

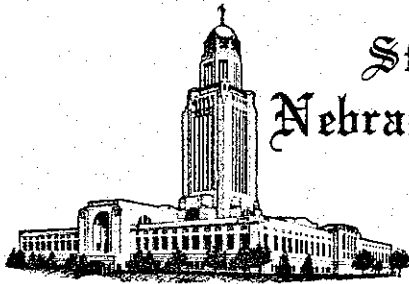


# nebraska energy office

**second quarter report  
august 15, 1982**

**Help Conserve the Good Life of Nebraska**

CHARLES THONE  
GOVERNOR



State of Nebraska  
Nebraska Energy Office

Box 95085  
Lincoln, Nebraska 68509  
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V.B. BALOK  
DIRECTOR

August 15, 1982

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

Patrick J. O'Donnell  
Clerk of the Legislature  
Room 2018 State Capitol  
Lincoln, Nebraska 68509

Dear Governor Thone and Clerk O'Donnell:

This Quarterly Report from the Nebraska Energy Office, for the period of April - June, 1982, is submitted in accordance with provisions of Section 81-1606 RSN (1980).

If you have any questions, please contact this office.

Sincerely,

NEBRASKA ENERGY OFFICE

A handwritten signature in dark ink, appearing to read 'V. B. Balok', written in a cursive style.

V. B. Balok  
Director

VBB:peg

Enc.

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## EXECUTIVE SUMMARY

This executive summary provides an overview of activities of the Nebraska Energy Office (NEO) during the second quarter of 1982, along with a synopsis of the national energy picture for the same time period of April-June.

The Nebraska Energy Office is required by law to provide the Governor and the Legislature with quarterly reports. In complying with this statutory directive from Legislative Bill 954, the NEO endeavors with each report to provide the latest and most accurate data available in as concise a form as possible.

During the April-June quarter, oil prices firmed up somewhat due primarily to shifting of available supply through the various levels of storage rather than because of an increase in consumer demand. The oil market throughout the world remained somewhat soft due to differences among Organization of Petroleum Exporting Countries (OPEC) members, continuing conservation, and other factors.

National policy continued to reflect the Reagan administration commitment to allowing the free market to work its will. With the softness in the world oil market expected to continue near term, prospects for sharp price fluctuations upward or supply disruptions appear minimal in the immediate future, barring increased instability in the Middle East.

Regionally, crude oil stocks at the end of April in the fifteen-state Petroleum Allocation for Defense District in which Nebraska is located were down 8.4 percent from the level the previous April. However, the April level was viewed as in the normal range.

During the quarter, Nebraskans continued their record of conservation in the area of motor gasoline. Even though the April gasoline use figure was higher than the level recorded in April, 1981, the May and June consumption levels were down slightly from the same months of the previous year. For the first two quarters of 1982, gasoline available for sale in the state (which amounts to the same as sales) was 3.7 percent below the same six month period in 1981.

Gasohol sales in Nebraska, meanwhile, skyrocketed during the first two quarters of 1982, especially during the quarter covered by this report. Gasohol available for consumption in Nebraska (the same as sales) more than doubled the amount sold for the second quarter of 1981. For the first six months of the year, Gasohol sales were 189.8 percent of the amount for the same two quarters of 1981.

The NEO during the second quarter reviewed grant requests from 61 schools, eight hospitals and two public care facilities that sought recommendations for federal energy efficiency funding through the Institutional Conservation Program. Determinations of the recommendations were expected in August and final grant awards were anticipated in September.

State building audits conducted by the NEO during the second quarter covered 70 structures. Estimates were that if all the resultant audit recommendations were implemented, more than 20 percent in energy savings could be realized.

Low income weatherization in Nebraska continued apace with 722 homes completed during the second quarter of 1982. This compares with fewer than 600 during the same period in 1981. Since 1977, when the federally-funded program currently administered by the NEO began, more than 12,000 Nebraska homes have been weatherized.

Applicants in the third grant cycle of the Nebraska School Weatherization Program were under review during the quarter with announcement of awards slated for early July. More than \$4.3 million was sought by 105 school districts in 175 applications representing 535 projects. Approximately \$1.3 million in state Oil and Gas Severance Tax revenues was expected to be available for the third cycle.

Use of nuclear power to generate electricity increased by more than 40 percent during the first half of 1982, compared with the same period the previous year. Nuclear stations were producing 53 percent of Nebraska's electricity. Total electricity sales increased one percent during the first two quarters of 1982.

During the second quarter, planning and preparation for the Nebraska Independence Day Alternate Fuels Classic road rally entered the final stages. The July 4 rally, which was to cover a 150-mile course from Lincoln to Aurora and back, drew more than 30 entries representing 16 states. The NEO-sponsored event was designed to provide a "proof of concept" opportunity for alcohol and other alternate fuels and converted vehicles.

Also in the planning stages during the second quarter was an August 4-5 meeting at Omaha to bring together energy officials from seven states and the federal government to discuss energy emergency preparedness. The NEO invited officials from the U.S. Department of Energy and representatives from the energy offices of the six states that border Nebraska. The NEO decided to host the ad hoc planning group in order to begin regional coordination of energy emergency planning and to learn more about the Reagan administration's reliance on the free market to manage energy supply problems.

## WORLD OIL PRICING

The recent upturn in gasoline prices can be attributed to a reshuffling of gasoline inventories from primary to secondary and tertiary storage facilities rather than increased consumer demand. The recent increase in oil price is not a sign of permanent strength in the oil industry.

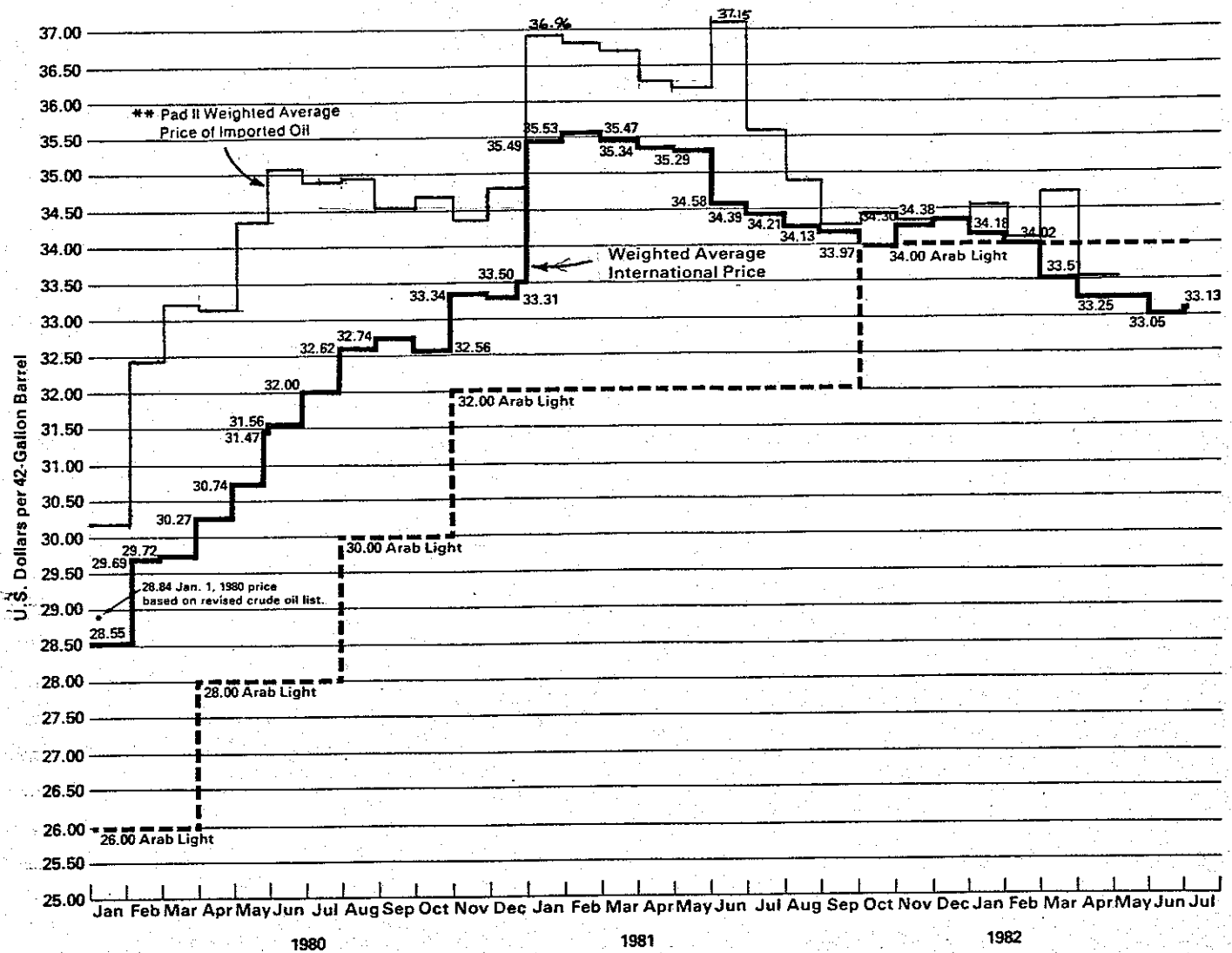
The Organization of Petroleum Exporting Countries (OPEC) is having inner turmoil. Iran is producing almost twice its production limit and is undercutting the official benchmark price by nearly \$4 per barrel to finance its war with Iraq. Libya and Nigeria have also ignored the OPEC agreement and are producing over their production limit. Saudi Arabia is threatening to drop its prices if other members of OPEC continue overproducing.

The result of all this turmoil within OPEC will be higher production with a continuation of the oil glut. From the scenario above, Evans Econometrics forecasts no real growth in oil prices during the next few years.

The leveling off of crude oil prices this year, after the large gains the previous three years, has halted the boom in oil exploration. The latest figures show the United States rig count down 40 percent from December 28, 1981, and off 31 percent from a year ago.

Table 1

World Crude Oil Prices<sup>1</sup>  
(Dollars per Barrel)



<sup>1</sup> Internationally traded oil only. Average price (FOB) weighted by estimated export volume.

Note: Beginning with the May 1, 1981 issue of the Weekly Petroleum Status Report, the world crude oil price is based on a revised crude oil list. Additions: Saudi Arabia's Arabian Heavy, Dubai's Fateh, Egypt's Suez Blend, and Mexico's Maya. Omissions: Canadian Heavy. Replacements: Iraq's Kirkuk Blend for Iraq's Basrah Light.

The above graph shows an estimated world crude oil price based on this revised list beginning January 1, 1981. An asterisk shows the January 1, 1980 price based on the revised list. All other 1980 prices represent the old crude list before revisions.

## U.S. NATURAL GAS AND OIL PRICES

In the United States, oil companies and natural gas producers are facing difficulties in the pricing structure. Several interstate companies are refusing to buy deep well natural gas at more than \$5 to \$6 per thousand cubic feet (Mcf). It has been selling as high as \$10.76 per Mcf.

