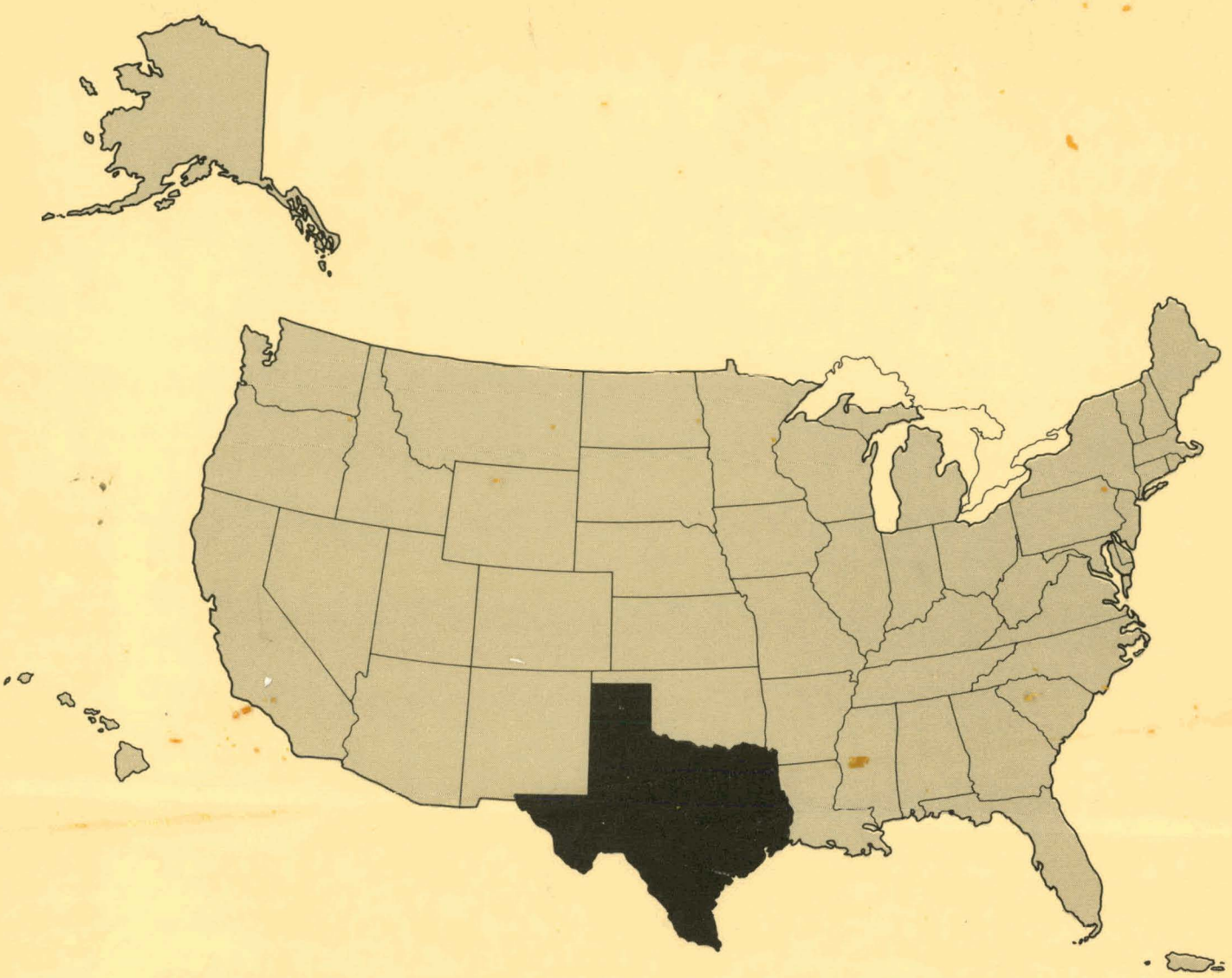
T45



Texas State Briefing Book for Low-Level Radioactive Waste Management

MASTER

DISCLAIMER

DOE/ID/01570--T45

TEXAS STATE BRIEFING BOOK FOR LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

DOE/ID/01570--T45

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Prepared by

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INTRODUCTION

The U.S. Department of Energy (DOE) is the lead federal agency in the area of commercial low-level radioactive waste management. The policy of state responsibility for commercial low-level waste disposal is not only DOE's policy, but is now formalized in federal law through the passage of the "Low-Level Radioactive Waste Policy Act," P.L. 96-573, in December 1980. Several national groups and organizations, including the State Planning Council, the National Governors' Association, and the National Conference of State Legislatures, have endorsed this position on state responsibility as well as the concept that states be allowed to enter into regional compacts to meet their responsibilities for disposal of low-level wastes.

Radioactive wastes are produced whenever radioactive materials are processed or used. Few general statements can be made about the composition of these wastes since this depends on the source. Myriad industrial, medical, and institutional activities generate low-level waste of various types. Wastes are characteristic of the process from which they originate and may occur in a gaseous, airborne particulate, liquid, or solid form.

Since low-level wastes contain less than 10 nanocuries per gram of transuranic (TRU) contaminants or may be totally free of the TRU contaminants, most require little or no shielding and have low, but potentially hazardous concentrations or quantities of radionuclides. The hazards posed by low-level wastes require that they be adequately isolated from direct routes or radiation exposure to humans (i.e., drinking water and air) as well as the indirect routes (i.e., plants and animals eaten). In the case of most low-level wastes, this can be accomplished by shallow land burial.

To date, approximately 2.5 million cubic meters of low-level wastes have been disposed of in this country by shallow land burial. Fifty percent of this was generated by commercial power reactors, with the other 50 percent by industrial, institutional, and government sources. Moreover, of all the states, Texas ranked 23rd in the amount of low-level waste generated in 1979. In addition, two nuclear power plants are expected to begin operations in the state in the next decade. Current estimates by the U.S. Nuclear Regulatory Commission predict that the existing capacity of the three operating commercial disposal facilities--Beatty, Nevada; Hanford, Washington; and Barnwell, South Carolina--will be exhausted between 1984 and 1989. The governors of Nevada, Washington, and South Carolina have clearly stated their positions that their states should not be asked to continue to act as the sole repositories for the nation's low-level waste. Moreover, they have suggested that additional disposal capacity be created through the construction of regional facilities.

This state briefing book has been prepared to assist the Department of Energy in its efforts to help states institute a workable waste management system. It is one of a series produced under contract with the Department of Energy, Office of Nuclear Waste Management, Idaho Operations Office, through contract with EG&G Idaho, Inc., that will provide background information on waste management practices, state government structure and jurisdiction, relevant state statutes and regulatory programs, local government jurisdictions, nature and volume of low-level waste generation and interested groups and individuals.

2 OVERVIEW OF LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT IN TEXAS

Approximately 1,550 licensees use radioactive materials in Texas. The amount of radioactive waste generated yearly in Texas is an estimated 1,355 cubic meters from institutional sources and 808 cubic meters from industrial sources. Approximately one-third of the waste originates from medical diagnostic and therapeutic use, with the remainder coming from various educational, research, and industrial uses.

Current Disposal Practices

Six companies hold licenses, issued by the Texas Health Department, to maintain temporary waste holding facilities, but only one company is currently receiving wastes. The remaining companies are receiving small amounts of low-level waste, or none at all, because of restraining orders pending new state legislation or violations of volume limits.

Low-level waste is shipped from the temporary sites to any of the three national burial sites by "exclusive use" tractor trailers. Waste generators typically contract with a carrier who collects wastes from a number of generators and stores the waste as necessary until a full trailer load is collected.

Regulatory Enforcement

The U.S. Atomic Energy Commission (AEC) was the first agency to develop regulations for the control of low-level radioactive wastes. The U.S. Nuclear Regulatory Commission (successor to the AEC), the U.S. Energy Research and Development Agency, the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the U.S. Department of

Transportation have all promulgated regulations affecting radioactive waste management. Under 1959 amendments to the Atomic Energy Act of 1954, states were granted the right to enter into individual agreements with the AEC to assume licensing and regulatory authority over certain nuclear materials within their boundaries. Texas executed such an agreement in 1963, giving the state regulatory authority over by-product, source materials, and special nuclear materials in quantities insufficient to form a critical mass. The Texas Radiation Control Act, enacted in accordance with the Texas-AEC agreement, established the Texas Department of Health as the State Radiation Control Agency. Provisions applicable to low-level waste processors/collectors deal primarily with procedural measures for modifying, suspending, or revoking an operating license, as well as with preparations for immediate action if an emergency is found to exist.

Legislation recently passed by the Texas Legislature strengthens and clarifies the state's role in regulating low-level waste. Section 9A of Senate Bill 480 gives the state the authority to acquire any land on which radioactive waste is being or can be disposed of. Under Section 9C the state retains the power to formulate, adopt, promulgate and repeal rules and guidelines providing for the transport and routing of radioactive material within the state. In addition, the bill strengthens the power of the state's Radiation Control Board and specifies the conditions for issuing licenses.

House Bill 1177, also recently adopted, creates a Low-Level Radioactive Waste Disposal Authority with nine members appointed by the Governor. The Authority has the jurisdiction over site selection, preparation, construction, operation, maintenance, decommissioning, closing and financing of disposal sites.

3 DEMOGRAPHY

Introduction

This section covers the determination and analysis of various demographic factors, data, and trends that could be related to quantity, nature, and potential management options of low-level radioactive wastes within the State of Texas and its subunits.

The study covers the State of Texas and its State Economic Areas (SEAs). State Economic Areas are frequently used in demographic studies as the subunits of states because most states are so heterogeneous in terms of urban-rural distributions, climate, industry, topography, population size and growth, and economic activity, that it is infeasible to investigate these phenomena strictly at the state level. It is necessary to reduce the state's geography into smaller units, but not to the degree that numbers become too cumbersome for analysis, as might be the situation if one were to break the state down into counties. The State Economic Area, a unit between the size of state and county, is appropriate for study. SEAs are described further in this section.

State Economic Areas are relatively homogeneous subdivisions of a state, consisting of single counties or groups of counties that have similar economic and social characteristics. The boundaries of these areas have been drawn in such a way that each state is subdivided into relatively few parts, with each part having significant characteristics which distinguish it from adjoining areas.

In the establishment of State Economic Areas, considerations in addition to industrial and commercial activities were taken into account. Demographic, climatic, physiographic, and cultural factors, as well as factors pertaining more directly to the production and exchange of agricultural and non-agricultural goods, were examined. The result is an intermediate area for study, smaller than the state and larger than a county, with a more homogeneous set of characteristics. Areas such as these are well adapted for use in a wide variety of studies in which state data are either insufficiently homogenous or where the quantity of county data presents real difficulty. Moreover, a standardized set of areas makes possible studies in widely different fields or subfields on a comparable area basis.

State Economic Areas that contain the counties of the larger Standard Metropolitan Statistical Areas (i.e., metropolitan areas that in 1960 had central cities of 50,000 or more, with total populations of 100,000 or more) are recognized as metropolitan SEAs and are designated by the name of the respective metropolitan areas. The bulk of the SEAs, however, are nonmetropolitan and have names that reflect either their locations, their sustenance activities, or both. The nonmetropolitan SEAs are identified numerically, the metropolitan SEAs with letters.

The State of Texas is divided into 31 State Economic Areas, 16 of which are nonmetropolitan: SEA 1: Trans Pecos; SEA 2: Edwards Plateau -- Eastern; SEA 3: Southwest Rio Grande Plain; SEA 4: Texas Northern High Plains (Panhandle); SEA 5: Texas Southern High Plains; SEA 6: Texas Rolling Plains; SEA 7: North Central Texas; SEA 8: Northern Blackland; SEA 9: Post Oak; SEA 10: Southern Blackland; SEA 11: Northeast Rio Grande Plain; SEA 12: Northeast Texas Sandy Lands; SEA 13: Southeast Texas Sandy Lands; SEA 14: Texas Coast Prairie; SEA 15: Lower Rio Grande Valley; and SEA 16: Edwards Plateau -- Western.

Fifteen of the State Economic Areas are metropolitan: SEA A: El Paso SMSA; SEA B: Fort Worth SMSA; SEA C: Dallas SMSA (except Denton area); SEA D: Waco SMSA; SEA E: Austin SMSA; SEA F: San Antonio SMSA; SEA G: Houston SMSA; SEA H: Beaumont-Port Arthur SMSA; SEA J: Amarillo SMSA; SEA K: Wichita Falls SMSA; SEA L: Lubbock SMSA; SEA M: Galveston-Texas City SMSA; SEA N: Corpus Christi SMSA; SEA O: Dallas SMSA (Denton area); and SEA P: Abilene SMSA.

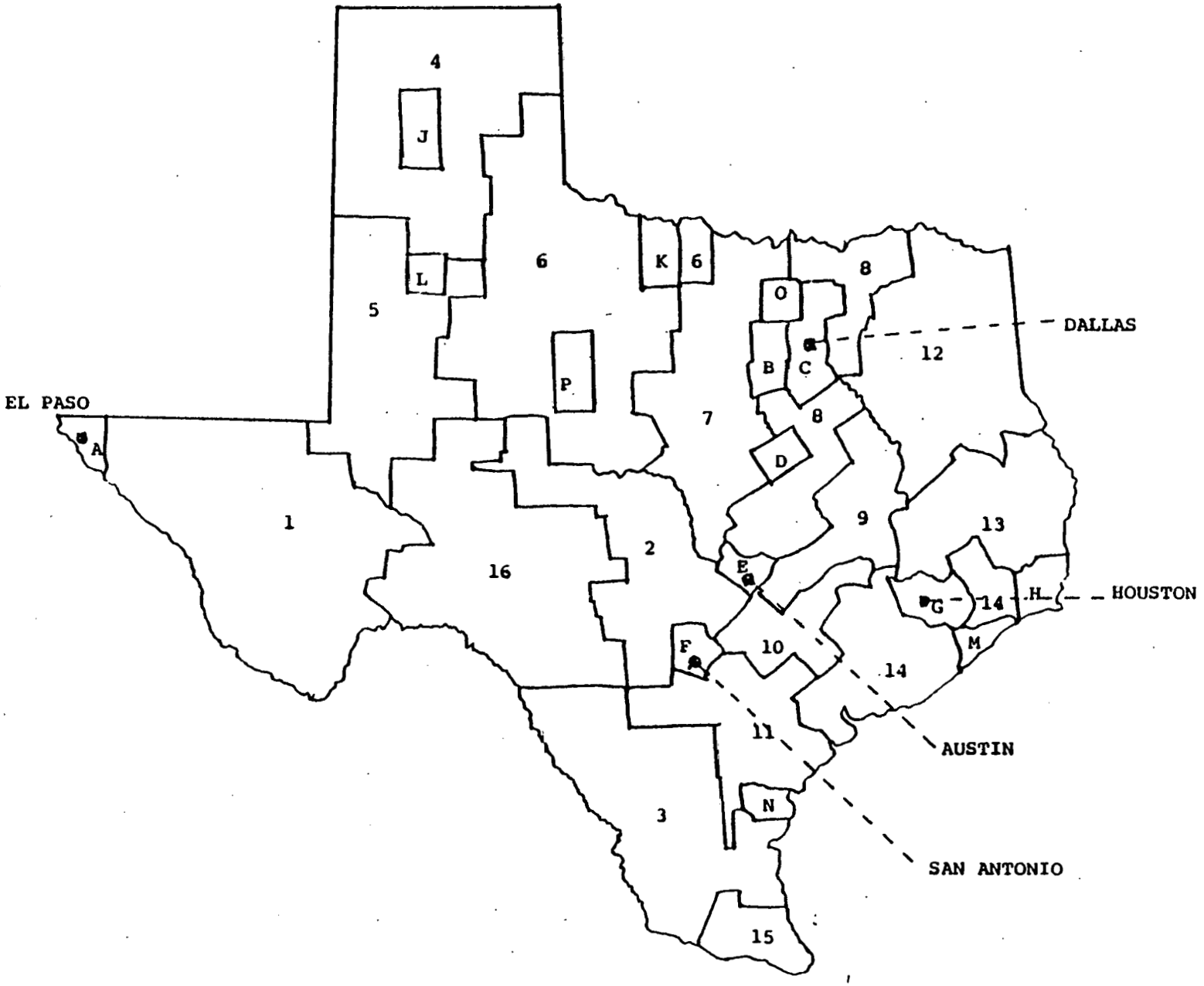
These SEAs are outlined and identified, along with the major cities of the state, in Map 3.1. The counties comprising each of the respective SEAs are listed in the appendices.

3.1 Population and Location

The population of the Texas on April 1, 1980, was 14,228,383, according to the final returns of the 1980 Census of Population (U.S. Bureau of the Census, 1981). This figure was an increase of over 3,000,000, or more than 27 percent of the 11,198,655 inhabitants counted in the 1970 census.

In this section the population of the state and its SEAs is described in terms of their age composition in 1978, 1980, and 1990. The data for 1980 and 1990 are based on population projections, and the data for 1978, on population estimates developed by the Bureau of the Census.

Population bar graphs for the state and each SEA have been developed. Figures 3.1.1 through 3.1.P are for the 31 SEAs in Texas and Figure 3.1.32 for the state.



MAP 3.1 The State Economic Areas of Texas

These bar graphs suggest that age structure varies considerably among the State Economic Areas of Texas. The population graphs for the 16 nonmetropolitan SEAs (Figures 3.1.1 through 3.1.16), may be grouped into the following categories: a) those reflecting more or less typical nonmetropolitan characteristics; that is, relatively broad population bases, somewhat broad representation of elderly populations, and higher proportions of the teenage and young adult age groups (the "baby boom" generations); (See Figures 3.1.1, 3.1.4, 3.1.5, 3.1.11, 3.1.13, and 3.1.14 as examples of this category); these characteristics are found in many nonmetropolitan areas in the United States; b) those areas reflecting a higher than average fertility rate and a younger than average population; these are the three nonmetropolitan areas with higher than average concentrations of Hispanic populations: SEA 3: Southwest Rio Grande Plain (Figure 3.1.3); SEA 15: Lower Rio Grande Valley (Figure 3.1.15); and SEA 16: Edwards Plateau -- Western (Figure 3.1.16); c) those areas with higher than average concentrations of males in the teenage and young adult age groups, indicating the presence of military base populations; Figures 3.1.7, 3.1.8, and 3.1.9 are examples of this category; Figure 3.1.7 is the graph for SEA 7: North Central Texas, in which Fort Hood is located; d) areas with very large concentrations of the elderly, small population bases, and more equal concentrations of members of other age groups; see Figures 3.1.6, 3.1.10, and 3.1.12 as examples, although Figure 3.1.10 (SEA 10: Southern Blackland) also shows the influence of an unusually large concentration of 15-29 year-olds; e) areas with higher than average concentrations of 15-29 year-olds suggest the presence of a large university; SEA 2: Edwards Plateau -- Eastern (Figure 3.1.2) is an example of this category; Southwest Texas State University is located in this SEA, and its presence is reflected in the area's population bar graph.

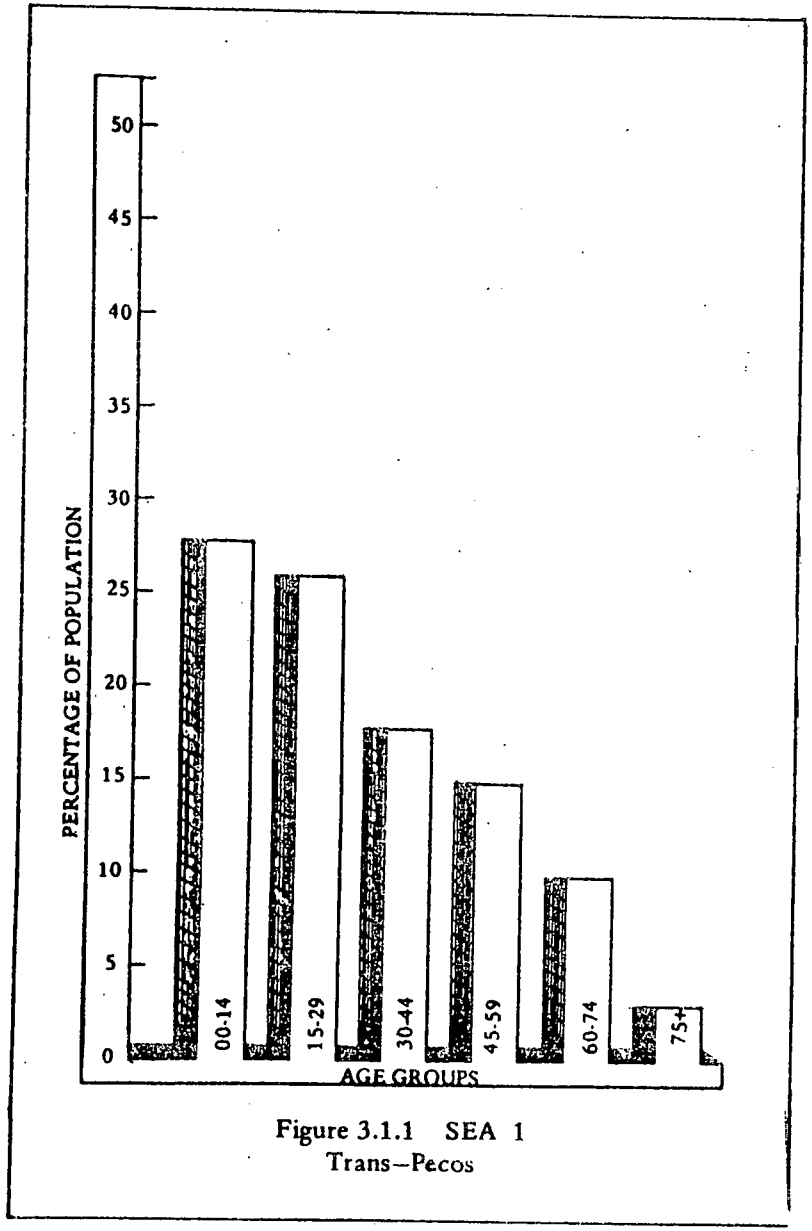


Figure 3.1.1 SEA 1
Trans–Pecos

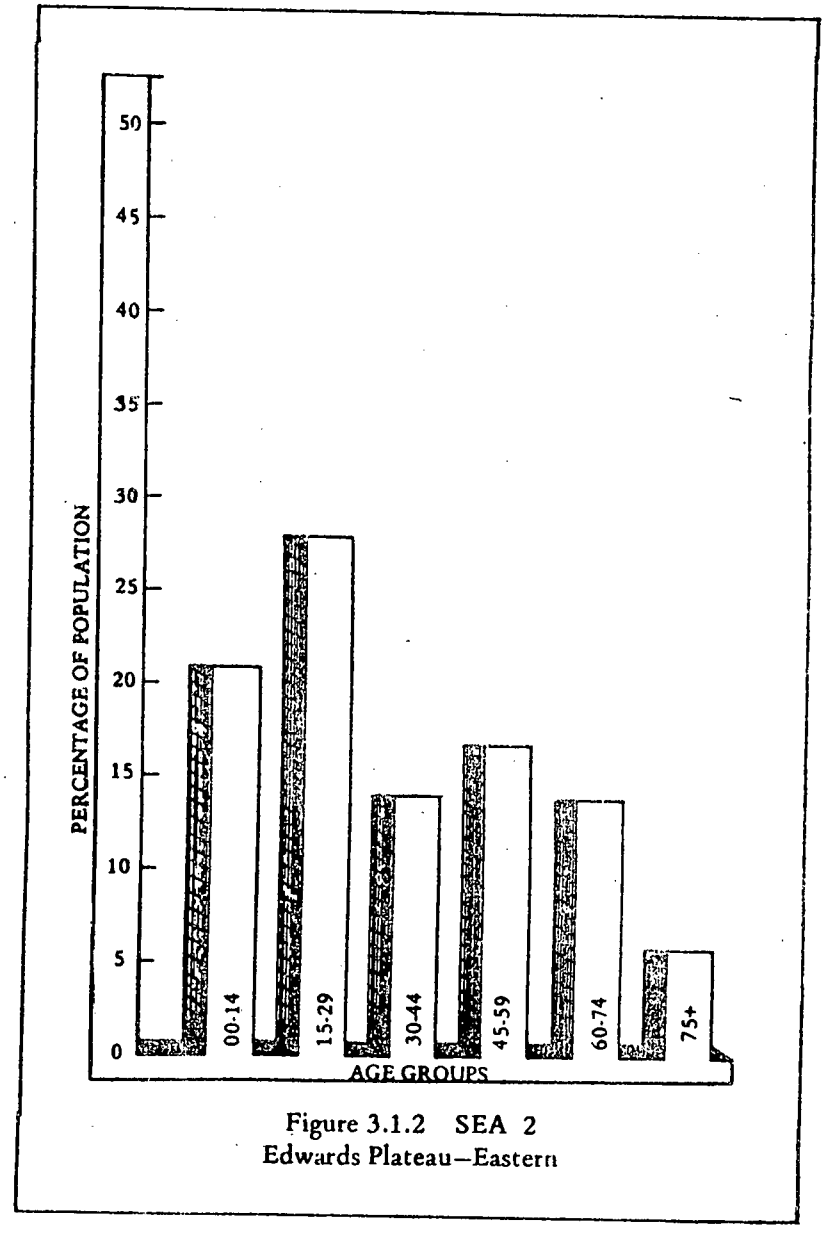


Figure 3.1.2 SEA 2
Edwards Plateau–Eastern

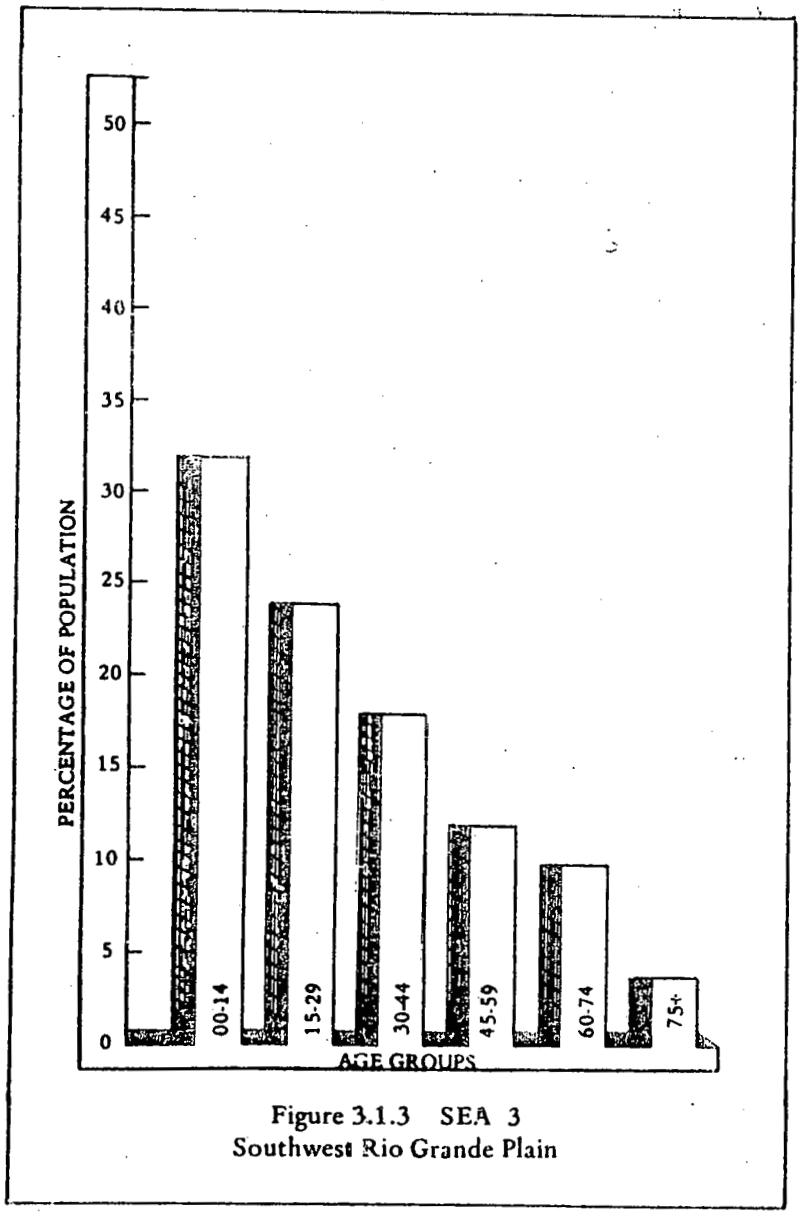


Figure 3.1.3 SEA 3
Southwest Rio Grande Plain

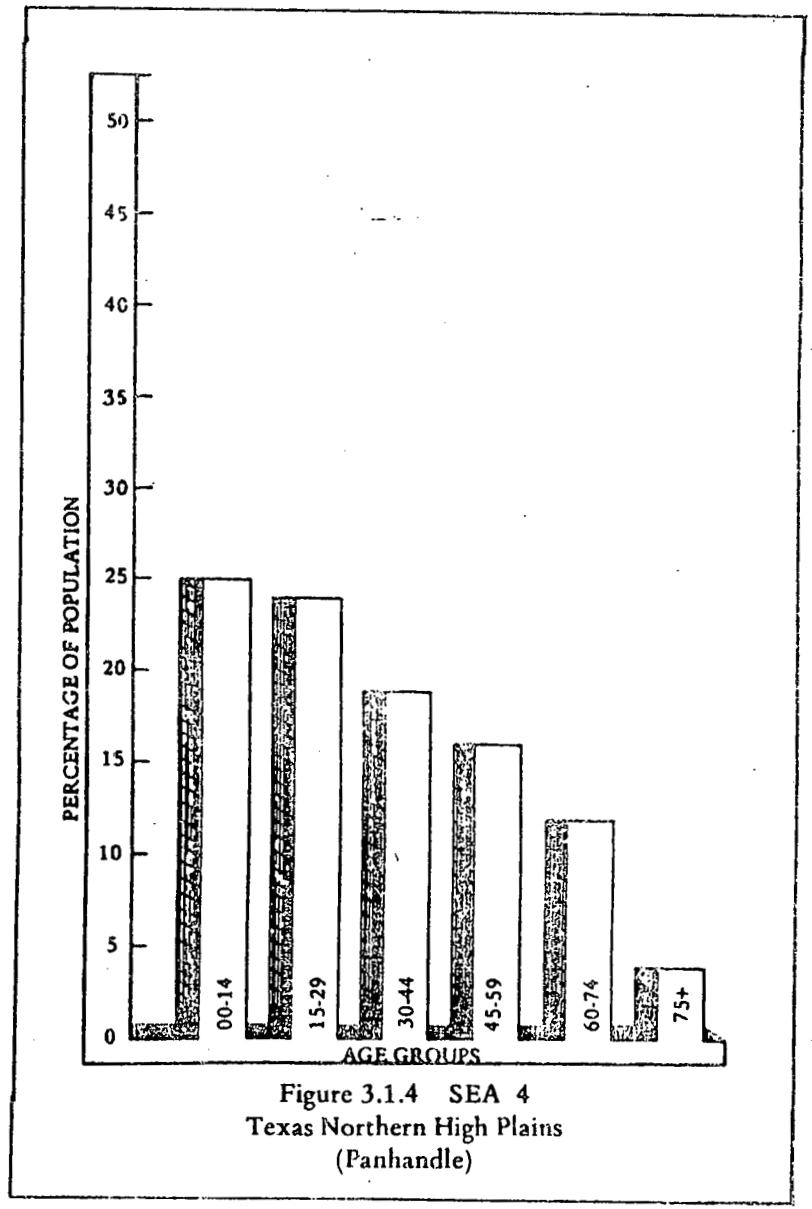


Figure 3.1.4 SEA 4
Texas Northern High Plains
(Panhandle)

