrel to \$22 per barrel.



# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                                                                                | Date   | Restriction     | Class. |
|--------------------------|----------------------------------------------------------------------------------------------------------|--------|-----------------|--------|
| 12a. Memo                | From Olin Wethington to Economic Policy Council<br>Re: EPC Meeting, Wednesday, September 5, 1990 (1 pp.) | 9/4/90 | <del>P</del> -5 |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
 (Document Follows)  
 By *JP* (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

### RESTRICTION CODES

**Presidential Records Act - [44 U.S.C. 2204(a)]**

P-1 National Security Classified Information [(a)(1) of the PRA]  
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]  
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]  
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]  
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]  
 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

**Freedom of Information Act - [5 U.S.C. 552(b)]**

(b)(1) National security classified information [(b)(1) of the FOIA]  
 (b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]  
 (b)(3) Release would violate a Federal statute [(b)(3) of the FOIA]  
 (b)(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]  
 (b)(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]  
 (b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]  
 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]  
 (b)(9) Release would disclose geological or geophysical information

THE WHITE HOUSE  
WASHINGTON

September 4, 1990

*Have Policy  
Fuel Switched*

*Incentives  
Force Expedite*

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: OLIN L. WETHINGTON, EXECUTIVE SECRETARY

SUBJECT: EPC MEETING, WEDNESDAY, SEPTEMBER 5, 1990,  
THE ROOSEVELT ROOM, 11:00 A.M.

The Economic Policy Council will meet on Wednesday, September 5, 1990, at 11:00 a.m. in the Roosevelt Room to consider a proposed package of energy conservation and production measures prepared by the Department of Energy. The DOE discussion paper for the meeting is attached. This document should be closely held and receive only limited distribution within the agencies.

Attachment



# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                     | Date | Restriction    | Class. |
|--------------------------|-----------------------------------------------|------|----------------|--------|
| 12b. Paper               | DoE Discussion Paper for EPC meeting (26 pp.) | n.d. | <del>P-8</del> |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
 (Document Follows)  
 By *[Signature]* (NLGB) on 5/12/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

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 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]  
 (b)(9) Release would disclose geological or geophysical information

## A SECOND PACKAGE OF ENERGY MEASURES

ISSUE: Whether in light of the Middle East situation to announce a second package of energy measures as contained in this options paper.

### BACKGROUND:

The United States and allied members of the International Energy Agency are taking steps to mitigate the effects of the embargo of Iraqi and Kuwaiti petroleum exports by facilitating production of indigenous oil supplies, where feasible, and by encouraging greater energy efficiency.

The Administration on August 15 announced a first set of production and efficiency measures. These included: increased Alaska Prudhoe Bay production; mediation of a dispute between producers and California authorities over commencement of crude oil production at Pt. Arguello, off Santa Barbara; a request to Texas and other States to increase allowable production in existing fields; and a slight increase in production from the Elk Hills Naval Petroleum Reserve. With the exception of Pt. Arguello, which is unlikely to start production before June 1, 1991, most of these supply increases have now been achieved or pledged. By December 1990, Alaska production is expected to surge by 226,000 B/D; Elk Hills by 5,000 B/D; and Texas production by 20,000 to 30,000 B/D. Much of this increased production will occur within the next 30 days.

On the demand side, the Department of Energy, will launch a national information campaign, with the support of the Advertising Council, aimed at encouraging consumers to use energy more efficiently. Products of this television, radio and print campaign should be available for broadcast and publication by the middle of September. DOE estimates that this campaign will reduce consumption by 280,000 B/D.

DOE has developed a second set of options for Administration consideration. Some of the measures in this second package would also have immediate effects, but most are medium-term. DOE estimates that the measures in this second package would within two years further increase domestic production by up to 295,000 B/D; reduce consumption by over 300,000 B/D; and induce switching from oil to other fuels by up to 595,000 B/D of oil equivalent. The material that follows summarizes these proposals.



## SUMMARY OF PROPOSALS

### I. ENERGY EFFICIENCY MEASURES

1. Encourage Use of Lower Octane Gasoline ✓
  - DOE would expand its public awareness campaign to encourage use of lower octane gasoline.
2. Oil Burner Tune-up/Replacement ✓
  - DOE would work with industry and States to encourage oil burner tune-up and replacement.
3. Encourage Better Driving Habits/Car Care ✓
  - DOT and DOE would work with private firms and States to enhance distribution of Driver Energy Conservation Awareness Training techniques.
4. Electric Utility/Industry Oil Conservation ✓
  - Oil-dependent utilities and industries would be asked to encourage energy efficiency.
5. Resolve Tax Treatment of Demand Reduction Investments
  - The Administration would support treatment of utility payments to consumers, for energy efficient equipment, as non-taxable.
6. Executive Order to Reduce Federal Energy Use ✓
  - The President would issue an Executive Order to increase energy efficiency in Federal operations.