With total deregulation on the horizon, drillers would shift from a small number of expensive deep wells to a large number of shallow wells. Deregulation is scheduled to take effect in 1985. Prospects for immediate decontrol seem to be remote.

On the demand side, higher prices for natural gas, as well as the recent decline in prices of competing fuels, encouraged fuel switching and greater conservation by the industrial and residential sectors. The recession has also suppressed the industrial demand for all fuels.

The result is a natural gas surplus which is likely to last for at least two years if the Evans Econometrics outlook for the economy is anywhere near correct.



## REGIONAL STOCK AND IMPORTS

Nebraska is in a fifteen state Petroleum Allocation for Defense District known as PAD 2, which ranges from Nebraska to Ohio. As of April 30, 1982, stocks of crude oil in PAD 2 were down 8.4 percent from the level of April, 1981. This year's stock is still viewed as in the normal range.

Motor gasoline stocks in PAD 2 were 5.5 percent lower than last year, distillate fuel oil stocks were down 19.9 percent and residual fuel stocks were 31.2 percent lower. In the four state district of Oklahoma, Kansas, Missouri and Nebraska, motor gasoline stocks were down 24.6 percent in April.

In 1980, there were 416,660,000 barrels of foreign crude oil imported into PAD 2. Six countries accounted for 79 percent: Nigeria, 16.5 percent; Mexico, 13.9 percent; Canada, 12.2 percent; Algeria, 11.4 percent, and Saudi Arabia, 7.7 percent.

The percentages changed in 1981. There were 264,838,000 barrels of foreign crude oil imported into PAD 2 from the six countries, which is a decrease of 36 percent. Canada led with 39.9 percent; Nigeria, 16.1 percent; Saudi Arabia, 13.7 percent; Mexico, 13.0 percent; Libya, 8.9 percent; and Algeria, 8.4 percent.

Sources: Weekly Petroleum Status Report, Monthly Petroleum Statement and Petroleum Supply Monthly.

NEBRASKA OIL PRODUCTION AND EXPLORATION

Table 2 presents data on oil production and exploration in Nebraska from reports of the Oil and Gas Conservation Commission. The oil production for the first five months of 1982 was 105 percent compared with the corresponding period of 1981. Table 2 shows that the number of drilling permits issued during the first six months of this year decreased for development wells and increased for exploratory wells.

TABLE 2

Month	Oil Production in Barrels				Drilling Permits							
					Exploratory				Development			
	1980	1981	1982	**	1980	1981	1982	**	1980	1981	1982	**
January	502,703	554,180	560,334	101	45	27	26	96	21	27	23	85
February	480,512	503,868	532,073	106	21	22	22	100	27	29	15	52
March	516,836	565,799	605,026	107	20	16	27	169	25	22	17	77
April	486,000	559,925	591,723	106	19	23	18	78	30	56	7	13
May	540,000	553,556	594,224	107	27	15	15	100	28	40	13	33
June	509,397	548,195			17	50	13	26	32	30	20	67
July	504,840	547,937			14	27			33	44		
August	547,833	578,214			13	39			16	20		
September	534,617	559,887			34	23			22	24		
October	539,889	580,388			41	34			32	24		
November	502,264	541,312			34	41			30	26		
December	529,079	571,699			24	37			27	32		
TOTALS	6,193,970	6,664,930	2,883,380	105	309	354	121	79	323	374	95	47
*Annual Summary	6,239,652	6,671,313			309	354			311	374		

Notes: \*Annual summary data is compiled after corrections and is considered more reliable.

\*\*Percent for corresponding period of previous year.

The table shows a sharp cut (more than one half) in the number of permits issued for development well drilling. The number of exploratory permits decreased 21 percent. The apparent reason for the cuts is the gasoline price decrease which took place earlier this year.

Table 3

## Average Retail Price of Gasoline in Nebraska

(Dollars per Gallon)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	\$ .63	\$ .67	\$1.09*	\$1.21	\$1.27	105.0
February	.63	.68	1.15	1.28	1.26	98.4
March	.63	.71	1.18	1.35	1.22	90.4
April	.63	.74	1.21	1.35	1.12	83.0
May	.63	.79	1.22	1.32	1.14	86.4
June	.63	.87	1.22	1.31	1.23	93.9
July	.64	.90	1.20	1.29		
August	.65	.94	1.18	1.29		
September	.66	.97	1.17	1.28		
October	.66	.97	1.16	1.28		
November	.66	1.00	1.19	1.28		
December	.67	1.02	1.19	1.28		
						<u>92.6%</u>

Source: Cornhusker Motor Club

\*Source: Weekly Petroleum Status Report

## NEBRASKA PETROLEUM STATUS REPORT

Gasoline available for sale in Nebraska is defined as total gasoline, excluding Gasohol, imported into Nebraska minus the total exported. Since 1978, consumption has continually decreased but the rate of the drop in gasoline usage has leveled off in recent months. With the addition of second quarter data, the drop in consumption for the first half of calendar 1982 was 3.7 percent.

Gasohol available for consumption in Nebraska (which is virtually the same as sales) has skyrocketed this year, with the greatest gains recorded in the April-June quarter. The rate of Gasohol buying during the quarter was more than double the same quarter in 1981, and for the first half of 1982 was 189.8 percent of the same six months period in 1981.

Middle distillate imports for the second quarter were up overall, with a doubling during April over the same month in 1981 and a tripling during May over that month the previous year. During June, middle distillate imports dropped to below the level imported the previous June, but stocks were adequate. For the first six months of 1982, middle distillate imports were 95.3 percent of the same period in 1981.

Gasoline sold to federal agencies in the first six months of 1982 was 167.8 percent of the level for the same period in 1981.

Special fuels are any fuels other than gasoline that may be used in a motor vehicle fuel tank. These include diesel, propane, and natural gas.

Special fuels for highway use are fairly constant, reflecting the stability of the commercial transportation system in 1982. Consumption in 1982 thus far is following the normal seasonal pattern. Special fuels for non-highway use include agricultural, industrial, railroad and any other motor vehicle use not on Nebraska roads. The non-highway use is dependent on the Nebraska economy and weather, and is more volatile than highway use.

The following tables provide details regarding the state's petroleum situation.

Table 4

## Fuel Delivered In Nebraska In 1981-82 (Thousands of Gallons)

	Motor Gasoline	Propane	Kerosene	Home Heating Oil	Diesel	*Total Middle Distillates
January	53,951	11,186	4,259	11,773	20,916	36,948
February	49,300	11,841	2,536	10,086	17,498	30,120
March	52,446	7,822	685	10,128	18,873	29,686
April	52,816	3,731	514	12,626	20,236	33,376
May	57,652	2,947	290	15,634	19,310	35,234
June	63,412	6,864	260	16,734	23,132	40,126
July	67,603	12,502	352	18,681	21,899	40,932
August	65,622	5,631	428	13,441	20,197	34,066
September	62,337	9,906	1,095	10,482	17,521	29,098
October	70,088	24,673	3,064	13,047	21,393	37,504
November	60,009	16,877	3,098	12,787	18,676	34,561
December	<u>57,446</u>	<u>14,173</u>	<u>4,954</u>	<u>11,363</u>	<u>16,843</u>	<u>33,160</u>
TOTAL	712,682	128,153	21,535	156,782	236,494	414,811
January 1982	48,576	15,739	6,157	7,117	9,050	22,324
February	43,352	11,045	3,205	5,174	7,432	15,811
March	54,145	8,318	875	7,846	10,556	19,277
April	67,247	7,524	536	22,283	26,143	48,199
May	68,737	5,566	254	16,365	19,127	35,746
June	65,234	6,142	145	14,598	19,073	33,816

The last month is preliminary

\* Kerosene, Home Heating Oil, Diesel, Other Middle Distillates

Source: EIA25(FA-1000) Report Form

August 4, 1982

Nebraska Energy Office

Table 5

## Gasoline Available for Sale in Nebraska\* (Metered Thousands of Gallons)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	69,334	69,166	69,602	63,763	60,917	53,344	87.6%
February	62,501	63,227	69,367	59,381	51,123	48,467	94.8
March	70,780	75,162	73,397	63,151	56,183	55,705	99.1
April	77,085	74,597	72,399	65,318	61,489	62,279	101.3
May	79,039	84,422	77,631	72,440	65,221	63,270	97.0
June	86,543	86,165	75,955	65,801	67,532	61,815	91.5
July	92,844	88,253	80,054	73,498	71,593		
August	82,343	89,733	82,473	72,201	68,404		
September	79,853	79,202	72,609	79,754	65,057		
October	82,107	86,061	78,565	65,140	70,371		
November	76,506	78,351	76,555	60,261	61,220		
December	<u>75,453</u>	<u>76,887</u>	<u>74,824</u>	<u>68,169</u>	<u>62,200</u>		
TOTAL	934,388	951,226	903,431	808,877	761,310	344,880	95.1%

The last three months are preliminary.

\*Gross imports into the state minus exports out of the state, excluding Gasohol.

