

# **Nebraska Energy Office**

**Third Quarter Report  
November 15, 1980**

CHARLES THONE  
GOVERNOR



State of Nebraska  
Nebraska Energy Office

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November 14, 1980

The Honorable Charles Thone  
Governor of Nebraska  
State House  
Lincoln, Nebraska 68509

Patrick J. O'Donnell  
Clerk of the Legislature  
State Capitol, Room 2013  
Lincoln, Nebraska 68509

Dear Governor Thone and Clerk O'Donnell:

This Quarterly Report from the Nebraska Energy Office, for the period July-September, 1980, is submitted in accordance with provisions of Section 57 of LB 954 signed into law April 23, 1980.

If you have any questions, please contact this office.

Sincerely,

A handwritten signature in cursive script that reads "William H. Palmer".

William H. Palmer  
Director

WHP:pag

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## INTRODUCTION

On December 3, 1980, the Nebraska Energy Office will hold a public hearing on rules and regulations being recommended to implement L.B. 954. The proposed regulations concern, (1) thermal and lighting efficiency standards, (2) implementation of the sales tax refund for alternative energy source facilities and (3) measures qualifying for energy conservation loans by the Nebraska Mortgage Finance Fund.

L.B. 954, passed by the 1980 Nebraska Legislature, assigned many additional duties to the Nebraska Energy Office, but the Legislature did not appropriate any money for those duties. In particular, the Nebraska Energy Office will be unable to carry out all the provisions of Sections 57-59 of L.B. 954 unless funds are appropriated for that purpose.

Since passage of L.B. 954, this office within its budget limitations, has increased its collection and analyzation of data mandated by that law. Much of the data that is now available is collected annually or semiannually.

In order to reflect seasonal usages, this office believes that reporting of all the data requested in L.B. 954 on a quarterly basis would be very helpful to the people of Nebraska. To provide the information on a quarterly basis as mandated by L.B. 954 the Nebraska Energy Office requests an additional 1981-1982 appropriation of \$197,913. Of the total, approximately \$65,000 would be for one-time assessments of the potential of various forms of energy in Nebraska, \$4,632 for capital outlay, and the remainder, \$128,281, would be an annual budget base for continual collection and analysis of data.

Reporting of all the data on a monthly basis as directed in L.B. 954, Section 57, would not be cost effective, in the opinion of the Nebraska Energy Office; and, therefore, no request is made for appropriations that would be necessary to report all energy supplies every 30 days (See September 1980, budget request).

## CONSERVATION

Conservation Division activities during the third quarter of 1980 have focused on:

- Expanding awareness of transportation conservation programs such as the "Slow Down" and "Import Two Less" campaigns, distribution of MPG kits and introduction of the Driver Energy Awareness Training Program.
- Conducting nine one-day conferences at which Nebraska industry leaders and consumer representatives discussed energy problems and priorities for the state.
- Increasing cooperative energy conservation activities with other state agencies and local government units.

### I TRANSPORTATION CONSERVATION PROGRAMS

Transportation conservation projects have been designated "first priority" by Governor Charles Thone in order to reduce Nebraska's dependence on imported petroleum. A multi-media public service campaign (billboard, newspaper and television), introduced in January, with the "Slow Down" theme is being given a second exposure. More than 100 outdoor posters will be displayed in November. Broadcasters and newspapers are being asked to schedule public service advertisements at no cost to the State.

A second campaign, entitled "Import Two Less", is also underway. It encourages Nebraska drivers to pledge voluntarily to consume two gallons of gasoline less each week for a year by reducing driving speed and vehicle use. Since the promotion began in March approximately 5,000 Nebraska drivers have sent their pledges to the Nebraska Energy Office. Each participant has received a letter of acknowledgement from Governor Thone, and several months later, a packet of materials promoting efficient vehicle operation.

The number of transportation conservation pages in the 1981 Nebraska Driver's Manual has been increased to provide additional information about energy efficient vehicle and operator performance. An educational booklet for school bus drivers has been written and distributed in cooperation with the Field Services Division of the Nebraska State Department of Education.

Planning is underway for establishment of the Driver Energy Conservation Awareness Training Program. This workshop program, assisted by the Nebraska State Patrol and conducted by the Nebraska Safety Center in Kearney and the Nebraska Energy Office, will help individual drivers improve their mileage through discussion of vehicle selection, trip planning, maintenance and driving techniques. Participants will also have an opportunity for behind-the-wheel experience in a vehicle which registers every one-thousandth of a gallon of fuel consumed.

A portfolio of transportation and ridesharing services available to commerce and industry has been prepared for distribution to the private sector.

## II ENERGY CONSERVATION CONFERENCES

Prompted by the directive of L.B. 954 to seek public input to the State's energy policies, the Nebraska Energy Office has held nine one-day conferences to address energy concerns of industry and consumer groups. During the conferences leaders from the groups discussed their energy situations and current conservation activities and offered recommendations for State approaches to energy problems. To date meetings have been held with the following groups: electric and natural gas utilities, the petroleum industry, agriculture production and distribution, building construction and design professionals, consumer groups, commerce and industry and renewable resources representatives. Upcoming is a Governor's Conference at which representatives from each group will present their findings.

## III COOPERATIVE ACTIVITIES

During the third quarter the Nebraska Energy Office expanded existing conservation services and data collection activities to other Nebraska government units. Eleven one-year grants for conservation and alternate energy projects were awarded in August. Receiving local energy project funds were the communities of Walthill, Lyman, Norfolk, Wayne, Grand Island, Ord, Palisade, Omaha and Imperial. Stanton, Cuming and Colfax counties shared one grant through their extension agents. The Nebraska Municipal Power Pool will demonstrate load leveling in seven communities through a single grant.

Three pilot education projects on ethanol production have been funded through the Agricultural Products Committee. New literature and promotion activities have also been undertaken in cooperation with the Agricultural Products Industrial Utilization Committee (Gasohol).

Expanded energy savings data gathering has been arranged with the University of Nebraska-Lincoln, the Institute of Agriculture and Natural Resources and the Nebraska Association of Community Action Agencies.

## WEATHERIZATION PROGRAM

The U. S. Department of Energy makes grants to the states for weatherizing the homes of persons whose incomes do not exceed 125 percent of the federal poverty level. The Nebraska Energy Office subgrants such funds to ten community action programs and the Nebraska Inter-Tribal Development Corporation.

During the last 6 months of 1980 (April-September) a total of 2,689 homes have been weatherized. This represents a production increase of 185 percent over the same period of 1979 and a 130 percent increase over 1978.