### II. FUEL SWITCHING, ALTERNATIVE FUELS AND OIL BACK-OUT

1. Maximize Fuel Switching
  - a. Natural Gas Pipeline Construction
    - DOE would work with FERC and other agencies to identify natural gas pipeline projects that would benefit from expedited processing.

b. Dispatching of Oil-Fired Generation

- DOE would consult with FERC and others to determine the feasibility of minimizing the dispatching of oil-fired generation.

2. Accelerated Use of Alternative Fuels

- The Administration would support accelerated conversion of the Federal fleet to alternative fuels.

3. Assist Waste-to-Energy Permitting

- DOE and EPA would provide technical assistance to expedite construction of cost-effective plants.

4. Restructure Renewable Energy Tax Credit

- The Administration would consider supporting a conversion of the current investment tax credit into a production tax credit, and possibly propose legislation.

III. PETROLEUM SUPPLY OPTIONS

1. Undeveloped Alaskan Production

- A multi-agency task force would identify projects for expedited processing of necessary Federal permits.

2. California Heavy Oil

- DOE and FERC would work with Federal and State authorities to resolve issues blocking natural gas pipelines designed to serve heavy oil producers.

3. Expand the Administration's Oil and Gas Tax Incentives

- The Administration would consider supporting an increase in the percentage depletion allowance to 27.5 percent for enhanced oil production.



## I. ENERGY EFFICIENCY MEASURES

1. Proposed Action: DOE would expand its public awareness campaign to encourage use of lower octane gasoline

### Background:

Petroleum refineries convert crude oil into a number of products, including various grades of gasoline, diesel fuel, jet fuels, heating oils, and liquefied petroleum gas. The energy required to refine crude oil varies greatly depending on crude oil properties.

This option assumes reduction of the average pool octane level from the current level of 88.5 to 87 using a feed of 50 percent Arab light crude and 50 percent Arab heavy crude. Production of 89.5 octane fuel would be continued on a limited basis to satisfy high octane demand.

DOE would enlist the cooperation of gasoline producers, retailers, and consumer organizations such as the AAA to initiate an education campaign regarding octane effects on engine operation.

Estimated Additional Supply: Reducing the average octane level of gasoline produced by a refinery will increase the yield of gasoline per barrel of crude oil refined. Oil savings would range from 30-80,000 B/D depending upon the production ratio of gasoline/distillate/jet fuel.

**Pros:** It is estimated that 80 percent of today's vehicles will be satisfied with 87 octane fuel. There would be no significant effect on engine fuel economy, durability, or emissions from using 87 octane fuel in most engines. Octane increasing additives for consumer use, if necessary, can be purchased at most automotive or refueling outlets. Consumer savings on the order of \$3 billion per year.

**Cons:** Driver complaints of vehicle "pinging" and "after running" will increase somewhat. Engine damage would be expected to occur only with high horsepower output engines requiring high octane fuel operated in sustained high-load conditions.

2. Proposed Action: DOE would expand its public awareness campaign and work with petroleum marketers and States to encourage oil burner tune-up and replacement.

Background:

The residential and commercial sectors currently use an average of about 0.9 million barrels per day of fuel oil for space heating. Improved maintenance and adjustment of existing equipment can improve system efficiency on the order of 10 percent.

In addition, some older equipment, even if properly maintained and adjusted, will still have efficiencies of 65 AFUE (annual fuel utilization efficiency) or lower. The replacement of this equipment with more efficient burners, boilers, and furnaces can improve equipment to 85 AFUE and above.

An information campaign to encourage consumers to service existing equipment and replace inefficient units could be carried out in conjunction with the Petroleum Marketers Association of America (PMAA) and State Energy Officers in States with high-fuel oil consumption. DOE could provide support for this information campaign, develop and distribute training materials for technicians, and assist with technician training.

Oil burner maintenance has a payback of less than 1 year. Replacement of burners and even entire oil furnaces with modern, efficient equipment has paybacks of 1-5 years.

The primary target for this program would be the residential sector, which uses 65 percent of the heating oil, in the regions of highest usage (Northeast and Midwest).

Estimated oil savings: 35-50,000 b/d

Pros: Savings to consumers and small business. The degree of savings is a function of fuel prices. Reduced emissions.