Source: Department of Revenue Tax Form 81

August 4, 1982  
NEBRASKA ENERGY OFFICE

Table 6  
Nebraska Energy Office  
Gasoline Available for Sale

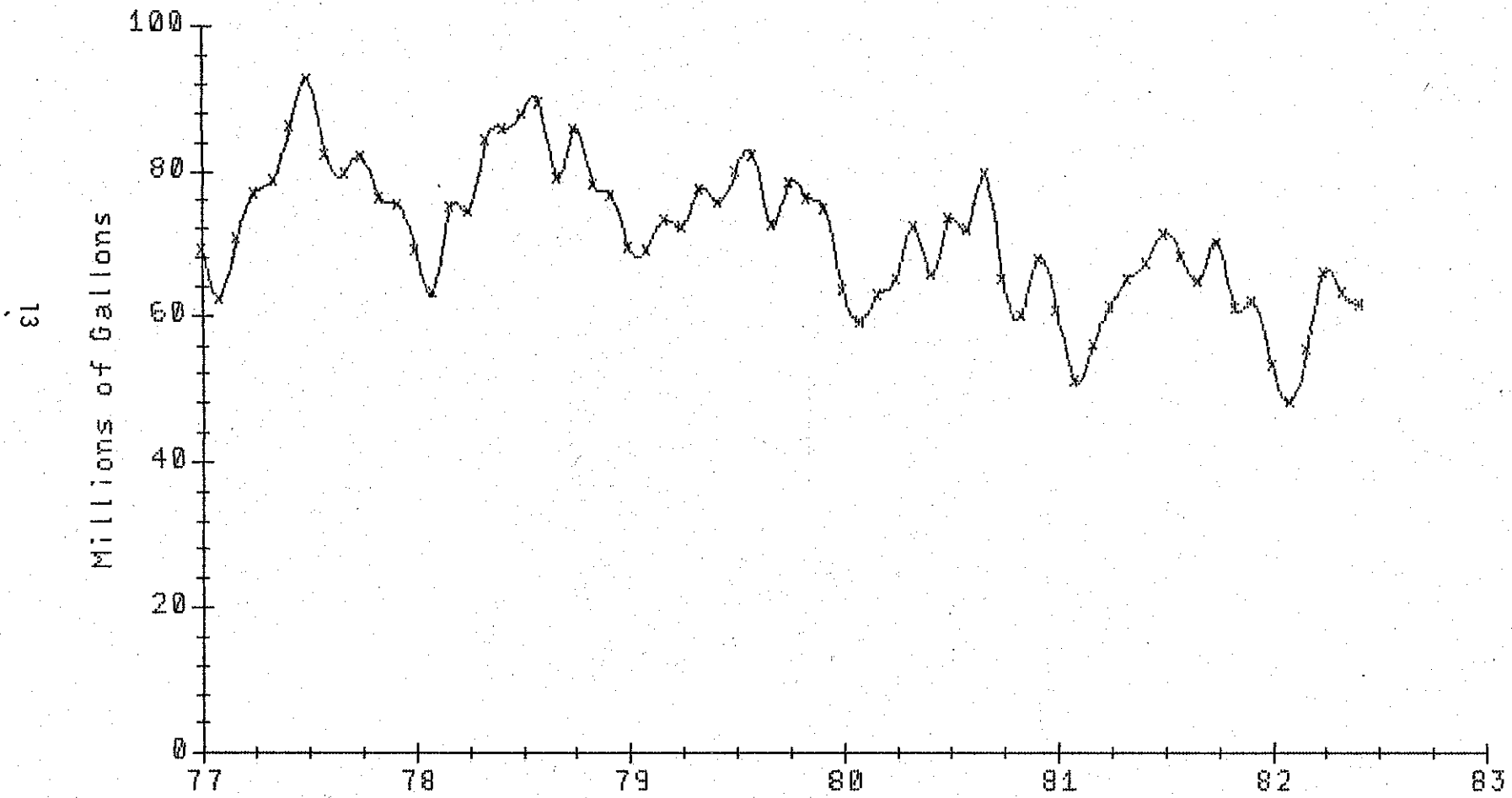


Table 7

## Gasoline Sold in Nebraska to Federal Agencies\* (Thousands of Gallons)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	250	225	293	198	194	170	87.6%
February	207	229	510	223	155	246	158.7
March	208	241	354	259	205	394	192.2
April	355	254	244	218	228	505	221.5
May	563	289	433	197	203	707	348.3
June	202	223	201	217	336	194	57.7
July	381	170	242	211	288		
August	234	192	234	187	227		
September	272	191	162	298	298		
October	154	154	288	151	214		
November	214	165	292	126	288		
December	<u>229</u>	<u>180</u>	<u>203</u>	<u>175</u>	<u>388</u>		
TOTAL	3,269	2,513	3,456	2,363	3,024	2,216	167.8%

The last three months are preliminary.

\*Unaudited data, expected revision has not been done.

Source: Department of Revenue Tax Form 81

August 4, 1982  
NEBRASKA ENERGY OFFICE



Table 8

# Nebraska Energy Office Gasoline Sold to Federal Agencies

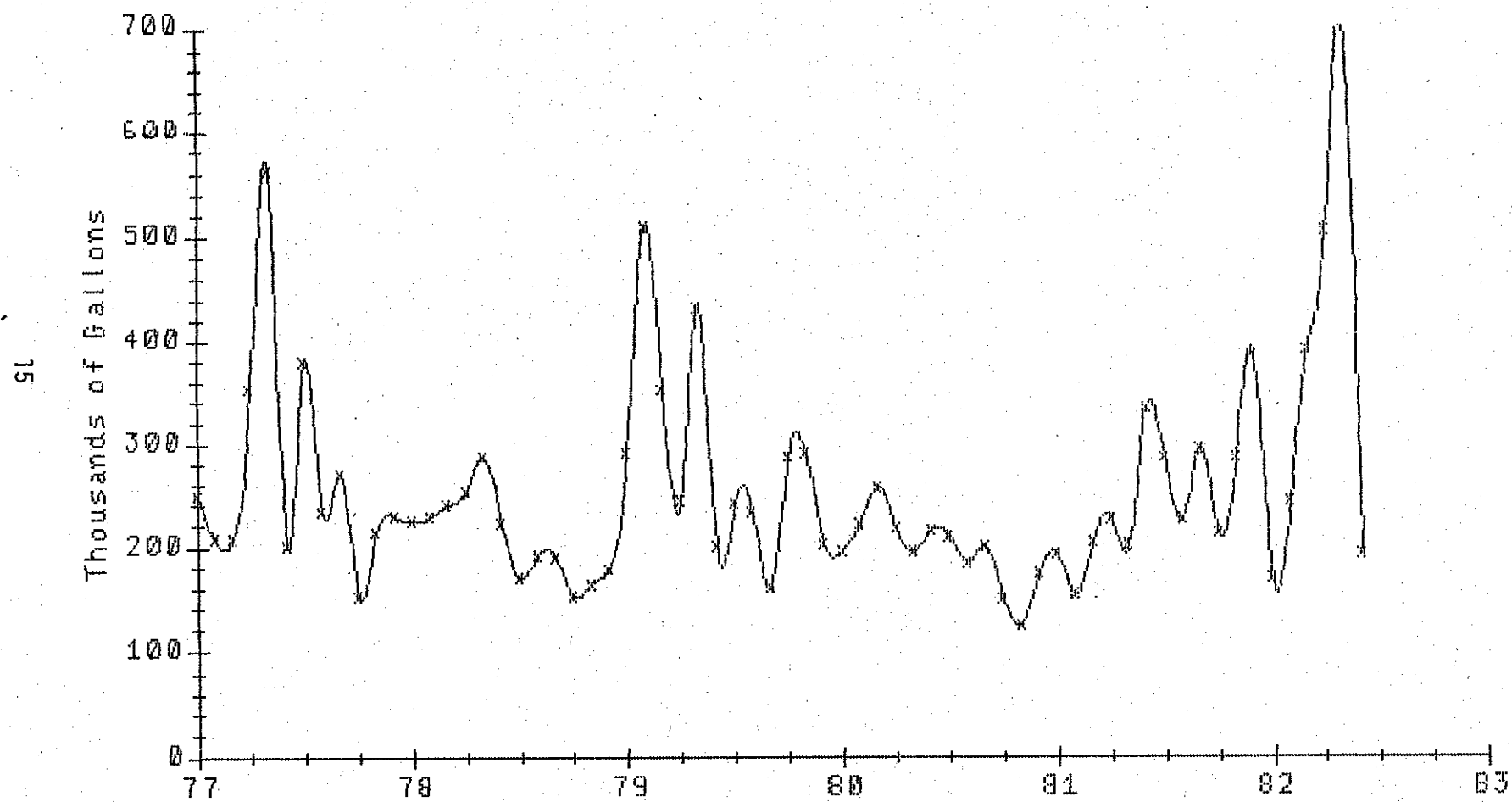


Table 9

## Gasohol Available for Consumption in Nebraska\* (Thousands of Gallons)

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	280	1,729	2,514	3,637	144.7%
February	280	1,926	2,308	4,016	172.3
March	296	2,878	2,413	4,817	199.6
April	291	2,687	2,311	4,762	206.1
May	313	2,915	2,397	4,647	193.9
June	306	2,579	2,587	5,696	220.2
July	320	2,749	2,616		
August	1,413	2,320	2,478		
September	823	2,761	2,547		
October	922	2,485	2,631		
November	802	2,284	2,713		
December	<u>844</u>	<u>2,825</u>	<u>3,666</u>	<u>        </u>	<u>        </u>
TOTAL	6,890	30,138	31,181	27,575	189.8%

The last three months are preliminary

\*Gross imports into the state minus exports out of the state

Source: Department of Revenue Tax Form 81-1

August 4, 1982

NEBRASKA ENERGY OFFICE

Table 10

# Nebraska Energy Office Gasohol Available for Sale

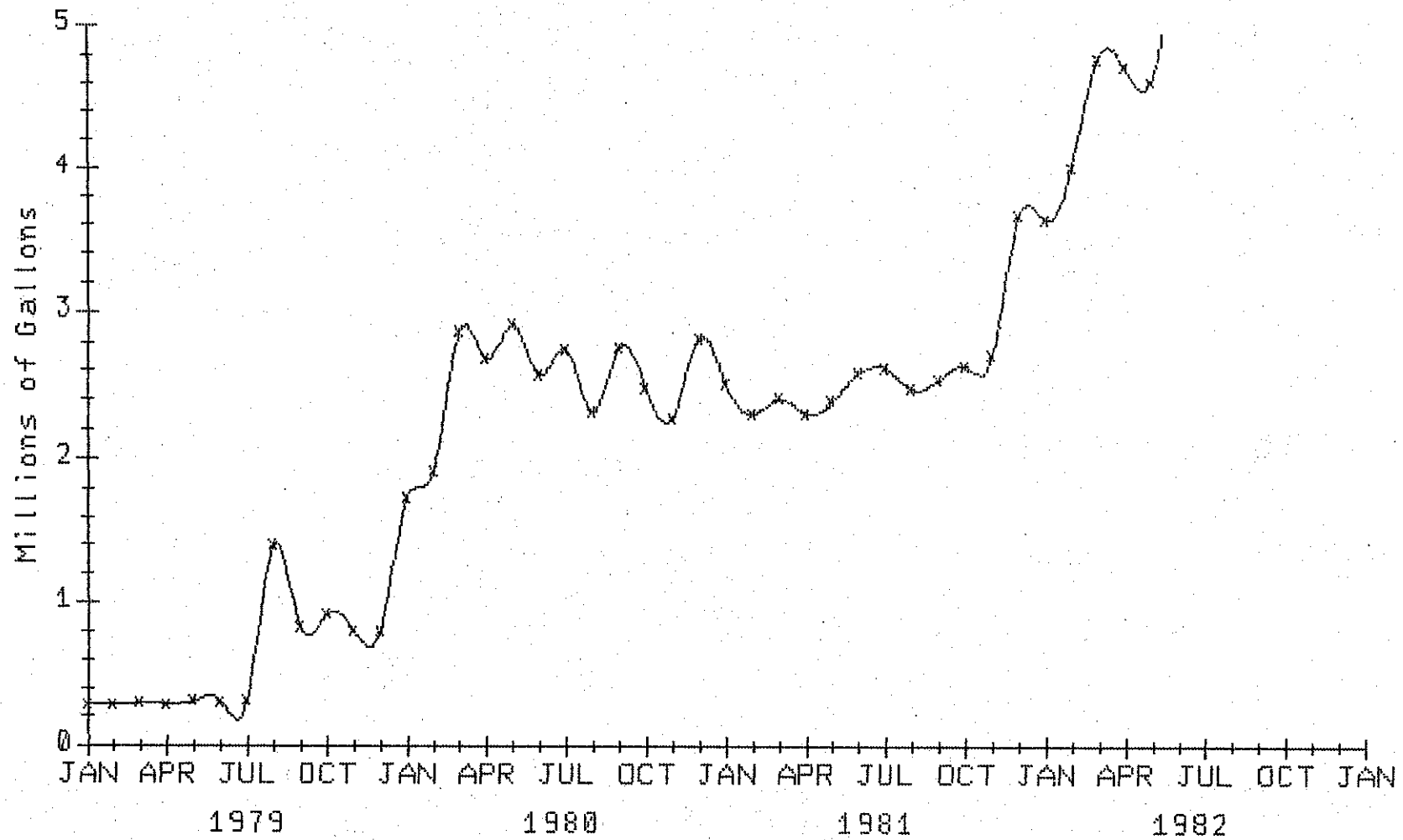


Table 11

\*Middle Distillates Imported Into Nebraska (Thousands of Gallons)