The following tables indicate progress in using federal weatherization program funds for the calendar years of 1979 and 1980. The first table indicates use of 1979 funds. Agencies cannot use 1980 funds until they have expended all 1979 funds. Thus, as the table indicates, one agency shows no 1980 fund expenditures.

TABLE 1

## 1979 NEBRASKA ENERGY WEATHERIZATION PROGRAM GRANTS

Subgrantee	1979 Program Allocations	Total Payments as of 09/30/80	As of 9/30/80	
			Completed	Partially Completed
Blue Valley CAA	\$ 229,175.67	\$ 229,175.67	102	54
Central Nebraska CAA	288,171.38	288,171.38	84	-0-
Goldenrod Hills CAA	317,669.24	317,669.24	-0-	-0-
Greater Omaha CA	476,503.86	471,093.88	121	225
Inter-Tribal Dev. Corp. +\$24,139.00 1979 Ins. money reallocated	110,363.51	110,363.51	90	63
Lincoln Action	224,637.53	224,637.53	-0-	-0-
Mid-NE/East	213,292.20	213,292.20	142	43
Mid-NE/West	127,067.70	127,067.70	30	-0-
NE Panhandle CAA	161,103.69	161,103.69	88	-0-
Northwest NE CAA	58,995.72	58,995.72	-0-	-0-
Southeast NE CAA	86,224.50	86,224.50	-0-	-0-
TOTALS	<u>\$2,293,205.00</u>	<u>\$2,287,795.02</u>	<u>657</u>	<u>385</u>

TABLE 2

## 1980 NEBRASKA ENERGY WEATHERIZATION PROGRAM GRANTS

Subgrantee	1980 Program Allocations	Total Payments as of 10/31/80*	As of 9/30/80	
			Completed	Partially Completed
Blue Valley CAA	\$ 228,634.00	\$ 28,579.25	-0-	-0-
Central Nebraska CAA	254,275.00	212,232.90	170	63
Goldenrod Hills CAA	173,078.00	183,977.22	188	210
Greater Omaha CA	512,824.00	-0-	-0-	-0-
Inter-Tribal Dev. Corp.	115,385.00	24,496.32	-0-	-0-
Lincoln Action	245,728.00	210,821.52	93	7
Mid-NE/East	143,163.00	19,610.51	-0-	-0-
Mid-NE/West	91,881.00	69,386.32	45	24
NE Panhandle CAA	160,257.00	46,646.00	32	137
Northwest NE CAA	102,564.00	94,527.44	66	48
Southeast NE CAA	<u>143,163.00</u>	<u>133,073.78</u>	<u>88</u>	<u>43</u>
TOTALS	<u>\$2,170,952.00</u>	<u>\$1,027,351.26</u>	<u>682</u>	<u>532</u>

\*The Nebraska Energy Office has included a report of payments made to October 31, 1980 because that information is currently available. However, the total of homes completed is derived from the quarterly reports of sub-grantees and is complete only through September 30, 1980.

TABLE 3

## NEBRASKA HOMES WEATHERIZED THROUGH SEPTEMBER 30, 1980

<u>QUARTER</u>	<u>TOTAL HOUSES</u>	<u>FUNDS EXPENDED</u>
<u>1978</u>		
January-March	187	\$ 25,899
April-June	461	184,105
July-September	710	108,520
October-December	<u>180</u>	<u>119,459</u>
1978 TOTALS	1,538	\$437,983
<u>1979</u>		
January-March	368	109,704
April-June	289	246,383
July-September	654	332,242
October-December	<u>982</u>	<u>709,453</u>
1979 TOTALS	2,293	\$1,397,782
<u>1980</u>		
January-March	718	882,979
April-June	1,350	597,785
July-September	<u>1,339</u>	<u>971,777</u>
9-MONTH 1980 TOTALS	3,407	\$2,452,541

## RESIDENTIAL CONSERVATION SERVICE PROGRAM

The National Energy Conservation Policy Act of 1978 required that the largest electric and gas utilities offer residential energy audits to their customers. Although the legislation was signed in November, 1978, the regulations were not available until November, 1979. Eight Nebraska utilities were required to participate under the Act.

The State is not required to perform any services under this legislation. However, rather than have eight separate programs prepared by the utilities, Governor Thone directed the Nebraska Energy Office to become a voluntary partner in the development of a joint plan. The result of this collaboration was a single application document unique in Nebraska utility history. The utilities were required to submit their plans individually to the U.S. Department of Energy. Of the first 13 plans approved in the nation, 8 were from Nebraska.

During the audit, which will take approximately two hours to perform, the utility auditor will examine: caulking and weatherstripping, insulation, attic ventilation, the thermostat and the efficiency of the furnace. Possibilities for solar domestic hot water systems, active and passive solar applications and wind energy devices will be evaluated. Management information will also be provided on such low-cost or no-cost areas as furnace maintenance, water flow reduction, thermostat settings and window treatments.

Although many of the rural public power districts and municipalities are not required to participate in this federal program, many have indicated that they will perform some of the services required under the Residential Conservation Service Program.

It is estimated that the audits will cost the utilities as much as \$260 each. The residents, however, will only be charged \$15.

## ENERGY EMERGENCY PLANNING

Energy emergency planning continues to be a significant function of the Nebraska Energy Office. It is divided into two categories.

The first category deals with the U. S. Energy Emergency Conservation Act of 1979 which specifies that each state is to have an energy emergency plan for gasoline. This plan will be implemented if the President determines that there is or will be a significant supply interruption of liquid fuels and petroleum products. To date Nebraska is the only state to have completed a plan and submitted it to the U. S. Department of Energy. The U. S. Department of Energy has acknowledged receiving the plan but as of this report has neither approved nor rejected any or all parts of it.

The second component of energy emergency planning is at the state level and provides planning for shortages of all fuel types. This plan was prepared in response to the Nebraska Resource Management Plan which is an organizational and administrative tool for state government to manage resource crises. The Nebraska Energy Office has been designated the lead agency by the Nebraska Civil Defense Director to design and implement strategies to be used in an energy resource crisis.

The first Energy Emergency Preparedness Plan was written for the summer of 1979. Since that time a 1979-80 winter plan and 1980 summer plan have been completed. The 1980-81 winter plan is being reviewed by the Nebraska Crisis Resource Management Board for Energy.

During the 1980-81 winter season energy data and trends will be closely followed and incorporated into the 1981 summer update (June 1981) and the subsequent winter plan (November 1981).

Energy emergency planning is an ongoing process and L.B. 954 gave the governor additional emergency powers in the energy sector.