Cons: Cost of promotional materials and technician training (DOE share could be \$ 0.5 million). Uncertain degree of consumer response.



3. Proposed action: To encourage better driving habits and car care, DOE and DOT would work with industry and States to distribute Driver Energy Conservation Awareness Techniques material.

Background:

In the late 1970s, DOE established the DECAT (Driver Energy Conservation Awareness Techniques) program at the Nevada Operations Office. Hundreds of drivers and driving instructors were trained to drive more efficiently. The average driver was able to improve gas mileage about 15 percent by following the DECAT suggestions. A scaled-down DECAT program that could be self-administered should be able to save its user about 5 percent in vehicle fuel use. United Parcel Service has employed a program similar to DECAT for several years and found it to be an effective way to reduce fuel consumption at low cost. Other companies and government organizations could benefit from learning about effective techniques. The materials would be provided to fleet operators, state energy offices, and consumer groups.

Estimated Additional Supply: With a major outreach effort, DOE might be able to reach 25 percent of light-duty vehicle users and half of the fleet truck operators. If fully effective, this would result in oil savings of 70,000 B/D in personal transportation and 50,000 B/D in commercial transportation.

Pros: Energy efficient driving is economical and also improves safety.

Cons: Behavioral changes are unpredictable. Projected savings may not fully materialize.

- 4a. Proposed Action: DOE would work with oil dependent electric utilities to encourage consumer energy efficiency.

Background:

Twenty-nine U.S. utility companies, principally in the Northeast, and Mid-Atlantic States account for 94% of total utility oil consumption (over 650 thousand barrels of heavy oil a day).

Utilities are in the best position to encourage electricity conservation and many have established a variety of incentive programs to do so. Federal exhortatory action can be undertaken to support and strengthen local initiatives. Public awareness campaigns and dissemination of energy conservation advice would be principal means of reaching consumers.

Estimated Savings: The impact of these programs is difficult to quantify. The utilities contacted believe that appeals to consumers could reduce electric demand 3-7%, but the permanence of this reduction is questionable. Every 1 percent reduction in electricity consumption would reduce energy inputs to utilities by the equivalent of 150,000 barrels of oil per day. The amount of actual oil saved is proportional to oil use and efficiency of equipment in a given region. In New England, 37% of electric energy is oil fired. The national average is 5%.

Pros: Program would be easy and economical to administer.  
Relatively small number of companies are involved.

Cons: Savings likely would require behavioral changes which can be unpredictable.



- 4b. Proposed Action: DOE would work with appropriate U.S. industry associations to encourage industrial energy efficiency.

Background:

The United Kingdom and several other OECD nations have been effective in using direct appeals to corporate leaders to encourage energy efficiency. Efficiency investments with the potential for high rates of return sometimes are not made because the opportunities have not received the attention of top management. Increased attention to simple maintenance problems can lead quickly to small savings. Use of advanced production equipment can achieve much greater savings in the mid-term.

Estimated Savings: Manufacturing is responsible for 25% of US oil consumption, a substantial amount of which used as feedstocks. Significant savings could be achieved in 1-2 years. A 1% reduction in oil use by manufacturers would save 36,000 B/D.

Pros: Easy effort to show concern. Easy follow-up on contacts that are initiated.

Cons: Investments in energy efficiency may divert capital from alternative investments with higher economic returns. Investment climate is uncertain because of the events in the Middle East. Savings are difficult to quantify.

5. Proposed Action: The Administration would examine the feasibility of tax-free treatment of certain electric utility rebates to consumers for investment in energy efficient technologies.

Background:

State public utility commissions are authorizing electric utilities to invest in programs, equipment, and customer rebates to reduce existing electricity demand or reduce demand growth so as to avoid the need to install more expensive new generation facilities. A provision of the National Energy Conservation Act of 1968 excluded these rebates from the taxable gross income of residential utility customers. This exclusion expired on June 30, 1989.

On February 22, 1989, the Internal Revenue Service, in a Technical Advice Memorandum, determined that energy efficiency rebates given to utility customers "are (to be included) in the recipient's gross income unless specifically excluded by law." This decision adversely affects utilities and residential utility customers, the American energy efficiency industry, and the environment.

Under the DOE proposal, no taxes would be assessed for benefits received by households as a part of a utility demand reduction plan approved by the regulatory organization responsible for utility rates. Business customers would pay taxes on benefits received. Two bills under consideration in Congress, S-2312 and HR 4249 would exclude residential rebates, but would also extend the exclusion to industrial and commercial customers.