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	16,408	28,165	34,298	40,244	25,381	24,891	26,926	108.2%
February	14,081	18,169	29,735	34,600	26,157	59,280	19,013	32.1
March	19,222	24,028	37,886	48,150	23,102	29,450	22,295	75.7
April	23,495	24,833	32,942	40,745	32,255	24,922	49,487	198.6
May	26,239	27,521	43,673	50,992	36,486	28,494	40,179	141.0
June	28,744	28,267	42,739	38,258	31,247	36,640	36,258	99.0
July	32,022	36,250	50,051	46,443	59,339	42,389		
August	29,857	36,183	46,934	43,635	35,548	28,808		
September	24,475	32,160	39,245	34,495	29,905	30,595		
October	24,160	32,295	34,802	38,383	31,691	31,896		
November	26,464	28,073	34,156	38,326	28,840	28,695		
December	<u>24,461</u>	<u>29,294</u>	<u>34,524</u>	<u>31,200</u>	<u>27,060</u>	<u>25,464</u>		
TOTALS	289,628	345,238	460,985	485,471	392,619	391,524	194,158	95.3%

\*Diesel, home heating oil, kerosene and other middle distillates  
 The last three months are preliminary  
 Source: Unaudited Figures from Department of Revenue Tax Forms 81

August 4, 1982  
 NEBRASKA ENERGY OFFICE

Table 12

Nebraska Energy Office  
Middle Distillates Imported

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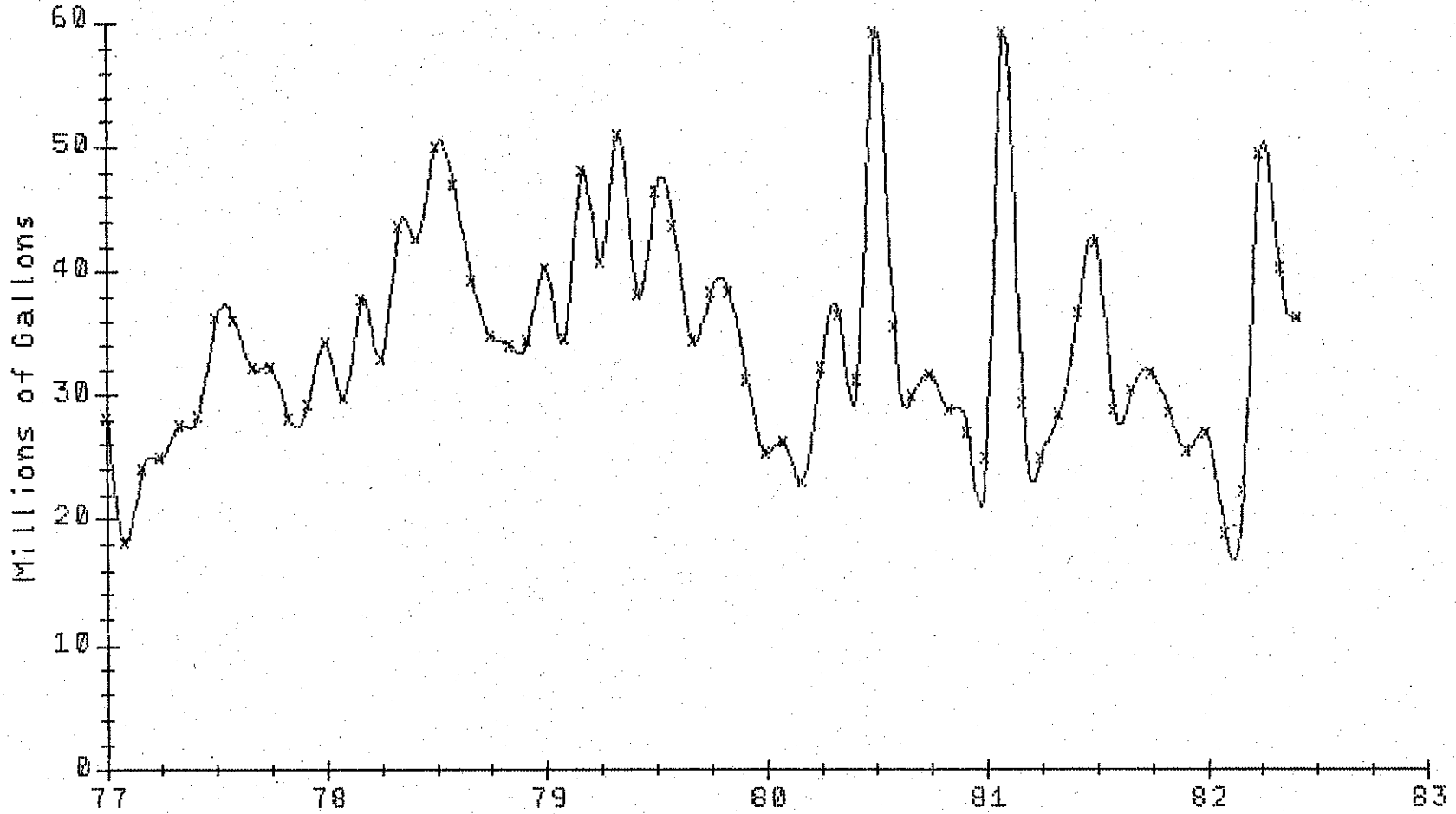


Table 13

## Special Fuels for Highway Use Delivered in Nebraska (Thousands of gallons)

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	8,828	10,123	10,200	11,482	11,840	10,595	10,856	102.5%
February	8,889	9,654	10,104	11,256	11,067	10,017	10,864	108.5
March	10,363	12,092	11,615	12,944	12,068	12,037	12,562	104.4
April	10,306	11,180	11,906	12,415	12,324	12,068	12,609	104.5
May	10,059	10,901	12,114	13,035	11,895	11,702	11,602	99.1
June	10,372	10,938	11,971	11,019	11,884	11,846	11,347	95.8
20 August	10,243	10,915	12,454	12,570	12,349	11,479		
September	10,491	10,937	12,476	12,686	13,439	12,176		
October	10,849	12,198	13,996	14,310	13,592	13,362		
November	10,660	10,774	11,894	12,412	11,823	11,659		
December	<u>10,027</u>	<u>10,116</u>	<u>11,114</u>	<u>12,047</u>	<u>11,224</u>	<u>11,096</u>		
TOTAL	121,785	130,161	140,965	147,813	145,219	139,578	69,840	102.3%

\*Any fuels other than gasoline that are put in a motor vehicle fuel tank. These include diesel, propane and natural gas.

The last three months are preliminary.  
Source: Department of Revenue Form 91

August 4, 1982  
NEBRASKA ENERGY OFFICE

Table 14

# Nebraska Energy Office Highway Fuel

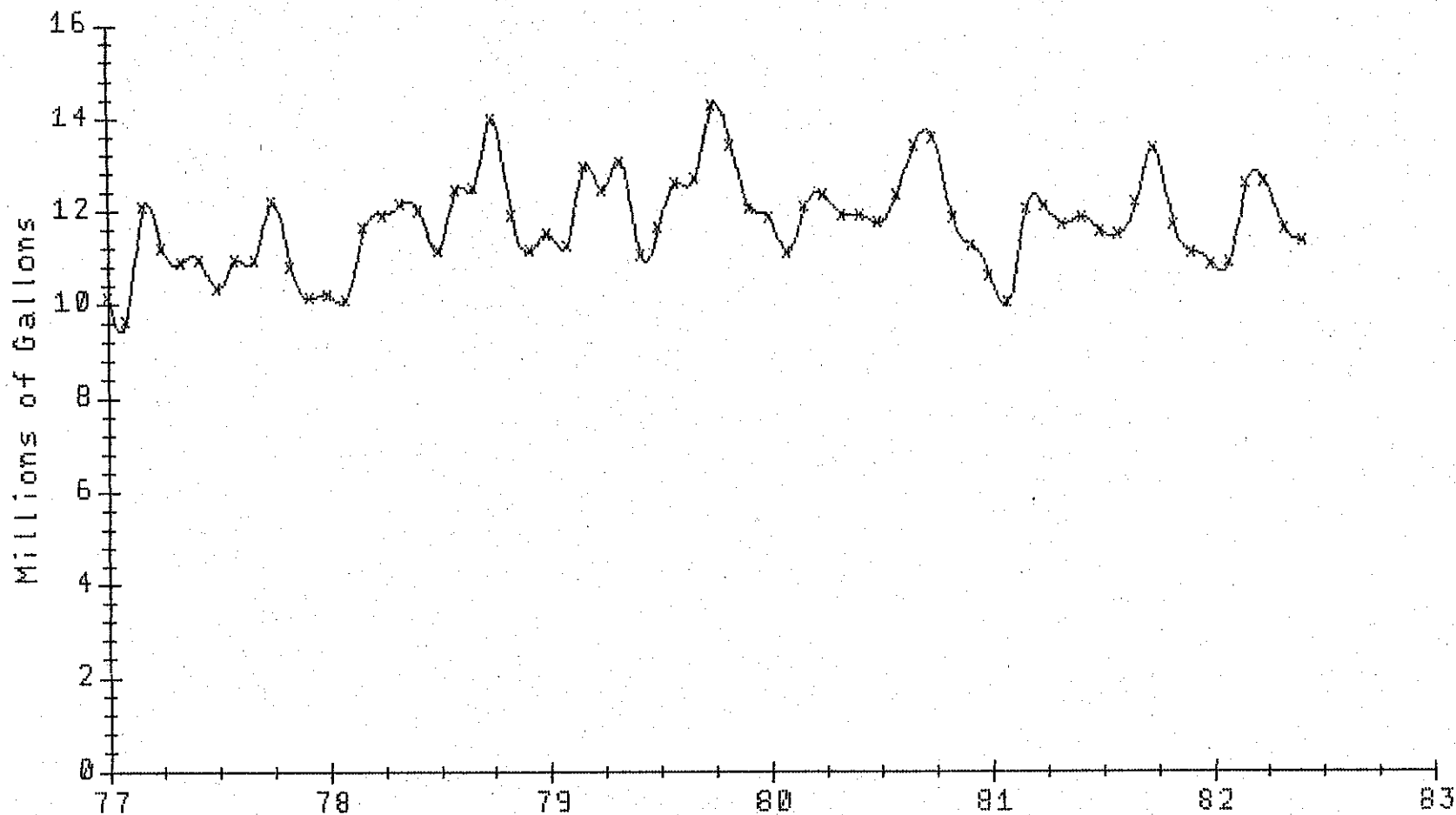


Table 15

## \*Special Fuel (Non-Highway Use) Delivered in Nebraska (Thousands of Gallons)

	1980	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	13,800	12,942	11,915	92.1%
February	15,164	10,668	9,629	90.3
March	12,336	8,382	7,721	92.1
April	12,201	8,556	14,616	170.8
May	13,619	10,701	12,626	117.9
June	14,332	13,462	11,867	88.2
July	24,485	18,138		
August	16,920	10,180		
September	14,990	10,416		
October	15,457	17,022		
November	12,488	13,915		
December	<u>13,913</u>	<u>11,019</u>		
TOTAL	179,695	145,401	68,374	105.7%

\*Any fuels other than gasoline that are put in a motor vehicle fuel tank. These include diesel, propane and natural gas.