## INSTITUTIONAL BUILDING GRANTS PROGRAM

The Institutional Building Grants Program provides energy audit services and grants for energy conservation to four categories of buildings; (1) Schools, (2) Hospitals, (3) Local Government Buildings and (4) Public Care Facilities. Ten energy auditors perform the inspections at no charge upon request of eligible institutions. A federal/state matching grant funds the auditing service.

Based upon Nebraska Energy Office recommendations, on September 30, 1980 the U. S. Department of Energy awarded architectural and construction grants of \$1,045,646 to 14 schools and 8 hospitals. Architectural and engineering grants of \$135,424 were awarded to 59 schools, 1 hospital, 3 local government and 2 public care facilities. Recipients are required to provide matching funds.

Grant recommendations are not the only benefits of the program. By implementing the conservation practices suggested by the auditor a typical building operator can realize 20 percent energy savings. Followup research indicates that building operators are implementing approximately one-half of these conservation measures for an annual savings of over 13 million dollars.

## NEBRASKA ENERGY EXTENSION SERVICE

The Nebraska Energy Extension Service provides direct personalized information and assistance to energy consumers such as homeowners, small businesses, agriculture, commercial establishments, local governments and automobile owners. The grant for this new federal program was received in April, 1980 and implementation began during the July-September quarter. Projects include:

### I GAS \$AVER VAN

The GAS \$AVER Van is a mobile auto diagnostic center. Since the van began operation on July 7, 1980 over 2,000 automobiles in 30 communities have been tested. Potential savings resulting from the tests will range from \$50 to \$200 per year per auto owner through reduced gasoline consumption. Public demand for this service has been tremendous and has exceeded expectations.

During the winter months the van is being scheduled into community colleges for both testing and instructional purposes. In addition, several school districts with indoor shops have requested use of the van to test their vehicle fleet.

### II PUMPING UNIT MANAGEMENT PROGRAM

The Pumping Unit Management Program (PUMP) educates farmers on the need for improving the efficiency of their irrigation wells and engines or motors. Since PUMP began operation on July 7, 1980 the two-van, four-person team has conducted demonstrations for 1,200 farmers in 61 counties. Since the end of the irrigation season the two fulltime agricultural engineers have been preparing a training manual, videotape and bulletins and are preparing to conduct workshops and seminars for well drillers and pump testing consultants.

### III CONSERVATION RECOGNITION

The Conservation Recognition Program recognizes two end-use sectors. The "E" Flag Recognition Program is for business and industry. To date almost 50 Nebraska businesses and industries have been nominated for the award and the Nebraska Energy Office is currently verifying their conservation activities, alternate energy activities and energy

savings. Through the Residential Energy Conservation Program homeowners will be rewarded for achieving certain levels of energy efficiency in their homes. A certificate which can be affixed to a window or door will be awarded to qualifying homeowners. It is anticipated that this program will become operational in the next quarter.

#### IV EASY ON ENERGY

Easy on Energy, a monthly television series produced by the Nebraska Educational Television Network, continues to provide energy information to Nebraskans. The panel now receives from 20-70 questions per half-hour of viewing time. The July and August programs on residential summer cooling and new energy technologies for the home generated the largest response from the viewing audience.

#### V NEBRASKA ENERGY NEWS

The bi-monthly Nebraska Energy News continues to reach approximately 10,000 people. Articles for the newsletter are submitted by many departments at the University of Nebraska and several state agencies.

#### VI ENERGY EXTENSION SERVICE EVALUATION

An evaluation of the GAS \$AVER and Pumping Unit Management programs is being conducted by the Bureau of Sociological Research during October and November. In addition, energy savings and the cost-to-benefit ratio will be determined for these programs.

#### VII SOLAR ACCESS

The Solar Subdivision Program will provide grants to help residential developers, builders and architectural, engineering and legal consultants gain experience in the design and construction of solar subdivisions in Nebraska. Four grants to fund professional design, legal and marketing fees, not to exceed \$5,000, will be awarded in December.

Builders, developers, architects, engineers, legal consultants, marketing consultants, lenders, appraisers and realtors have been invited to attend one-day workshops on

solar access and cost effective solar technologies. Grant applications will be distributed and explained at the workshops which will be held in Lincoln, Kearney and Alliance.

#### VIII BOILER EFFICIENCY PROJECT

Commercial and industrial boilers are very large users of energy. An improperly operated or maintained typical industrial boiler can use 16,000 gallons of oil more than necessary each year. Boiler operators will learn how to properly operate and maintain their machinery at Boiler Efficiency Workshops being held during October and November in Hastings, Lincoln, Norfolk and Omaha.

Based on these workshops the training manual and workshop format will be evaluated and revised. The new materials will be used in the workshops which will be held in Scottsbluff, North Platte, Lincoln, Omaha, Ainsworth and Columbus during February and March.

## ENERGY EDUCATION

The demand for rapid curriculum development in all sectors of the Nebraska educational system and related community agencies required expansion of Nebraska Energy Office education programs.

Third quarter projects include:

### I AUTO MECHANICS ENERGY EFFICIENCY GUIDE and HEATING, VENTILATING, AIR CONDITIONING ENERGY EFFICIENCY GUIDE

These two guides resulted from summer curriculum development workshops held in cooperation with the Vocational Education Division of the Nebraska State Department of Education. The guides are currently being used in community college classes to test their effectiveness.

### II ENERGY INSTITUTE FOR TEACHERS

Thirty junior and senior high school science and social studies teachers participated in this three-week institute held at the University of Nebraska-Lincoln. The U. S. Department of Energy and the Nebraska Energy Office provided funds for this project.

### III SAVING ENERGY - WHAT CAN WE DO?

Nebraska high school student councils were encouraged to increase awareness and implement energy conservation measures in this statewide program co-sponsored by the Nebraska Energy Office and the Field Services Division of the Nebraska State Department of Education. The State High School Student Council Association met November 8th to plan participation in this program.

### IV COMPUTERIZED BUS ROUTING SERVICE

Any school district in the state can obtain a computer-prepared routing which shows the most energy efficient method of busing its students. Use of the routing service can be expected to result in a 5 percent to 15 percent reduction

in route mileage and fuel consumption. In addition to energy conservation the bus routing program can result in lower bus operation and maintenance costs, fewer drivers and buses and more effective planning and management of school transportation.

This program is co-sponsored by the Nebraska Energy Office, Field Services Division of the Nebraska Department of Education and the Engineering College at the University of Nebraska-Lincoln.

#### V ENERGY EXPERIENTIAL PROJECT AT THE CHILDREN'S MUSEUM

This project, located at the Children's Museum in Omaha, will result in the development of a "hands on" display depicting energy concepts.

#### VI MOBILE ALTERNATIVE ENERGY CENTER

Located at Educational Service Unit #3, (serving the Omaha suburban schools), this project will provide students and teachers with models depicting such energy sources as wind, active and passive solar, hydroelectric and geothermal.