The Treasury Department believes that statutory changes would be required to alter the 1989 Technical Advice Memorandum (TAM), and that the DOE proposal represents a departure from past statutory interpretation and tax policy. DOE believes that a TAM is not a ruling and that it could be changed without legislation. DOE further maintains that rebates are not uniformly treated by the IRS. For example, automobile rebates are not taxed as income.

Estimated Energy Savings: Every 1 percent reduction in electricity consumption would reduce energy inputs to utilities by the equivalent of 150,000 barrels of oil per day. The amount of oil actually saved will be much less and depends on the nature of the efficiency equipment and the region. In New England, 37% of electric energy is oil based. The national average is 5%.



Pros: Removes a deterrent to consumer investment in the most energy efficient technologies. Promotes energy efficiency and reduces the need for new generating facilities thereby avoiding the environmental effects associated with such facilities.

Cons: Gains that would accrue to the Treasury from taxing consumer benefits would be lost.

Revenue effects estimates will be distributed in a separate appendix.

6. Proposed Action: The President would issue an Executive Order to increase energy efficiency in Federal operations.

Background:

The Federal Government can save significant amounts of energy, including oil, in its operations. Pursuit of these savings would attract attention to energy saving possibilities, especially in localities with substantial federal installations, and provide the basis for encouraging private firms and individuals to make similar investments.

The President, through Executive Order, could instruct Federal agencies to adhere to the terms of existing statutes, especially those for the Federal Energy Management Program, requiring use of cost-effective energy conservation and renewable energy technologies in the purchase of new equipment and the retrofit and maintenance of existing equipment. For example, existing statutes require agencies to "apply energy conservation measures to and shall improve the design for the construction of its Federal buildings so that energy consumption per gross square foot of its Federal buildings in use during the fiscal year 1995 is at least 10 percent less than the energy consumption per gross square foot of its Federal buildings in use during the fiscal year 1985."<sup>1</sup> Regulations, now being updated, would also provide guidance on implementation.

The targets for increased energy efficiency would vary by agency. Thus, the parameters of an Executive Order would need to be designed on a inter-agency basis. The Executive Order could be ready for Presidential signature by the end of September.

Estimated Additional Supply: Approximately a 13,000 B/D savings could be achieved in the first year. The savings would be expected to increase during the second year. Examples of savings are:

- o A 10 percent reduction in oil consumption in civilian and military buildings would mean savings of 5,600 B/D.

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<sup>1</sup> 42 U.S.C. 8251 as amended.



- o A 10 percent reduction in Federal nonmilitary consumption of auto gasoline would reduce consumption by 1,000 B/D.
- o Van pooling, employee awareness programs targeted to Federal military and civilian employees could achieve savings of up to 6,300 B/D.

Pros: The Executive Order would indicate to the American people the importance of maximizing energy efficiency. Efficiency improvements justified on the basis of approved life cycle cost analysis would reduce future agency cost.

Cons: Many of the activities would increase initial agency costs. Most agencies would need to absorb new conservation investments in their current budgets. The savings estimates are subject to large uncertainties.

## II. FUEL SWITCHING, ALTERNATIVE FUELS, AND OIL BACK-OUT

- 1a. Proposed Action: The Department of Energy would work with FERC and other agencies to identify those natural gas pipeline projects that would benefit from expedited Federal regulatory processing and would seek to encourage resolution of regulatory impediments.

### Background:

A substantial capability for fuel switching exists in the United States. To the extent that non-petroleum fuels are available at competitive prices, fuel switching is assured through market forces. While supplies of natural gas at the wellhead are plentiful, pipeline capacity is, however, not sufficient to satisfy demand and fuel switching capacity in a number of State and regional markets.

Currently, there are 37 major pipeline construction applications pending at the Federal Energy Regulatory Commission (FERC), involving capacity of over 12 billion cubic feet per day, which is equivalent to 2.3 million barrels of oil per day. These construction proposals would, if approved by FERC, serve markets in several regions of the country, and in 19 States, including most of New England, the Mid-Atlantic States, some States in the Mid-West, and California, Washington and Oregon.

The markets that would be served by the projects vary. They include electricity generation by public utilities, independent producers and co-generators; industrial customers; California heavy oil producers and local distribution companies that serve a variety of customers.

The pipeline projects have various proposed in service dates ranging from fall 1990 to 1994, with the majority of projects scheduled to go on line in 1990 and 1991. A portion of four proposed projects, representing capacity of 303 MMCF/D, or 54,000 barrels/day of oil, would clearly displace petroleum. These projects would serve customers in Washington, New York, Massachusetts, and Rhode Island.