\*Includes agricultural, industrial, railroad and any other motor vehicle use not on Nebraska roads.

The last three months are preliminary  
Source: Department of Revenue Form 91

August 4, 1982  
NEBRASKA ENERGY OFFICE



Table 16

# Nebraska Energy Office Non-Highway Fuel

23

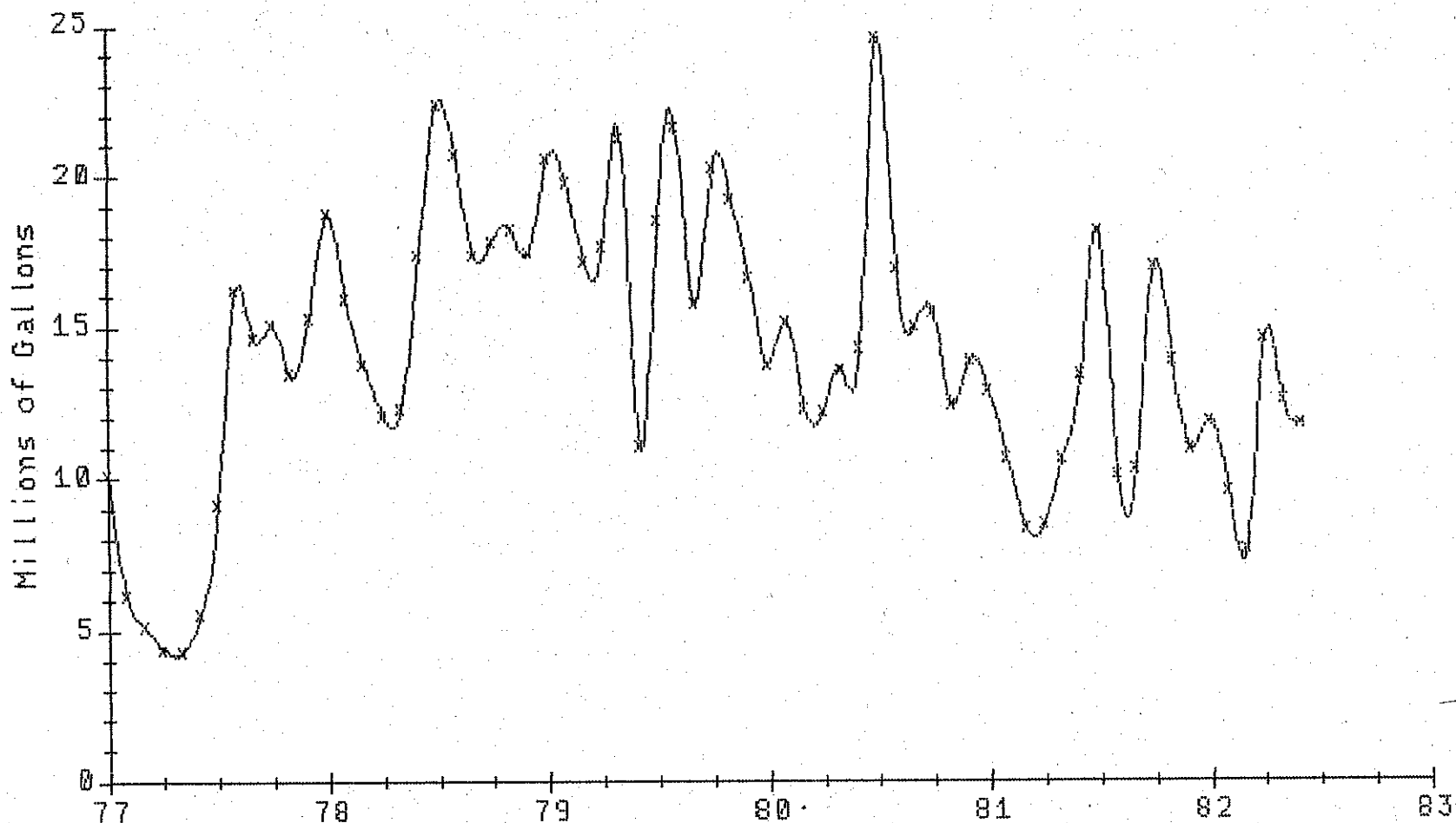


Table 17

## Aviation Fuel (all types) Available for Sale\* In Nebraska (Thousands of Gallons)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	3,523	2,997	2,444	81.5%
February	2,883	2,591	2,368	91.4
March	3,011	2,997	2,588	86.4
April	3,099	2,710	2,446	90.3
May	3,371	2,974	2,419	81.3
June	3,220	3,220	2,727	84.7
July	3,431	3,208		
August	3,746	2,700		
September	4,190	3,131		
October	4,444	2,727		
November	2,972	2,371		
December	<u>3,209</u>	<u>2,663</u>	<u>          </u>	<u>          </u>
TOTAL	41,099	34,289	14,992	85.7%

The last three months are preliminary

\*Gross Gallons imported into Nebraska minus gallons exported out of state.