#### VII DRIVER EDUCATION SIMULATOR

The simulator's purpose is to reduce fuel consumption in driver education courses by replacing one-half of "behind the wheel" driving time with simulation training. The simulator is located at the Kearney Safety Center and is co-sponsored by the Nebraska Energy Office, the Safety Center and Educational Service Unit #10 (serving 8 counties in mid-central Nebraska).

#### VIII ENERGY EDUCATION CURRICULUM IMPLEMENTATION PROJECT

This project will determine the best methods of incorporating energy education into the school curriculum. In addition, it will supplement an evaluation being conducted on two major K-12 curriculum projects, the Energy Conservation Activity Packets and the Basic Teaching Units on Energy.

## IX TEACHER TRAINING

The manager of educational programs was selected to participate in a National Energy Education Policy Development Conference sponsored by the Education Commission of the States.

The education coordinator provided teacher "in-service" as a participant in the Nebraska State Department of Education Classroom Up-Date series as well as on an individual request basis.

## THE NATIONAL SITUATION

The following graphs from Energy Information Administration publications indicate primary levels of petroleum, motor gasoline and distillate fuel oil stocks.

As of October 17, 1980 petroleum stocks (Table 4) were at a very high level, substantially higher than normal, providing an optimistic outlook for the remainder of the year with the condition that no major import interruption will occur.

Motor gasoline stocks (Table 5) were substantially higher than normal as of October 17, 1980. These figures provide some near-term optimism for the gasoline supply situation.

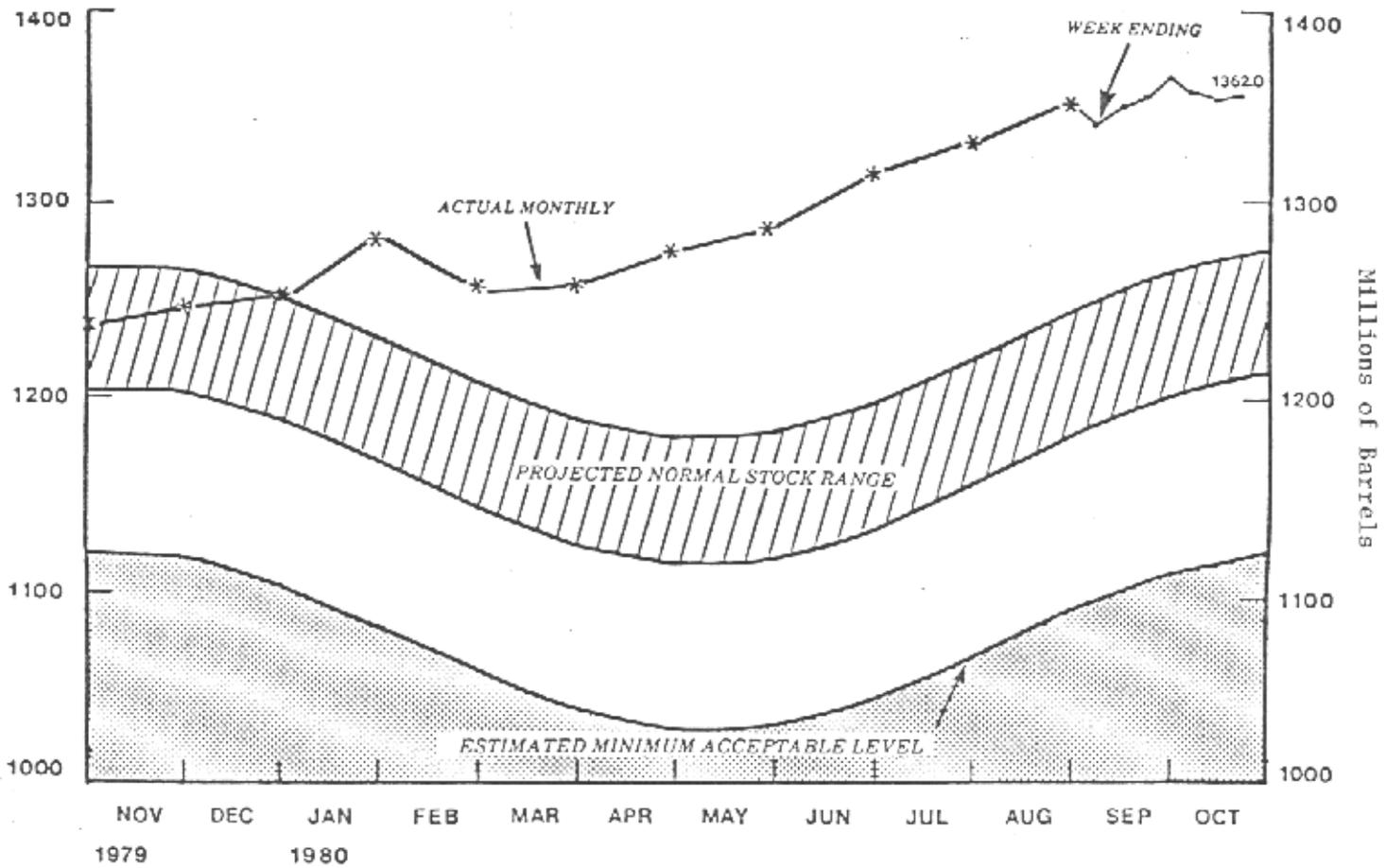
Distillate fuel stocks (Table 6) are in the middle of the normal range. Neither a shortage or oversupply can be anticipated.

Gross petroleum imports for the four-week period ending October 17, 1980 were 5.7 million barrels per day (MBD) as compared with 8.3 MBD a year ago. The average import price (U.S. FOB) was \$33.51 per barrel for the week ending October 17, 1980.