Portions of 16 major projects, including the four described above, have the potential to displace additional fuel oil. In this category is a combined capacity of over 595,000 B/D of oil equivalent.



Because of potential environmental and other policy concerns that might be implicated in any decision to expedite the Federal regulatory process on a particular project, a multi-agency task force would be created to consider which specific projects should be selected for Administration attention.

Pros: Maximum cost-effective utilization of natural gas would reduce reliance on oil and product imports, especially during winter months when competition for fuel oil is high both in the U.S. and in Europe. The latter market is the major source of the 300,000 to 400,000 B/D of fuel oil imported to the U.S. between September and April yearly.

Cons: Some of these projects are controversial because they would transport Canadian gas. Others raise some environmental concerns. Still others have unresolved permitting issues or are opposed by local land owners.

- 1b. Proposed action: DOE will consult with FERC and others to determine the feasibility of minimizing the dispatching of oil-fired electricity generation.

Background:

The utility industry consumes about 650,000 B/D of oil for power generation, mostly for peak power production. It should be feasible to reduce the dispatching, into regional grids, of oil-fired power. A program to do this would need to be developed through the combined agreement of DOE, the North American Electric Reliability Council (NERC), the Federal Energy Regulatory Commission, and the National Association of Regulatory Utility Commissioners. The volume of oil back out that would be feasible at any given time, in any given region, would vary according to factors such as economics, contracts for on-site storage of fuel supplies, transmission capacity availability, and other regulatory constraints. The process required for planning and implementing a change in dispatching priorities could begin in a matter of days, with actual results obtainable within three months to one year.

Pros: Reduction in oil use in the utility sector would be beneficial to the extent it replaces imported oil with domestic fuels.

Fuel oil conservation in the last quarter of 1990 would reduce pressure on what is expected to be a tighter U.S. and European market in the wake of the embargo.

Cons: The volume of oil that could be backed out cannot be precisely estimated and the level of effort required to accomplish it is significant.

Changes in current dispatching patterns could increase consumer costs.

Could be viewed by some as increasing emissions, or as a first step towards some broader Federal intervention in matters traditionally managed at state level.



2. Proposed Action: The Administration would support the accelerated conversion of the Federal fleet to alternative fuels.

Background:

The Federal Government can accelerate its purchase of alternative fuel vehicles under the Alternative Motor Fuels Act (AMFA), and in anticipation of requirements likely to be imposed by the Clean Air Act Amendments of 1990. In addition, the Federal Government can convert existing and newly purchased conventionally fueled vehicles to use of alternative fuels. This initiative would involve several Federal agencies (members of the Interagency Commission on Alternative Motor Fuels) and the cooperation of the automotive and energy industries to provide increased production of alternative fuel vehicles, increased production and distribution of alternative fuels, and fueling outlets. Representatives of these industries on the U.S. Alternative Fuels Council have assured DOE that such cooperation would be forthcoming.

The vehicles purchased or converted under this initiative would use several alternative fuels, including compressed natural gas (CNG), alcohol (methanol or ethanol), propane, or electricity. The exact numbers of these purchases and conversions would initially be limited by the availability of vehicles and conversion kits. The Federal government purchases, on average, 44,000 vehicles per year. DOE estimates that it would be feasible to convert 5,000 vehicles in FY 1991 and 27,500 vehicles in three years. The number of alternative fuel vehicles available as original equipment will depend on the response of the automobile industry. However, very large numbers of these vehicles would be available in a one to three year time frame.

The FY '91 AMFA budget to finance the cost of Federal alternative fuel vehicle purchases is \$2.1 million. Purchases of vehicles beyond those that can be financed by AMFA appropriations could be absorbed by current agency budgets. The cost of a vehicle converted to operate on compressed natural gas is estimated to be on average \$2,000 above the cost of a conventional vehicle. For a methanol-gasoline fuel flexible vehicle the average incremental cost is estimated at \$200 per vehicle. The total cost of this program would depend on the number of vehicles converted or purchased in any given fiscal year.

Pros: Conversion of the Federal fleet would expedite alternative fuel use in the private sector; would support current State and local efforts; and would have positive environmental benefits. Federal fleet conversion would be responsive to the President's Clean Air Act proposals. Over the longer term, this initiative to advance broader alternative fuels use may provide future oil savings that are far more significant than those derived from conversion of the Federal fleet.