August 2, 1982

Source: Department of Revenue Form 85

NEBRASKA ENERGY OFFICE

Table 18

# Nebraska Energy Office Aviation Fuel

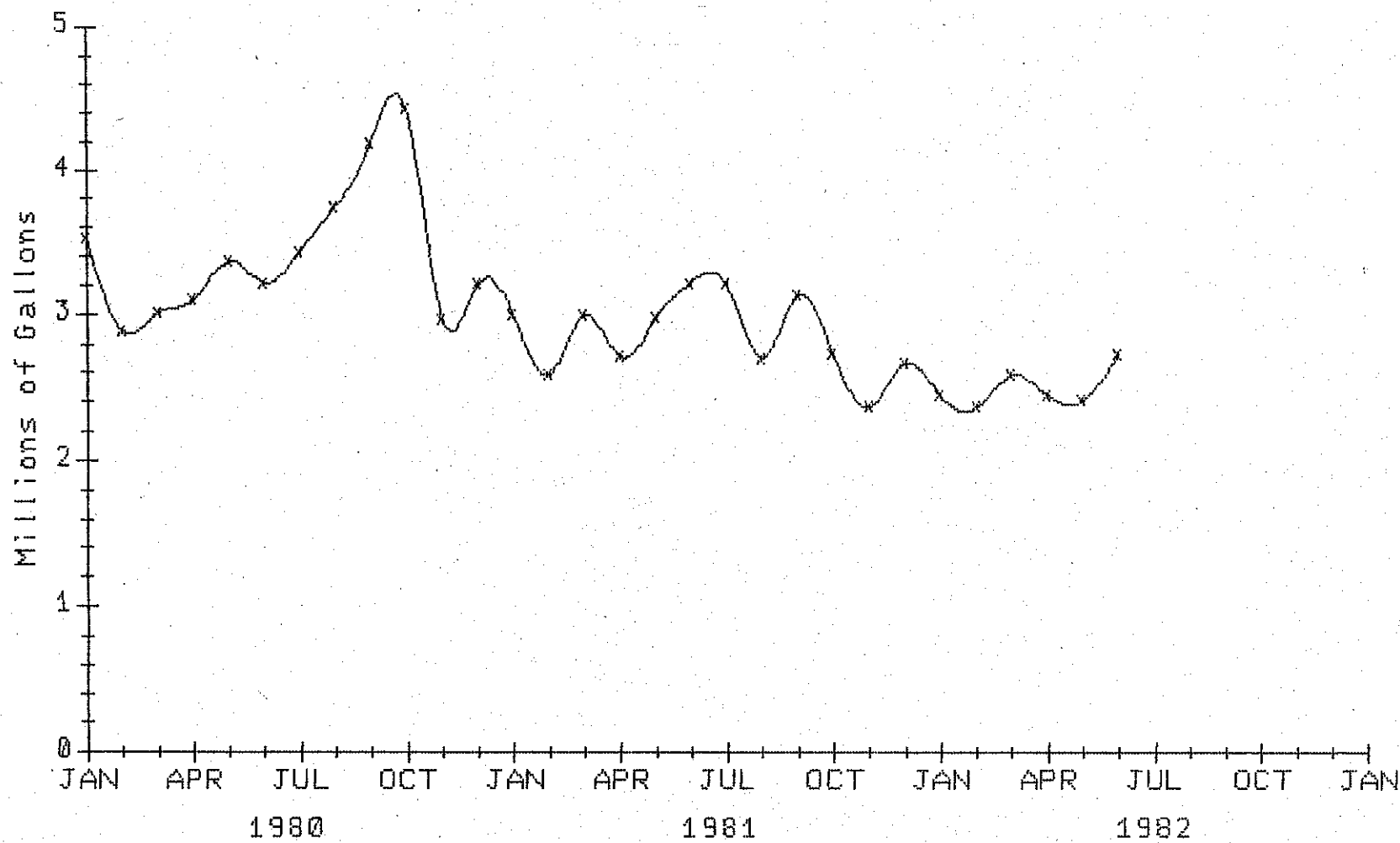


Table 19

## Propane Delivered in Nebraska (Thousands of Gallons)

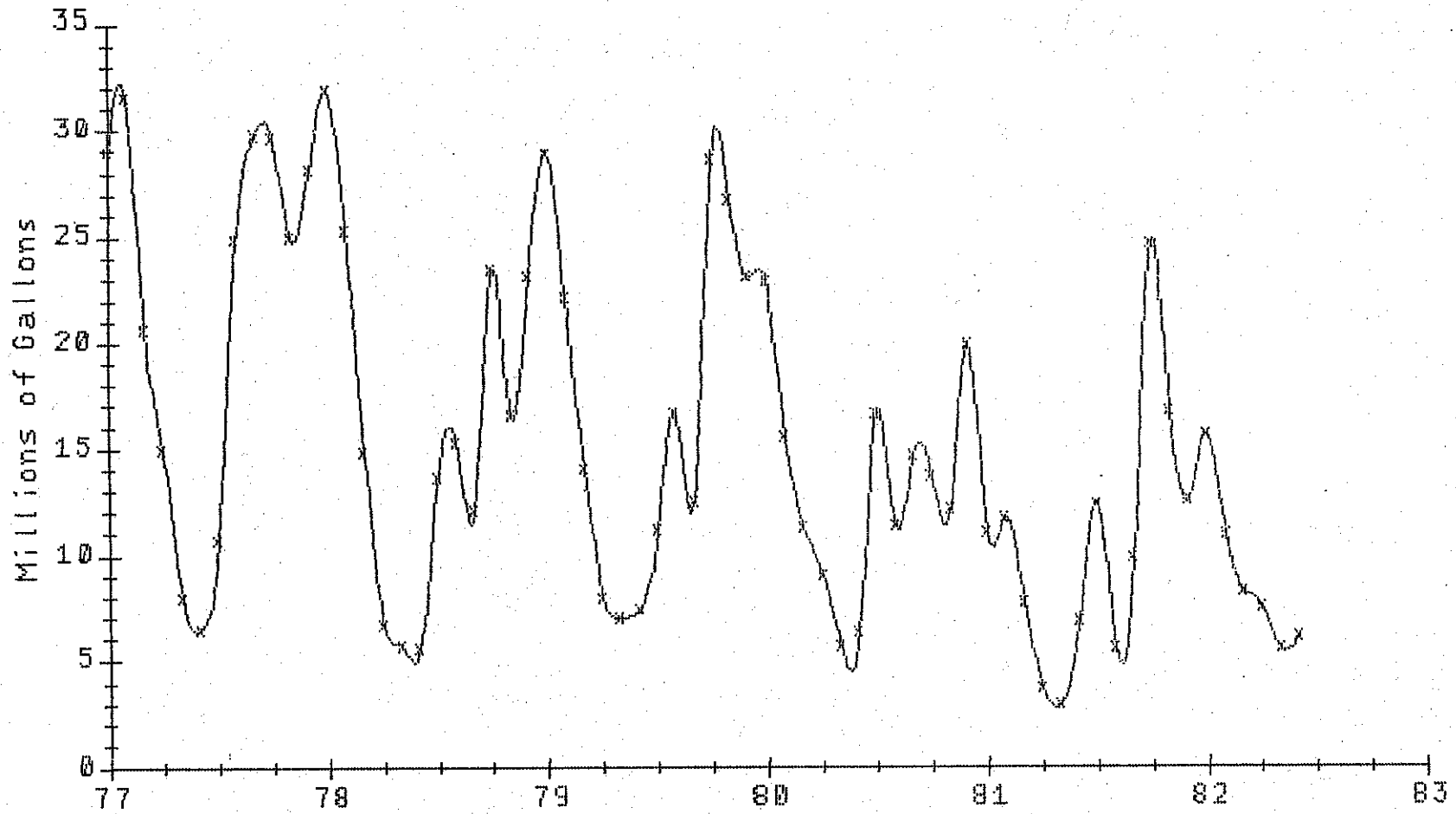
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>Percent of Previous Year</u>
January	26,437	29,017	31,848	28,908	22,902	11,186	15,739	140.7%
February	25,163	31,505	25,331	22,164	15,673	11,841	11,045	93.3
March	16,844	20,609	14,839	14,142	11,331	7,822	8,318	106.3
April	16,500	14,952	6,717	8,008	9,115	3,731	7,524	201.7
May	7,348	7,958	5,754	7,035	5,669	2,947	5,556	188.5
June	6,456	6,494	5,611	7,447	6,402	6,864	6,142	89.5
26 July	11,845	10,676	13,654	11,217	16,772	12,502		
August	24,855	24,895	15,328	16,671	11,447	5,631		
September	24,054	29,767	12,137	12,611	14,727	9,906		
October	16,624	29,735	23,492	28,577	13,767	24,673		
November	27,439	25,027	16,558	26,709	12,237	16,877		
December	<u>24,227</u>	<u>28,123</u>	<u>23,138</u>	<u>23,181</u>	<u>19,977</u>	<u>12,690</u>		
TOTAL	227,792	258,758	194,407	206,670	160,019	126,670	54,324	122.4%

The last month is preliminary  
Source: EIA-25 Reporting Forms

August 4, 1982  
NEBRASKA ENERGY OFFICE

Table 20

# Nebraska Energy Office Propane Delivered



## ENERGY DEMAND MODEL

The Nebraska Energy Office has been involved in the creation of an energy demand model for the state in response to passage of Legislative Bill 954 of 1980. The model is used to identify emerging trends relating to energy supply, demand and conservation in these sectors: agricultural, commercial, residential, industrial, and transportation. It is a useful tool in evaluating policies on Nebraska's economy and energy status.

## MANUFACTURING MODEL

The manufacturing model is designed to forecast energy usage and cost in Nebraska manufacturing and is a useful tool for contingency planning and policy formulation. The model is strictly a tool and all results need to be interpreted. The manufacturing model includes Nebraska industry in the Standard Industrial Classification Codes 200 - 309 which are:

- 1) Food and kindred products
- 2) Chemicals
- 3) Stone and clay
- 4) Non-electric machinery
- 5) Primary metals
- 6) Other manufacturing

The following questions are examples of what might be studied using the model:

- 1) What effects do energy prices have on each industry's energy consumption?
- 2) What is the additional cost each industry will have with a higher energy price?
- 3) How do economic conditions affect the energy consumption of each industry?

The energy efficiencies of each industry are forecasted independently in relation to energy costs. In this section of the model, energy efficiency is forecasted as a ratio between the energy consumed and quantity of products produced (Btu/value added in constant dollars). This efficiency ratio does not increase on a straight line trend with prices. A non-linear approach was used, taking advantage of industry information on the maximum efficiency possible and minimum efficiency used.

The activity of each industry is directly related to the amount of energy it uses. During a recession, production is down and therefore energy consumption is lower. The measure of industrial activity by classification is "value added." This model uses "value added" in constant dollars, which removes misleading information caused by inflation. The efficiency and "value added" forecasts are multiplied together to get energy consumed by each industry.

Fuels considered in the manufacturing model are electricity, natural gas, middle distillates, propane and coal. Each industrial classification has a unique fuel mixture and must be accounted for. The number of industries in each classification is so small that an econometric approach on the fuel switching would not be valid. Each firm has a significant contribution to that industry in the state and therefore an accounting and engineering approach is used.

The following three tables show the forecasted quantity and cost of fuels to be used in Nebraska. The following graph illustrates the top three energy users.



Table 21  
Manufacturing Model

1982 Nebraska Manufacturing Energy Consumption by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total billion Btu
	billion Btu	thousand cubic feet	billion Btu	million kWh	billion Btu	thousand gallon	billion Btu	thousand gallon	billion Btu	thousand ton	
SIC20-food & kindred	12192	12915	2889	847	2866	20663	446	4674	5098	226	23491
SIC28-chemical	7763	7810	1588	465	1723	12420	112	1171	0	0	11186
SIC32-stone & clay	4004	4028	387	113	442	3186	0	0	2071	92	6904
SIC33-primary metal	838	843	891	261	355	2563	0	0	110	5	2194
SIC35-nonelectric	1194	1201	868	254	414	2988	130	1365	0	0	2606
SICot-other manuf.	4305	4331	2308	676	966	6964	278	2914	327	15	8037
manufacturing total	30296	30479	8931	2617	6766	48782	967	10123	7606	337	54566

1982 Nebraska Manufacturing Energy Consumption and Cost by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total million dollars
	million dollars	thousand cubic feet	million dollars	million kWh	million dollars	thousand gallon	million dollars	thousand gallon	million dollars	thousand ton	
SIC20-food & kindred	26.6	12915	27.7	847	20.5	20663	2.2	4674	9.5	226	86.4
SIC28-chemical indus	16.9	7810	15.2	465	12.3	12420	0.6	1171	0.0	0	45.0
SIC32-stone & clay	8.7	4028	3.7	113	3.2	3186	0.0	0	3.8	92	19.4
SIC33-primary metal	1.8	843	8.5	261	2.5	2563	0.0	0	0.2	5	13.1
SIC35-nonelectric	2.6	1201	8.3	254	3.0	2988	0.7	1365	0.0	0	14.5
SICot-other manuf.	9.4	4331	22.1	676	6.9	6964	1.4	2914	0.6	15	40.4
manufacturing total	66.0	30479	85.6	2617	48.3	48782	4.9	10123	14.1	337	218.9

manufacturing (SIC codes 20 through 3999) fuel prices used:  
 natural gas = 2.17 current dollars per mcf  
 electricity = 32.70 current dollars per 1000 kWh  
 distillates = 0.99 current dollars per gallon  
 propane, LPG = 0.48 current dollars per gallon  
 coal = 41.83 current dollars per ton

Table 22  
Manufacturing Model

1985 Nebraska Manufacturing Energy Consumption by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total billion Btu
	billion Btu	thousand cubic feet	billion Btu	million kWh	billion Btu	thousand gallon	billion Btu	thousand gallon	billion Btu	thousand ton	
SIC20-food & kindred	12566	13311	2978	873	2954	21296	460	4817	5254	233	24211
SIC28-chemical indus	8724	8776	1785	523	1936	13957	126	1316	0	0	12570
SIC32-stone & clay	4854	4883	469	137	536	3862	0	0	2511	111	8369
SIC33-primary metal	890	895	946	277	377	2721	0	0	116	5	2330
SIC35-nonelectric	1373	1381	998	292	476	3435	150	1569	0	0	2997
SICot-other manuf.	5122	5153	2746	805	1149	8285	331	3467	390	17	9557
manufacturing total	33528	33730	9921	2907	7428	53555	1067	11169	8271	367	60215

1985 Nebraska Manufacturing Energy Consumption and Cost by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total million dollars
	million dollars	thousand cubic feet	million dollars	million kWh	million dollars	thousand gallon	million dollars	thousand gallon	million dollars	thousand ton	
SIC20-food & kindred	48.0	13311	44.6	873	29.0	21296	3.5	4817	13.7	233	138.7
SIC28-chemical indus	33.3	8776	26.7	523	19.0	13957	0.9	1316	0.0	0	80.0
SIC32-stone & clay	18.5	4883	7.0	137	5.3	3862	0.0	0	6.5	111	37.3
SIC33-primary metal	3.4	895	14.2	277	3.7	2721	0.0	0	0.3	5	21.6
SIC35-nonelectric	5.2	1381	14.9	292	4.7	3435	1.1	1569	0.0	0	26.0
SICot-other manuf.	19.6	5153	41.1	805	11.3	8285	2.5	3467	1.0	17	75.4
manufacturing total	128.0	33730	148.5	2907	72.8	53555	8.0	11169	21.5	367	378.9

manufacturing (SIC codes 20 through 3999) fuel prices used:  
 natural gas = 3.79 current dollars per mcf  
 electricity = 51.09 current dollars per 1000 kWh  
 distillates = 1.36 current dollars per gallon  
 propane, LPG = 0.72 current dollars per gallon  
 coal = 58.73 current dollars per ton