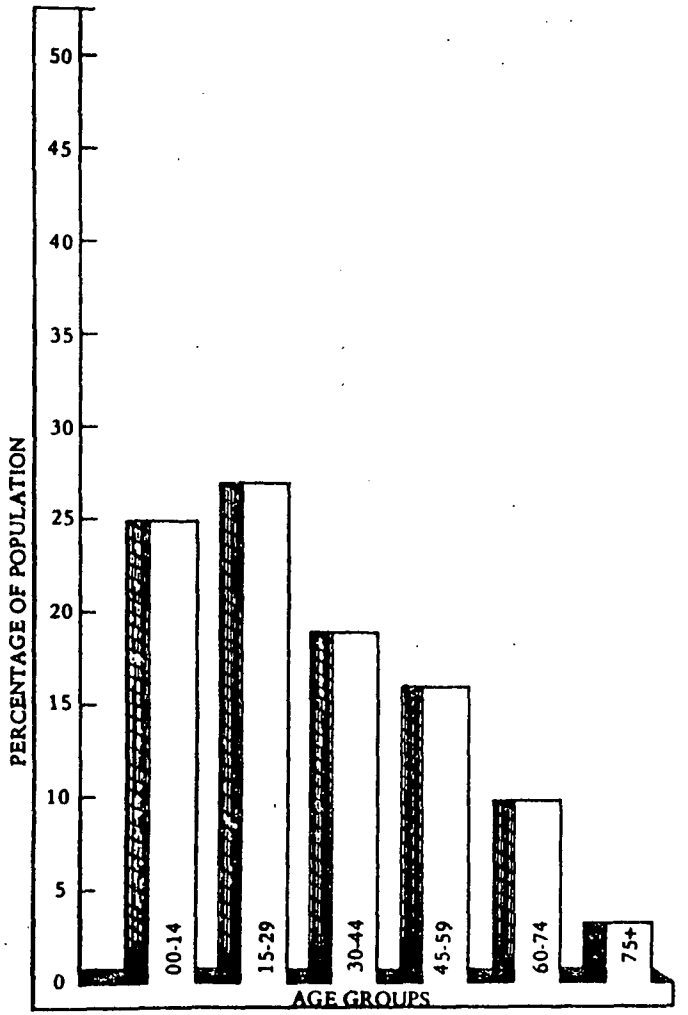


Figure 3.1.5 SEA 5
Texas Southern High Plains

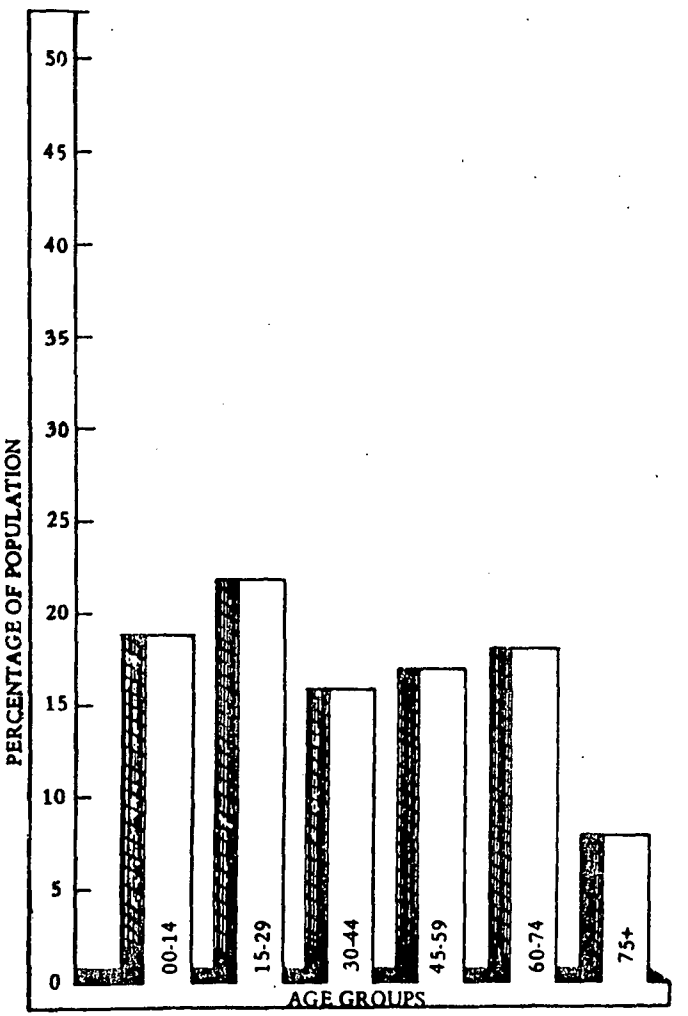


Figure 3.1.6 SEA 6
Texas Rolling Plains

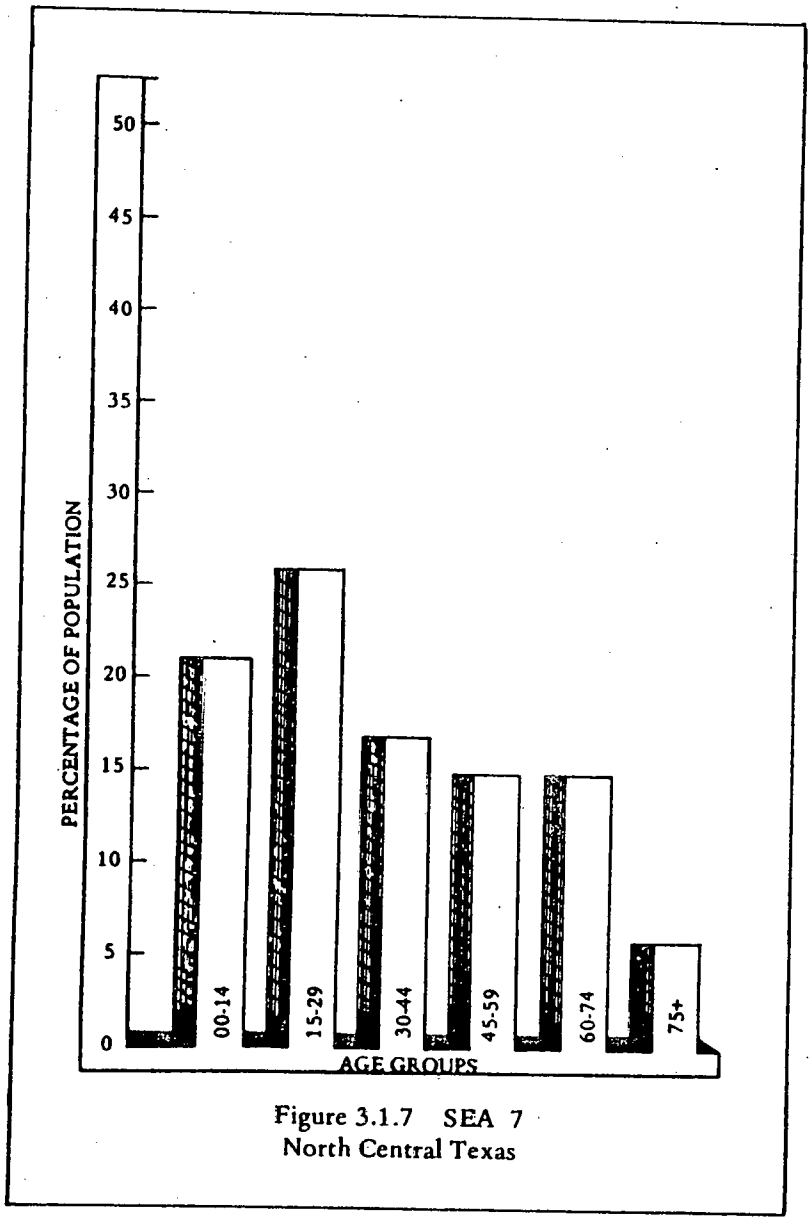


Figure 3.1.7 SEA 7
North Central Texas

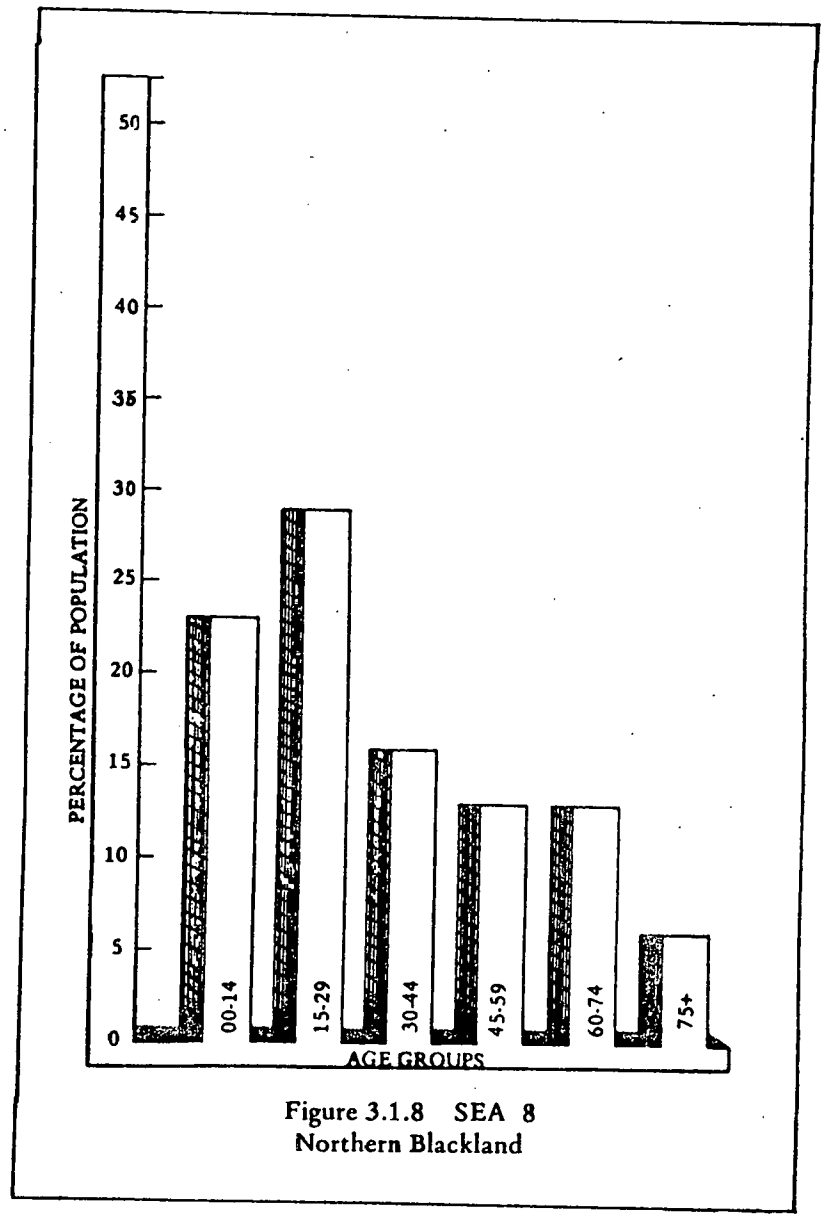


Figure 3.1.8 SEA 8
Northern Blackland

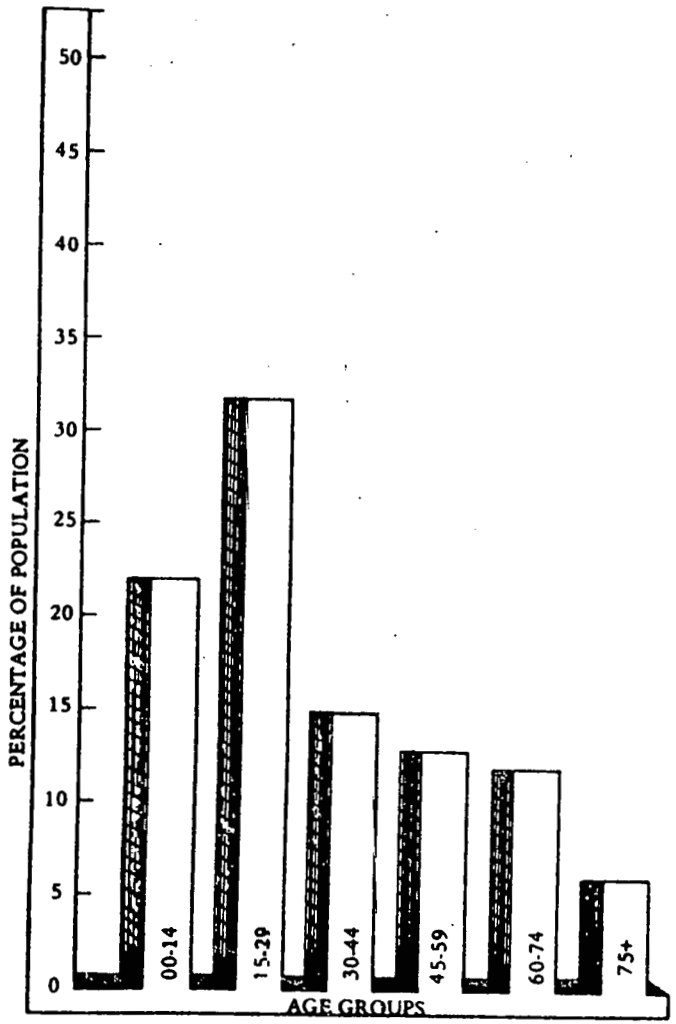


Figure 3.1.9 SEA 9
Post Oak

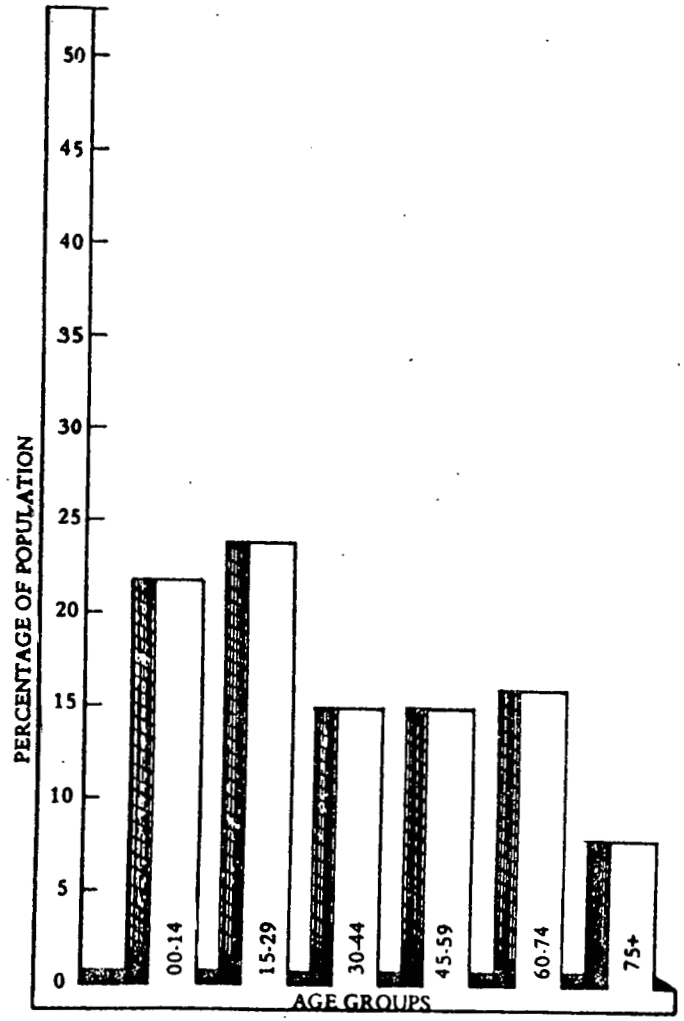


Figure 3.1.10 SEA 10
Southern Blackland

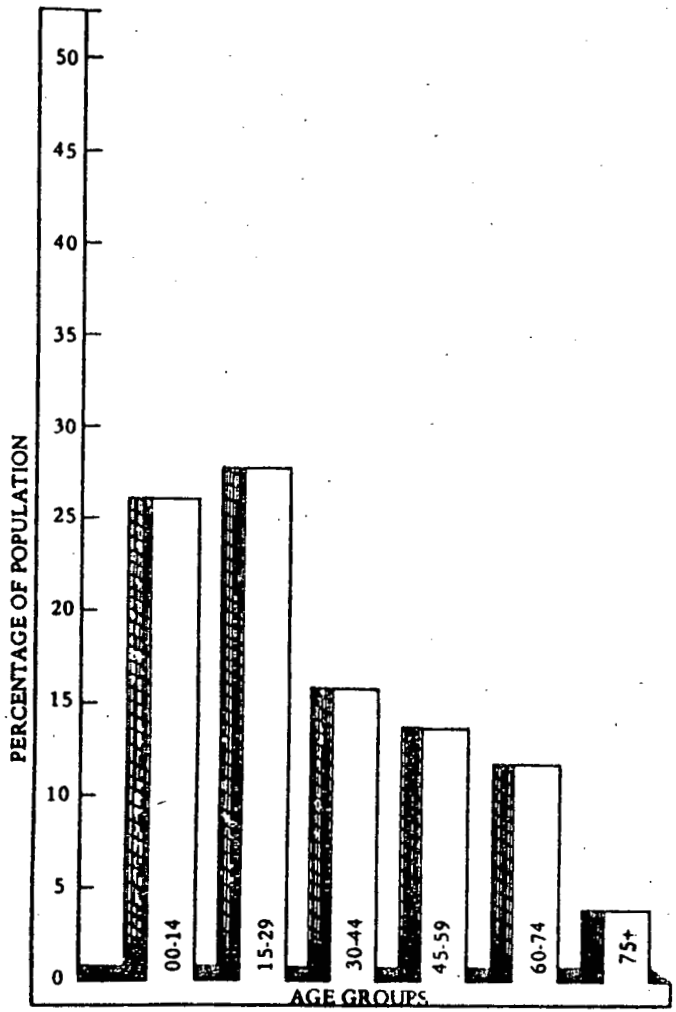


Figure 3.1.11 SEA 11
Northeast Rio Grande Plain

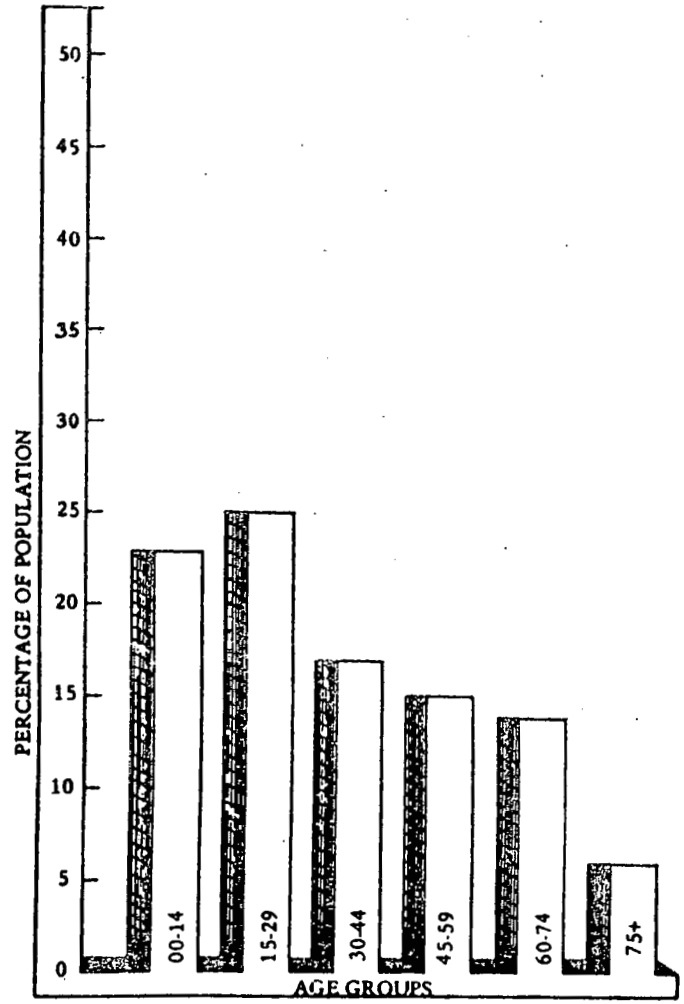


Figure 3.1.12 SEA 12
Northeast Texas Sandy Lands

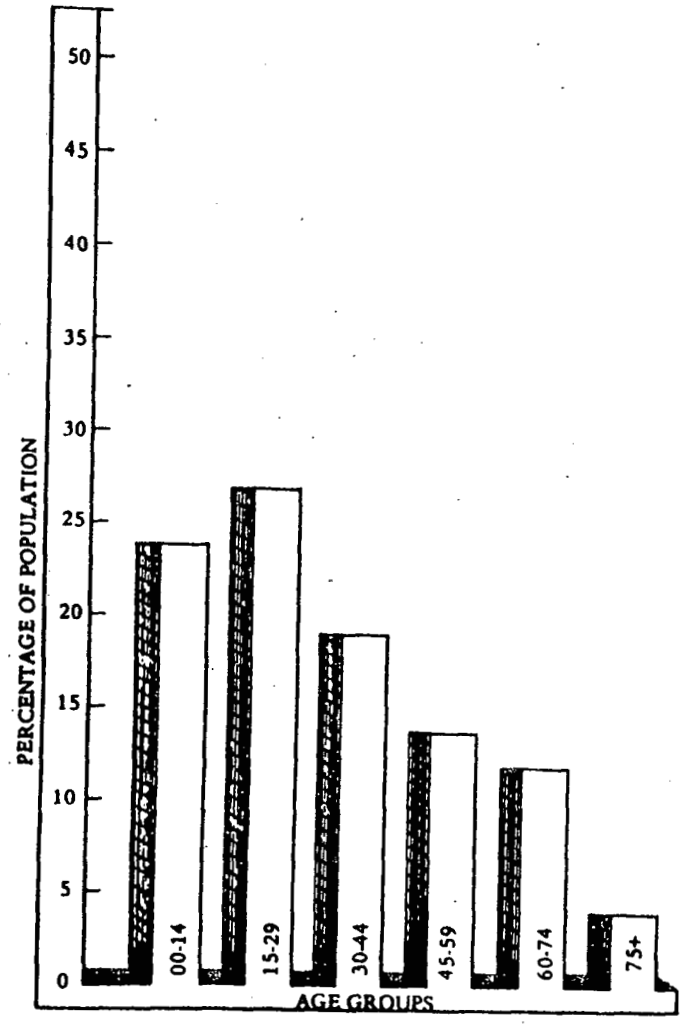


Figure 3.1.13 SEA 13
Southeast Texas Sandy Lands

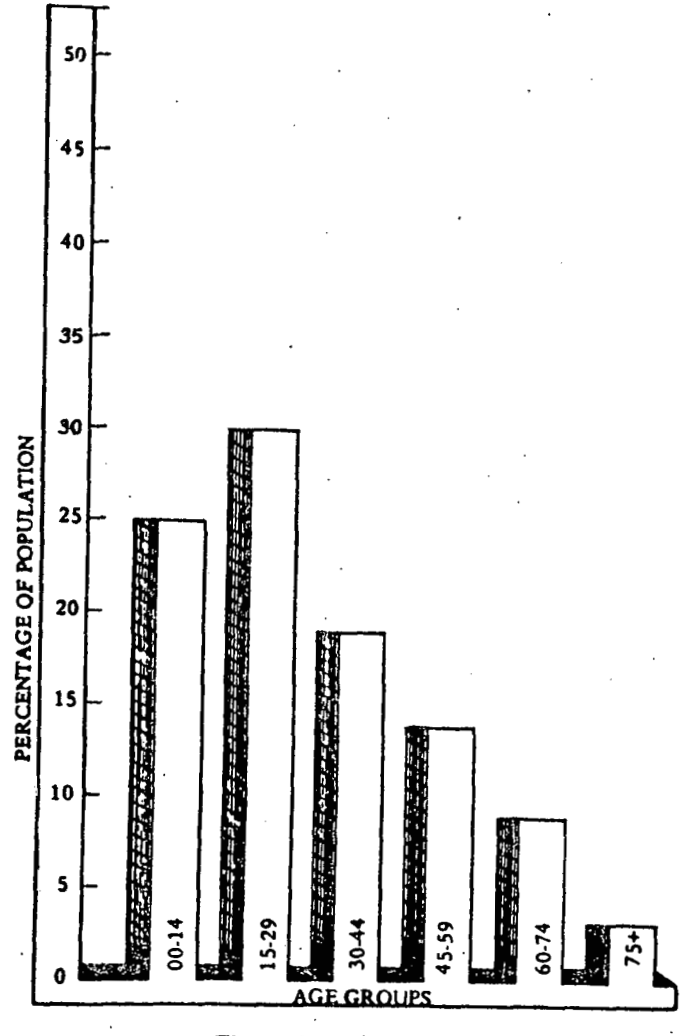


Figure 3.1.14 SEA 14
Texas Coast Prairie

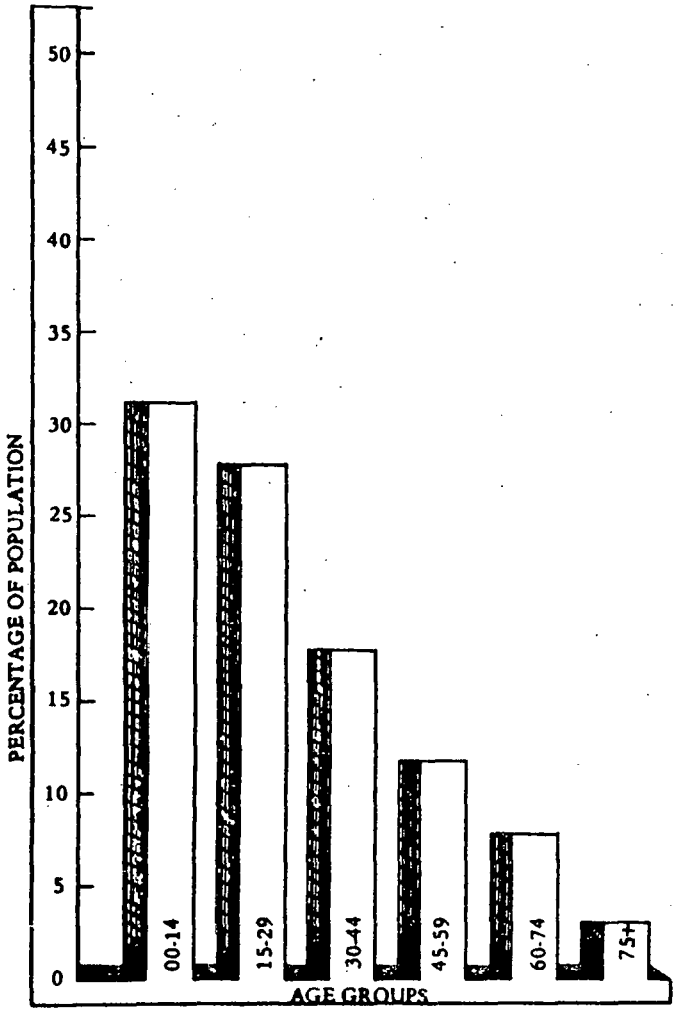


Figure 3.1.15 SEA 15
Lower Rio Grande Valley

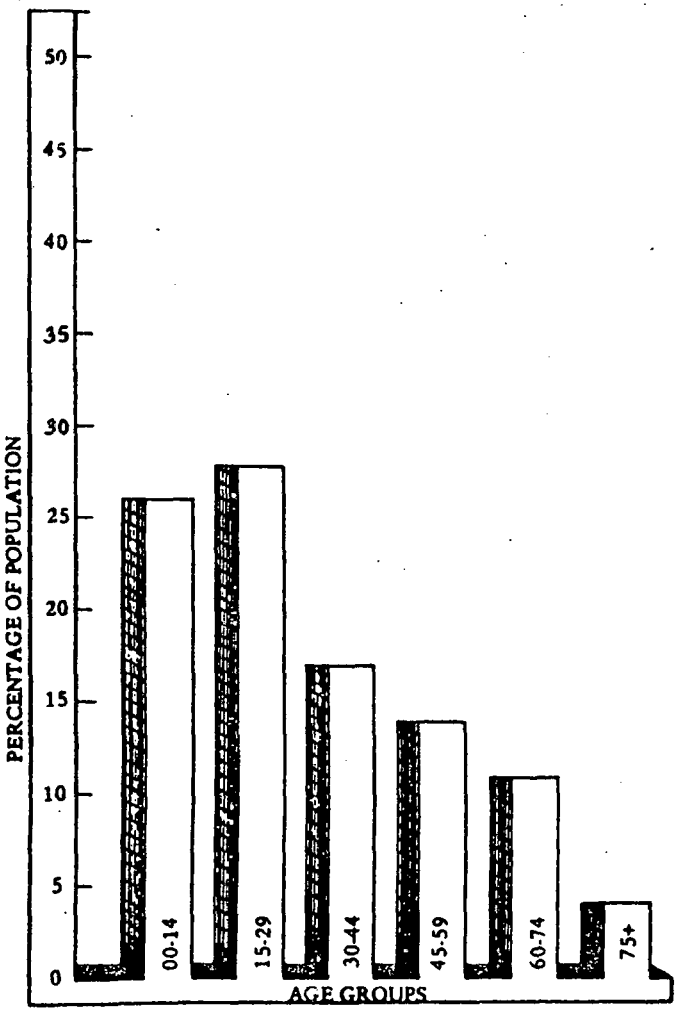