Cons: Would raise Federal expenditures during period of budgetary constraints. May pose operating problems and fuel matching problems in certain locations. Oil displacement from use of converted Federal vehicles would be minor.

This could be accomplished through: (a) An Executive Order requiring increased government-wide fuel flexible vehicle purchases and conversions; (b) The Department of Transportation expediting its rulemaking on the Corporate Average Fuel Economy incentives available to manufacturers of alternative fuel vehicles; (c) The Department of Energy and the EPA working with energy industries to increase fuel availability for these vehicles; and (d) Fleet operators (especially large operators such as the Postal Service and the Department of Defense) assisting Federal efforts by facilitating access to fueling stations.



3. Proposed action: DOE would work with EPA to encourage resolution of technical and regulatory issues affecting waste-to-energy plants in order to expedite construction of cost-effective plants.

Background:

Two-fifths of the electricity in New England and more than one-fourth of the electricity in New York and New Jersey is generated from oil. Municipal solid waste plants offer a competitive alternative using an abundant domestic resource, but encounter considerable local opposition in the siting process. Thirteen plants in this region, totaling 315 megawatts, are under construction, and an additional 28, totaling 670 megawatts, have been contracted for.

By working with State and local bodies to clarify technical issues raised in the regulatory process, DOE and EPA could accelerate the permitting process to allow these plants to come on line sooner.

Estimated Energy Savings: Up to 35,000 B/D within 3 years

Pros: Helps address major environmental problem (waste disposal) while providing power to oil-dependent regions.

Cons: Some environmentalists prefer an exclusive emphasis on recycling and oppose the incineration of solid waste, raising fears of toxic air pollution and hazardous materials in the ash.

Federal intervention may not be welcome in all cases.

4. Proposed action: The Administration would consider restructuring the current renewable energy investment tax credit as a production incentive.

Background:

DOE seeks EPC approval to investigate the feasibility of this proposal. The investment tax credit for renewable energy technology is scheduled to expire at the end of September 1990. The Administration does not currently support extension of this credit. In all likelihood Congress will extend the credit as presently structured. The DOE proposal would replace the investment credit with a production credit paid for renewable electric power delivered to a utility grid. Electric equipment eligible for the credit would include: wind, solar thermal, photovoltaics, geothermal (excluding dry steam systems), and biomass electric systems (excluding those using direct combustion of waste).

Experience to date indicates that approximately 20% of the systems constructed as a result of the current credit work poorly or not at all. A production credit could eliminate this inefficiency.

Credits against taxable earnings could be claimed for a period of seven years including the first tax year in which the facility was synchronized with a utility grid. Eligible facilities that begin operation in 1991-1995 could claim a credit of 2 cents per kwh. The rate of the credit would decline 0.3 cents per kilowatt hour per year between 1996 and 2000. A plant could claim the amount of credit offered in its initial year of operation for seven years.

Credits tied to production of energy would have an immediate and positive effect on the investment climate for renewable electric systems.

The amount of oil saved by the renewable electric technologies depends on the nature of the system and the fuel mix of utilities. On average only about 5% of U.S. electricity is generated by oil. But oil use is very high in several regions with large renewable energy resources. Hawaii depends on oil for 99% of its electricity, Florida is 20% oil dependent, and New England is 37%. Solar thermal and photovoltaic systems also provide the bulk of their power during periods of peak electric demand when oil use in most utilities is comparatively high.



A Inter-agency Task Force would be established to fully examine the costs and benefits of the DOE proposal, and to possibly develop draft legislation for early EPC consideration.

Estimated Oil Savings: 4-16,000 B/D by 1993

Pros: Assuming the same level of market penetration, the production credit is estimated to be less costly than the investment credit. The production credit would provide a needed stimulus to energy technologies capable of delivering power with little pollution.

The proposed credit would pay only for energy actually produced. Congress is likely to extend the existing investment tax credit with little or no modification if there is no Administration substitute.

Cons: The proposed new production credit would result in costs to the Treasury.

Producers of other energy sources may seek similar tax incentives, in order to maintain a "level playing field."

Revenue effects estimates will be distributed in a separate appendix.

### III. PETROLEUM SUPPLY OPTIONS

1. Proposed action: A multi-agency task force would be created to identify Alaska production projects that would benefit from expedited processing of necessary Federal permits.

#### Background:

There are a number of oil discoveries in Alaska that are experiencing permitting difficulties. For example, the Niakuk and Point McIntyre fields could be developed and on line in 12-18 months with an additional flow of up to 100,000 B/D.