TABLE 4

U.S. Petroleum Stocks at Primary Level (Crude and Products)<sup>1</sup>

as of October 17, 1980



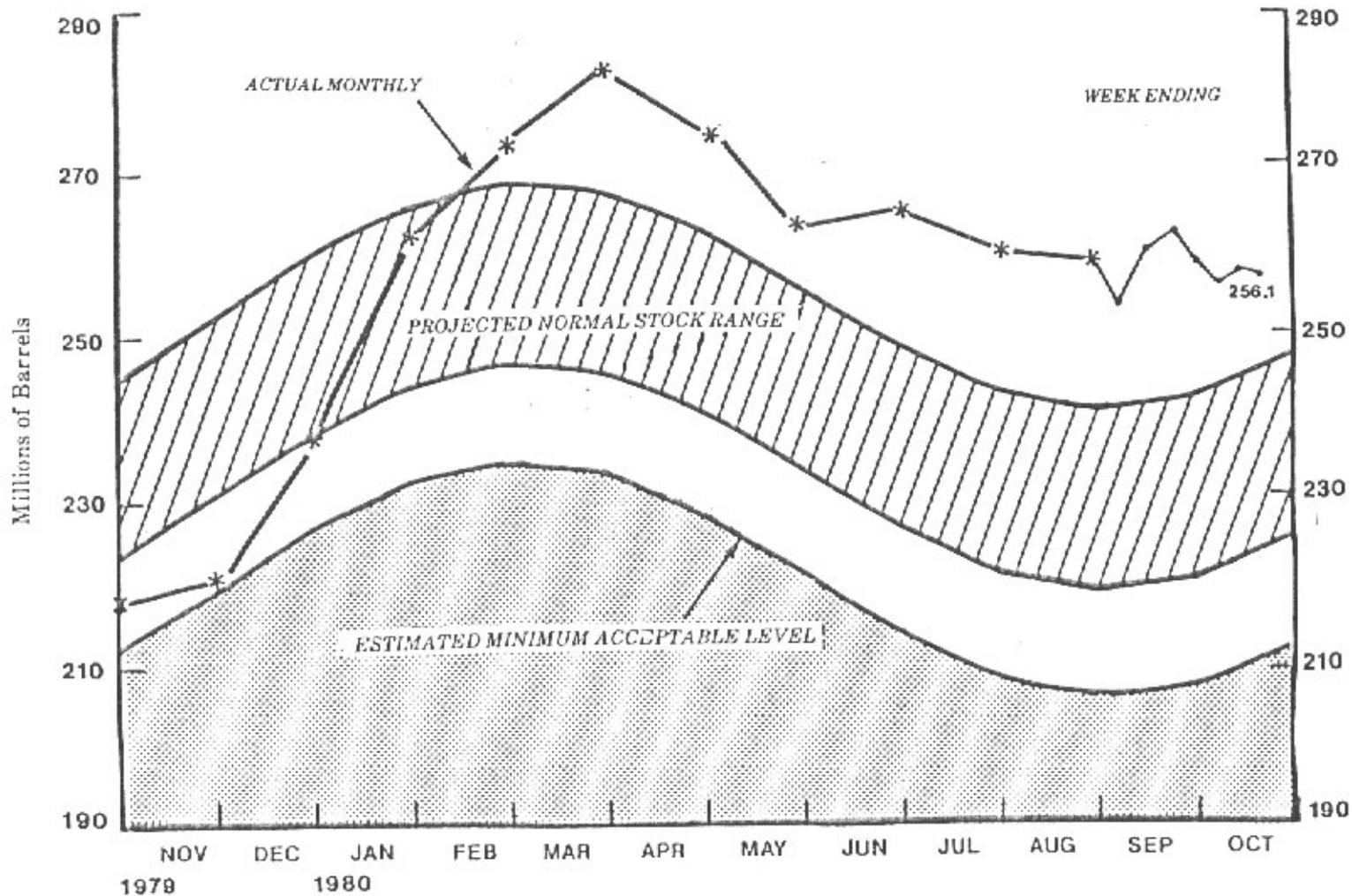
<sup>1</sup> Excludes stocks held in the Strategic Petroleum Reserve.

SOURCE: • October 1979 - May 1980: EIA, "Petroleum Statement, Monthly"  
 • June - August 1980: EIA, "Monthly Petroleum Statistics Report"  
 • September 5, 1980 - Current Week: Estimates based on EIA weekly data  
 • Projections and estimates through third quarter 1980: EIA estimates (see appendix for derivation and explanation)