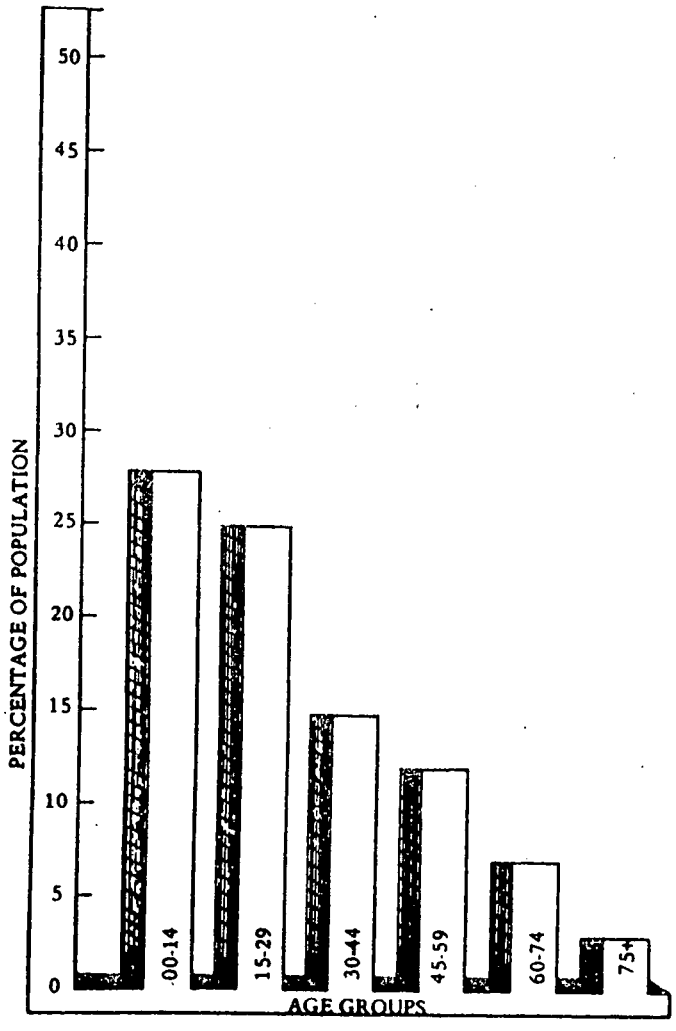


Figure 3.1.16 SEA 16
Edwards Plateau–Western



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El Paso SMSA

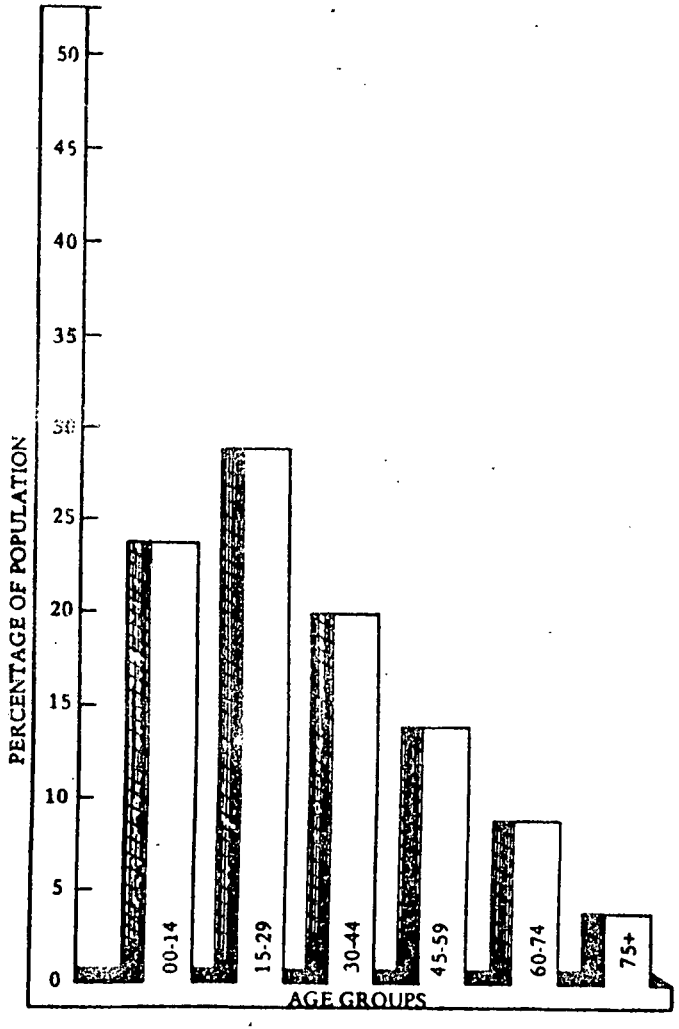


Figure 3.1.B SEA B
Fort Worth SMSA

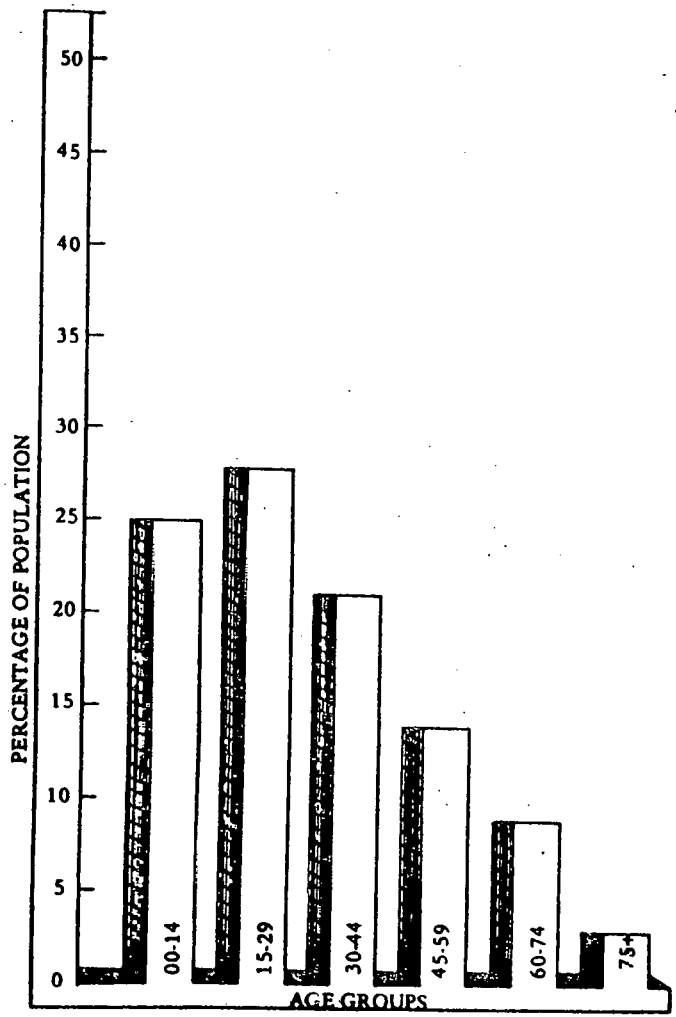
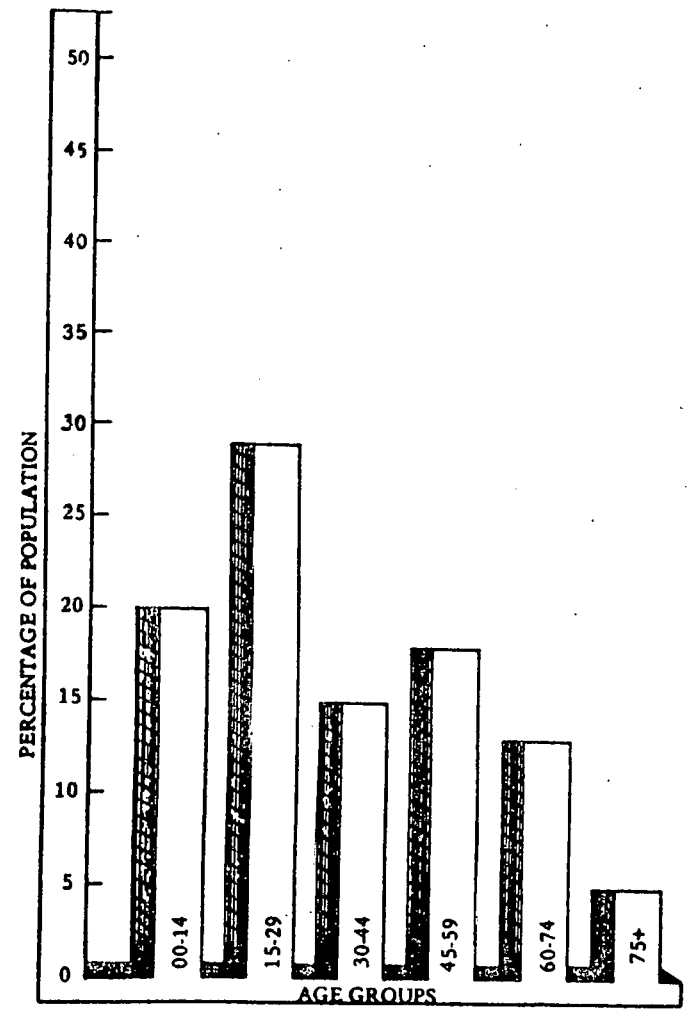


Figure 3.1.C SEA C
Dallas SMSA
(except Denton part)



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Waco SMSA

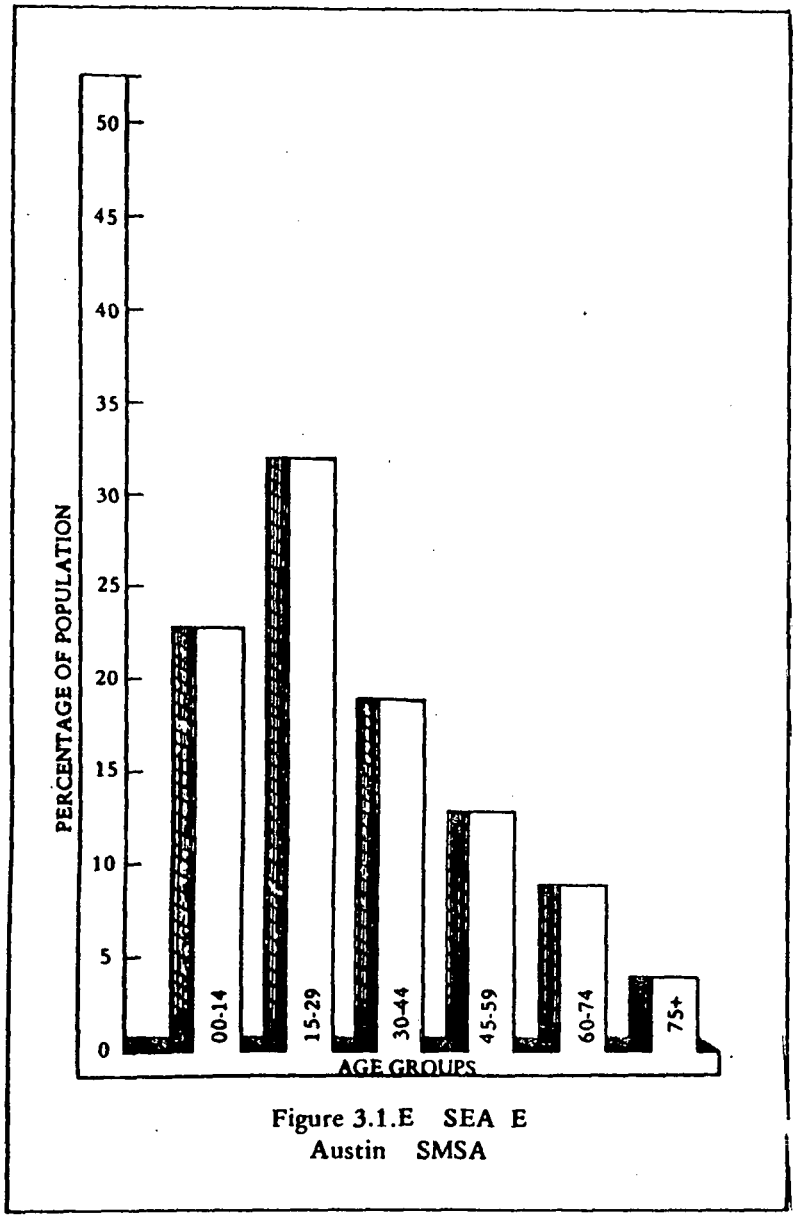
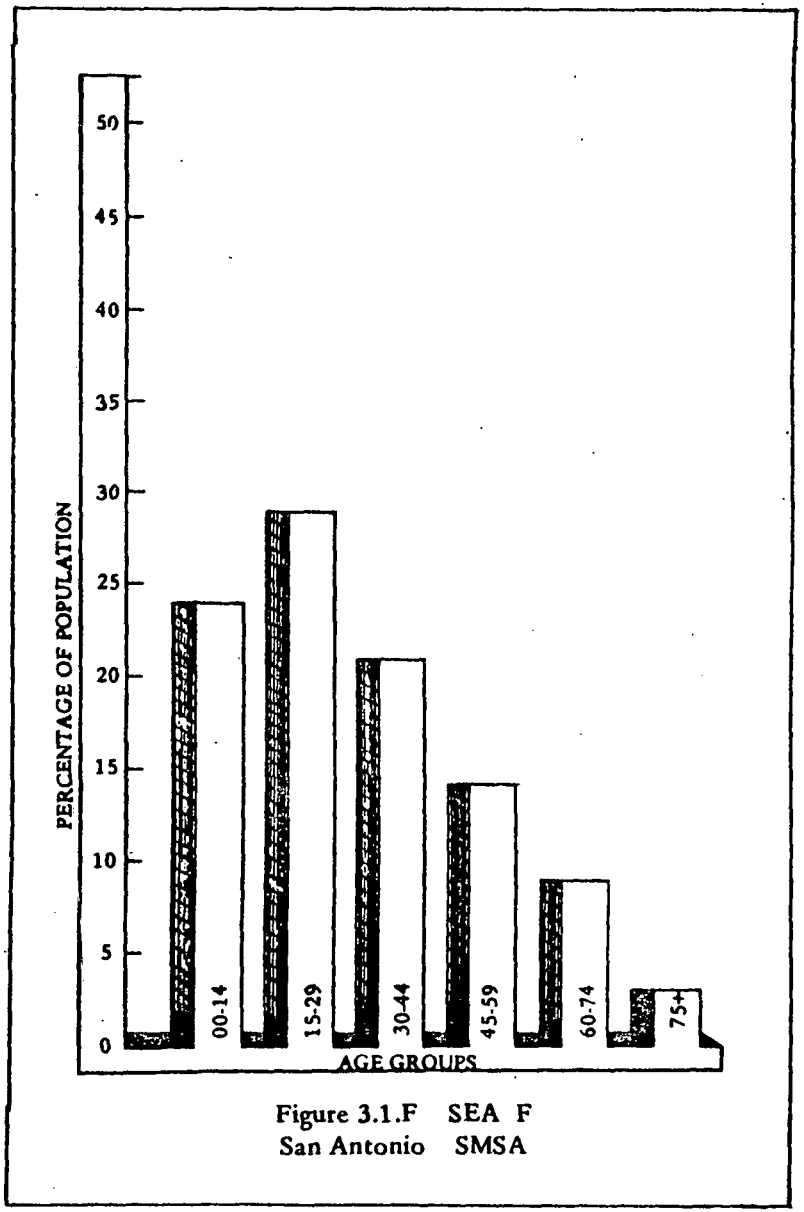


Figure 3.1.E SEA E
Austin SMSA



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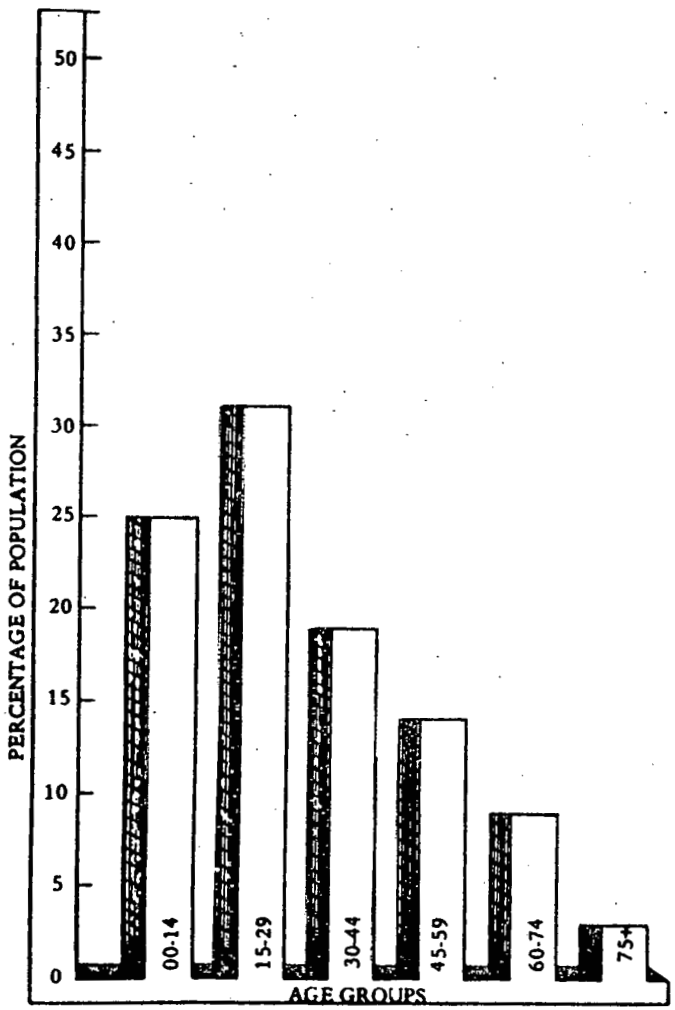
San Antonio SMSA



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Houston SMSA

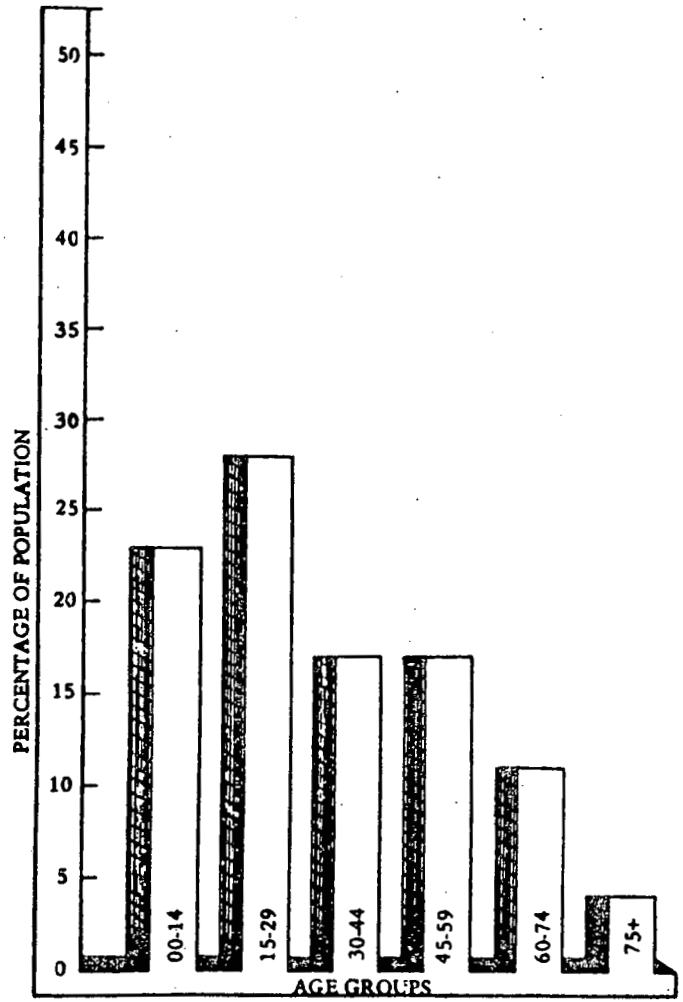
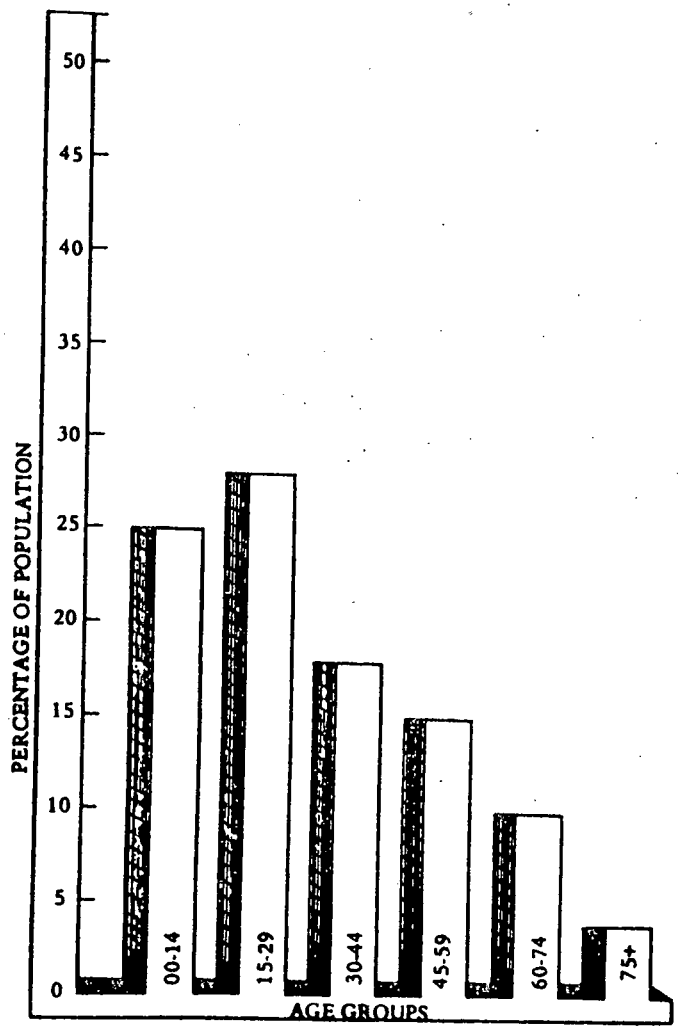


Figure 3.1.H SEA H
Beaumont–Port Arthur SMSA



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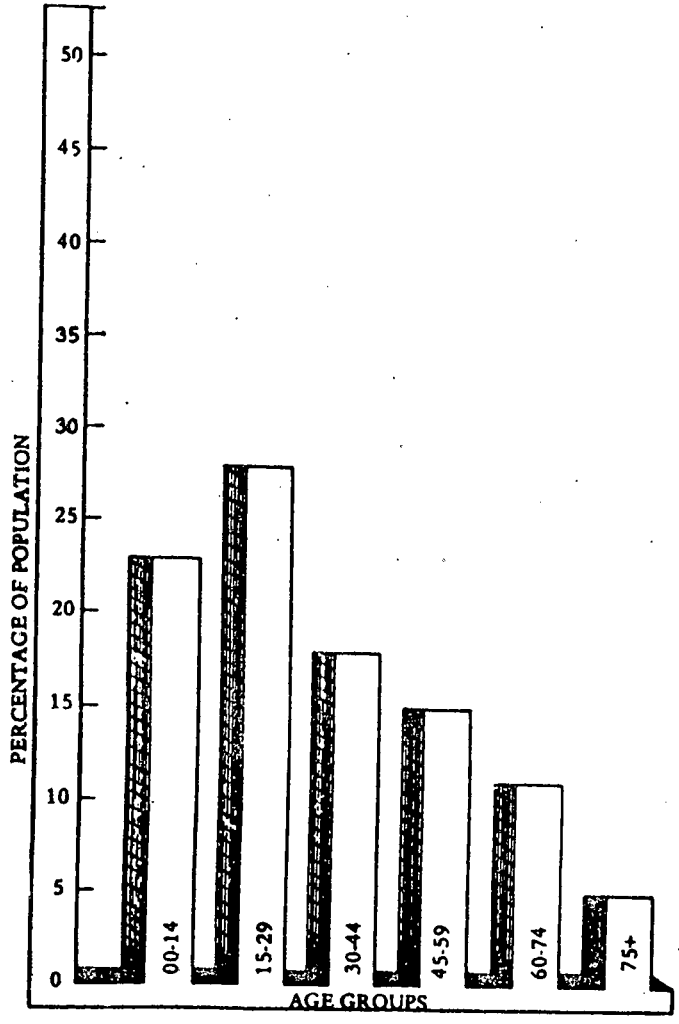
Amarillo SMSA