Table 23

## Manufacturing Model

1990 Nebraska Manufacturing Energy Consumption by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total billion Btu
	billion Btu	thousand cubic feet	billion Btu	million kWh	billion Btu	thousand gallon	billion Btu	thousand gallon	billion Btu	thousand ton	
SIC20-food & kindred	14573	15438	3454	1012	3426	24698	534	5586	6093	270	28079
SIC28-chemical indus	11098	11165	2271	665	2463	17755	160	1674	0	0	15991
SIC32-stone & clay	6417	6455	620	182	708	5105	0	0	3319	147	11063
SIC33-primary metal	981	987	1043	306	416	3000	0	0	128	6	2569
SIC35-nonelectric	1811	1822	1317	386	629	4533	198	2070	0	0	3954
SICot-other manuf.	6664	6704	3573	1047	1495	10778	431	4510	507	22	12436
manufacturing total	41543	41794	12276	3597	9136	65869	1322	13842	10047	445	74325

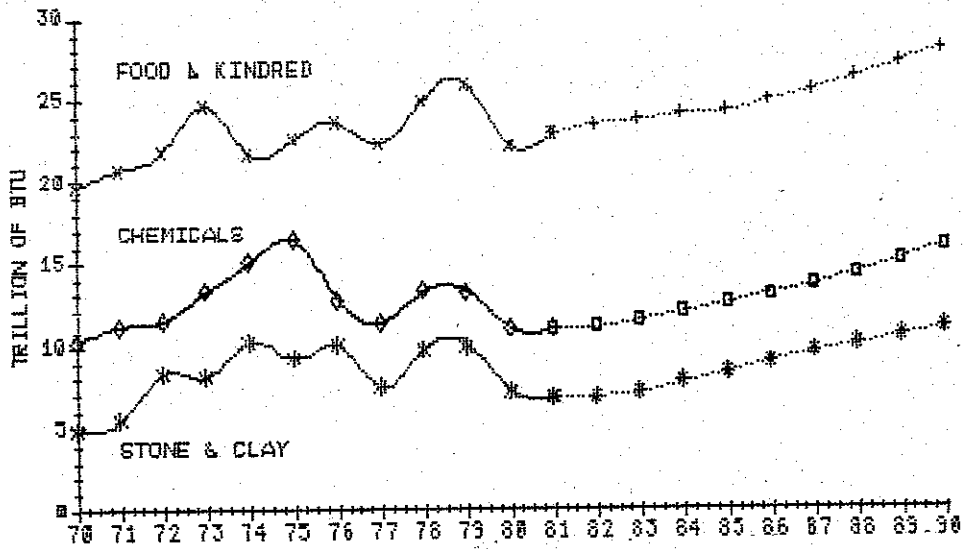
1990 Nebraska Manufacturing Energy Consumption and Cost by Selected SIC code (projection)

SIC code and name	natural gas		electricity		petroleum		LPG		coal		total million dollars
	million dollars	thousand cubic feet	million dollars	million kWh	million dollars	thousand gallon	million dollars	thousand gallon	million dollars	thousand ton	
SIC20-food & kindred	142.1	15438	94.4	1012	59.0	24698	6.9	5586	24.8	270	327.2
SIC28-chemical indus	108.2	11165	62.1	665	42.4	17755	2.1	1674	0.0	0	214.8
SIC32-stone & clay	62.5	6455	16.9	182	12.2	5105	0.0	0	13.5	147	105.2
SIC33-primary metal	9.6	987	28.5	306	7.2	3000	0.0	0	0.5	6	45.8
SIC35-nonelectric	17.7	1822	36.0	386	10.8	4533	2.6	2070	0.0	0	67.1
SICot-other manuf.	65.0	6704	97.7	1047	25.8	10778	5.6	4510	2.1	22	196.0
manufacturing total	404.9	41794	335.6	3597	157.4	65869	17.2	13842	40.9	445	956.1

manufacturing (SIC codes 20 through 3999) fuel prices used:  
 natural gas = 9.69 current dollars per mcf  
 electricity = 93.31 current dollars per 1000 kWh  
 distillates = 2.39 current dollars per gallon  
 propane, LPG = 1.24 current dollars per gallon  
 coal = 91.80 current dollars per ton

Table 24

NEBRASKA ENERGY OFFICE  
ENERGY USE IN MANUFACTURING SUBDIVISIONS  
(PROJECTIONS)



Solid lines = Actual  
Dotted lines = Projected

ELECTRIC SALES

Total electricity sales to ultimate consumers as reported by three major electric utilities for the first half of 1982 was up one percent compared with the corresponding period of 1981. The electricity sales to industrial consumers was down 10.4 percent, while residential and commercial sales were up 6.4 and 5.2 percent respectively. These figures reflect the sluggish economy and colder than average winter and spring.

Table 25

NEBRASKA ENERGY OFFICE  
ELECTRIC SALES TO ULTIMATE CONSUMERS  
GIGAWATTHOURS SOLD  
(NPPD, OPPD & LES)

DATE	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		PUBLIC USE		TOTAL SALES		PERCENT
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	
January	297	336	238	265	196	185	30	32	762	817	107.1
February	274	309	234	239	188	185	29	30	725	763	105.2
March	234	255	200	224	188	183	27	29	649	691	106.5
April	199	231	197	232	197	176	27	29	620	667	107.6
May	190	203	202	202	197	163	26	27	614	595	96.9
June	239	190	229	205	220	172	27	26	714	593	83.1
July	360		273		227		31		892		
August	319		257		209		30		817		
September	245		234		215		31		724		
October	198		210		200		31		639		
November	211		213		193		29		647		
December	269		234		172		30		704		
TOTAL	<u>3,034</u>	<u>1,524</u>	<u>2,722</u>	<u>1,367</u>	<u>2,402</u>	<u>1,063</u>	<u>349</u>	<u>173</u>	<u>8,507</u>	<u>4,127</u>	<u>101.4</u>

NOTE: Sum of components may not equal the total due to independent rounding

## FUEL USED FOR ELECTRICITY GENERATION

Reported figures for the first half of 1982 show a sharp drop in the use of natural gas to generate electricity. For the first six months of 1982, the major Nebraska utilities used only 9 percent of the natural gas for electricity generation that was used in the corresponding period of 1981.

At the same time, the total energy used for generation increased 7.4 percent. The apparent reason for the increase was a colder than normal winter. Population weighted average heating degree days were 8.2 percent higher than normal and 20.4 percent higher compared with the unusually mild 1980-81 winter.

Coal use for electricity generation decreased 10 percent during the first half of 1982 even though new coal power units went into commercial operation.

Despite the decrease in the use of natural gas and coal, increased electricity generation became possible because of higher use of nuclear energy. During the first half of the current year, 40 percent more nuclear energy was used compared with the corresponding period of 1981.

Though the use of oil for electricity generation doubled during the first half of this year compared with the corresponding period of the previous year, it consisted of less than one half of one percent (0.4%) of the total energy used for the generation of electricity. A substantial portion of it was start up fuel.

Nebraska utilities have an excess of generating capacity with a good mixture of fuels for the production of electricity. Higher than average precipitation last spring and lower than average cooling degree days, according to the long range prognosis of the National Weather Service, indicate lower than average irrigation and air conditioning loads during this summer.

Table 26

## NEBRASKA ENERGY OFFICE

## FUEL USED FOR ELECTRICITY GENERATION BY NEBRASKA MAJOR ELECTRIC UTILITIES

(NPPD, OPPD, LES, GRAND ISLAND, FREMONT AND HASTINGS)

MONTH	COAL		NATURAL GAS		OIL		HYDRO		NUCLEAR		TOT ENERGY		PERCENT
	THOUSAND		MILLION		BARREL		TRILLION		TRILLION		TRILLION		
	SHORT	TON	CUBIC	FEET			BTU	BTU	BTU	BTU	BTU	BTU	
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	
January	442	571	186	12	4	15	0.2	0.2	7.4	9.5	17.7	22.6	127.5
February	352	463	136	17	11	24	0.2	0.2	7.6	8.3	15.9	19.0	119.9
March	398	291	156	15	2	8	0.2	0.2	7.1	9.0	16.5	15.8	96.1
April	462	231	164	33	7	10	0.2	0.2	4.3	9.0	15.1	14.4	95.0
May	439	293	243	21	5	10	0.2	0.2	1.7	7.1	12.0	14.0	116.4
June	387	382	338	13	6	7	0.2	0.2	5.1	3.6	14.4	12.5	86.8
July	477		501		8		0.2		8.3		19.8		
August	365		265		6		0.3		8.2		16.9		
September	438		165		2		0.2		3.5		13.8		
October	440		22		1		0.2		0.0		10.1		
November	364		16		8		0.2		4.1		12.6		
December	433		25		12		0.2		6.8		16.9		
Total	4,996	2,231	2,217	111	72	75	2.5	1.3	64.2	46.6	181.6	98.4	107.4

NOTE: Sum of components may not equal the total due to independent rounding.

## NUCLEAR POWER STATIONS

Electricity generation by Nebraska nuclear power stations during the first half of 1982 was up 40.4 percent compared with the corresponding period of 1981. The increase was recorded even though the Cooper station was off during June for further modifications required by new safety regulations introduced after the Three Mile Island incident. Nuclear stations produced 53 percent of the electricity generated in Nebraska during the first six months of 1982.



Table 27

Net Electricity Generated by Nuclear and All Power Stations  
Gigawatthours (GWh) Generated by Fort Calhoun and Cooper Stations

MONTH	<u>Cooper</u>		<u>Fort Calhoun</u>		<u>Total Nuclear</u>		<u>Grand Total Generation</u>		<u>Nuclear Percent of Grand Total</u>	
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982
January	449	539	246	355	695	893	1,491	1,854	46.6	48.2
February	449	500	264	283	713	783	1,340	1,575	53.2	49.7
March	436	489	228	356	664	844	1,359	1,377	48.8	61.3
April	268	508	139	338	407	846	1,210	1,283	33.6	65.9
May	0	312	156	355	156	668	943	1,184	16.5	56.4
June	256	0	226	340	482	340	1,193	976	40.4	34.9
July	457		324		781		1,627		48.0	
August	448		319		767		1,412		54.3	
September	164		167		331		1,097		30.2	
October	0		-3		-3		769		-0.4	
November	389		-2		386		1,040		37.1	
December	566		75		642		1,371		46.8	
Total	<u>3,883</u>	<u>2,349</u>	<u>2,137</u>	<u>2,027</u>	<u>6,020</u>	<u>4,375</u>	<u>14,854</u>	<u>8,248</u>	<u>40.5</u>	<u>53.0</u>

NOTE: Sum of components may not equal the total due to independent rounding

## INSTITUTIONAL CONSERVATION PROGRAM

The Nebraska Energy Office (NEO) received more than \$1,839,000 in grant requests from the 61 schools, eight hospitals and two public care facilities participating in the fourth grant cycle of the Institutional Conservation Program.