TABLE 5

Motor Gasoline Stocks at Primary Level

as of October 17, 1980

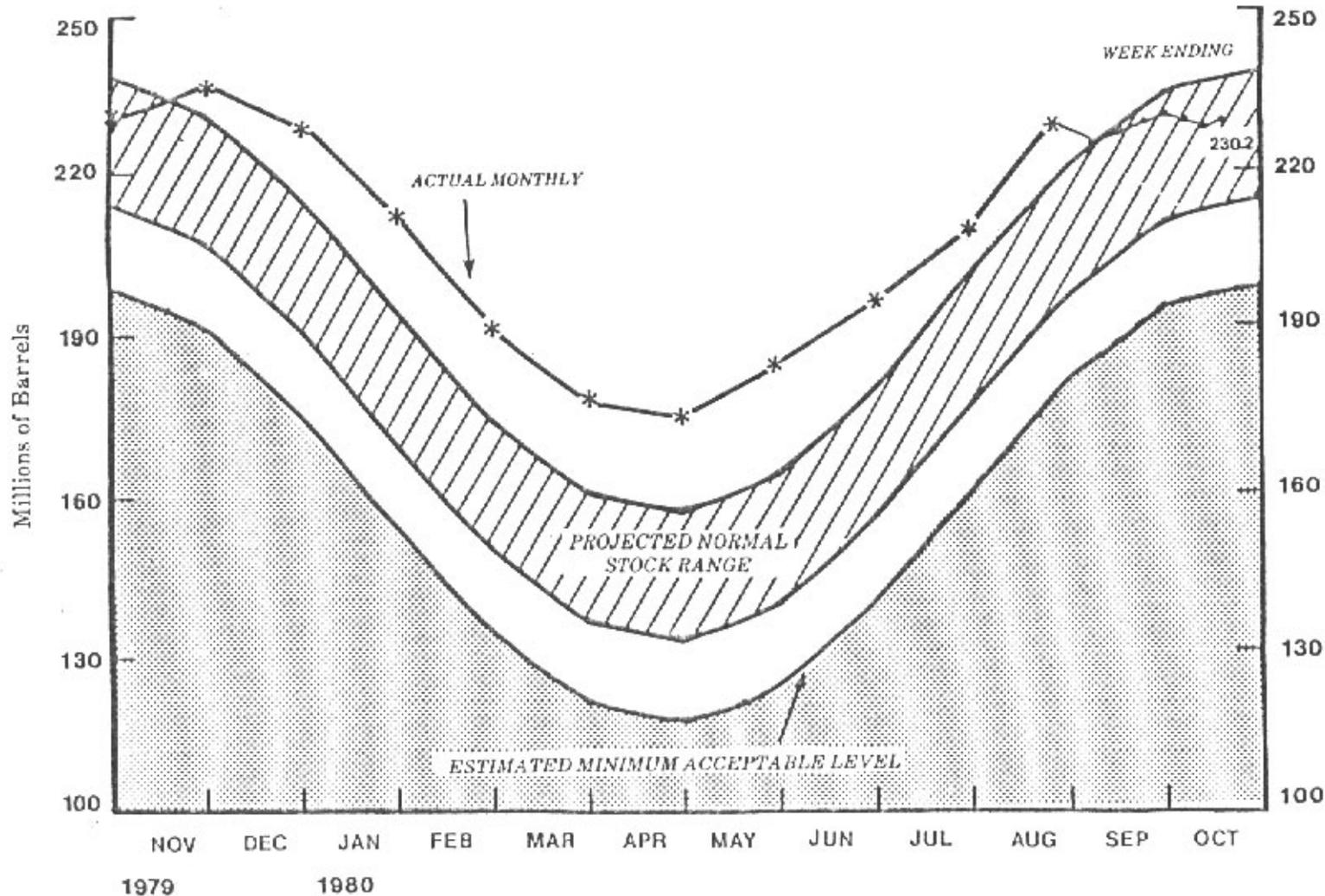


SOURCE: • October 1979 - May 1980: EIA, "Petroleum Statement, Monthly"  
 • June - August 1980: EIA, "Monthly Petroleum Statistics Report"  
 • September 5, 1980 - Current Week: Estimates based on EIA weekly data  
 • Projections and estimates through third quarter 1980: EIA estimates  
 (see appendix for derivation and explanation)

TABLE 6

Distillate Fuel Oil Stocks at Primary Level

as of October 17, 1980

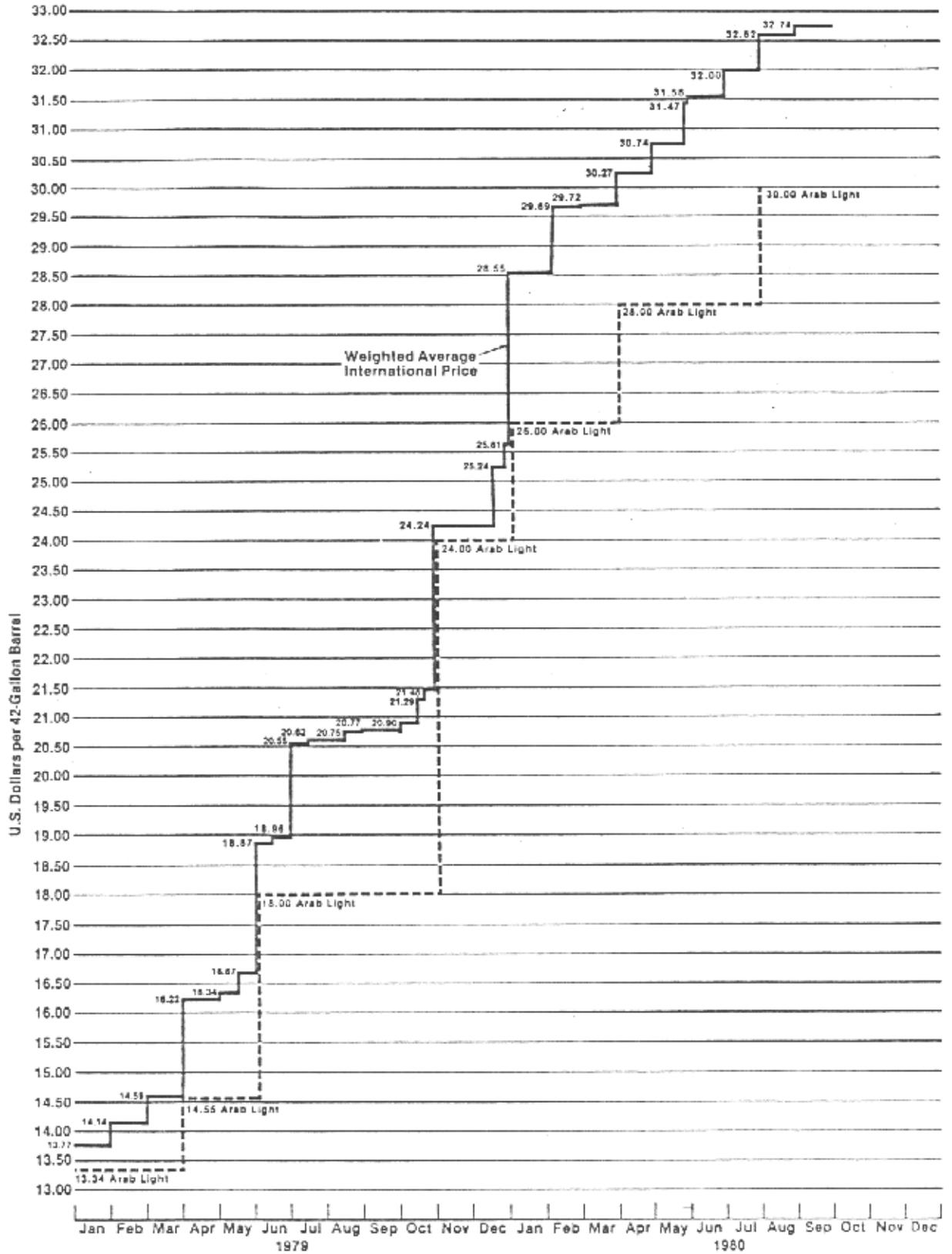


-21-

SOURCE: • October 1979 - May 1980: EIA, "Petroleum Statement, Monthly"  
 • June - August 1980: EIA, "Monthly Petroleum Statistics Report"  
 • September 5, 1980 - Current Week: Estimates based on EIA weekly data  
 • Projections and estimates through third quarter 1980: EIA estimates (see appendix for derivation and explanation)