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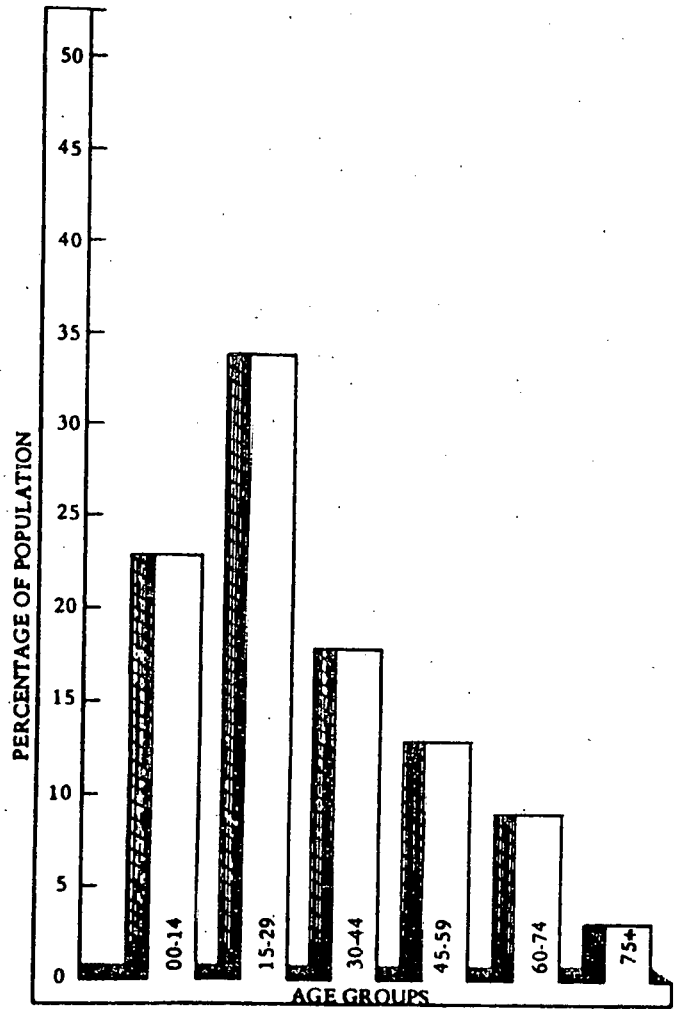
Wichita Falls SMSA



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Lubbock SMSA

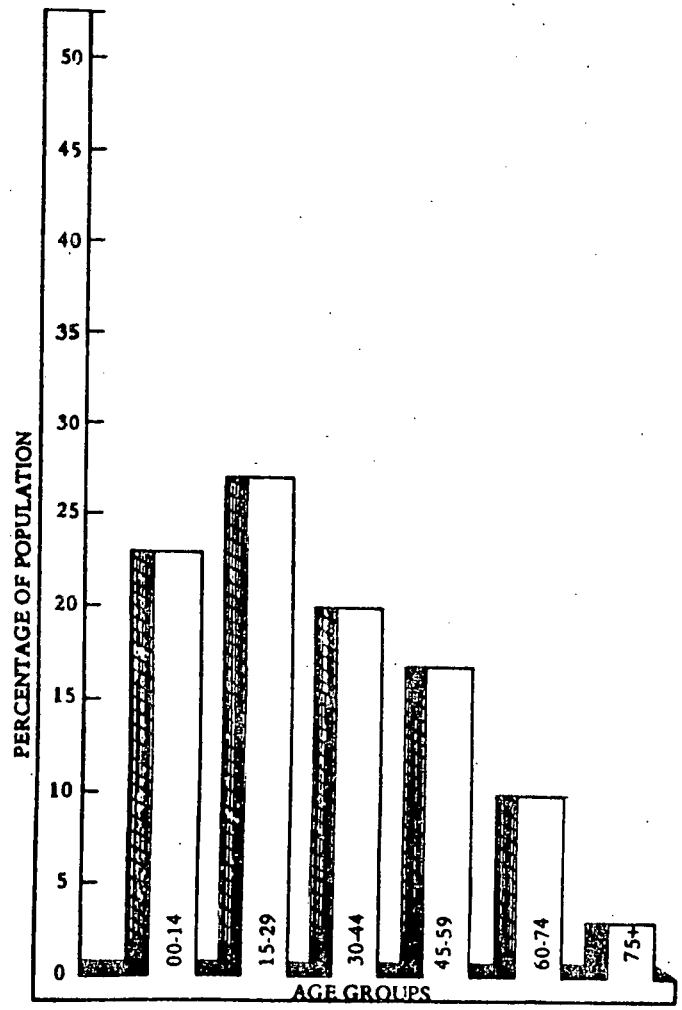
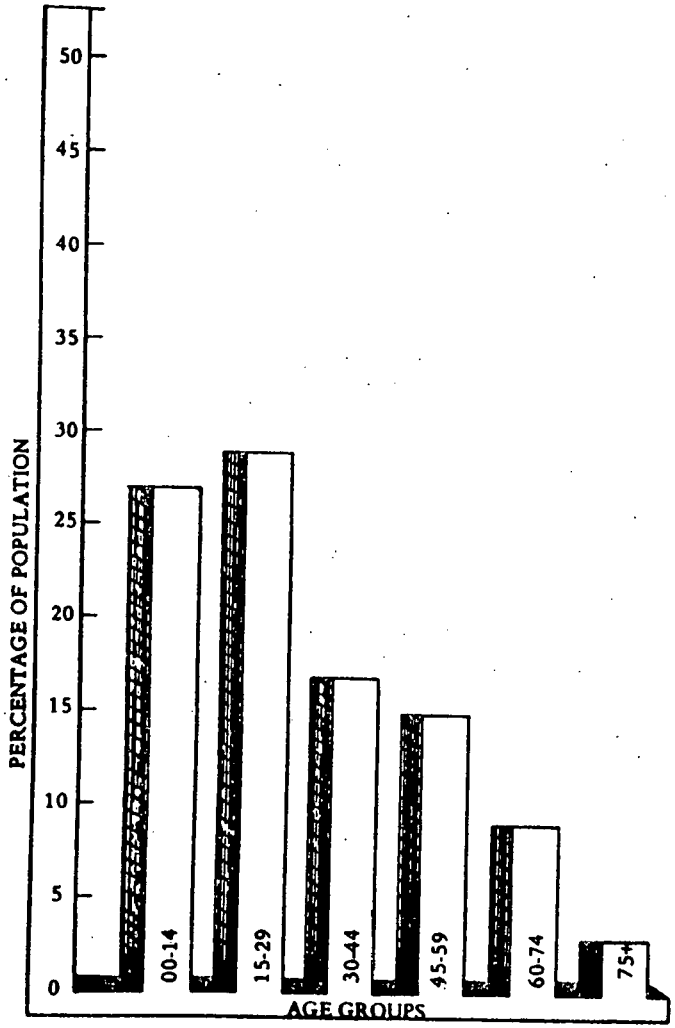


Figure 3.1.M SEA M
Galveston–Texas City SMSA



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Corpus Christi SMSA

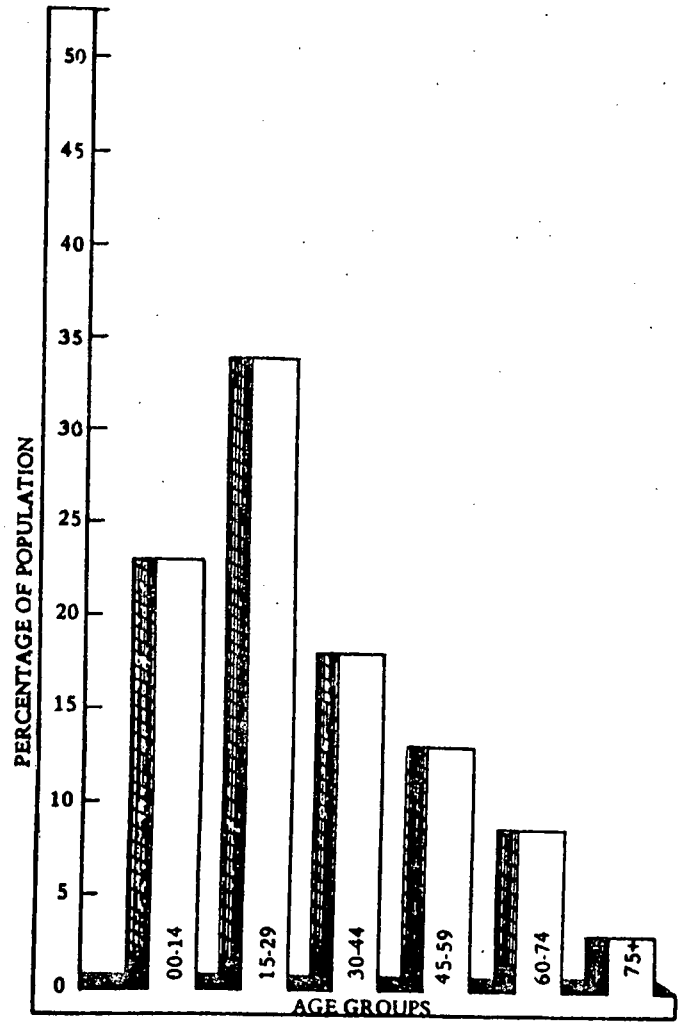
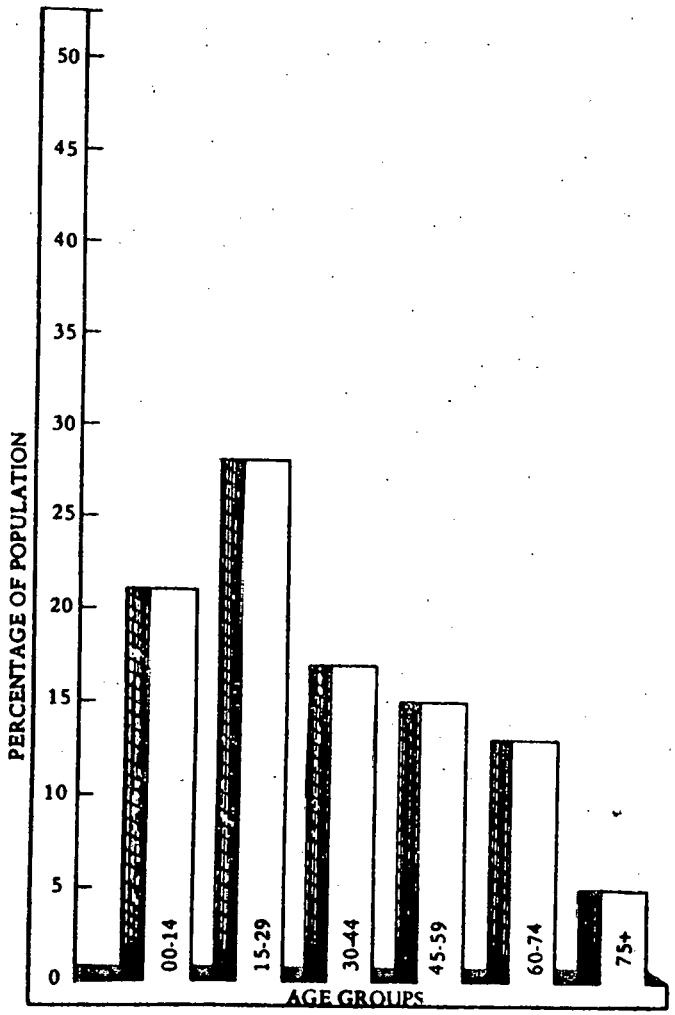


Figure 3.1.O SEA O
Dallas SMSA
(Denton part)



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Abilene SMSA

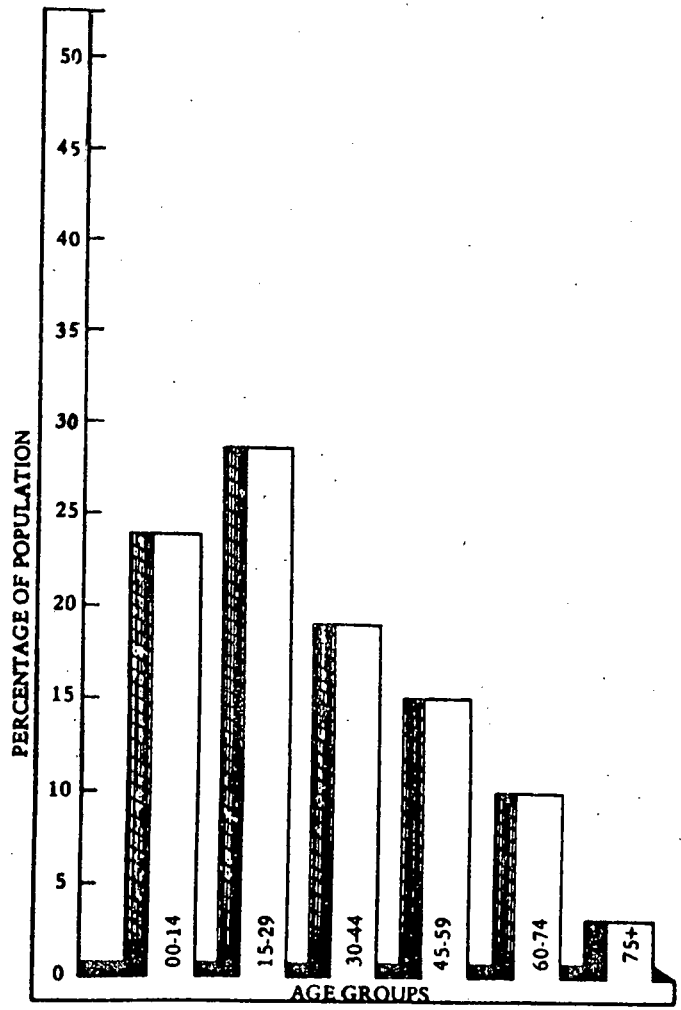


Figure 3.1.32
Population of Texas

Population bar graphs for the 15 metropolitan SEAs in the state (Figures 3.1.A through 3.1.P) may also be grouped into categories: a) areas with large concentrations of the 15-29 year age groups, suggesting the presence of college populations; as examples, see Figure 3.1.D (the Waco SEA and Baylor University), Figure 3.1.E (the Austin SEA and The University of Texas at Austin), Figure 3.1.L (the Lubbock SEA and Texas Tech University); other examples are Figures 3.1.O and 3.1.P; b) areas with more or less typical metropolitan characteristics, such as relatively narrow population bases, heavier concentrations of persons in the 20s and early 30s; see Figure 3.1.B (Fort Worth), Figure 3.1.H (Beaumont-Port Arthur) as examples; see also Figures 3.1.J and 3.1.M; c) areas showing typical age compositions of the major metropolitan areas in the nation; these differ from the preceding with much narrower bases, and somewhat lower concentrations of persons in the oldest ages; see Figure 3.1.C (Dallas -- excluding Denton) and Figure 3.1.G (Houston); d) areas showing many of the metropolitan characteristics of category 'b' above, but also the presence of military base populations; as examples see Figure 3.1.F (San Antonio, the largest military center in Texas with Brooke Army Medical Center, Fort Sam Houston, Brooks Air Force Base and Lackland Air Force Base, among others) and Figure 3.1.K (Wichita Falls, the home of Sheppard Air Force Base); e) areas with especially broad population bases and younger than average populations; these reflect the presence of large numbers of Hispanics; Figure 3.1.N (Corpus Christi) and Figure 3.1.A (El Paso) are examples, although the El Paso SEA also shows the influence of a college population (The University of Texas at El Paso), and a military population (Fort Bliss and Biggs Field).

Table 3.1 presents population projections for the SEAs and the state for 1980 and 1990. As noted above, actual 1980 data by age have not yet been made available from the 1980 census, so 1980 data are based on projections. These projections are based on assumptions generally governing demographic conditions of fertility, mortality and migration

Table 3.1 Demographic Growth and Density Information for the State of Texas and its State Economic Areas, July 1, 1970 - July 1, 1975 and Population Projections for 1980 and 1990

State Economic Area		Population Growth Rate 1970-1975 %	Growth Rate Due to Net Migration 1970-75 (%)	Population Density Per Square Mile 1975	Population Projection 1980	Population Projection 1990
SEA 1	Trans Pecos	-0.7	-8.5	2	63,266	60,512
SEA 2	Edwards Plateau - Eastern	12.4	9.6	17	290,672	356,801
SEA 3	Southwest Rio Grande Plain	8.8	-3.5	11	226,686	252,992
SEA 4	Texas Northern High Plains (Panhandle)	-0.2	-5.0	9	217,502	214,467
SEA 5	Texas Southern High Plains	2.2	-3.8	21	372,237	381,672
SEA 6	Texas Rolling Plains	1.4	1.6	8	246,822	245,551
SEA 7	North Central Texas	7.4	8.4	19	334,339	401,906
SEA 8	Northern Blackland	10.1	6.6	47	638,832	768,257
SEA 9	Post Oak	13.7	11.2	24	201,838	252,893

Table 3.1 (continued)

Demographic Growth and Density Information for the State of Texas and its State Economic Areas, July 1, 1970 - July 1, 1975 and Population Projections for 1980 and 1990

State Economic Area	Population Growth Rate 1970-1975 %	Growth Rate Due to Net Migration 1970-75 (%)	Population Density Per Square Mile 1975	Population Projection 1980	Population Projection 1990
SEA 10 Southern Blackland	4.5	2.9	27	141,828	153,093
SEA 11 Northeast Rio Grande Plain	4.1	-2.5	21	229,279	242,030
SEA 12 Northeast Texas Sandy Lands	7.9	5.5	41	825,453	959,460
SEA 13 Southeast Texas Sandy Lands	25.5	22.1	32	424,085	603,715
SEA 14 Texas Coast Prairie	12.8	6.9	42	544,834	691,077
SEA 15 Lower Rio Grande Valley	24.9	7.8	139	491,948	649,830
SEA 16 Edwards Plateau - Western	12.5	4.2	3	103,270	125,783

Table 3.1 (continued)

Demographic Growth and Density Information for the State of Texas and its State Economic Areas, July 1, 1970 - July 1, 1975 and Population Projections for 1980 and 1990

State Economic Area		Population Growth Rate 1970-1975 %	Growth Rate Due to Net Migration 1970-75 (%)	Population Density Per Square Mile 1975	Population Projection 1980	Population Projection 1990
SEA A	El Paso SMSA	18.1	5.0	401	497,094	643,676
SEA B	Fort Worth SMSA	3.0	-0.4	490	903,936	1,043,533
SEA C	Dallas SMSA (except Denton part)	6.5	0.8	582	1,807,750	2,205,099
SEA D	Waco SMSA	4.5	3.6	154	173,977	193,250
SEA E	Austin SMSA	22.4	14.6	357	444,774	617,544
SEA F	San Antonio SMSA	9.9	2.1	732	1,054,533	1,290,532
SEA G	Houston SMSA	11.6	5.7	1,128	2,401,172	3,140,176
SEA H	Beaumont-Port Arthur SMSA	-0.3	-4.6	241	331,248	333,496

Table 3.1 (continued)

Demographic Growth and Density Information for the State of Texas and its State Economic Areas, July 1, 1970 - July 1, 1975 and Population Projections for 1980 and 1990

State Economic Area	Population Growth Rate 1970-1975 %	Growth Rate Due to Net Migration 1970-75 (%)	Population Density Per Square Mile 1975	Population Projection 1980	Population Projection 1990
SEA J Amarillo SMSA	8.7	0.4	86	170,168	192,826
SEA K Wichita Falls SMSA	-0.4	-3.2	82	132,947	135,240
SEA L Lubbock SMSA	10.0	2.5	220	228,491	277,602
SEA M Galveston-Texas City SMSA	7.9	2.8	459	212,905	256,569
SEA N Corpus Christi SMSA	4.5	-3.8	295	264,854	285,293
SEA O Dallas SMSA (Denton Part)	28.7	28.0	106	123,454	185,871
SEA P Abilene SMSA	6.5	0.1	64	128,709	137,920
State of Texas	9.3	3.6	46	14,228,903	17,298,666

SOURCE OF DATA: Data obtained for the counties of the state from U.S. Bureau of the Census, County and City Data Book, 1977, Washington, D.C. (magnetic tape version).

as they existed in the 1960s and the early 1970s. In the case of migration, trends in the state and its SEAs through 1978 were used to generate 1980 projections.

Although at the time of this writing, detailed age data were not yet available from the 1980 census, final 1980 data are available. In developing the 1980 projections, therefore, 1980 projection data were used to approximate the 1980 final census for the state. The age distributions within the state, and within the SEAs, are based on projections and may differ somewhat from the final 1980 census when it becomes available. The 1980 projection data for the state as a whole is not available at this time.

The 1980 data show the continued prominence of two SEAs with respect to total population size. SEA G, Houston, is the largest SEA in terms of population, and SEA C, Dallas, is next. No other SEAs in Texas have comparable populations.

In examining demographic growth and density, Table 3.1, presents rates of population growth between 1970-1975 for the state and its SEAs, along with growth rates due to net migration. Data on population density (the number of persons per square mile) are also presented.

Houston and San Antonio are the most densely populated SEAs in Texas, with 1,128 and 732 persons, respectively, per square mile. These two SEAs are the major sites of population concentrations in Texas. The Trans Pecos SEA is the least densely populated, with two persons per square mile.

Another method of viewing demographic patterns and changes in Texas and its State Economic Areas is through maps. Two maps reflecting rates of overall population growth for the Texas SEAs (Map 3.2) and patterns of population density per square mile for the SEAs, according to three categories of density (Map 3.3), are also included. These clarify the patterns previously described.

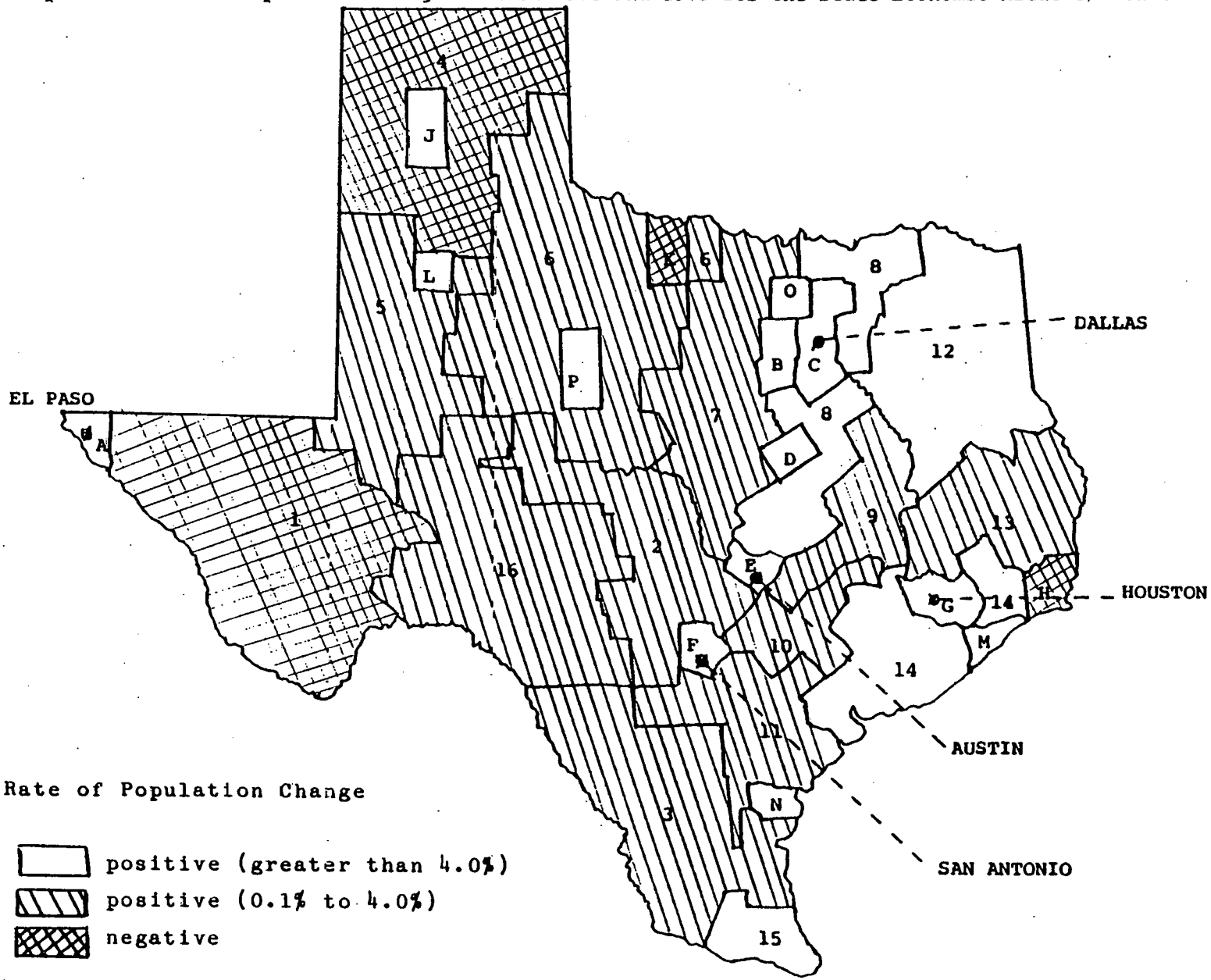
3.2 Agriculture

Demographic data on agriculture for the state of Texas and its SEAs indicate those areas heavily engaged in agricultural pursuits. Data of this type could be influential in determining which areas within the state could be sites for low-level radioactive waste products, and which areas should not.

Table 3.2 presents information for the state and its SEAs on the total amount of land in farms (expresed in thousands of acres) in 1974 and 1978, the percent of all land devoted to farming in 1974 and 1978, and the simple difference between the average value of land and buildings per farm (in thousands of dollars) in 1974 and 1978.

Acreage designated as "land in farms" consists primarily of agricultural land used for crops, pasture, or grazing. It also includes woodland and wasteland not actually under cultivation or used for pasture or grazing, provided it was part of the farmer's total operation. Large acreages of woodland or wasteland held for nonagricultural purposes were deleted from individual reports during the census processing operations. Except for open range and grazing land used under government permits, all grazing land was included as "land in farms," provided the place was part of a farm or ranch.