Through this program, schools, hospitals, local government buildings and public care facilities may apply for cost-sharing federal energy grants to aid in the reduction of energy costs.

To prepare potential applicants for the fourth grant cycle, information and application booklets were distributed to institutional administrators throughout Nebraska. The NEO provided continuous technical support and information about the program. Two workshops were conducted, in Kearney and Lincoln, during May to further educate administrators who sought financial assistance to incorporate energy saving projects.

Grant requests are made in two forms. Schools and hospitals are eligible to apply for Energy Conservation Measure (ECM) grants; and local governmental buildings and public care facilities can receive assistance for Technical Assistance (TA) funding.

An ECM grant is for the actual acquisition and installation of materials and equipment, resulting in the physical modification of a building to save energy and related costs. The sixty-nine ECM grant requests submitted this cycle totalled \$1,831,020.

Technical assistance (TA) grants provide institutions funding to hire engineers or engineer-architect teams to perform in-depth energy studies. Such a study identifies areas of improving energy efficiency of the building, both through low or no cost items and projects requiring a capital outlay. Two public care facilities submitted TA applications seeking a total of \$8,400.

With less than \$500,000 in federal funds allocated to Nebraska, the Energy Office began reviewing the 71 applications and was to make final recommendations for funding to the U.S. Department of Energy by August 1.

## STATE BUILDING AUDITS

State building audits conducted by the Nebraska Energy Office (NEO) during the second quarter of 1982 covered 70 structures and would cut energy use in the buildings by an estimated 21 percent if all audit recommendations were implemented.

The total British thermal units (Btus) consumed annually by the buildings audited between April 1 and June 31 of this year amount to an estimated 211,400 million Btus. Energy savings from following audit recommendations would be an estimated 44,300 million Btus a year.

Those projected energy savings represent the equivalent of 321,014 gallons of fuel oil or 42,852 MCF (thousands of cubic feet) of natural gas. Projected annual financial savings from implementation of the audit recommendations would be \$453,941.

The State Building Audits Program is administered by the NEO's Institutions Division and is being carried out under the mandate in Legislative Bill 158 of 1981.

Cost effective changes are recommended by NEO energy auditors in two forms: low cost or no cost items that require little or no capital outlay; and energy conservation measures, which require funding.

To assess the effectiveness of the State Buildings Audits Program, the NEO's Institutions Division has followed up on those agencies which have had audits to date. The agencies have complied with 85% of the low and no cost operation and maintenance recommendations, and 20% of all capital investments recommended. The main reason cited for not following through with the capital investments was lack of funds. More follow ups will be conducted in the future.

The 27-month program began in the autumn of 1981 and will run until the end of 1983.

## LOW INCOME WEATHERIZATION

The Nebraska Energy Office (NEO) administers low income weatherization for Nebraskans eligible for the federally-funded program.

During the second quarter of 1982, there were 772 homes weatherized for the handicapped, elderly and low income families of Nebraska. The work was done by Community Action Agencies throughout the state under contract with the NEO. The number of homes completed during the April-June quarter in 1982 compared with 596 during the same quarter in 1981.

Funding was provided for the work by grants from the U.S. Department of Energy (DOE) and grants from the Low Income Energy Assistance Program.

In 1977, DOE began making funds available for the weatherization of homes of the handicapped and low income families and funds have been available every year since. By June 30, 1982, there had been 12,988 Nebraska homes weatherized at a cost of \$9,444,305.

## SCHOOL WEATHERIZATION

The Nebraska Energy Office (NEO) received applications for school weatherization funding from 105 school districts across the state and was reviewing the requests during the second quarter.

The districts sought more than \$4.3 million for energy efficiency projects. The 175 applications represented 535 proposed projects, ranging from simple caulking/weatherstripping to more complex structural changes.

The third grant cycle review was set for completion shortly after the quarter ended with an estimated \$1.3 million available for grants. Funding is provided from the State's Oil and Gas Severance Tax revenues.

With completion of the third grant cycle, the NEO will have distributed approximately \$4 million in Oil and Gas Severance Tax revenues for school weatherization.

With the local matching requirement calling for 20 percent of the funding from the school districts, that would bring the total for school energy efficiency projects in the state to about \$5 million since the program began.

In the previous two grant cycles, more than \$2.6 in state Oil and Gas Severance Tax revenues was distributed to help fund projects at 161 buildings in 96 districts.

## LEGISLATION

Governor Charles Thone signed Legislative Bill 799 on April 20, 1982. Almost immediately Nebraska Energy Office (NEO) staff began to prepare for July 16, 1982, the date Legislative Bill 799 would become law.

Rules and regulations were drafted for the renewable energy income tax credits and guidelines were prepared for the geothermal grants program for political subdivisions. Public hearings were scheduled for the middle of August. Also, existing rules and regulations for the Nebraska Building Energy Conservation Standard were amended to reflect the changes brought about by Legislative Bill 799.

In anticipation of the July 16, 1982 termination of the sales tax refund and property tax exemption incentives, the NEO attempted to notify Nebraskans of the deadline for submitting application materials. Public notice was given and press releases stressing the deadline were sent out.

## CLASSIC RALLY AND ENERGY EMERGENCY SESSION PLANNED

Two major events in the final planning stages by Nebraska Energy Office (NEO) staff during the second quarter of 1982 were an alternate fuels road rally and an energy emergency planning session.

The Nebraska Independence Day Alternate Fuels Classic road rally drew more than 30 entries from across the country. Participants who committed to compete over the 150-mile road rally course from Lincoln to Aurora and back July 4 were to come from 16 states. The competitors included entries from New Jersey on the east to California to the west; North Dakota to Arkansas, viewing the map another way.

The rally was designed as a proof-of-concept competition to show the feasibility of converting vehicles and running them on alcohol or other alternate fuels. It also was designed to call attention to liquid fuel options. The NEO planned to publish technical data regarding the fuels and vehicle conversions after the event.

Also in the planning stages during the second quarter was an energy emergency preparedness meeting in Omaha, slated for August 4-5, which was expected to draw representatives from seven states and the federal government.

Energy office directors and their emergency planners from the six states bordering Nebraska were invited to join NEO staff to discuss regional strategies to deal with energy emergencies and to hear from U.S. Department of Energy officials about the Strategic Petroleum Reserve and related matters.

The two-day session was prompted by the Reagan administration's commitment to allowing the free marketplace to deal with energy supply shortfalls. That national policy leaves energy contingency planning in the hands of the individual states.

## PER CAPITA ENERGY CONSUMPTION IN NEBRASKA

Nebraska's energy consumption dropped sharply with the advent of the current decade.

Nebraska per capita energy consumption for recent years is presented in the table below. The total energy consumption in the state shown in column two represents a permanent growth of between one-and-a-half and three percent per year. The last two years are exceptions. The sharp decrease in energy consumption in 1980 can be attributed to recession, a sharp increase in energy (especially gasoline) prices, and conservation efforts. The 1981 decrease is attributed to favorable weather conditions, a sluggish economy and conservation efforts.

Nebraska population is presented in column three. The 1980 population is based on census data. The population figures for other years are estimates from various sources. Population growth is estimated at less than two percent for the last six years.

Per capita total energy consumption is presented in column four in million Btu's and in column five in barrels (42 U.S. gallons) of oil equivalent.



Table 28

PER CAPITA ENERGY USE IN NEBRASKA

Year	Total Energy Used Trillion Btu	Population Million	Per Capita Energy Use		
			Million Btu	OR	Barrels of Oil Equivalent
1974	516	1.541	335	OR	59.8
1975	523	1.544	339	OR	60.5
1976	531	1.553	342	OR	61.1
1977	548	1.561	351	OR	62.7
1978	553	1.565	353	OR	63.0
1979	570	1.568	364	OR	65.0
1980	540	1.572	344	OR	61.4
1981	523	1.577	443	OR	59.2
1982	F546	F1.581	345	OR	61.6

The next table presents per capita use of separate types of fuel in physical units. Though most Nebraskans didn't touch the coal itself, electric generation and other industrial plants used 3.5 short tons for every person. For the last six years, this amount almost tripled, showing a resolute switch to coal from other types of fossil fuel.

Per capita consumption of natural gas (column 3) is decreasing because of short supply, switching of the industry from natural gas and oil to coal, and conservation efforts.

Per capita gasoline consumption (column 4) has decreased the last three years, reflecting price-induced conservation efforts. The same can be noticed in regard to other petroleum products (home heating oil, diesel fuel, kerosene and other middle distillates); see column 7.

Table 29

PER CAPITA ENERGY USE BY FUEL TYPE

Year	Coal Short Ton	Natural Gas MCF	Gasoline Gallons	Aviation Fuel Gal	LP Gas Gallons	Other Petroleum Gallons
1974	1.2	128.2			156	
1975	1.1	122.0			156	
1976	1.4	108.2	593	24	177	315
1977	1.4	112.7	599	27	160	342
1978	2.2	97.7	608	29	147	375
1979	2.5	102.7	576	27	132	356
1980	3.5	97.6	534	26	101	287
1981	3.5	87.2	484	22	82	264
1982	F3.2	F90.7	F505	F20	F95	F298

The next table represents a comparison of national and state energy use per capita (from State Energy Data Report Supplement DOE/EIA-0214(80)S). Prior to 1969, Nebraska used less energy per capita than the average of the United States. From 1969 on, Nebraska used more energy per capita than the national average. However, the difference does not exceed ten percent in either period.

Comparing Nebraska per capita energy consumption of this table and similar data shown previously in this report, one should keep in mind the difference in methodology: energy used for natural gas transportation is not included in the table above, but is included in the table below. More accurate reporting data on coal use by electric utilities is used in the table above.

Table 30

PER CAPITA ENERGY USE COMPARISON

Year	Million Btu per Capita	
	United States	Nebraska
1960	245	224
1961	244	224
1962	252	230
1963	258	237
1964	266	246
1965	274	247
1966	286	280
1967	293	277
1968	308	300
1969	320	323
1970	328	340
1971	330	343
1972	342	346
1973	353	351
1974	341	350
1975	328	355
1976	342	375
1977	347	376
1978	352	375
1979	351	373
1980	334	345

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Electricity production and sales to ultimate consumers per capita are presented in the next table. The general trend is growing in both sales and production. The difference between production and sales is the portion of electricity which was lost in transmission lines or sold out of state. The difference in the out-of-state sales accounts for the increase in sales to Nebraska ultimate consumers in 1980. In-state electricity production decreased the last two years because of modification and repair of both Nebraska nuclear power stations.

Table 31

PER CAPITA ELECTRICITY PRODUCTION AND SALES TO ULTIMATE CONSUMERS

Year	Production kWh	Sales
1974	7,987	
1975	8,610	
1976	8,558	
1977	9,534	7,946
1978	9,713	8,524
1979	11,014	8,518
1980	10,391	8,731
1981	10,658	8,480
1982	F11,823	F8,488

Notes: r - revised  
p - preliminary  
f - forecasted