TABLE 7

World Price of Oil<sup>1/</sup>

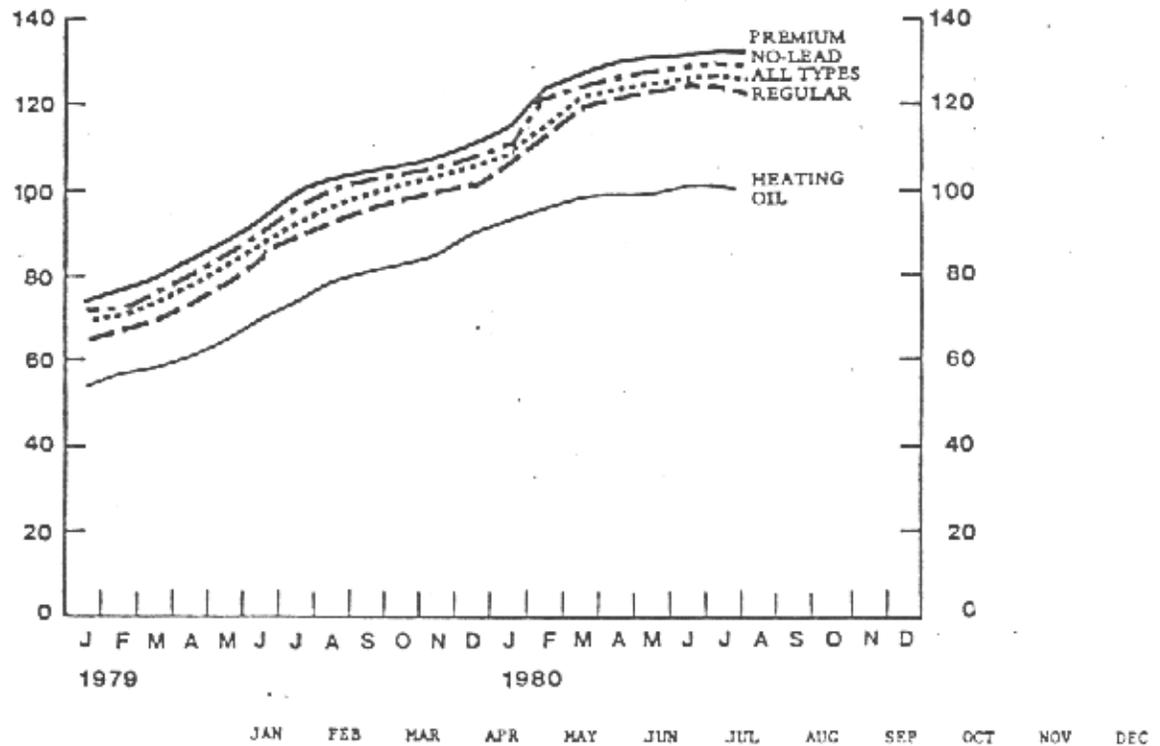


<sup>1/</sup> Internationally Traded Oil Only

Source: Energy Information Administration Weekly Petroleum Status Report, October 17, 1980

TABLE 8

Average Retail Selling Price: Motor Gasoline and Residential Heating Oil  
(Cents per Gallon)



1978

Motor Gasoline

Premium....	67.0	66.9	67.0	67.2	67.9	68.8	69.8	70.7	71.4	71.5	72.0	72.9
Regular....	60.7	60.5	60.4	60.6	61.1	62.0	62.9	63.8	64.4	64.5	65.0	65.9
No-Lead....	64.8	64.7	64.7	64.9	65.5	66.3	67.4	68.2	68.8	69.0	69.5	70.5
All types..	63.1	62.9	62.9	63.1	63.7	64.5	65.5	66.3	66.9	67.1	67.6	68.5
Residential Heating Oil	48.5	48.6	48.6	48.6	48.3	48.2	48.2	48.2	49.0	50.2	51.5	52.7

1979

Motor Gasoline

Premium....	73.7	75.0	77.4	82.4	86.7	92.0	96.5	100.4	103.6	104.6	105.6	108.0
Regular....	66.8	68.1	70.6	75.3	79.7	85.6	90.8	94.3	97.3	98.2	99.4	101.8
No-lead....	71.6	73.0	75.5	80.2	84.4	90.1	94.9	98.8	102.0	102.8	104.1	106.5
All types..	69.5	70.7	73.3	78.0	82.3	88.0	93.0	96.7	99.8	100.6	101.9	104.2
Residential Heating Oil	53.7	56.3	58.7	61.1	64.2	69.1	73.9	78.4	81.0	82.3	83.7	85.8

1980

Motor Gasoline

Premium....	114.9	123.3	127.7	129.2	129.5	130.0	130.7	131.0				
Regular....	108.6	115.9	120.2	121.2	121.5	121.7	121.6	121.0				
No-Lead....	113.1	120.7	125.2	126.4	126.6	126.9	127.1	126.7				
All types..	111.0	118.6	123.0	124.2	124.4	124.6	124.7	124.3				
Residential Heating Oil	90.8	95.3	97.1	97.4	97.2	97.9	97.9	97.8				

R = EIA revisions

NOTE: Motor Gasoline data include prices from self-serve stations.

SOURCE: Motor Gasoline—Bureau of Labor Statistics. See definition for description of survey.

Residential Heating Oil—FEA Form P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report".

## NEBRASKA OIL PRODUCTION

The following table is a comparison of oil exploration, well development and production on a monthly basis. Note that the production is in 42-gallon barrels.

TABLE 9

	1979 Production in Barrels	1980 Production in Barrels	DRILLING PERMITS			
			1979 Exploratory	1980	1979 Development	1980
January	483,206	502,703	35	45	22	21
February	451,691	480,512	10	21	18	27
March	515,334	516,836	20	20	22	25
April	501,530	486,000	25	19	27	30
May	525,112	540,000	20	27	14	28
June	507,398	509,397	18	17	20	32
July	518,302	504,840	36	14	17	33
August	<u>543,823</u>	<u>547,833</u>	20	13	20	16
September			<u>24</u>	<u>34</u>	<u>16</u>	<u>22</u>
TOTALS	4,046,396	4,088,121	208	210	176	234

Source: Oil and Gas Conservation Commission

## NEBRASKA PETROLEUM USE

Nebraska motorists have used 9.0 percent less gasoline in the first 9 months of 1980 than in the same period of 1979, according to figures supplied by the Nebraska Department of Revenue on gallons imported into the state.

Propane, diesel fuel, heating oil, aviation gas, jet fuel and gasoline are all available in ample quantities in Nebraska.

TABLE 10

MOTOR GASOLINE AVAILABLE (IMPORT MINUS EXPORT) IN STATE OF NEBASKA  
COMPARISON WITH THREE PREVIOUS YEARS

(From Nebraska Department of Revenue Tax Form 81 In Thousand of Gallons)

Month	1977	1978	1979	1980	Percent 1980/79	Accumulative Percent
January	69,333	69,166	69,602	63,763	92	92
February	62,501	63,226	69,367	59,381	86	89
March	70,779	75,162	73,396	63,036	86	88
April	77,085	74,596	72,399	65,086	90	88
May	79,039	84,421	77,630	72,448	93	89
June	86,542	86,164	75,954	65,770	86	89
July	92,844	88,253	80,053	73,316	91	89
August	82,342	89,732	82,472	72,063	87	89
September	79,852	79,202	72,609	78,249	108	91
October	82,106	86,060	78,565			
November	76,506	78,350	76,554			
December	<u>75,453</u>	<u>76,886</u>	<u>74,824</u>			
TOTAL	934,382	951,218	903,425	613,112	91	

PETROLEUM PRODUCT SET-ASIDE FOR ALLEVIATING  
HARDSHIP AND EMERGENCY SITUATIONS

The U. S. Department of Energy regulates the distribution and pricing of gasoline and has established a base period for allocation, allocation levels and use priorities which prime suppliers and distributors of petroleum products must follow.