Map 3.2 Rates of Population Change Between 1970 and 1975 for the State Economic Areas of Texas



Map 3.3 Population Density (Persons per Square Mile) for the State Economic Areas of Texas, 1975

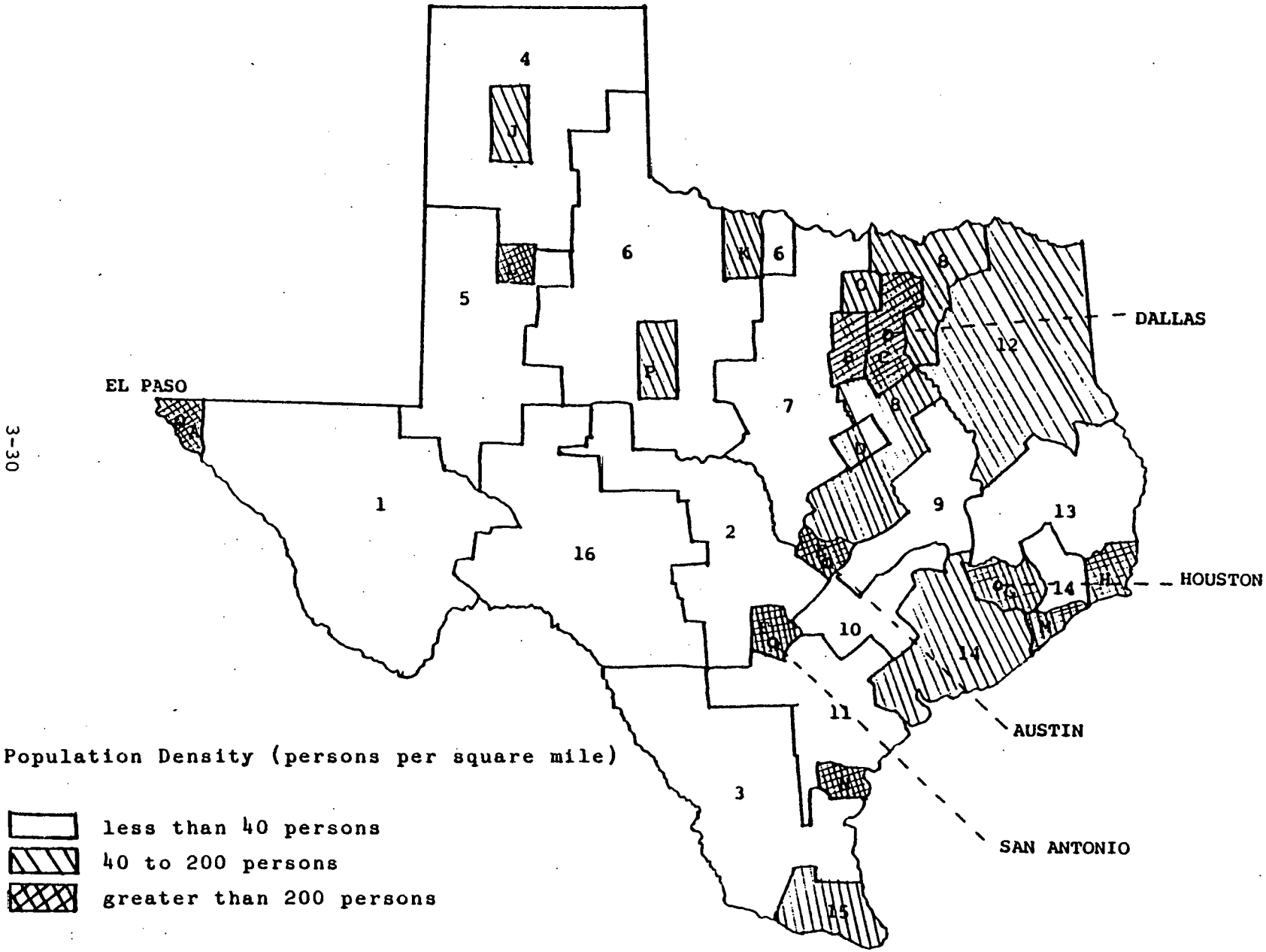


Table 3.2 Agricultural Data for the State of Texas and its State Economic Areas, 1974 and 1978

State Economic Area	Land in Farms Total Acres (1000s) 1974	1978	Average Value of Land and Buildings per Farm ($1000s) 1974	1978	Percent of SEA Land Devoted to Farming 1974	1978
SEA 1 Trans Pecos	14,970	14,926	838	1574	.79	.
SEA 2 Edwards Plateau - Eastern	8,324	8,370	235	392	.91	.9
SEA 3 Southwest Rio Grande Plain	10,762	10,250	350	566	.93	.8
SEA 4 Texas Northern High Plains (Panhandle)	13,315	13,446	355	541	.96	.9
SEA 5 Texas Southern High Plains	8,737	9,459	256	417	.84	.9
SEA 6 Texas Rolling Plains	16,961	16,968	166	270	.91	.9
SEA 7 North Central Texas	7,591	7,741	144	217	.82	.8
SEA 8 Northern Blackland	5,657	5,697	125	186	.75	.7
SEA 9 Post Oak	3,006	3,058	150	213	.68	.6
SEA 10 Southern Blackland	2,538	2,550	118	171	.82	.8
SEA 11 Northeast Rio Grande Plain	5,380	5,767	165	304	.83	.8
SEA 12 Northeast Texas Sandy Lands	5,594	5,613	90	145	.50	.5

Table 3.2 (continued)

Agricultural Data for the State of Texas and its State Economic Areas, 1974 and 1978

State Economic Area	Land in Farms Total Acres (1000s) 1974	1978	Average Value of Land and Buildings per Farm ($1000s) 1974	1978	Percent of SEA Land Devoted to Farming 1974	1978
SEA 13 Southeast Texas Sandy Lands	1,515	1,538	150	232	.25	.25
SEA 14 Texas Coast Prairie	5,281	5,524	253	410	.77	.81
SEA 15 Lower Rio Grande Valley	1,562	1,586	182	334	.81	.82
SEA 16 Edwards Plateau - Western	14,319	14,514	484	864	.92	.93
SEA A El Paso SMSA	446	333	296	400	.66	.49
SEA B Fort Worth SMSA	558	548	202	234	.54	.53
SEA C Dallas SMSA (except Denton part)	1,040	1,077	244	274	.62	.64
SEA D Waco SMSA	521	487	106	176	.81	.76
SEA E Austin SMSA	390	386	253	354	.60	.60
SEA F San Antonio SMSA	488	548	165	209	.61	.69
SEA G Houston SMSA	483	473	325	428	.44	.43
SEA H Beaumont-Port Arthur SMSA	386	482	258	423	.46	.57

Table 3.2 (continued)

Agricultural Data for the State of Texas and its State Economic Areas, 1974 and 1978

State Economic Area		Land in Farms Total Acres (1000s) 1974	Land in Farms Total Acres (1000s) 1978	Average Value of Land and Buildings per Farm ($1000s) 1974	Average Value of Land and Buildings per Farm ($1000s) 1978	Percent of SEA Land Devoted to Farming 1974	Percent of SEA Land Devoted to Farming 1978
SEA J	Amarillo SMSA	1,009	1,033	306	447	.87	.89
SEA K	Wichita Falls SMSA	820	886	165	285	.84	.91
SEA L	Lubbock SMSA	591	601	223	369	.99	.99
SEA M	Galveston-Texas City SMSA	104	100	255	276	.41	.39
SEA N	Corpus Christi SMSA	502	463	294	493	.93	.86
SEA O	Dallas SMSA (Denton Part)	439	432	323	311	.75	.74
SEA P	Abilene SMSA	1,001	1,078	117	215	.84	.90
	State of Texas	134,185	137,886	187	275	.80	

SOURCE OF DATA: Data for 1974 taken from U.S. Bureau of the Census, County and City Data Book, 1977, Washington, D.C. (magnetic tape version); Data for 1978 taken from U.S. Bureau of the Census, Census of Agriculture, 1978 (machine readable data files). County data were aggregated into State Economic Areas.

The State Economic Area in Texas with the greatest number of acres devoted to farming in 1978 was SEA G: Texas Rolling Plains, with nearly 17 million acres, approximately the same acreage devoted to farming in 1974. The Galveston-Texas City SMSA (SEA M) had the fewest acres devoted to farming in 1978. In total amount of land in the area devoted to farming, Texas Northern High Plains (SEA 4), had the highest percentage in 1978 of nonmetropolitan SEAs, with almost 98 percent of its land devoted to agriculture. The Lubbock SMSA had the highest percentage among metropolitan SEAs. The Galveston SEA had the smallest portion of its land devoted to this purpose.

The Trans Pecos (SEA 1) had the highest average value of land and buildings per farm in 1978. After adjusting for inflation, this 1978 value represents an approximate 43 percent increase over the average value in 1974. No other SEAs in Texas have average land values close to those of the Trans Pecos. The average value of land and buildings per farm in the State of Texas in 1978 was $275,000, an adjusted increase of approximately 12 percent over its 1974 value.

3.3 Health

This section presents and analyzes health information for the State of Texas and its State Economic Areas. Table 3.3 provides the following health information for 1975: number of hospitals, total number of hospital beds, number of hospital beds per 100,000 population, and physicians per 100,000 population. The data on hospitals and beds were collected by the American Hospital Association for all hospitals accepted for registration by the Association. The data on physicians were collected by the American Medical Association and refer to professionally active nonfederal physicians.

Table 3.3 Health Information for the State of Texas and its State Economic Areas, 1975

State	Economic Area	No. of Hospitals	No. of Hospital Beds	Hospital Beds per 100,000 Population	Physicians per 100,000 Population
SEA 1	Trans Pecos	7	213	339	47
SEA 2	Edwards Plateau - Eastern	23	2,580	1,048	106
SEA 3	Southwest Rio Grande Plain	10	661	307	52
SEA 4	Texas Northern High Plains (Panhandle)	19	992	473	56
SEA 5	Texas Southern High Plains	27	2,509	712	74
SEA 6	Texas Rolling Plains	30	1,399	593	62
SEA 7	North Central Texas	27	1,228	433	52
SEA 8	Northern Blackland	37	6,192	1,113	109
SEA 9	Post Oak	15	668	399	67
SEA 10	Southern Blackland	12	530	404	54
SEA 11	Northeast Rio Grande Plain	16	715	330	49
SEA 12	Northeast Texas Sandy Lands	49	5,017	691	86
SEA 13	Southeast Texas Sandy Lands	17	1,201	384	54
SEA 14	Texas Coast Prairie	29	2,000	398	73
SEA 15	Lower Rio Grande Valley	9	1,029	244	71
SEA 16	Edwards Plateau - Western	13	1,657	393	53

Table 3.3 (continued)

Health Information for the State of Texas
and its State Economic Areas, 1975

State Economic Area		No. of Hospitals	No. of Hospital Beds	Hospital Beds per 100,000 Population	Physicians per 100,000 Population
SEA A	El Paso SMSA	16	354	546	109
SEA B	Fort Worth SMSA	28	2,318	482	114
SEA C	Dallas SMSA (except Denton area)	50	3,781	531	184
SEA D	Waco SMSA	4	1,773	1,149	116
SEA E	Austin SMSA	11	2,656	734	171
SEA F	San Antonio SMSA	18	7,495	821	177
SEA G	Houston SMSA	54	12,425	639	207
SEA H	Beaumont-Port Arthur SMSA	11	1,857	587	106
SEA J	Amarillo SMSA	7	1,124	716	121
SEA K	Wichita Falls SMSA	6	1,994	1,585	122
SEA L	Lubbock SMSA	9	1,215	616	152
SEA M	Galveston-Texas City SMSA	6	1,886	1,029	357
SEA N	Corpus Christi SMSA	11	1,595	642	147
SEA O	Dallas SMSA (Denton area)	3	311	319	88
SEA P	Abilene SMSA	6	863	563	112
State of Texas		580	76,407	624	133

SOURCE OF DATA: Data obtained for counties from U.S. Bureau of the Census, County and City Data Book, 1977, Washington, D.C. (magnetic tape version). Counties were aggregated into State Economic Areas.

The data presented in this section indicate that in terms of absolute numbers of hospitals and beds, the Houston and San Antonio SEAs are of primary importance, followed by the Northern Blackland (SEA 8) and Northeast Texas Sandy Lands (SEA 12). As anticipated, the distributions of hospital beds and physicians calculated on a per population basis are more even than when calculated as absolute counts. Indeed, other SEAs are moved up in rank when this measurement strategy is followed. It would appear, however, that the four SEAs just mentioned are the major sites for radionuclide use in an institutional context in Texas.

3.4 Higher Education

Colleges and universities are major users of radionuclides. Table 3.4 provides baseline information on higher education in the State of Texas and its State Economic Areas for the academic years 1974-75 and 1977-78. In the year ending in 1975, 143 colleges and universities in Texas had student enrollments of nearly 517,000. Three years later, the number of institutions had increased to 147, and student enrollments increased to more than 649,500.

The geographical distribution of student enrollments in Texas is most uneven, with three SEAs containing over 32 percent of student enrollments: Houston (SEA G), Austin (SEA E), and Dallas (SEA C). Some of the major large colleges and universities of the state located in these SEAs are the University of Texas at Austin, University of Houston, and Houston Community College. Other large universities located elsewhere in Texas are Texas A&M University (SEA 9: Post Oak), the University of Texas at El Paso (SEA A: El Paso), San Antonio College (SEA F: San Antonio), Lamar University (SEA H: Beaumont-Port Arthur), and Texas Tech University (SEA L: Lubbock).

Table 3.4 Information on Institutions of Higher Education for the State of Texas and its State Economic Areas: Academic Years 1974-75 and 1978-79

State Economic Area	Number of Post-Secondary Schools 1974-75	Number of Post-Secondary Schools 1977-78	Post-Secondary School Enrollment 1974-75	Post-Secondary School Enrollment 1977-78
SEA 1 Trans Pecos	1	1	2,367	2,284
SEA 2 Edwards Plateau - Eastern	3	3	16,867	20,378
SEA 3 Southwest Rio Grande Plain	2	3	12,247	10,709
SEA 4 Texas Northern High Plains (Panhandle)	2	3	1,445	2,339
SEA 5 Texas Southern High Plains	5	5	8,470	10,920
SEA 6 Texas Rolling Plains	4	4	3,658	4,229
SEA 7 North Central Texas	5	5	7,448	8,568
SEA 8 Northern Blackland	12	12	25,299	28,919
SEA 9 Post Oak	1	1	18,520	28,833
SEA 10 Southern Blackland	2	2	2,869	3,695
SEA 11 Northeast Rio Grande Plain	1	1	1,407	1,937
SEA 12 Northeast Texas Sandy Lands	14	14	25,636	33,643

Table 3.4 (continued)

Information on Institutions of Higher Education for the State of Texas and its State Economic Areas: Academic Years 1974-75 and 1978-79

State Economic Area	Number of Post-Secondary Schools 1974-75	Number of Post-Secondary Schools 1977-78	Post-Secondary School Enrollment 1974-75	Post-Secondary School Enrollment 1977-78
SEA 13 Southeast Texas Sandy Lands	2	2	11,519	12,818
SEA 14 Texas Coast Prairie	5	6	12,207	16,155
SEA 15 Lower Rio Grande Valley	3	3	10,403	13,869
SEA 16 Edwards Plateau - Western	1	1	1,297	2,112
SEA A El Paso SMSA	2	2	16,917	25,344
SEA B Fort Worth SMSA	8	6	37,511	45,600
SEA C Dallas SMSA (except Denton part)	16	17	41,515	61,305
SEA D Waco SMSA	4	4	13,023	16,742
SEA E Austin SMSA	8	7	55,276	52,594
SEA F San Antonio SMSA	9	9	32,228	47,271
SEA G Houston SMSA	16	18	70,970	95,900
SEA H Beaumont-Port Arthur SMSA	1	1	10,815	12,832
SEA J Amarillo SMSA	3	3	14,905	11,865

Table 3.4 (continued)

Information on Institutions of Higher Education for the State of Texas and its State Economic Areas: Academic Years 1974-75 and 1978-79

State Economic Area	Number of Post-Secondary Schools 1974-75	Number of Post-Secondary Schools 1977-78	Post-Secondary School Enrollment 1974-75	Post-Secondary School Enrollment 1977-78
SEA K Wichita Falls SMSA	1	1	4,004	4,651
SEA L Lubbock SMSA	2	2	22,603	23,527
SEA M Galveston-Texas City SMSA	4	4	4,176	5,825
SEA N Corpus Christi SMSA	2	2	6,719	10,594
SEA O Dallas SMSA (Denton Part)	2	2	21,693	26,175
SEA P Abilene SMSA	2	3	2,933	7,960
State of Texas	143	147	516,947	64,959

SOURCE OF DATA: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, Educational Directory, Colleges and Universities, 1974-75, and same issue for 1977-78, Washington, D.C., 1975 and 1979.

3.5 Government

Demographic data on government employment and revenues in the State of Texas and its State Economic Areas provide information on the scope of local, state, and federal government activity, and the extent to which they have changed in magnitude in recent years.

Tables 3.5 and 3.6 present demographic data on government employment and revenues in Texas and its SEAs in 1972 and 1977. Data on government employment and payrolls are provided in Table 3.2. The SEA with the highest number of government employees is Houston, with over 70,000 full-time equivalent government employees in 1977. Texas had nearly 477,000 full-time government employees in the same year, an increase of some 26 percent over 1972 figures. Nearly 28 percent of the state's government employees are located in the Houston and Dallas SEAs.

As expected, the Houston SEA also has the most extensive government payroll in the state. In terms of 1972 dollars, government payrolls in Houston increased by approximately 46 percent between 1972 and 1977. In the state, payrolls increased by some 39 percent in the same five-year period.

Table 3.6 presents general revenue data, total intergovernmental revenue data, and the amount of intergovernmental revenue from the federal government. These data are provided for 1972 and 1977. The Houston SEA had the largest amount of governmental revenue in 1977 in the state: nearly $1.4 billion, a gain between 1972 and 1977 of 53 percent in terms of adjusted 1972 dollars. The State of Texas had total revenues in 1977 of over $7.8 billion, an adjusted increase of approximately 41 percent over 1972 revenues.

Table 3.5 Government Employment and Payroll Data for the State of Texas and its State Economic Areas: 1972, 1977 and Change Between 1972-77

State Economic Area		Government Employment[1] 1972	1977	ratio 1977/72	Local Government Payroll (millions)[2] Oct. 1972	Oct. 1977	adj. ratio[3] 77/72
SEA 1	Trans Pecos	2,689	3,071	1.14	1.6	2.6	1.24
SEA 2	Edwards Plateau - Eastern	6,799	8,788	1.29	3.7	6.9	1.42
SEA 3	Southwest Rio Grande Plain	7,870	9,847	1.25	4.2	7.6	1.38
SEA 4	Texas Northern High Plains (Panhandle)	8,337	9,568	1.15	4.9	8.1	1.26
SEA 5	Texas Southern High Plains	13,331	15,688	1.18	8.2	13.9	1.29
SEA 6	Texas Rolling Plains	9,013	10,510	1.17	5.1	8.6	1.29
SEA 7	North Central Texas	7,555	9,331	1.24	4.2	7.4	1.34
SEA 8	Northern Blackland	14,647	18,545	1.27	8.4	15.2	1.38
SEA 9	Post Oak	4,207	5,500	1.31	2.5	4.6	1.40
SEA 10	Southern Blackland	4,009	4,817	1.20	2.1	3.6	1.31

Table 3.5 (continued)

Government Employment and Payroll Data for the State of Texas and its State Economic Areas
1972, 1977 and Change Between 1972-77

State Economic Area	Government Employment[1] 1972	1977	ratio 1977/72	Local Government Payroll (millions)[2] Oct. 1972	Oct. 1977	adj. ratio[3] 77/72
SEA 11 Northeast Rio Grande Plain	7,336	8,783	1.20	4.0	6.9	1.32
SEA 12 Northeast Texas Sandy Lands	20,731	25,724	1.24	11.9	21.1	1.35
SEA 13 Southeast Texas Sandy Lands	7,905	11,409	1.44	4.8	9.9	1.57
SEA 14 Texas Coast Prairie	14,951	19,395	1.30	9.1	17.0	1.43
SEA 15 Lower Rio Grande Valley	14,027	20,148	1.43	7.4	15.2	1.57
SEA 16 Edwards Plateau - Western	3,579	4,630	1.29	1.7	3.1	1.39
SEA A El Paso SMSA	12,266	15,850	1.29	8.0	15.7	1.50
SEA B Fort Worth SMSA	22,433	29,268	1.30	14.8	27.0	1.39
SEA C Dallas SMSA (except Denton part)	50,643	61,256	1.21	34.6	61.5	1.36

Table 3.5 (continued)

Government Employment and Payroll Data for the State of Texas and its State Economic Areas: 1972, 1977 and Change Between 1972-77

State Economic Area		Government Employment[1] 1972	1977	ratio 1977/72	Local Government Payroll (millions)[2] Oct. 1972	Oct. 1977	adj. ratio[3] 77/72
SEA D	Waco SMSA	4,538	5,421	1.19	2.7	4.7	1.33
SEA E	Austin SMSA	11,723	15,613	1.33	7.8	15.5	1.52
SEA F	San Antonio SMSA	29,707	35,805	1.21	18.9	32.1	1.30
SEA G	Houston SMSA	52,785	70,065	1.33	36.4	69.5	1.46
SEA H	Beaumont-Port Arthur SMSA	9,677	11,204	1.16	6.2	11.0	1.35
SEA J	Amarillo SMSA	5,450	6,551	1.20	3.3	6.0	1.39
SEA K	Wichita Falls SMSA	4,390	4,793	1.09	2.3	3.7	1.23
SEA L	Lubbock SMSA	5,616	6,473	1.15	3.7	5.2	1.07
SEA M	Galveston-Texas City SMSA	7,668	9,803	1.28	4.9	9.3	1.45
SEA N	Corpus Christi SMSA	10,068	12,184	1.21	6.0	10.7	1.36

Table 3.5 (continued)

Government Employment and Payroll Data for the State of Texas and its State Economic Areas
1972, 1977 and Change Between 1972-77

State Economic Area	Government Employment[1] 1972	1977	ratio 1977/72	Local Government Payroll (millions)[2] Oct. 1972	Oct. 1977	adj. ratio[3] 77/72
SEA O Dallas SMSA (Denton Part)	2,447	3,104	1.27	1.4	2.9	1.58
SEA P Abilene SMSA	3,644	3,853	1.06	2.1	3.3	1.20
State of Texas	380,041	476,977	1.26	236.5	430.5	1.39

[1]Government employment is expressed in terms of full-time equivalents.
[2]Local government payrolls are for the month of October of the particular year and are expressed in million of dollars.
[3]The adjusted ratio of 1977 to 1972 payroll was computed after converting the 1977 payroll dollars into their equivalent on the basis of 1972 dollars, hence introducing a control for inflation.

SOURCE OF DATA: Data for 1972 taken from U.S. Bureau of the Census, County and City Data Book, 1977, Washington, D.C. (magnetic tape version); 1977 data taken from U.S. Bureau of the Census, Census of Governments, 1977 (machine readable data files). County data were aggregated into respective State Economic Areas.

Table 3.6 Government Finance Data for the State of Texas and its State Economic Areas 1972, 1977, and Change Between 1972-77

State Economic Area		General Revenue (millions)[1] 1972	1977	adj. ratio 77/72	Total Intergovernmental[3] Revenue (millions) 1972	1977	adj. ratio[2] 77/72	Intergovernmental Revenue from Fed Government (%) 1972	1977
SEA 1	Trans Pecos	28.3	46.9	1.27	6.7	12.1	1.38	5.2	9.9
SEA 2	Edwards Plateau - Eastern	64.0	120.1	1.43	26.0	52.9	1.55	9.4	20.4
SEA 3	Southwest Rio Grande Plain	79.7	144.8	1.39	37.9	74.6	1.50	21.3	47.5
SEA 4	Texas Northern High Plains (Panhandle)	89.7	149.5	1.27	24.3	44.0	1.38	2.9	6.3
SEA 5	Texas Southern High Plains	148.3	253.2	1.30	39.8	73.7	1.41	3.1	7.1
SEA 6	Texas Rolling Plains	92.0	155.8	1.29	23.6	43.2	1.40	3.4	7.4
SEA 7	North Central Texas	76.2	136.6	1.37	31.2	60.6	1.48	14.1	31.2
SEA 8	Northern Blackland	150.1	276.1	1.40	62.4	124.3	1.52	7.4	16.5
SEA 9	Post Oak	42.4	80.5	1.45	19.0	39.1	1.57	5.0	11.3

Table 3.6 (continued)

Government Finance Data for the State of Texas and its State Economic Areas
1972, 1977, and Change Between 1972-77

State Economic Area	General Revenue (millions)[1] 1972	1977	adj. ratio 77/72	Total Intergovernmental[3] Revenue (millions) 1972	1977	adj. ratio[2] 77/72	Intergovernmental Revenue from Fed Government (%) 1972	1977
SEA 10 Southern Blackland	35.3	61.6	1.33	15.7	29.7	1.44	4.6	10.8
SEA 11 Northeast Rio Grande Plain	76.5	132.9	1.33	31.3	59.0	1.44	14.1	31.4
SEA 12 Northeast Texas Sandy Lands	220.1	396.6	1.38	87.4	170.7	1.49	5.0	11.1
SEA 13 Southeast Texas Sandy Lands	81.4	170.3	1.60	32.7	74.2	1.73	3.9	8.6
SEA 14 Texas Coast Prairie	171.6	323.3	1.44	47.7	97.4	1.56	4.8	10.8
SEA 15 Lower Rio Grande Valley	129.1	269.2	1.59	63.1	142.6	1.73	10.6	23.4
SEA 16 Edwards Plateau - Western	32.0	60.1	1.43	11.4	23.2	1.55	17.8	39.7
SEA A El Paso SMSA	130.5	252.8	1.48	46.6	121.3	1.99	8.5	27.6
SEA B Fort Worth SMSA	306.3	550.3	1.37	93.1	188.3	1.54	15.8	27.8

Table 3.6 (continued)

Government Finance Data for the State of Texas and its State Economic Areas
1972, 1977, and Change Between 1972-77

State Economic Area	General Revenue (millions)[1]		adj. ratio	Total Intergovernmental[3] Revenue (millions)		adj. ratio[2]	Intergovernmental Revenue from Fed Government (%)	
	1972	1977	77/72	1972	1977	77/72	1972	1977
SEA C Dallas SMSA (except Denton part)	579.9	1055.0	1.39	142.0	318.9	1.71	9.9	24.6
SEA D Waco SMSA	52.7	82.7	1.20	23.6	40.9	1.32	32.0	43.5
SEA E Austin SMSA	110.3	241.4	1.67	33.7	79.9	1.81	22.7	34.2
SEA F San Antonio SMSA	293.0	541.9	1.41	132.7	275.9	1.59	29.6	32.8
SEA G Houston SMSA	688.4	1383.2	1.53	173.9	360.9	1.58	12.3	23.8
SEA H Beaumont-Port Arthur SMSA	118.1	196.1	1.27	32.7	56.5	1.32	12.2	23.9
SEA J Amarillo SMSA	65.7	109.9	1.28	20.1	30.5	1.16	16.7	14.8
SEA K Wichita Falls SMSA	46.2	67.3	1.11	15.6	23.2	1.14	24.6	27.2
SEA L Lubbock SMSA	58.0	107.3	1.41	24.5	45.5	1.42	29.4	31.4
SEA M Galveston-Texas City SMSA	93.0	160.3	1.32	21.4	42.2	1.51	13.7	19.7

Table 3.6 (continued)

Government Finance Data for the State of Texas and its State Economic Areas
1972, 1977, and Change Between 1972-77

State Economic Area		General Revenue (millions)[1] 1972	1977	adj. ratio 77/72	Total Intergovernmental[3] Revenue (millions) 1972	1977	adj. ratio[2] 77/72	Intergovernmental Revenue from Fed Government (%) 1972	1977
SEA N	Corpus Christi SMSA	115.3	202.4	1.34	35.3	78.0	1.69	15.6	29.2
SEA O	Dallas SMSA (Denton Part)	23.6	50.7	1.64	7.6	18.4	1.85	1.3	17.4
SEA P	Abilene SMSA	33.1	53.9	1.24	12.5	22.7	1.39	12.0	15.9
	State of Texas	4230.9	7834.1	1.41	1375.4	2825.1	1.57	13.3	2

[1]General revenue data are exclusive of interlocal revenue and are for the fiscal year which closed at various dates for each government during the 12 months ending June 30 of the particular year.
[2]The adjusted ratio of 1977 to 1972 revenue was computed after converting the 1977 dollars into their equivalent on the basis of 1972 dollars, hence introducing a control for inflation.
[3]Intergovernmental revenue data are exclusive of interlocal revenue.

SOURCE OF DATA: Data for 1972 taken from U.S. Bureau of the Census, County and City Data Book, 1977, Washington, D.C. (magnetic tape version); 1977 data taken from U.S. Bureau of the Census, Census of Governments, 1977 (machine readable files). County data were aggregated into respective State Economic Areas.

3.6 Economy

This section describes the economy and distribution of activities in Texas and its SEAs in 1974 and 1978. Detailed economic information on employment and annual payrolls is presented for each of nine industrial categories, including the number of employees for the week ending March 13, and the annual payroll for the year (expressed in $1,000s).

These data are taken from statistics provided in County Business Patterns, a source developed and published by the U.S. Bureau of the Census, which provides economic characteristics annually on the economic activity of all counties in the United States. The data reported pertain mainly to employment covered by the Federal Insurance Contributions Act and cover all workers except government employees, railroad workers, self-employed persons, and a small number of others. Table 3.7 provides a summary of the information for the State of Texas.

In 1974 the mining industry provided the major economic base for the Trans-Pecos (SEA 1). There were over 2,000 mining employees with an annual payroll of over $21 million. In 1978 the data show the same general type of industrial concentration and distribution. SEA 1 actually experienced a slight increase in its mining payrolls between 1974 and 1978. After adjusting for inflation, the 1978 payroll was 3 percent more than the 1974 payroll. There were also increases in all the other industrial activities in SEA 1. For example, the 1978 payroll in services was 30 percent higher than the 1974 payroll.

Summarizing the other SEAs, the major economic activity in Edwards Plateau--Eastern (SEA 2) is manufacturing, with retail trade in second place. The payrolls of both sectors increased between 1974-78. Southwest Rio Grande Plain (SEA 3) is mainly characterized by retail trade. Manufacturing, however, is the principal economic activity in all but three of the remaining 13 nonmetropolitan SEAs. The major growth

industry in many of these nonmetropolitan SEAs between 1974-78 was services.