- o NIAKUK (Production potential 20,000 - 25,000 B/D)  
Eighteen Federal, State and local permits are required. All have been issued except the Section 404/Section 10 permit for placement of gravel fill (for construction of a causeway between the shore and the production island and construction of insulating pipeline and facility pads on the tundra). BP has suspended its effort to obtain a Section 404/Section 10 permit from the Corps of Engineers due to difficulty in meeting the Corps' criteria. If the Corps issued the permit, and BP were persuaded to proceed with expedited development, limited production could occur within six months.
- o POINT MCINTYRE (Production potential of 75,000 B/D)  
A Section 404/Section 10 permit for placement of gravel has not been obtained. Other permits are needed, but they can be obtained in a timely manner. If the Section 404/Section 10 permit were issued, the onshore portion of the field, 40,000 B/D, could be available in less than 12 months. The offshore portion of the field could be on line in approximately 24 months. The offshore production will add 35,000 B/D.

The estimated additional supply from just these two projects is 40,000 B/D in 12 months, and 100,000 B/D in 24 months. An initial review suggests that there may be other new projects that could be expedited, but their timing and production impacts cannot be estimated at this time.



The multi-agency task force would ensure consideration of all legal, regulatory, environmental, energy, and other policy factors that would be pertinent to expediting any particular project.

Pros: Could add significantly to domestic supply in a relatively short time.

Cons: Efforts to expedite the permitting of these projects will raise environmental concerns. Production response may be limited by inability to export oil from Alaska. This export issue should be considered as part of the National Energy Strategy.

This proposal does not extend to the Arctic National Wildlife Reserve (ANWR). However, the EPC Working Group on the National Energy Strategy will assess fully the consequences of ANWR development for energy security and for the environment. Recoverable reserves would be estimated by taking into account environmentally low-risk options for exploration and development.

On March 16, 1989, the Senate Committee on Energy and Natural Resources approved a bill to authorize the opening of the ANWR coastal plain for oil and gas exploration and development. Similar legislation was introduced the following week in the House, but no further action was taken. After the March 24 Valdez oil spill, consideration of both bills was postponed indefinitely.

The Department of Interior's mid-case estimate for ANWR reserves is 3.23 billion barrels. Production could start in 10-12 years. In addition, production from ANWR may enable other smaller discoveries between ANWR and the Trans-Alaskan Pipeline System (TAPS) to become economic. Finally, ANWR production would extend the economic life of TAPS, and allow other fields to continue to produce for a longer period of time and increase ultimate recovery.

2. Proposed action: DOE and FERC would work with relevant Federal and State authorities to resolve regulatory barriers hampering natural gas pipelines intended to serve California heavy oil fields.

Background:

About 13,000 wells are currently shut-in the Bakersfield area due to economics, air quality restrictions and lack of refinery and pipeline capacity for heavy oil. Actions to increase natural gas supplies for steam generation in heavy oil fields in California could allow production to be increased without adverse effects on air quality. Several major gas pipeline projects primarily designed to serve the heavy/enhanced oil recovery market in California have been pending for a number of years. One major project, Kern River, has all the necessary permits and regulatory approvals, except for a permit to cross some Federal lands. This permit requires Bureau of Land Management and Forest Service approval. Kern River and other pending natural gas pipeline projects could furnish substantial additional quantities of natural gas to California within 12-18 months, if these final permitting difficulties can be surmounted.

Estimated Additional Supply: 50,000 to 100,000 B/D in 1 or 2 years.

Pros: Recovers shut-in production quickly. Increases in production may be significantly larger than 50,000 B/D.

Cons: The net effect of initiatives to increase heavy oil production in California could be less than the estimated additional potential production because of marketing constraints, including limited pipeline availability, refinery limitations and, perhaps most importantly, the current inability to export this heavy crude oil to willing buyers in the Far East.



3. Proposed action: The Administration would consider expanding its proposed tax incentive package for oil and gas production by increasing the percentage depletion allowance applicable to new enhanced oil recovery projects.

Background:

DOE seeks EPC approval to investigate the feasibility of this proposal. In budget proposals for the past two years, the Administration has proposed: a temporary tax credit for exploratory drilling expenditures; a temporary tax credit for new enhanced oil recovery (EOR) projects; elimination of the transfer rule; an increase in the percentage depletion net income limitation; and a provision permitting independent producers to deduct from their income for Alternative Minimum Tax purposes, a larger percentage of their exploratory intangible drilling costs. The two temporary credits would phase out when oil prices reach \$21 per barrel for a calendar year.