Each month 5 percent of the reported available gasoline is reserved for hardship and emergency situations. The Nebraska Energy Office administers this set-aside program and directs the prime suppliers to make releases when necessary.

The distribution and pricing of middle distillates (fuel oil, kerosene, heating oil and diesel fuel) are not regulated. However, the Nebraska Energy Office, following U. S. Department of Energy guidelines, does provide a 4 percent set-aside of middle distillates for hardship and emergency situations.

Propane is regulated by the U. S. Department of Energy and the Nebraska Energy Office administers a 3 percent set-aside.

TABLE 11

THIRD QUARTER SET-ASIDE RELEASES: 1979-1980 COMPARISON

	Number of Requests for Assistance		Percentage of Set-Aside Released			
	<u>1979</u>	<u>1980</u>	<u>Gasoline</u>		<u>Middle Distillates</u>	
			<u>1979</u>	<u>1980</u>	<u>1979</u>	<u>1980</u>
July	796	148	99%	14%	95%	21%
August	771	64	98%	10%	99%	3%
September	683	78	99%	14%	99%	4%

NOTE: There were no requests for help with propane during this quarter.

## ELECTRICITY GENERATION

Electricity generated by the major Nebraska electric utilities (NPPD, OPPD, LES, Grand Island and Fremont) and fuel used for electricity generation are presented in Table 12.

Electricity generation in July, 1980, was by far the highest at 1,843Gwh (Gwh=Gigawatthour=one million Kwh). This was caused by exceptionally hot and dry weather conditions. The monthly peak load exceeded the average for nine months of this year by 51 percent. Such differences stress the necessity of developing better peak shaving and load management techniques.

More than twice as much coal was used in July compared with the average for the nine months of this year. At the same time the amount of oil used for electricity generation was moderate, further marking the switch from oil to coal in electricity generation.

Electricity sales to ultimate consumers in Nebraska are shown in Table 13. The first five columns show direct sales by three major utilities (NPPD, OPPD and LES). The last two columns present the interchange of electricity between these three utilities and all others, public and private, within the state and with other states.

The residential sector shows the highest swing between low and high sales during the year. The ratio of the maximum to minimum monthly electricity sales equals 2.1 to 1. This is another reason for implementing a comprehensive energy management program in the residential sector.

TABLE 12

PRIMARY FUELS USED FOR ELECTRICITY GENERATION BY MAJOR NEBRASKA  
ELECTRIC UTILITIES IN 1980

(From FPC 12 E2 Reporting Forms)

Month	Net Generation MWH*	Bitum. Coal Sh. Tons	Heavy Oil Barrels	Light Oil Barrels	Natural Gas MCF	Propane Gallons
January	1,426,944	404,910	30,602	5,146	244,773	300
February	1,365,426	469,262	15,648	3,902	292,572	
March	1,042,353	573,557	1,506	4,767	365,423	1,445
April	854,321	469,414		11,836	217,393	
May	761,962	416,726		3,464	256,990	
June	1,084,663	354,570		6,072	298,373	
July	1,843,024	973,912	15,189	3,902	605,043	
August	1,485,299	426,001	1,171	2,136	520,763	
September	<u>1,112,936</u>	<u>208,452</u>	<u>496</u>	<u>2,388</u>	<u>392,707</u>	<u>        </u>
TOTAL	10,976,928	4,296,804	64,612	43,613	3,194,037	1,745

\*1,000 Kilowatthours = 1 megawatthour = 1 MWH

TABLE 13

ELECTRICITY SALES TO ULTIMATE CONSUMERS  
BY NEBRASKA ELECTRIC UTILITIES IN 1980

(From Edison Electric Institute Monthly Reporting Form)

Month	Total Sale MWH*	Residential MWH*	Commercial MWH*	Industry MWH*	Public Use MWH*	Sales For Resale MWH*	Purchased From Others MWH*
January	755,435	284,448	237,180	205,523	29,692	728,378	650,745
February	750,539	283,001	248,469	201,811	30,092	681,900	979,982
March	720,262	271,105	212,022	197,782	28,260	636,403	834,966
April	631,323	222,609	194,881	189,705	26,137	546,014	589,531
May	612,212	187,778	193,083	199,192	27,400	504,535	579,061
June	697,776	229,331	217,942	204,170	27,727	582,468	659,078
July	899,530	379,138	262,541	211,301	29,698	963,103	917,090
August	907,482	398,090	281,268	214,345	34,461	733,610	870,842
September	<u>804,746</u>	<u>326,801</u>	<u>254,744</u>	<u>209,755</u>	<u>32,239</u>	<u>534,372</u>	<u>679,105</u>
TOTAL	6,778,305	2,582,301	2,102,130	1,833,584	265,706	5,910,783	6,760,400

\*1,000 Kilowatthours = 1 Megawatthour = 1 MWH

IMPACT OF WEATHER CONDITIONS DURING THE THIRD QUARTER

Nebraskans experienced exceptionally hot and dry weather during the summer of 1980 leading to greater energy use.

From the beginning of the cooling season on May 1 until September 28, 1979, a total of 1,040 cooling degree days were recorded. During the summer of 1980 cooling degree days numbered 1,356, or a 30 percent increase for the same period. The hotter summer weather required higher air conditioning loads and greater irrigation fuel expenditures.

The precipitation picture is equally significant. Precipitation during the second and third quarters of 1980 was only 70 percent of normal. Lack of rain combined with more heat in 1980 than 1979 caused exceptionally high demand for electricity and diesel fuel. All three major utilities reported record high peak loads and the amount of middle distillates imported into the state and delivered to consumers was the highest in recorded history.

A comparison of precipitation in eight major Nebraska climatic zones for the period April through September 1979 and 1980 is shown on the following table.

TABLE 14

A COMPARISON OF PRECIPITATION FOR THE  
SUMMERS OF 1979 AND 1980  
IN INCHES

Time Period	CLIMATIC ZONES								Average Of All Zones
	NW	NC	NE	CEN	EC	SW	SC	SE	
Actual Apr. 1-Sept. 29 '79	12.50	16.40	18.40	16.00	18.10	14.20	19.50	20.90	17.00
Actual Apr. 1-Sept. 27 '80	9.40	10.10	12.90	9.30	16.20	13.30	14.40	16.90	12.81
Normal Apr. 1-Sept. 27	13.68	16.45	19.62	18.21	21.51	15.28	18.71	23.20	18.33