Manufacturing is also the major economic activity in all but three of the 15 metropolitan SEAs (San Antonio, Abilene, and Amarillo) in size of annual payrolls. The Houston SEA, for example, had a manufacturing payroll in 1978 of over $3.4 billion, the largest of any SEA in Texas. In number of employees, though, the services industry led all industrial categories in 1978.

The State of Texas is characterized mainly by manufacturing, with services in second place in the overall ranking. In 1978 manufacturing payrolls in the state amounted to more than $13.7 billion, with services totalling nearly $8 billion. The difference between the two industries in number of employees is not as striking: there were more than 968,000 manufacturing employees and more than 894,000 services employees. In fact there were more employees in retail trade (over 943,000) than in services, although the payroll was less. Texas manufacturing payrolls increased by about 24 percent between 1974 and 1978 and services payrolls by about 43 percent.

TABLE 3.7

ECONOMIC DATA* FOR THE STATE OF TEXAS, 1974 and 1978

Industry Group	1974 Number of employees for week including March 12	1974 Annual Payroll (1,000s)	1978 Number of employees for week including March 12	1978 Annual Payroll (1,000s)
Agriculture services, forestry, fisheries	14,088	78,715	17,812	142,083
Mining	114,460	1,472,268	169,284	3,042,435
Contract construction	341,650	3,242,908	426,222	5,571,206
Manufacturing	834,607	8,450,741	968,205	13,744,925
Transportation and other public utilities	237,061	2,483,700	304,470	4,562,711
Wholesale trade	292,574	3,124,253	355,560	4,902,330
Retail trade	773,872	4,156,603	943,868	6,803,746
Finance, insurance and real estate	247,079	2,112,157	292,400	3,591,923
Services	660,992	4,196,798	894,901	7,913,686

*Excludes government employees, railroad employees, self-employed persons.

SOURCE OF DATA: U.S. Bureau of the Census, County Business Patterns, 1974 and 1978 (machine readable data files). County data were aggregated into State Economic Area data.

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4 GOVERNMENTAL AND PUBLIC ASPECTS

This section describes the structure and jurisdiction of Texas state government. Key state government officials, the Texas delegation to Congress, and state statutes and regulations relevant to radioactive waste management are identified and briefly summarized. A discussion of print media and public action organizations is also included.

4.1 Major Political Parties

The majority party in Texas politics has traditionally been the Democratic party. In the U.S. House of Representatives, only four of the 24 Texas delegates are Republican. The Texas state legislature is also primarily Democratic. In the last decade, however, the Republican party has slowly gained influence in the state. Texas currently has one Republican representative in the U.S. Senate.

4.2 The Texas Delegation

A map of Texas Congressional districts appears on page 4-7. Texas's U.S. Senators and Representatives are:

Senators:

Lloyd Bentsen (D) 240 Russell State Office Bldg. Washington, D.C. 20510 202-224-5922	Mr. Bentsen began service in 1971; he also served from 1948-1953. He is a member of the Environment and Public Works, the Finance, and the Select Intelligence Committees.

John G. Tower (R)
142 Russell State Office Bldg.
Washington, D.C. 20510
202-224-5922

Mr. Tower began service in 1961; he is a member of the Armed Services, the Banking, Housing and Urban Affairs, and the Budget Committees.

Representatives:

Sam B. Hall
318 Cannon House Office Bldg.
Washington, D.C. 20515
202-225-3035
(D, 1st District)

Mr. Hall began service in 1976; he is a member of the Judiciary and the Veterans Affairs Committees.

Charles Wilson
1214 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-2401
(D, 2nd District)

Mr. Wilson began service in 1973; he is a member of the Standards of Official Conduct and the Appropriations Committees.

James M. Collins
2419 Rayburn House Office Bldg.
Washington, D.C. 20515
202-225-4201
(R, 3rd District)

Mr. Collins began service in 1968; he is a member of the Energy and Commerce Committee.

Ralph M. Hall
1223 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-6673
(D, 4th District)

Mr. Hall began service in January 1981; he is a member of the Energy and Commerce, and the Science and Technology Committees.

Jim Mattox 1111 Longworth House Office Bldg. Washington, D.C. 20515 202-225-2231 (D, 5th District)	Mr. Mattox began service in 1977; he is a member of the Banking, Finance and Urban Affairs, and the Budget Committees.
Phil Gramm 1721 Longworth Office Bldg. Washington, D.C. 20515 202-225-2002 (D, 6th District)	Mr. Gramm began service in 1979; he is a member of the Veterans Affairs, the Budget, and the Energy and Commerce Commmittees.
William R. Archer 1135 Longworth Office Bldg. Washington, D.C. 20515 202-225-2571 (R, 7th District)	Mr. Archer began service in 1971; he is a member of the Ways and Means Committee.
Jack Fields 510 Cannon House Office Bldg. Washington, D.C. 20515 202-225-4901 (R, 8th District)	Mr. Fields began service in January 1981; he is a member of the Merchant Marine and Fisheries and the Public Works and Transportation Committees.
Jack Brooks 2449 Rayburn House Office Bldg. Washington, D.C. 20515 202-225-6565 (D, 9th District)	Mr. Brooks began service in 1953; he is chairman of the Government Operations Committee. Mr. Brooks is also a member of the Judiciary Committee.

J.J. Pickle
242 Cannon House Office Bldg.
Washington, D.C. 20515
202-225-4865
(D, 10th District)

Mr. Pickle began service in 1963; he is a member of the Ways and Means Committee.

Marvin Leath
336 Cannon House Office Bldg.
Washington, D.C. 20515
202-225-6105
(D, 11th District)

Mr. Leath began service in 1979; he is a member of the Armed Services and the Veterans Affairs Committees.

James C. Wright, Jr.
1236 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-8040 or
202-225-5071
(D, 12th District)

Mr. Wright began service in 1955; he is currently the House majority leader and is also a member of the Budget Committee.

Jack E. Hightower
2348 Rayburn House Office Bldg.
Washington, D.C. 20515
202-225-3706
(D, 13th District)

Mr. Hightower began service in 1975; he is a member of the Appropriations Committee.

William N. Pattman
1408 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-2831
(D, 14th District)

Mr. Pattman began service in January 1981; he is a member of the Banking, Finance, and Urban Affairs and the Merchant Marine and Fisheries Committees.

E. (Kika) de la Garza
1434 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-2531
(D, 15th District)

Mr. de la Garza began service in 1965; he is chairman of the Agriculture Committee.

Richard C. White
2186 Rayburn House Office Bldg.
Washington, D.C. 20515
202-225-4831
(D, 16th District)

Mr. White began service in 1965; he is a member of the Armed Services and the Science and Technology Committees.

Charles W. Stenholm
1232 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-6605
(D, 17th District)

Mr. Stenholm began service in 1979; he is a member of the Agriculture and Small Business Committees.

Mickey Leland
419 Cannon House Office Bldg.
Washington, D.C. 20515
202-255-3816
(D, 18th District)

Mr. Leland began service in 1979; he is a member of the District of Columbia, the Energy and Commerce, and the Post Office and Civil Service Committees.

Kent Hance
1039 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-4005
(D, 19th District)

Mr. Hance began service in 1979; he is a member of the Ways and Means Committee.

Henry B. Gonzales
2252 Rayburn House Office Bldg.
Washington, D.C. 20515
202-225-3236
(D, 20th District)

Mr. Gonzales began service in 1961; he is a member of the Small Business and the Banking and Finance, and Urban Affairs Committees.

Tom Loeffler
1212 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-4236
(R, 21st District)

Mr. Loessler began service in 1979; he is a member of the Appropriations Committee.

Ronald E. Paul
1234 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-5951
(R, 22nd District)

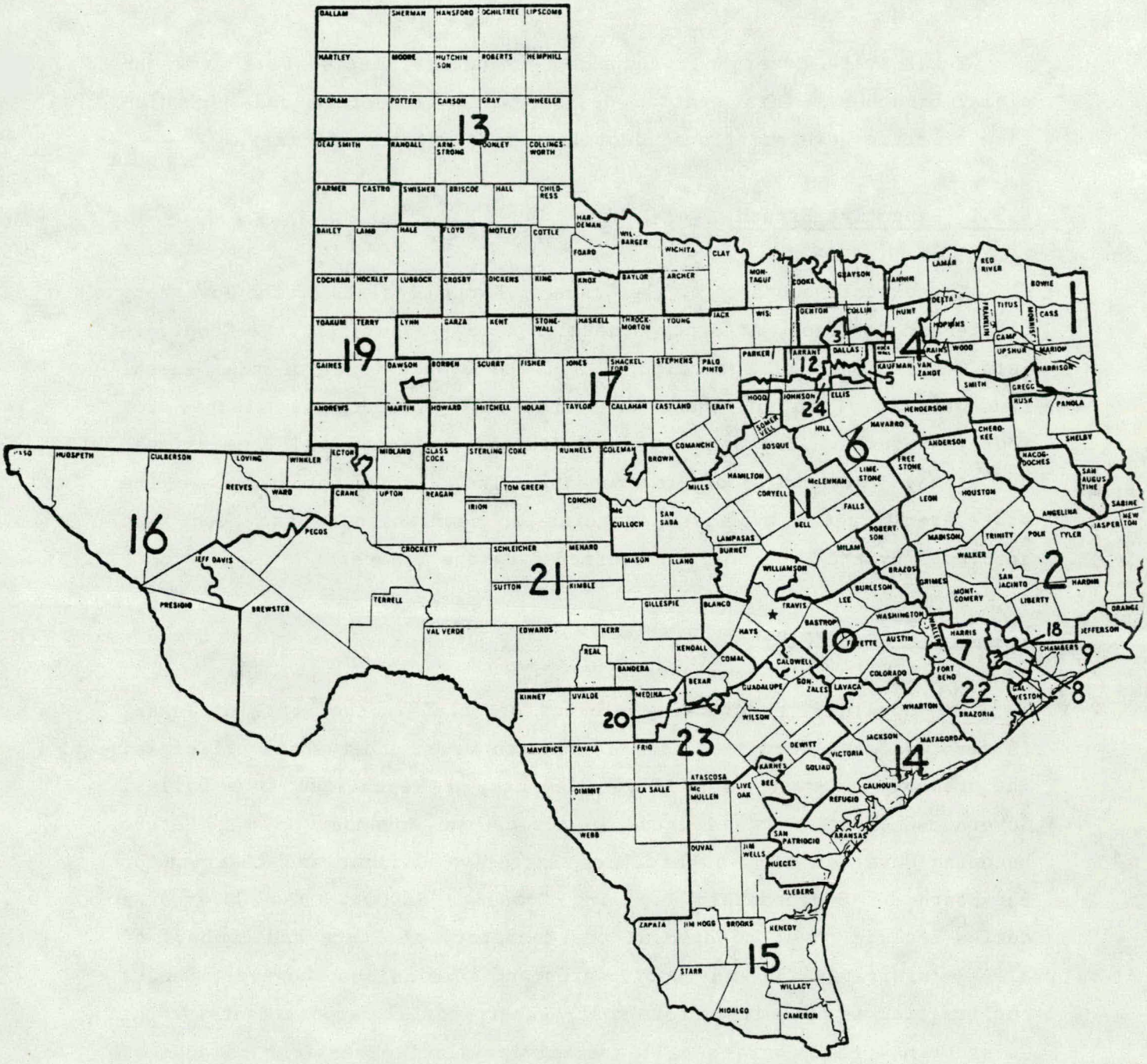
Mr. Paul has served from 1976-1977 and from 1979 to the present; he is a member of the Banking and Finance, and Urban Affairs Committees.

Abraham Kazen, Jr.
2408 Raymond House Office Bldg.
Washington, D.C. 20515
202-225-4511
(D, 23rd District)

Mr. Kazen began service in 1967; he is a member of the Interior and Insular Affairs and the Armed Services Committees.

Martin Frost
1238 Longworth House Office Bldg.
Washington, D.C. 20515
202-225-3605
(D, 24th District)

Mr. Frost began service in 1979; he is a member of the Rules Committee.



Map 4.1 Congressional Districts of Texas

4.3 State Government

Texas state government comprises executive, legislative, and judicial branches. This section describes the structure and jurisdiction of state government and identifies major state officials.

4.3.1 Executive Branch

The executive branch of the State of Texas consists of the Governor, Lieutenant Governor, Attorney General, State Treasurer, State Comptroller, Commissioner of Agriculture, and the Commissioner of the General Land Office. Each of these constitutional officers is elected for four-year terms. Texas has what is termed a "board and commissions" or "agency" structure of government. The central programs of the state are directed by state agencies or commissions whose heads are appointed by the Governor and confirmed by the Senate.

Office of the Governor

The Governor, the ranking elected official in the State of Texas, is elected for a four-year term along with seven other state officials. The present Governor is William Clements, a Republican from Dallas. Governor Clements was elected to office in November 1978. Before becoming Governor he was the Chief Executive Officer and Chairman of the Board of Southeastern Drilling Company (SEDCO). The Governor's duties include power to appoint the Secretary of State and members of all administrative and advisory boards and commissions; however, Senate confirmation is required for most gubernatorial appointments. The Governor has the power to call special legislative sessions to address business he deems urgent. In addition, the Governor is Commander-in-Chief of the Texas National Guard.

The Governor's address and principal staff members are:

Governor William "Bill" Clements
2nd Floor State Capitol Building
Austin, Texas 78711
512/475-4101

Executive Assistant:	Doug Brown
Press Secretary:	John Ford
Scheduling:	Kay Woodward
Correspondence:	Janie Harris

Other State-Elected Officials

There are seven state elected officials in Texas: Lieutenant Governor, State Comptroller, State Treasurer, Attorney General, Land Office Commissioner, Agriculture Commissioner and Railroad Commissioner. A brief description of these offices and their present occupants follows.

Lieutenant Governor. The Lieutenant Governor is elected by voters in the general election every four years. He serves as president of the Senate, presides over meetings of the Legislative Council and the Legislative Budget Board, and is a member of the Legislative Audit Committee. The present Lieutenant Governor is William P. Hobby. His address and phone number are listed below:

William P. Hobby, Jr.
State Capitol, Second Floor
Austin, TX 78711
512/475-3535

State Comptroller. The State Comptroller, also elected in the general election, is the state's chief tax officer and accountant. In Texas

he is required to submit in advance of each legislative session a statement of financial condition of the state, together with estimates of anticipated revenues. The legislature is required to propose expenditures that do not exceed the Comptroller's estimates. Bob Bullock has served in the office since 1975. Before winning this office, he was Secretary of State, Attorney General, and a member of the House of Representatives. His address and phone number are:

Bob Bullock
Lyndon B. Johnson Building
Austin, TX 78711
512/475-2206

State Treasurer. The State Treasurer retains actual custody of state funds and is a member of the State Banking Board and the State Depository Board. The present Treasurer, his address, and phone number are listed below.

Warren G. Harding
Lyndon B. Johnson Building
Austin, TX 78711
512/475-2591

Attorney General. The Attorney General is the chief law officer of the state. In the period 1973-1979, the office was expanded to include divisions of consumer and environmental protection. The present Attorney General is Mark White. His address and phone number are:

Mark White
Supreme Court Building, 7th Floor
Austin, TX 78711
512/475-2501

Commissioner of the General Land Office. Among the duties of this office, the Commissioner supervises the leasing of the state's 22.5 million mineral acres. The General Land Office also has a newly-created Environmental Division. The present Land Commissioner, his address, and phone number are:

Bob Armstrong
Stephen F. Austin Building
Austin, TX 78711
512/475-2071

Commissioner of Agriculture. The Commissioner of Agriculture is one of the few statutory heads of departments in the Texas administration and the only elected one. The Commissioner is in charge of the Department of Agriculture, which was created to promote and regulate the state's agricultural industry. The present Agricultural Commissioner, his address, and phone number are listed below.

Reagan V. Brown
Stephen F. Austin Building
Austin, TX 78711
512/475-2760

Railroad Commissioners. The Texas Railroad Commission is composed of three members elected for six-year terms. The Commission regulates the railroads operating in Texas and the oil and gas industry. The present members, their addresses, and phone numbers are listed below.

James E. Nugent, Chairman
Mack Wallace
Arthur "Buddy" Temple

1124 S. I.H. 35
Austin, TX 78704
512/445-1110

Secretary of State

The Secretary of State, the only appointed state executive officer listed in the Constitution, is chosen by the Governor. Besides functioning as chief election officer, he performs a variety of secretarial functions. These include publishing the "Texas Register" and receiving corporation charters. George William Strake, Jr. is the present Secretary of State. His address and phone number are listed below.

G.W. Strake, Jr.
1st Floor, State Capitol Building
Austin, TX 78711
512/475-4101

Executive Agencies

Texas Department of Health. The Texas Department of Health has general authority for regulation of the possession and use of radioactive materials in Texas. The Department is responsible for administering and enforcing the Texas Radiation Control Act. Under the Texas Radiation Control Act, the Occupational Health and Radiation Control Branch of the Bureau of Environmental Health administers the state's regulatory program over radioactive materials. The primary function of the Division of Occupational Health and Radiation Control is the regulation of radioactive materials. The Director of this division is Mr. David Lacker, who is currently the Chairman of the National Conference of Radiation Control Directors.

Occupational Health and Radiation Control Director:
David Lacker
1100 West 49th Street
Austin, Texas 78756
512-458-7111

The Radiation Advisory Board. The Radiation Advisory Board assists the Radiation Control Division in its functions. This nine-member advisory panel of professionals in the field of radiation is appointed by the Governor. This board serves an advisory function only -- policy decisions are made by the Texas Board of Health and are executed and administered by the staff of the Texas Department of Health.

Members of the Radiation Advisory Board are:

Phillip C. Johnson, Chairman	Houston
Frank L. Paschall, Jr., Vice-Chairman	Fort Worth
Lloyd Hershberger, Secretary	San Angelo
Gordon L. Black	El Paso
George Brewer	Lubbock
Ralph L. Buell	Freeport
Ben Dubilier	Seguin
Dan Hightower	Bryan
Edwin Locke	Dallas

The Texas Board of Health is an 18-member board, appointed by the Governor with concurrence of the Senate. The membership of the board must include six licensed physicians, two hospital administrators, one licensed dentist, one registered nurse, one licensed nursing home administrator, one licensed optometrist, one civil engineer licensed in Texas having specialized in the practice of sanitary engineering, and one licensed doctor of chiropractic medicine. The 16 professional and licensed members of the board must have had five years of professional experience in the state of Texas prior to appointment. The additional two members must be citizens who have none of the qualifications required of the other 16 members. A list of the current Texas Board of Health members appears on the following page.

William Foran, Chairman	Amarillo
Lawrence Nickey, Vice-Chairman	El Paso
Rodric Bell, Secretary	Dallas
Johnny M. Benson	Fort Worth
Sister Bernard Borgemeyer	Corpus Christi
H. Eugene Brown	Lubbock
Ramiro Casso	McAllen
Charles Max Cole	Dallas
Francis Conley	Austin
Ben M. Durr	Humble
Raymond G. Garrett	Taylor
Bob D. Glaze	Gilmer
Blanchard T. Hollins	Houston
Phillip Lewis	Houston
Joe Pyle	San Antonio
Richard W. Ragsdale	Denton
Isadore Roosth	Tyler
Barbara T. Slover	Fort Worth

The Board of Health appoints the Commissioner of Health to serve a term ending at its discretion. The Commissioner must be licensed to practice medicine in Texas.

Commissioner of Health:

Dr. Robert Bernstein
1100 West 49th Street
Austin, Texas 78756

Texas Energy and Natural Resources Advisory Council (TENRAC). The Texas Energy and Natural Resources Advisory Council was created on September 1, 1979 as part of a reorganization of all the state's energy

policy, conservation, research, and development programs. Composed of citizens, statewide elected officials, members of the legislature, and professionals, this select Council maintains a close relationship with the Governor's Office, the Lieutenant Governor's Office, and the Speaker of the House. The Governor and Lieutenant Governor co-chair the Council; the Speaker of the House is vice-chairman. The Council is charged with recommending the state's energy and natural resources policy. The Executive Director of the Texas Energy and Natural Resources Advisory Council, who serves at the pleasure of the Governor and Lieutenant Governor, is Dr. Milton Holloway.

Executive Director:	Dr. Milton Holloway 200 East 18th Street Austin, Texas 78701
Policy Analyst:	Danny Smith 512-475-0414

Advisory Committee on Nuclear Energy. TENRAC established an Advisory Committee on Nuclear Energy to develop technical and legislative requirements for the establishment of a low-level waste disposal site in Texas.

The members of this committee are:

Dr. William F. Fisher, Chairman
Bureau of Economic Geology
University of Texas at Austin
Austin, Texas 78712

Members (continued):

Dr. William W. Akers
V.P. for Administration
Rice University
Post Office Box 1892
Houston, Texas 77001

Mr. Fred J. Benson
V.P. for Engineering Resources
Non-Renewable Resources
Texas A&M University
College Station, Texas 77843

Dr. Robert Bernstein
Commissioner of Health
Texas Department of Health
1100 West 49th Street
Austin, Texas 78756

Dr. Frederick J. Bonte, Jr.
Dean, Southwestern Medical
School
5323 Harry Hines
Dallas, Texas 75235

The Honorable Sam Bournias
County Judge
Freestone County Courthouse
Room 307
Fairfield, Texas 75840

Dr. C.W. Garrard
V.P., Basic Resources, Inc.
Texas Utilities
2001 Bryan Tower
Dallas, Texas 75201

Dr. Ernest F. Gloyna
Dean of Engineering
University of Texas
Cockrell Hall 10.310
Austin, Texas 78712

Dr. William E. Gordon
Provost and Vice-President
Rice University
Post Office Box 1892
Houston, Texas 77001

Mr. Henry Groppe
One Allen Center
Suite 650
Houston, Texas 77002

Mrs. Laura Keever
League of Women Voters
10515 Laneview
Houston, Texas 77070

Mr. Stephen T. De La Mater
V.P. of Governmental Relations
Halliburton Industries
2600 Southland Center
Dallas, Texas 75201

Mr. John Kelly
8211 Greenslope Drive
Austin, Texas 78759

Mr. E. Linn Draper
Gulf States Utilities
Post Office Box 2951
Beaumont, Texas 77704

Ms. Nancy Ranek
Environmental Project Coordinator
Central & Southwest Services, Inc.
One Main Place, Suite 2700
Dallas, Texas 75250

Mr. Steve Frishman
Vice-President
Texas Environmental Coalition
Post Office Box 1116
Port Aransas, Texas 78373

Dr. J.R. Sumpter
Manager of Nuclear Department
Houston Lighting and Power
Post Office Box 1700
Houston, Texas 77001

Texas Department of Public Safety. The Texas Department of Public Safety serves as the state's police force in addition to supervising commercial vehicles in transit on public highways. In this supervisory capacity the Department of Public Safety oversees and regulates the transportation of hazardous materials. Regulatory authority is vested in Article 6701(d) of Vernon's Texas Civil Statutes. Colonel James B. Adams currently serves as the Department's Executive Director. A three-member Public Safety Commission is appointed by the Governor.

Colonel James B. Adams, Executive Director
5808 Lamar
Austin, Texas 78773
512-465-2000

Public Safety Commission:

William B. Blakemore, II, Chairman

Charles A. Nash

W.C. (Bill) Perryman

Division of Disaster Emergency Services. The Division of Disaster Emergency Services is within the Governor's Office. The Division's function is to facilitate a statewide response to any disaster occurring within Texas. The Division is the coordinator on the state's Emergency Resources Council, which includes 30 state agencies. The Division is located within the Department of Public Safety for administrative efficiency; the director of the Department of Public Safety is also the director of the Division of Disaster Emergency Services. The State Coordinator, his address, and phone number are listed below.

Robert Lansford, State Coordinator
5805 Lamar
Austin, TX 78773
512/465-2138

Texas Department of Water Resources. Regulatory jurisdiction by the Department of Water Resources over radioactive wastes is at this time uncertain. The Permits Division of that agency, specifically the Solid Waste Section, is responsible for monitoring liquid materials emitting radioactivity as they affect groundwater supplies; however, the Department of Health has jurisdiction over sources of radioactivity. The Executive Director of the Texas Department of Water Resources is Harvey Davis. Members of the Texas Water Development Board are appointed by the Governor.

Harvey Davis, Executive Director
1700 North Congress
Austin, Texas 78711
512-475-3187

A.E. Richardson, Permit Division Director
512-475-3345

Texas Water Development Board:
Lewis A. Beecherl, Jr., Chairman
John H. Garrett, Vice Chairman
George W. McClesky
Glen E. Roney
W.O. Bankston
Ronnie A. Pilgrim

Southern States Energy Board

Texas is a member of the Southern States Energy Board (SSEB), an interstate compact of 16 Southern states and Puerto Rico. The SSEB was founded in 1961 as the Southern Interstate Nuclear Board. It provides its members with technical assistance, program development, policy analysis, and research support in the areas of energy and environment. The activities of the SSEB are supervised by a Board of Directors composed of one member per state appointed by the Governor. In addition, the SSEB has a Legislative Policy Advisory Council consisting of those legislators serving on the Southern Legislative Conference Energy Committee. Texas's seat on the Board of Directors is held by Mr. Ed Vetter, Energy Advisor to the Governor. Governor William P. Clements served as Chairman of this compact last year and has been succeeded by Governor George Nigh of Oklahoma.

4.3.2 Legislative Branch

The Texas legislature comprises the Senate, which has 31 members, and the House of Representatives, which has 150 members. Members of the House are elected for two-year terms, while members of the Senate are elected every four years. The Legislature convenes biennially in January of odd-numbered years for a six-month session.

Senate

The membership of the Texas Senate consists of 24 Democrats and seven Republicans. A roster of Senate members, including their political affiliations, appears on page 4-24.

Senate Leadership. The Texas Constitution designates the Lieutenant Governor as the President of the Senate. The Lieutenant Governor is elected by voters in a general election every four years. As presiding officer, he appoints all committee members, committee chairmen, and vice-chairmen. He also refers legislation to committees, sets the order of business, and settles points of debate and decorum. He does not vote except in case of a tie. The President Pro Tempore of the Senate rotates on a seniority basis from session to session. The officers of the Senate are:

President:	Lieutenant Governor William P. "Bill" Hobby (D, Houston)
President Pro Tempore: (67th Legislature)	John Tideger (D, Bernice)

Committee Structure. There are nine standing committees in the Senate. The President has the authority, however, to appoint other committees if necessary with the consent of two-thirds of the membership of the Senate. Each committee has a distinct number of members. The committee chairman must file a written report with the Secretary of State showing the committee's final action on each bill. The report must be filed within three calendar days from the date of the final action. Hearings on bills before a committee or subcommittee are open to the public and reasonable opportunity is afforded to interested parties to appear before the committee or subcommittee.

The Natural Resources Committee is the most actively concerned with low-level waste issues. The Human Resources Committee considers any health aspects of low-level waste legislation. The Senate Finance Committee may also be involved in aspects of low-level waste programs.

Committee Membership

Natural Resources

H. Tati Santiesteban, Chairman	(D, El Paso)
Lindon Williams, Vice-Chairman	(D, Houston)

Human Resources

Chet Brooks, Chairman	(D, Pasadena)
John Wilson, Vice-Chairman	(D, LaGrange)

Finance

Gene Jones, Chairman	(D, Abilene)
Ed Howard, Vice-Chairman	(D, Texarkana)

House of Representatives

The membership of the Texas House of Representatives consists of 119 Democrats and 31 Republicans. A roster of House members, including their political affiliations, appears on pages 4-24 and 4-25.

House of Representatives Leadership. The presiding officer of the House is the Speaker, who is elected by the members of the House. His duties include enforcing and interpreting the rules of the House in all deliberations. In addition, he is responsible for laying before the House its business, in the order indicated by the rules, receiving propositions made by members and putting them to the House. The present Speaker is:

Bill Clayton (D, Springdale)

Committee Structure. There are 30 standing committees in the House of Representatives. Each House committee has a designated number of members and maintains general jurisdiction in a particular area. The standing committees bear the major burden of conducting hearings and recommending action on legislative proposals. Those standing committees that may be relevant to radioactive waste management or radiation control are the Environmental Affairs Committee, the Natural Resources Committee, and the Energy Resources Committee.