DOE proposes to expand the President's tax incentive package by:

- o Allowing percentage depletion to be claimed at a 27.5 percent rate for oil produced from enhanced recovery projects. This allowance would apply to all producers, including integrated oil companies that cannot claim percentage depletion under current law. It would apply only to incremental production from new application of EOR methods (and not to the non-EOR incremental production attributable to the increase in the percentage depletion allowance). It would apply to new projects that qualify for the credit under the Administration's current proposal.
- o Phasing out the allowance when oil prices average more than \$25 per barrel, in contrast to the \$21 per barrel phaseout for the Administration's EOR tax credit.
- o Allowing a 100 percent alternative minimum tax offset rather than the 80 percent contained in the current Administration proposal.

Greater emphasis on enhanced oil recovery (EOR) can lead to substantial increases in domestic oil production. Nearly two-thirds of the original oil in place in the U.S. will remain after conventional production ceases. Enhanced oil recovery technologies are frequently the only viable means of recovering this resource, estimated at 341 billion barrels. Current U.S. proven reserves amount to 26 billion barrels. With current EOR technology, an estimated 17 billion barrels or 5 percent of the remaining resource could be recovered. With advanced EOR technology, which is the focus of the DOE proposal, an estimated 36 billion barrels could be recovered. EOR now provides 657,000 barrels per day in 1990, or almost 9 percent of total U.S. crude oil production.

#### Estimated Additional Supply:

DOE estimates that the production impact by 1995 attributable solely to the DOE expansion of the President's proposal would be 88,000 B/D, at average wellhead prices of \$18/bbl.

If average wellhead prices rise to \$21 per barrel, the production impact by 1995, attributable solely to the DOE expansion of the President's proposal, would be 94,000 B/D,

Little additional production attributable to the DOE expansion would occur at average wellhead prices of \$25/bbl because of the phase-out of the incentive.

Pros: Enhanced oil recovery is key to future domestic oil production from existing, mature fields in the continental U.S. The incentive encourages the development of advanced EOR technologies.

The \$25/bbl ceiling protects producers against some risk of very low world oil prices. The phase-out of the incentive reduces the cost to the Treasury if oil prices remain high.

The proposal could prevent abandonment of wells and permanent loss of reserves.



Cons: The proposed credit could merely shift EOR production into earlier years at a higher cost to the economy.

It will be difficult to justify tax incentives for the oil industry at a time when oil prices have increased almost 50% to \$26.00/bbl.

The proposal could complicate current budget summit negotiations.

Estimates of revenue effects will be distributed as a separate appendix.

A inter-agency task force will estimate the costs and benefits of the proposed expansion. Based on this analysis, a determination will be made whether to include this percentage depletion change in legislation to be drafted by Treasury implementing the Administration's proposed tax incentives.

# Withdrawal/Redaction Sheet

## (George Bush Library)

| Document No.<br>and Type | Subject/Title of Document                               | Date | Restriction   | Class. |
|--------------------------|---------------------------------------------------------|------|---------------|--------|
| 13. Note                 | John Sununu's notes<br>Re: DoE Discussion Paper (1 pp.) | n.d. | <del>P5</del> |        |

**Collection:**

**Record Group:** Bush Presidential Records  
**Office:** Chief of Staff, White House Office of  
**Series:** Sununu, John, Files  
**Subseries:** Cabinet Agencies Files  
**WHORM Cat.:**  
**File Location:** Watkins (Energy) (1990) [2]

Open on Expiration of PRA  
(Document Follows)  
By SL (NLGB) on 10/28/05

|                               |                |                             |           |
|-------------------------------|----------------|-----------------------------|-----------|
| <b>Date Closed:</b>           | 12/14/2004     | <b>OA/ID Number:</b>        | 29191-003 |
| <b>FOIA/SYS Case #:</b>       | 1998-0004-F[1] | <b>Appeal Case #:</b>       |           |
| <b>Re-review Case #:</b>      | 2005-0426-S    | <b>Appeal Disposition:</b>  |           |
| <b>P-2/P-5 Review Case #:</b> |                | <b>Disposition Date:</b>    |           |
| <b>AR Case #:</b>             |                | <b>MR Case #:</b>           |           |
| <b>AR Disposition:</b>        |                | <b>MR Disposition:</b>      |           |
| <b>AR Disposition Date:</b>   |                | <b>MR Disposition Date:</b> |           |

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**Presidential Records Act - [44 U.S.C. 2204(a)]**

P-1 National Security Classified Information [(a)(1) of the PRA]  
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]  
P-3 Release would violate a Federal statute [(a)(3) of the PRA]  
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P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]  
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