Committees and Membership

Environmental Affairs

Bennie Bock, Chairman	(D, New Braunfels)
E.L. Franco Lee, Vice-Chairman	(D, Houston)
Fred Adnich, Chairman for Budget and Oversight	(R, Dallas)

Natural Resources

Tom Craddick, Chairman	(R, Midland)
Gerald Geistweidt, Vice-Chairman	(R, Mason)
Pete Laney, Chairman for Budget and Oversight	(D, Plainview)

Energy Resources

Joe C. Hanna, Chairman	(D, Breckenridge)
Jerry Clark, Vice-Chairman	(D, Buna)
Nolan Robnett, Chair for Budget and Oversight	(R, Lubbock)

Roster of Senators 1981-82 Session

This roster provides the names and political affiliations of the members of the Texas Senate.

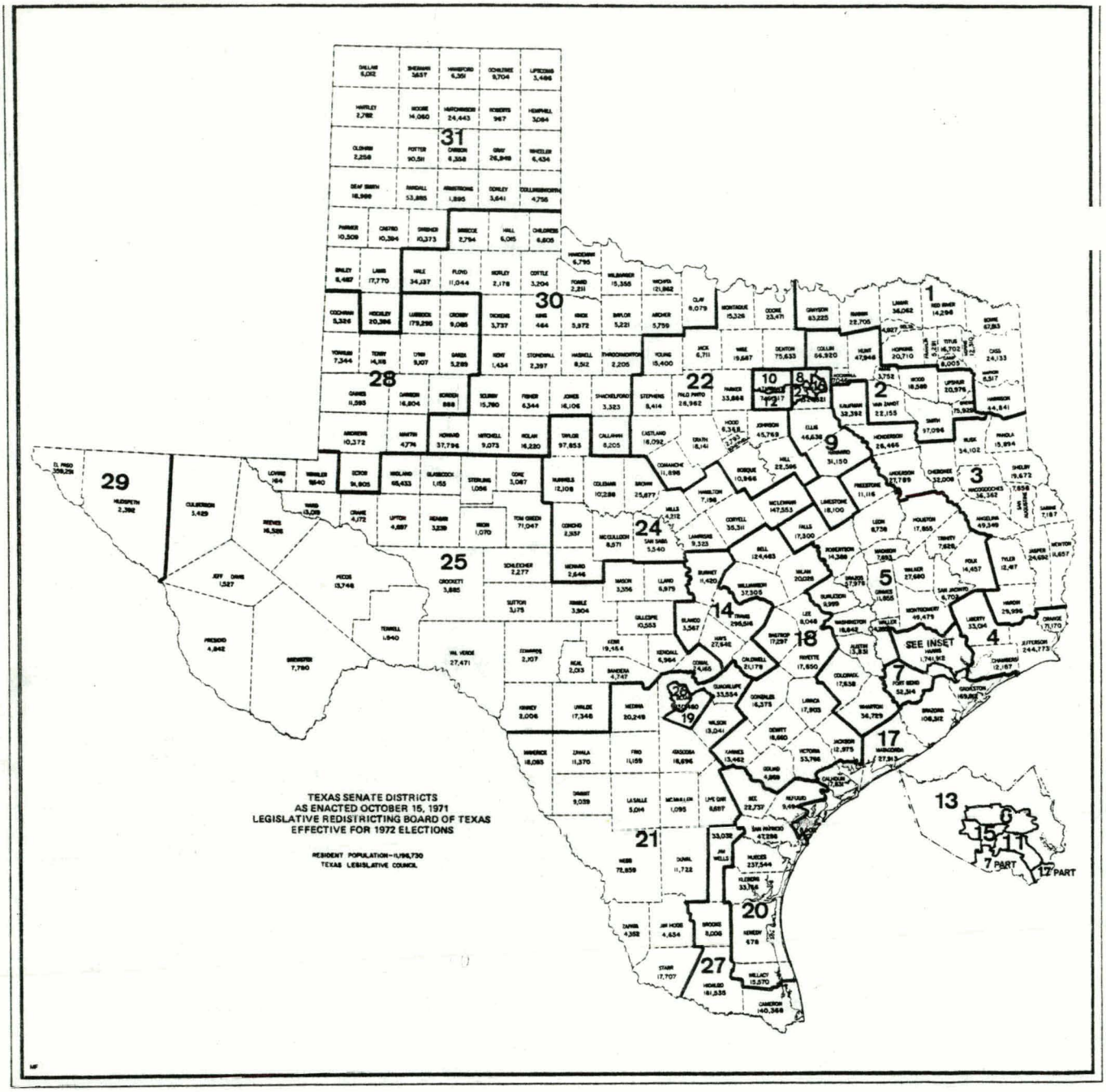
Betty Andujar (R) Roy Blake (D) Chet Brooks (D) J.E. (Buster) Brown (R) Kent Caperton (D) Lloyd Doggett (D) Ray Farabee (D) Bob Glasgow (D) O.H. (Ike) Harris (R) Ed Howard (D) Grant Jones (D) Glenn Kothmann (D) John Leedom (R) Raul L. Longoria (D) Oscar Mauzy (D) Peyton McKnight (D) Bill Meier (D) Walter H. Mengden, Jr. (R) Jack Ogg (D) Carl Parker (R) Mike Richards (R) H. Tati Santiesteban (D) Bill Sarpaulis (D) E.L. Short (D) W.E. (Pete) Snelson (D) John Traeger (D) Dee Travis (R) Carlos F. Truan (D) R.L. "Bob" Vale (D) Lindon Williams (D) John Wilson (D)

Roster Of Representatives 1981-82 Session

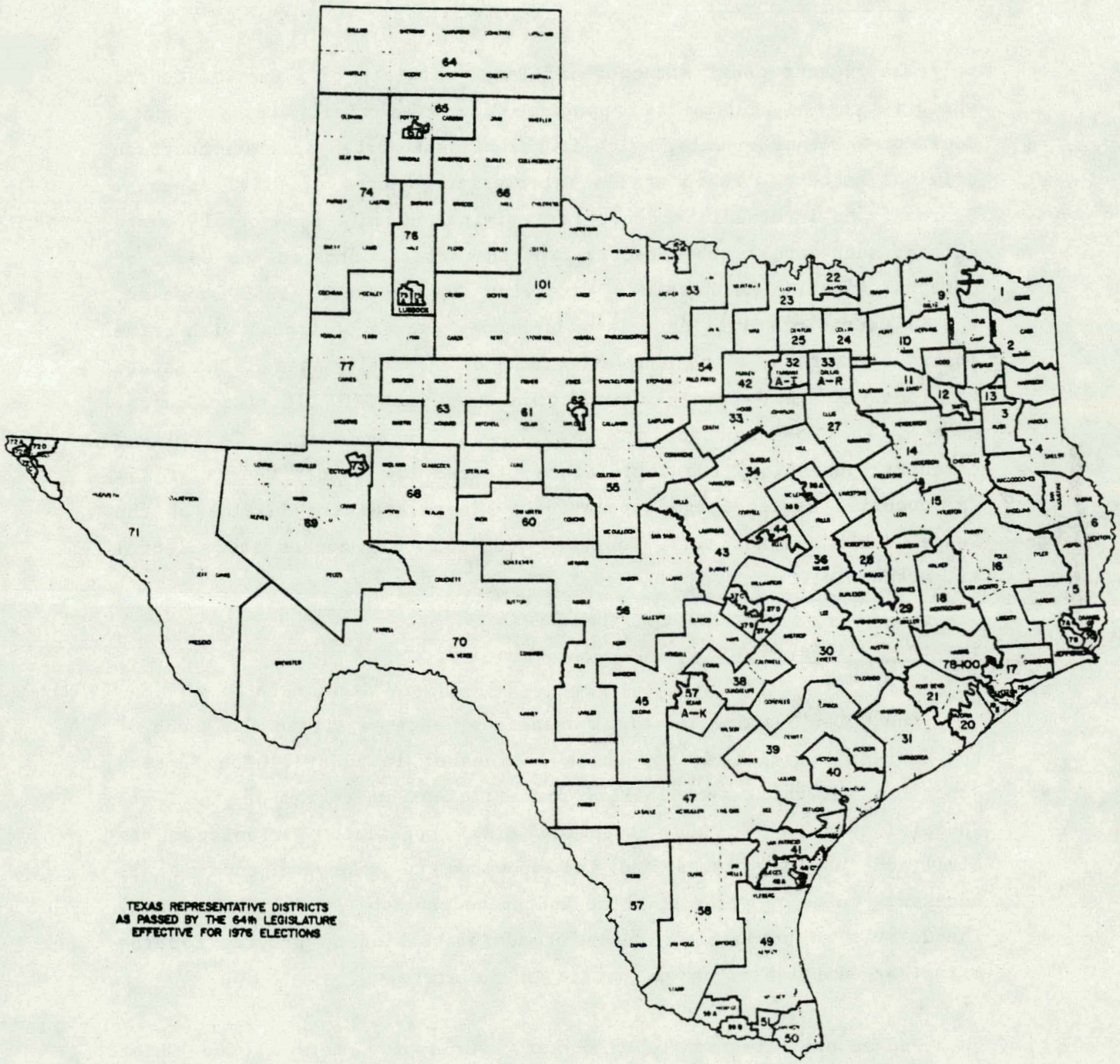
This roster provides the names and political affiliations of the members of the Texas House of Representatives.

Tommy Adkisson (D) Fred Agnich (R) Henry E. Allee (D) Hamp Atkinson (D) Gonzalo Barrientos (D) Erwin W. Barton (D) Jerry Benedict (D) Hugo Berlanga (D) William W. (Bill) Blanton (R) W.J. (Bill) Blythe, Jr. (R) Bennie Bock, II (D) Elton Bomer (D) Oscar Brookshire (D) Larry Browder (D) John W. Bryant (D) J.W. Buchanan (D) Dick Burnett (D) Robert Bush (D) David H. Cain (D) Reby Cary (D) Bill Ceverha (R) Bill Clark (D) Jerry Clark (D) Bill Clayton (D) Jerry A. Cockerham (R) Lanell Cofer (D) Paul Colbert (D) Ronald D. Coleman (D) Frank Collazo, Jr. (D) W.G. (Bill) Coody (D) Tom Craddick (R) Bo Crawford (D) Lloyd Criss (D) Debra Danburg (D) Bob Davis (R) Thomas (Tom) D. DeLay (D) Wilhelmina R. Delco (D) Betty Denton (D) Al Edwards (D) Frank C. Eikenburg (R) Paul Elizondo (D) Edward M. (Ed) Emmett (D)

Charles W. Evans (D) Charles A. Finnell (D) Buck Florence (D) Milton E. Fox (R) A.C. (Tony) Garcia (D) Matt Garcia (D) Robert C. (Frank) Gaston (D) John J. Gavin (D) Gerald Geistweidt (R) Bruce Gibson (D) Jay Gibson (D) Smith E. Gilley (D) Ernestine V. Glossbrenner (D) Arnold Gonzales (D) Gene Green (D) Walter B. Grubbs (D) Clint Hackney (D) Bill Haley (D) Lanny Hall (D) William N. Hall, Jr. (D) Joe C. Hanna (D) Frank E. Hartung (R) W.S. (Bill) Heatly (D) Don Henderson (R) Joe L. Hernandez (D) Anita Hill (D) Gerald W. Hill (D) Juan Hinojosa (D) Bill Hollowell (D) Jim N. Horn (R) Samuel W. Hudson, III (D) Lee F. Jackson (R) Neal T. (Buddy) Jones (D) Bill Keese (D) Ray Keller (D) Rollin Khoury (R) Dan Kubiak (D) James E. (Pete) Laney (D) Don Lee (D) El Franco Lee (D) Bob Leonard, Jr. (R) Gibson (Gib) Lewis (D) David B. (Bubb) London (D) Albert (Al) Luna, III (D) Ted B. Lyon, Jr. (D) Susan Gurley McBee (D) Bob McFarland (R) E. Douglas McLeod (D) Jim McWilliams (D) Frank Madla (D) Robert (Bob) Maloney (R) Mike Martin (R) Bill Messer (D) Paul Moreno (D) Lynn Nabers (D) James Nowlin (D) Kae T. Patrick (R) L.P. (Pete) Patterson (D) Randy Pennington (R) Wayne Peveto (D) George Pierce (D) Mary Polk (D) Anthony L. Polumbo (D) Bill Presnal (D) Albert J. (Al) Price (D) Paul Ragsdale (D) Don Rains (D) Irma Rangel (D) Jay H. Reynolds (R) Ken Riley (R) Nolan J. (Buzz) Robnett (R) Jim D. Rudd (D) Froy Salinas (D) Robert M. Saunders (D) Stan Schlueter (D) Alan Schoolcraft (R) Chris V. Semos (D) John Sharp (D) Larry D. Shaw (D) Bob Simpson (D) Carlyle Smith (D) Terral R. Smith (R) Chip Staniswalis (R) Lou Nelle Sutton (D) Frank M. Tejeda (D) Gary Thompson (D) Senfronia Thompson (D) Rodney Tow (D) Jim Turner (D) D.R. (Tom) Uher (D) Chase Untermayer (R) Hector Uribe (D) Robert Valles (D) Tim Von Dohlen (D) Jack Vowell (R) Tom C. Waldrop (D) Ralph Wallace, III (D) Bob Ware (R) Craig A. Washington (D) Ed R. Watson (D) Bobby Webber (D) Foster Whaley (D) John Whitmire (D) Leroy J. Weiting (D) Doyle Willis (D) Ron Wilson (D) Steven D. Wolens (D) Brad Wright (R).



Map 4.2 Texas Senate Districts



Map 4.3 Texas House of Representatives Districts

4.3.3 Judicial Branch

The present court structure of Texas consists of a Supreme Court, which is the highest state appellate court in civil matters, and a Court of Criminal Appeals, which is the highest state appellate court in criminal matters. There are 14 intermediate Courts of Civil Appeals. Currently no intermediate court for criminal appeals from trial courts exists; such appeals go directly from the trial courts to the Court of Criminal Appeals in Austin. Effective September 1, 1981, however, the 14 Courts of Civil Appeals will become Courts of Appeal with criminal jurisdiction, with the exception of capital cases. The state trial courts of general jurisdiction are the 310 District Courts. Each of the 254 counties in Texas has a County Court. To relieve calendar congestion, the legislature created 114 County Courts at law for counties having large populations. There are also Justice of the Peace Courts and Municipal Courts. Judges in all courts are selected in partisan elections.

Supreme Judicial Court

One Chief Justice and eight associate justices sit on the bench of the Supreme Judicial Court, which is located in Austin. The Supreme Court has general responsibility for efficient operation of the Texas Judicial System. It has statewide final appellate jurisdiction in civil and juvenile cases and is empowered to make and enforce all necessary rules of civil practice and procedure for the judicial system. The Court also promulgates rules of administration to provide for the efficient administration of justice in the state.

Judges are elected to six-year overlapping terms. The Chief Justice is elected in the same manner and candidates for Chief Justice are not required to have been on the Supreme Court. The present Chief Justice is Joe Greenhill.

The Court of Criminal Appeals

The Court of Criminal Appeals has statewide final appellate jurisdiction in criminal cases only and the power to issue writs. The burden of cases coming before the court is predicted to be lessened by the expansion of criminal jurisdiction to the Court of Civil Appeals effective September 1, 1981. There are one presiding judge and eight associate judges. All judges are elected to six-year terms. The present presiding judge is John F. Onion, Jr.

The Court of Civil Appeals

Currently the 14 Courts of Civil Appeals have intermediate appellate jurisdiction only in civil cases from the trial courts or district courts and limited original writ jurisdiction. Effective September 1, 1981, these courts will be called the Courts of Appeals, and jurisdiction will be extended to criminal cases. There are one chief justice and two associate justices per court, except for Houston and Dallas, which have five associate justices. There are a total of 51 justices statewide, elected by the voters residing in their jurisdictions.

District Courts

Texas has 310 separate District Courts, identified by separate numbers, each having its own judge and geographical jurisdiction. The District Courts are trial courts of general jurisdiction. They maintain original jurisdiction in felony cases and in all civil matters where the amount in controversy is $5,000 or more, as well as divorce cases, title to land cases, and contested elections. There is concurrent jurisdiction with the County Courts at law where the amount in controversy is at least $500. District Courts are presided over by a district judge, who is elected for a term of four years.

County Courts

The County Court has civil, criminal, original, and appellate jurisdiction, as well as general control of probate cases. In cases where the amount in controversy is over $500 but less than $1,000, the county court has concurrent jurisdiction with the district courts. County judges are elected to serve a four-year term; they are not required to be practicing attorneys.

County Courts of Law

The Legislature has the authority to create Special County Courts, 118 of which have been created primarily in metropolitan areas to relieve calendar congestion of the County Courts. The legal jurisdiction of the Special County Courts varies considerably according to the statute under which they are created. County judges are elected to serve four-year terms and are not required to be practicing attorneys.

Justice of the Peace Courts

Texas has 972 Justice of the Peace Courts. These courts have original jurisdiction in criminal cases when the fine does not exceed $200 and in civil cases where the amount in controversy is less than $500. The court may issue warrants, conduct preliminary hearings, perform marriages, as well as function as a small claims court. Justices of the peace are elected to four-year terms from precincts established by the County Commissioners Court. The Constitution allows each county to have from four to eight justices.

Municipal Courts

These courts have original exclusive jurisdiction over violations of city ordinances and concurrent jurisdiction with Justice of the Peace courts in misdemeanor cases limited to fines of $200 or less.

4.3.4 Relevant Statutes and Regulations

In this section, legislation relevant to low-level radioactive waste management or radiation control is summarized, followed by a summary of implementing regulations.

Texas Radiation Control Act. The Texas Radiation Control Act (Code 45905) established a program to regulate sources of radiation for the protection of occupational and public health and safety; to promote an orderly intergovernmental regulatory pattern; to facilitate intergovernmental cooperation in the use and regulation of sources of radiation; to establish procedures for assumption and performance of certain regulatory responsibilities with respect to sources of radiation; and to permit maximum use of sources of radiation consistent with the health and safety of the public.

The Texas Department of Health is designated by this Act to be the State Radiation Control Agency. The Commissioner of the Department is required to appoint a director of the Radiation Control Program.

The Agency shall, for the protection of occupational and public health and safety:

- o develop programs for evaluation of hazards associated with the use of sources of radiation;
- o develop programs with due regard for compatibility with federal efforts to regulate sources of radiation;
- o formulate, adopt, promulgate, and repeal codes, rules, and regulations that may provide for licensing and registration relating to control of sources of radiation;
- o make whatever modifications may be necessary in connection with proceedings under Section 6 of this Act;

- o advise, consult, and cooperate with other agencies of the state, federal government, other states and interstate agencies, political subdivisions, and with groups concerned with control of sources of radiation;
- o accept and administer loans, grants, or other funds or gifts, conditional or otherwise, to further its functions, from the federal government and from other sources, public or private;
- o encourage, participate in, or conduct studies, investigations, training, research, and demonstrations relating to control of sources of radiation; and
- o collect and disseminate information relating to control of sources of radiation.

The complete text of the Radiation Control Act is in the Appendix.

Solid Waste Disposal Act. Pursuant to the "Solid Waste Disposal Act," the Texas Water Quality Board "has the power to require and issue permits authorizing and governing the operation and maintenance of sites used for the disposal of solid waste." Futhermore, the Board is "authorized to inspect and approve sites used or proposed to be used." (Section 4(d)). The Solid Waste Disposal Act authorizes the Board to consider proper site selection in issuing its permits for waste disposal sites over which it has jurisdiction. The Board is also authorized "to revoke or amend any permit it issues for reasons pertaining to public health, land use, or any violation of this Act."

Care Fund and State Title to Land. Senate Bill 480, passed on April 1, 1981, provides for a perpetual care fund and state title to land used as a disposal site for radioactive waste.

Radiation Control Regulations. The Texas Regulations for Control of Radiation, promulgated in 1963 under the Texas Radiation Control Act,

are administered and enforced by the State Department of Health. The regulations are comprehensive and apply to all ionizing radiation, radioactive material, and radiation-producing equipment. Texas is an agreement state and the regulations comply with Nuclear Regulatory Commission requirements. Jurisdiction has been retained by the NRC over source, special, and by-product nuclear materials when in quantities sufficient to form a critical mass and over matters where national interest is involved.

The regulations are divided into 10 parts, four of which are directly applicable to the use and disposal of low-level wastes. The other six parts apply to machines or equipment that use radiation or limit the use of radiation in industry, research, or the healing arts.

Transportation Regulations. The Director of Public Safety (DPS) is charged with adopting regulations for the transportation of hazardous materials consistent with the Department of Transportation's guidelines. Essentially, DPS regulations call for driver/operator compliance with transportation regulations while on state highways, includ-

Solid Waste Disposal Act Regulations. Solid Waste Disposal Act, Vernon's Texas Civil Statutes, Article 4477-7, covers all entities, private or public, engaging in the management and control of solid wastes. Regulatory jurisdiction over solid waste is contingent upon category, with the Texas Department of Health having authority over municipal solid wastes and the Texas Department of Water Resources regulating industrial solid waste disposal. Sources containing both industrially and municipally-generated wastes, with the exception of certain wastes under Department of Water Resources jurisdiction, are regulated by the Department of Health.

Section 1 of Solid Waste Disposal Act cites Hazardous Waste Management regulations concerning the generation and transportation of municipal hazardous wastes and pertains to owners and operators of waste treatment facilities that receive hazardous wastes. Hazardous waste management regulations are in compliance with those promulgated under Title 40, Code of Federal Regulations, parts 260 through 265.

4.4 Federal Activities in the State of Texas

The only federal organization in Texas engaged in major work with radioactive materials is Pantex, which assembles nuclear warheads. The facility is owned by the Department of Energy, with work contracted to Mason and Hanger-Silas Mason Co., Inc. The plant, located east of Amarillo, has been in operation since World War II.

In the future Texas may be the site of the MX missile, which is currently in the planning stages. In December 1980, the Air Force held statewide meetings with government and local citizens on the matter.

4.5 Public Interest Groups

The following list provides the names of some of the public interest organizations operating in Texas. Addresses, telephone numbers, and individuals to contact are provided where available.

The League of Women Voters. The Texas League is a non-partisan organization with chapters located in a number of cities and towns in the state. The League provides information on a variety of issues and supports issues that it has studied and found to be of public interest. The address of the League is:

League of Women Voters
10515 Laneview
Houston, Texas 77070
Laura Keever

Sierra Club Lone Star Chapter. The Sierra Club maintains a legal defense fund and has sued various federal agencies, such as the Department of Interior, in order to prevent actions that the Club believes are not in the best interests of the environment.

Sierra Club Lone Star Chapter
Post Office Box 1931
Austin, Texas 78767
512-478-1264

Texas Mobilization for Survival. This group is a nonviolent movement of organizations and individuals dedicated to awakening people to the "growing threats to human survival."

Texas Mobilization for
Survival
1022 West 6th
Austin, Texas 78703
512-474-5877

Texas Environmental Coalition. This organization disseminates information on controversial environmental issues. It also organizes activities that involve immediate community awareness of environmental concerns.

Texas Environmental Coalition
306 West 29th
Austin, Texas 78705
512-474-6046
Richard Shannon, President

4.6 Newspapers

The appendices contain newspaper articles published over several years. The clippings presented are relevant to the subject of low-level radioactive waste.

5 SURVEY METHODOLOGY

A survey package was developed to solicit data and information necessary to characterize generally the low-level radioactive waste management practices in the State of Texas. The package included a questionnaire and appropriate letters encouraging licensees to participate in the survey. Administration of the survey was carefully planned to allow licensees adequate response time and included procedures for handling inquiries concerning the data requested and for performing selected follow-up telephone calls. The following sections provide specific information relative to the survey form and administration of the survey.

5.1 Survey Form

The survey form was designed to present the data requested in a concise, easily understood, yet comprehensive format. The intent was to request sufficient data to ascertain both the qualitative and quantitative nature of low-level radioactive waste management practices. The form was designed with the users in mind from both the respondent and data reduction personnel viewpoints. It was structured to allow "check-off" answers wherever possible and to minimize the effort required by respondents in supplying the requested data.

The survey form proper consists of six 14 x 8 1/2-inch typeset printed sheets (three sheets, front and back), as shown in Figure 5.1. Licensees were informed that the data would be treated as CONFIDENTIAL and would be ANONYMOUSLY reported in consensus and statistical form. Each licensee

was assigned a number, stamped on each sheet of the questionnaire. The first two digits identify the state and the last four the licensee. These "identifying" numbers were used during data processing for control purposes.

Sheet One of the questionnaire contains introductory statements consisting of a Rationale for Study and General Guidelines for completing the form. The first four sections, also a part of Sheet One, request the following information:

1.0 Organization and Facility Data

2.0 Type of Facility

3.0 License Information

4.0 Radioactive Waste Information

Section 4.0 asks a simple yes or no question about whether the facility generated and/or received radioactive waste during 1978, 1979 and/or 1980. Respondents answering NO for each year were informed that they had completed the questionnaire and were asked to return it.

Sheet Two consists of Section 5.0, Use Classification for Unsealed Radioactive Sources, and Yearly Data Sheet Instructions. The instructions require the use of a key for completing the Yearly Data Sheets. The key contains multiple answers to certain questions and the respondent had only to select the appropriate corresponding number.

The Yearly Data Sheets for 1978, 1979, and 1980 comprise sheets Three through Five. These sheets solicit data in matrix format of radionuclides versus characteristic and quantitative data in six (6) general categories.

general categories. The categories are the same for each Yearly Data Sheet, except that they were sequentially numbered 6.0 through 23.0 for processing purposes. The categories are:

6.0, 12.0, 18.0	Radionuclides Received/Produced
7.0, 13.0, 19.0	Radioactive Waste Generated
8.0, 14.0, 20.0	Radioactive Waste Received
9.0, 15.0, 21.0	Radioactive Waste Processed/Reduced
10.0, 16.0, 22.0	Radioactive Waste Shipped
11.0, 17.0, 23.0	On-Site Waste Disposal

Sheet Six contains Sections 24.0 and 25.0, which inquire about the source(s) of radionuclide production and facility(ies) from which radioactive waste was received, and a comments and remarks section. This section allows the recipient of the survey to make suggestions or indicate any difficulties encountered that may have caused a particular response.

Some requests for information are included as part of the questionnaire for the sole purpose of determining the validity of other data collected. For example, the type of monitoring instrumentation that a repondent uses to collect activity data reveals the accuracy with which the data were obtained.

5.2 Survey Administration

Packages that included a questionnaire, a self-addressed prepaid return envelope, a letter from Vachon, Nix and Associates, and a letter from Mr. David K. Lacker, Director, Division of Occupational Health and Radiation Control, Texas Department of Health, were prepared and mailed to each licensee. The Vachon, Nix and Associates letter and state letters

included in the packages are presented as Figures 5.2 and 5.3.

Names and addresses of each licensee authorized to handle radioactive material in the State of Texas were obtained from EG&G Idaho, Inc. EG&G provided a list of U.S. Nuclear Regulatory Commission licensees. No attempt was made to differentiate between those licensees believed not to generate radioactive waste and those known to generate waste. Survey packages were mailed to every name provided.

Large 7 1/2 x 10 1/2-inch envelopes were specifically used for the mailout so that the package would not be easily misplaced by recipients. Two special notices were printed on the envelopes: 1) DATED MATERIAL: Southern States Energy Board Radioactive Waste Management Survey, and 2) ATTN: Radioactive Material Control Officer.

The packages were mailed first class on April 23, 1981, and a sample package was subsequently mailed to Mr. Lacker. Figure 5.4 is the letter of transmittal to him. After approximately two weeks had elapsed, follow-up telephone calls were made to selected licensees. Figure 5.5 is a copy of a standard form that was developed to record inquiries from licensees as well as follow-up contacts.

June 15th was established as a cut-off date for processing questionnaires. Questionnaires received after that date were monitored for the purpose of sorting out significant "waste generators." The results of the survey are presented in Chapter 6.

Figure 5.1

PAGE 1 OF 6

LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT SURVEY

01 0260

RATIONALE FOR STUDY

The purpose of this survey is to compile data on the generation, handling, and disposal of low-level radioactive waste in your State. The compilation of these data will serve as a basis to analyze the time-rate-of-change of low-level radioactive waste generation and further assist in the development of sound policies and programs for low-level radioactive waste management. Each survey form will be coded by respondent. The data are CONFIDENTIAL and will be reported in consensus and statistical form.

GENERAL GUIDELINES

Please provide the requested information accurately and as complete as possible with typewriter, pen or pencil.

When a request for information does not apply to your facility, leave blank and continue to the next request.

When the selections provided for certain sections do not fit your situation, use the selection entitled other and specify in the space provided.

Once you have completed this questionnaire, please return it in the enclosed stamped, self-addressed envelope. Thank you.

1.0 ORGANIZATION AND FACILITY DATA

1.1 Facility Name _____

1.2 Street Location (Hdqtrs/Admin) _____

1.3 City _____ 1.4 State _____

1.5 Telephone No. (____) _____ 1.6 Zip Code _____

1.7 Officer-in-Charge of Radiological Safety

1.7.1 Name _____

1.7.2 Title _____

1.8 Person Completing Form

1.8.1 Name _____

1.8.2 Title _____

1.8.3 Date _____

VACHON, NIX & ASSOCIATES
P.O. Box 1305
Norcross, Georgia 30071
404/448-5235

2.0 TYPE OF FACILITY

Please check the block(s) which represents your major operation(s) but not more than one per group.

2.1 Medical
- 2.1.1 ( ) Hospital
- 2.1.2 ( ) Medical School (Research/Testing Lab)
- 2.1.3 ( ) Nursing/Convalescent Home
- 2.1.4 ( ) Physician
- 2.1.5 ( ) Clinic
- 2.1.6 ( ) Other _____

2.2 Educational
- 2.2.1 ( ) University/College
- 2.2.2 ( ) Technical/Community College
- 2.2.3 ( ) High School
- 2.2.4 ( ) Other _____

2.3 Industrial
- 2.3.1 ( ) Manufacturing
- 2.3.2 ( ) Construction
- 2.3.3 ( ) Mining
- 2.3.4 ( ) Well Logging/Seismology/ Oil-Gas Exploration
- 2.3.5 ( ) Engineering
- 2.3.6 ( ) Research & Development
- 2.3.7 ( ) Pharmaceutical Manuf.
- 2.3.8 ( ) Other _____

2.4 Critical Nuclear Reactor
- 2.4.1 ( ) Commercial Power Reactor
- 2.4.2 ( ) Research Reactor

2.5 Federal Government
- 2.5.1 ( ) Military
- 2.5.2 ( ) Non-Military

2.6 State Government
- 2.6.1 ( ) Highway Department
- 2.6.2 ( ) State Health Department
- 2.6.3 ( ) Other _____

2.7 Other Jurisdictions
- 2.7.1 ( ) County
- 2.7.2 ( ) City

3.0 LICENSE INFORMATION

Please provide information on licenses issued by the Nuclear Regulatory Commission and/or State Agencies.

3.1 License Number	3.2 Issuing Agency	3.3 Classification

4.0 RADIOACTIVE WASTE INFORMATION

4.1 Did your facility generate radioactive waste during 1978, 1979 and/or 1980 that required holding, reprocessing, on-site disposal or shipment to an off-site disposal facility?

1978	( ) Yes	( ) No
1979	( ) Yes	( ) No
1980	( ) Yes	( ) No

4.2 Did your facility receive radioactive waste from a parent organization, a branch of your organization, or another organization for holding, reprocessing, on-site disposal or shipment to an off-site disposal facility during 1978, 1979 and/or 1980?

1978	( ) Yes	( ) No
1979	( ) Yes	( ) No
1980	( ) Yes	( ) No

If your facility did not generate and/or receive radioactive waste during 1978, 1979 or 1980, then you have completed this questionnaire. Thank you. If you answered yes to 4.1 and/or 4.2, please complete the form.

LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT SURVEY

5.0 USE CLASSIFICATION FOR UNSEALED RADIOACTIVE SOURCES

Please indicate the percentage of total volume of unsealed radioactive material used for each category below. Total of all categories should equal 100%.

5.1 Human			
5.1.1	( )	Diagnostic	_____%
5.1.2	( )	Non-Diagnostic	_____%
5.1.3	( )	Research	_____%
5.2 Animal			
5.2.1	( )	Diagnostic	_____%
5.2.2	( )	Non-Diagnostic	_____%
5.2.3	( )	Research	_____%
5.3 General Research			
5.3.1	( )	Physical	_____%
5.3.2	( )	Chemical	_____%
5.3.3	( )	Engineering	_____%
5.3.4	( )	Other	_____% _____ (Specify)
Total of 5.1, 5.2 & 5.3			100 %

YEARLY DATA SHEET INSTRUCTIONS

The following data sheets request information on radionuclides (isotopes) received and/or produced and radioactive waste generated, received, processed, shipped and disposed of on-site for calendar years 1978, 1979 & 1980.

The sheets are identical in format. As a convenience, a list of common radionuclides has been provided. Please report data as requested for all radionuclides handled by your facility. All quantitative data should be taken directly from facility records; if records are not available, please estimate answers as accurately as possible.

"Received/Produced" in Sections 6.0, 12.0 & 18.0 refers to radioactive emitting materials to be used at your facility. The term "Waste" as used in Sections 7.0-11.0, 13.0-17.0 & 19.0-23.0 refers to all radioactive emitting materials that have no further use at your facility and must be either disposed of on-site or transported to another facility. "Waste Generated" in Sections 7.0, 13.0 & 19.0 refers to that generated at your facility while "Waste Received" in Sections 8.0, 14.0 & 20.0 refers to waste received from other facilities. In Sections 9.0, 15.0 & 21.0 entitled "Waste Processed/Reduced", the column labeled "%" refers to percent reduction from the original volume to the reduced volume. The columns labeled A thru H on each sheet require the use of the key provided on this page for completion. Please select the appropriate answer from this key and insert the corresponding number(s) in the space provided for each radionuclide.

To insure accurate compilation, please report data in accordance with the units listed. Thank you very much for your cooperation. Space for additional comments is provided on page six.

KEY FOR COMPLETING YEARLY DATA SHEETS

SECTIONS 9.0, 15.0 & 21.0

[A] REDUCTION PROCESS
- 1 = Compaction
- 2 = Solidification
- 3 = Evaporation
- 4 = Adsorption (Ion Exchange)
- 5 = Absorption
- 6 = Incineration
- 7 = Other

SECTIONS 10.0, 11.0, 16.0, 17.0, 22.0 & 23.0

[B] WASTE FORM
- 1 = Dry Solid(s)
- 2 = Solid Liquid(s)
- 3 = Nonsolid Liquid(s)
- 4 = Scintillation Vials
- 5 = Biological
- 6 = Gaseous
- 7 = Sealed Source
- 8 = Other

SECTIONS 10.0, 16.0 & 22.0

[C] SHIPPING CONTAINER
- 1 = Kraft Container
- 2 = 55 Gallon Drum
- 3 = 30 Gallon Drum within 55 Gallon Drum
- 4 = Other

SECTIONS 10.0, 16.0 & 22.0

[D] ADDITIONAL HAZARD POTENTIALS
- 1 = Corrosive
- 2 = Toxic
- 3 = Flammable
- 4 = Volatile
- 5 = Explosive
- 6 = Other

SECTIONS 10.0, 16.0 & 22.0

[E] DESTINATION
- 1A = Barnwell, South Carolina
- 1B = Beatty, Nevada
- 1C = Richland (Hanford), Washington
- 1D = Other
- 2 = Distribution in Product Form
- 3 = Return to Vendor
- 4 = Other

COMMERCIAL DISPOSAL FACILITY

SECTIONS 10.0, 16.0 & 22.0

[F] TRANSPORT METHOD
- 1 = Facility Truck
- 2 = Motor Express
- 3 = Air
- 4 = Rail
- 5 = Other

SECTIONS 11.0, 17.0 & 23.0

[G] METHOD
- 1 = Release to Sewer
- 2 = Combine with Common Refuse
- 3 = Incinerate to Atmosphere
- 4 = Evaporate or Distill
- 5 = Vent to Atmosphere
- 6 = Bury On Site
- 7 = Redistribute to Facility Users in Original Form
- 8 = Other

[H] MONITORING INSTRUMENTATION
- 1 = Ion Chamber
- 2 = Thermoluminescent Dosimetry
- 3 = End Window > 1.4 mgm/cm² Geiger-Mueller
- 4 = Thin Window < 0.5 mgm/cm² Geiger-Mueller
- 5 = Gas Proportional Counter
- 6 = Liquid Scintillation Spectrometry
- 7 = Electron Capture
- 8 = Other

PAGE 3 OF 6

DATA FOR 1978
(SEE DATA SHEET INSTRUCTIONS PAGE 2)

1978 01 0260

RADIONUCLIDE (Example)	6.0 REC'D/PRODUCED		7.0 WASTE GENERATED			8.0 WASTE RECEIVED			9.0 WASTE PROCESSED/REDUCED					10.0 WASTE SHIPPED							11.0 ON-SITE WASTE DISPOSAL					
	AS SHIPPED IN CURIES	HOW MANY RECEIVED AS SHIPPED IN CURIES	AS SHIPPED IN CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LITERS	AS SHIPPED IN CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LITERS	AS SHIPPED IN CURIES	REDUCED VOLUME SOLID — m^3	REDUCED VOLUME LIQUID-LITERS	A	%	AS SHIPPED IN CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LITERS	B	C	D	E	F	AS SHIPPED IN CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LITERS	B	G	H
^{3}H																										
^{14}C																										
^{18}Na																										
^{24}Na																										
^{32}P																										
^{35}S																										
^{42}K																										
^{45}Ca																										
^{51}Cr																										
^{54}Mn																										
^{55}Fe																										
^{59}Fe																										
^{57}Co																										
^{58}Co																										
^{60}Co																										
^{63}Ni																										
^{65}Zn																										
^{85}Kr																										
^{89}Sr																										
^{90}Sr																										
^{95}Zr																										
^{99}Mo																										
^{103}Ru																										
^{106}Ru																										
^{110m}Ag																										
^{125}Sb																										
^{129}I																										
^{131}I																										
^{134}Cs																										
^{137}Cs																										
^{140}Ba																										
^{144}Ce																										
^{198}Au																										
^{203}Tl																										
^{241}Am																										

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DATA FOR 1979
(SEE DATA SHEET INSTRUCTIONS PAGE 2)

1979

RADIONUCLIDE (curies)	12.0 RECEIVED/PRODUCED		13.0 WASTE GENERATED			14.0 WASTE RECEIVED			15.0 WASTE PROCESSED/REDUCED					16.0 WASTE SHIPPED								17.0 ON-SITE WASTE DISPOSAL					
			ACTIVITY IN CURIES	VOLUME		ACTIVITY IN CURIES	VOLUME		ACTIVITY IN CURIES	REDUCED VOLUME		A	%	ACTIVITY IN CURIES	VOLUME		B	C	D	E	F		ACTIVITY IN CURIES	VOLUME		B	G	H
				SOLID — ft^3	LIQUID-LITERS		SOLID — ft^3	LIQUID-LITERS		SOLID — ft^3	LIQUID-LITERS				SOLID — ft^3	LIQUID-LITERS								SOLID — ft^3	LIQUID-LITERS			
^{3}H tritium																											
^{14}C carbon																											
^{51}Na sodium																											
^{24}Na sodium																											
^{32}P phosphorous																											
^{35}S sulfur																											
^{42}K potassium																											
^{45}Ca calcium																											
^{51}Cr chromium																											
^{55}Fe iron																											
^{59}Fe iron																											
^{57}Co cobalt																											
^{58}Co cobalt																											
^{60}Co cobalt																											
^{67}Ga gallium																											
^{75}Se selenium																											
^{85}Rb rubidium																											
^{90}Sr strontium																											
^{99}Tc technetium																											
^{125}Sn tin																											
^{125}Sb tin																											
^{125}I iodine																											
^{129}I iodine																											
^{131}I iodine																											
^{137}Cs cesium																											
^{137}Cs cesium																											
^{140}Ba barium																											
^{151}Tb thulium																											
^{226}Ra radium																											

PAGE 5 OF 6

DATA FOR 1980
(SEE DATA SHEET INSTRUCTIONS PAGE 2)

1980 01-0260

RADIONUCLIDE (curies)	18.0 REC'D/PRODUCED		19.0 WASTE GENERATED			20.0 WASTE RECEIVED			21.0 WASTE PROCESSED/REDUCED					22.0 WASTE SHIPPED							23.0 ON-SITE WASTE DISPOSAL					
			ACTIVITY in CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LATEX	ACTIVITY in CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LATEX	ACTIVITY in CURIES	REDUCED VOLUME SOLID — m^3	REDUCED VOLUME LIQUID-LATEX	A	%	ACTIVITY in CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LATEX	B	C	D	E	F	ACTIVITY in CURIES	VOLUME SOLID — m^3	VOLUME LIQUID-LATEX	B	G	H
^{3}H																										
^{14}C																										
^{22}Na																										
^{24}Na																										
^{32}P																										
^{35}S																										
^{41}K																										
^{45}Ca																										
^{58}Co																										
^{59}Fe																										
^{60}Fe																										
^{57}Co																										
^{58}Co																										
^{60}Co																										
^{67}Ga																										
^{75}Se																										
^{85}Rb																										
^{90}Sr																										
^{99m}Tc																										
^{99}Tc																										
^{125}Sb																										
^{127}I																										
^{129}I																										
^{131}I																										
^{137}Cs																										
^{140}Ba																										
^{198}Au																										
^{201}Tl																										
^{210}Bi																										

LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT SURVEY

24.0 SOURCE(S) OF RADIONUCLIDE PRODUCTION

	POWER/FLUX LEVEL	RADIOACTIVE SOURCE	ACTIVITY IN CURIES	MODERATOR	MANUFACTURER
24.1 Subcritical Reactor					
24.2 Critical Reactor					
24.3 Power Reactor					
24.4 Cyclotron					
24.5 Linear Accelerator					
24.6 Neutron Generator					
24.7 Synchrotron					
24.8 Van de Graaff Generator					
24.9 Other_____					
24.10 Other_____					
24.11 Other_____					

25.0 FACILITY(S) FROM WHICH RADIOACTIVE WASTE WAS RECEIVED

25.1 FACILITY NAME	25.2 CITY	25.3 STATE	25.4 FACILITY LICENSE NUMBERS (IF KNOWN)			

Comments & Remarks by Respondent:

VACHON, NIX & ASSOCIATES
6855 Jimmy Carter Boulevard
Building J, Suite 1020
Norcross, Georgia 30071
404/448-5235

VACHON, NIX & ASSOCIATES

SUBJECT: Low-Level Radioactive Waste Management Survey

Dear Licensee:

VACHON, NIX AND ASSOCIATES and the SOUTHERN STATES ENERGY BOARD, under a U.S. Department of Energy Contract, are developing State Briefing Books on Low-Level Radioactive Waste Management Issues. This project is being conducted with the encouragement of your State Radiological Control Officer as indicated by the attached letter. We need your help to ensure that your State issues are presented correctly. Thus, we ask you to provide us with data on the generation, handling and disposal of low-level radioactive wastes relative to your facility.

The enclosed questionnaire and return envelope are designed to help you provide these data. Please complete the form and mail to us within seven (7) days. I am sure you share my dislike for filling out forms. However, in this case we will be working together to ensure the safe and continued use of radioactive materials.

As soon as the project is completed for the twelve-state area of our survey, we will send the results to each of the states. Your State Radiological Agency will share the results with you.

Your facility will remain anonymous and data provided will be CONFIDENTIAL and reported in consensus and statistical form.

Thank you for your time and interest. Please call us at (404)448-5235 if you need assistance with the questionnaire, wish to ask questions or make specific comments relative to the project.

Cordially,

VACHON, NIX & ASSOCIATES

Reginald I. Vachon, Ph.D., P.E.
President

RIV/caw

DIVISION OF OPTIMAL SYSTEMS INCORPORATED
6855 Jimmy Carter Blvd., N.W. • Norcross/Atlanta, Ga. 30071 • Phone: 404-448-5235 • Telex: 708405 OPTIMAL NRCS

Texas Department of Health

Robert Bernstein, M.D., F.A.C.P.
Commissioner

1100 West 49th Street
Austin, Texas 78756
(512) 458-7111

A. M. Donnell, Jr., M.D., M.P.H., F.A.C.P.
Deputy Commissioner

April 27, 1981

All Texas Radioactive Material Licensees:

The U. S. Department of Energy (DOE) is conducting a survey of all licensees using radioactive materials in the U.S. The purpose of this survey is to determine the amounts and types of low-level radioactive waste produced on a state by state basis and current disposal practices.

The results of this survey will provide information for the U.S. DOE's National Low-Level Radioactive Waste Management Program. An early return of accurately completed survey information is necessary for the success and usefulness of this survey. Your cooperation in this matter will be appreciated.

If you have any questions concerning this survey, please contact the persons designated in the accompanying instruction letter.

Yours truly,

David K. Lacker

David K. Lacker, Director
Division of Occupational Health
and Radiation Control

VACHON, NIX & ASSOCIATES

May 8, 1981

Mr. David K. Lacker, Director
Div. of Occupational Health
and Radiation Control
Dept. of Health
1100 West 49th Street
Austin, Texas 78756

Dear Mr. Lacker:

VACHON, NIX & ASSOCIATES and the SOUTHERN STATES ENERGY BOARD appreciate your assistance to our project of developing a Briefing Book on Low-Level Radioactive Waste Management Issues for the state of Texas.

I have enclosed a copy of the survey package which was mailed to all Texas Licensees on May 1. This package inlcudes your letter, a letter from VNA and the Low-Level Radioactive Waste Management Survey Form. After an elasped period of eleven (11) days, follow-up phone calls will be made to selected non-respondents. Afterwards, ten (10) days will be allowed for final response. Responses received after May 21 may not be included in data processing due to contractural time restraints.

Thanks again for your cooperation. If I can answer any questions, please call me at (404) 448-5235.

Cordially,

VACHON, NIX & ASSOCIATES

John Allen Gunn

John Allen Gunn
Project Manager

JAG/caw
Enclosure

DIVISION OF OPTIMAL SYSTEMS INCORPORATED
6855 Jimmy Carter Blvd., N.W. • Norcross/Atlanta, Ga. 30071 • Phone: 404-448-5235 • Telex: 708405 OPTIMAL NRCS

SURVEY STATUS LOG

STATE CODE: SERIAL NO:

DATE FORM MAILED: _____

DATE FORM RECEIVED: _____

DID FACILITY GENERATE AND/OR RECEIVE RADIOACTIVE WASTE DURING 1978, 1979 AND/OR 1980?

☐ YES ☐ NO

Inquiry From: _____ Date: _____

Received By: _____ Phone #: _____

Type of Inquiry: ____Letter ____Phone

Questions: _____

Answers: _____

Action Items: Action Taken By: _____ Date: _____

Telecon Follow-Up By: _____ Date: _____

Telecon With (Name): _____ Phone #: _____

Questions: _____

Answers: _____

Action Items: Action Taken By: _____ Date: _____

Figure 5.5

6 INTRODUCTION

The purpose of this study was to compile data on the generation, handling, and disposal of low-level radioactive waste in the State of Texas. A total of 1,598 licensees were identified as producers or users of radioactive materials in the state. The licensees range from an individual physician to a nuclear power generating plant. Each licensee was sent via the U.S. Postal Service a packet containing the "Low-Level Radioactive Waste Management Survey" and other information as explained in Chapter 5.0. Figure 5 is a copy of the survey.

Compilation of the data generated by the survey is reported in Tables 6.1 through 6.13. Respondents to the survey were identified by one of the following seven broad categories: (1) Medical, (2) Educational, (3) Industrial, (4) Critical Nuclear Reactor, (5) Federal Government, (6) State Government, and (7) Other Jurisdictions (political subdivisions). Data in each of the above tables are presented for each category. A large number of respondents chose to identify multiple operations within a category. Thus, it is impossible to correlate between tables. Error analysis programs corrected for this problem wherever and whenever possible, but data presented in each table should be treated independently.

Two basic types of tables are presented, one revealing qualitative and quantitative data and the other revealing only qualitative data. The first table presents information on quantity of waste shipped by category and individual isotope. The latter presents information on type of container used for shipping, frequency of shipments containing

hazardous materials, and techniques for volume and activity reduction.

Table 6.14 provides a forecast for low-level radioactive waste based on the limited information produced by this study. Additional studies covering a minimum of 10 years and a higher response rate would be necessary to add the desirable credibility to the forecast.

6.1 Summary

Of the 1,598 licensees, 589 (36.86 percent) responded to the survey. Of the 589 responding, 81 percent reported no waste generated and 19 percent reported both generation and shipment of low-level radioactive waste.

The total millicuries of low-level radioactive waste reported shipped during 1978, 1979, and 1980 was 1,551,299, 1,491,491 and 3,456,954.

The major limitation of this study is the large number of licensees who failed to return the survey. Another limitation is the small percentage of licensees who indicated that they generated and/or received waste but considered the information proprietary and did not report data for their facility. A final limitation of this study is the failure to respond of licensees who are known to manufacture and/or fabricate devices or items containing radioactive materials or devices capable of producing ionizing radiation that could generate nuclear waste.

Table 6.1 Respondents Reporting Nuclear Waste

Table 6.1 represents only those respondents to the survey who reported shipping nuclear waste in one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the total number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category.

TABLE 6.1 RESPONDENTS REPORTING NUCLEAR WASTES IN TEXAS

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	32	53.3	53.3
Medical School	1	1.7	55.0
Physician	3	5.0	60.0
Clinic	4	6.7	66.7
Other	20	33.3	100.0
EDUCATIONAL			
University-College	12	75.0	75.0
Technical/ Comm. College	2	12.5	87.5
Other	2	12.5	100.0
INDUSTRIAL			
Manufacturing	15	31.9	31.9
Construction	4	8.5	40.4
Mining	1	2.1	42.6
Well Logging	7	14.9	57.4
Engineering	3	6.4	63.8
R & D	5	10.6	74.5
Pharmaceutical Mfr.	3	6.4	80.9
Others	9	19.1	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT			
Military	3	75.0	75.0
Non-Military	1	25.0	100.0
STATE GOVERNMENT			
Highway Department	1	20.0	20.0
Health Department	1	20.0	40.0
Other	3	60.0	100.0
OTHER JURISDICTIONS			
County	1	100.0	100.0
TOTAL	135		

Table 6.2 Respondents Reporting Use of Sealed Sources Not Producing Nuclear Wastes

Table 6.2 represents those licensees using nuclear materials in the form of sealed sources who reported not shipping nuclear waste during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting not shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. Examples of Sealed Source devices were Strontium-90 eye applicators (Physicians); Radium-226 needles (Physicians); Irridium-192 (Manufacturing; Well-Logging and State Governments); Cobalt-60 (Manufacturing); and Cesium-137 (Manufacturing).

TABLE 6.2 RESPONDENTS REPORTING USE OF SEALED SOURCES NOT PRODUCING NUCLEAR WASTES FROM TEXAS

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	3	18.8	18.8
Physician	8	50.0	68.8
Clinic	5	31.2	100.0
EDUCATIONAL			
University/College	1	50.0	50.0
Other	1	50.0	100.0
INDUSTRIAL			
Manufacturing	13	35.1	35.1
Construction	4	10.8	45.9
Mining	2	5.4	51.4
Well Logging	4	10.8	62.2
Engineering	3	8.1	70.3
R & D	1	2.7	72.9
Other	10	27.1	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT			
Military	1	100.0	100.0
STATE GOVERNMENT			
Highway Department	2	100.0	100.0
OTHER JURISDICTIONS			
County	2	25.0	25.0
City	6	75.0	100.0
TOTAL	66		

Table 6.3 Respondents Reporting No Waste

Table 6.3 represents those licensees using nuclear materials who reported not shipping nuclear waste during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting not shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The numbers reported in this table represented all licensees from all categories.

TABLE 6.3 RESPONDENTS REPORTING NO WASTE IN TEXAS

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	30	35.7	35.7
Medical School	1	1.2	36.9
Physician	18	21.4	58.3
Clinic	16	19.0	77.4
Other	19	22.6	100.0
EDUCATIONAL			
University/College	15	53.6	53.6
Technical/ Comm. College	1	3.6	57.1
Other	12	42.8	100.0
INDUSTRIAL			
Manufacturing	104	38.8	38.8
Construction	16	6.0	44.8
Mining	4	1.5	46.3
Well logging/ Seismology/ Oil-gas exploration.	36	13.4	59.7
Engineering	28	10.4	70.1
R & D	12	4.5	74.6
Other	68	25.4	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT			
Military	3	33.3	33.3
Non-Military	6	66.7	100.0
STATE GOVERNMENT			
Highway Department	18	58.1	58.1
Health Department	5	16.1	74.2
Other	8	25.8	100.0
OTHER JURISDICTIONS			
County	6	22.2	22.2
City	21	77.8	100.0
TOTAL	449		

Table 6.4 Sealed Sources Producing Shipped Nuclear Waste

Table 6.4 represents those respondents to the survey who reported using nuclear materials as sealed sources and produced nuclear waste that was shipped during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The respondents represented in this table were from the Medical and Industrial categories. Devices using Irridium-192 or combinations with other isotopes were used at the licensee's site until a marked specific nuclear activity dropped. This usually took place between six months and a year. When the activity was sufficiently low to interface with the device, the licensee shipped it to the original manufacturer-fabricator for a new sealed source in accordance with the licensee's authorized specific nuclear activity. The survey indicates that several users of these types of devices repeated the process of packing and shipping the source for another after decay as many as four times in the three-year period covered by this study. Those who responded by answering the appropriate questions on the survey form indicated that the sources were sent to manufacturer-fabricators in Louisiana and North Carolina. Others responding did not indicate the location of the manufacturer-fabricator. Other sealed sources included Cobalt-60 and Radium-226 which were shipped for disposal.

TABLE 6.4 SEALED SOURCES PRODUCING SHIPPED NUCLEAR WASTE FOR TEXAS, 1979

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	2	50.0	50.0
Clinic	1	25.0	75.0
Other	1	25.0	100.0
EDUCATIONAL			
University/College	1	100.0	100.0
INDUSTRIAL			
Manufacturing	4	40.0	40.0
Construction	4	40.0	80.0
Other	2	20.0	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT	0	0	0
STATE GOVERNMENT			
Highway Department	1	100.0	100.0
TOTAL	16		

TABLE 6.4 SEALED SOURCES PRODUCING SHIPPED NUCLEAR WASTE FOR TEXAS, 1979

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	1	33.3	33.3
Clinic	1	33.3	66.7
Other	1	33.3	100.0
EDUCATIONAL			
University/College	1	100.0	100.0
INDUSTRIAL			
Manufacturing	5	41.7	41.7
Construction	4	33.3	75.0
Other	3	25.0	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT	0	0	0
STATE GOVERNMENT			
Highway Department	1	100.0	100.0
TOTAL	17		

TABLE 6.4 SEALED SOURCES PRODUCING SHIPPED NUCLEAR WASTE FOR TEXAS, 1980

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	1	50.0	50.0
Other	1	50.0	100.0
EDUCATIONAL			
University/College	1	100.0	100.0
INDUSTRIAL			
Manufacturing	5	25.0	25.0
Construction	4	20.0	45.0
Well logging/ Seismology/ Oil-gas exploration.	3	15.0	60.0
Engineering	1	5.0	65.0
R & D	3	15.0	80.0
Other	4	20.0	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT	0	0	0
STATE GOVERNMENT			
Highway Department	1	100.0	100.0
TOTAL	24		

Table 6.4B Cyclotrons Producing Nuclear Waste Shipped From Texas

Table 6.4B represents those respondents to the survey who reported shipping nuclear waste produced from a cyclotron and shipped during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting shipping nuclear waste specifically generated from a cyclotron. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. This table was generated from data reported by a licensee on page 6 of the survey. Specific information relating to the use of a cyclotron was reported in sections 24.4 of the survey.

TABLE 6.4 CYCLOTRONS PRODUCING NUCLEAR WASTE SHIPPED FROM TEXAS

Facility	Number	%	Cumulative %
MEDICAL			
Hospital	1	50.0	50.0
Other	1	50.0	100.0
EDUCATIONAL			
University/College	1	100.0	100.0
INDUSTRIAL			
Other	1	100.0	100.0
CRITICAL NUCLEAR REACTOR	0	0	0
FEDERAL GOVERNMENT	0	0	0
STATE GOVERNMENT	0	0	0
TOTAL	4		

Table 6.5 Millicuries of Nuclear Waste Shipped by Facility Type

Table 6.5 represents those respondents to the survey who reported shipping nuclear waste produced from all sources and categories during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of millicuries reported shipped. When a specific category was not reported by any licensee, a 0 is shown for that particular category. Each isotope reported on pages 3, 4, and 5 of the survey was included in this table. Isotopes and totals for the three years are shown in millicuries. By using a validation program, multiple reporting of the same isotope and quantity has been corrected in the totals; i.e., respondents were found to report duplicated data in both the Medical category and Educational categories.

TABLE 6.5 MILLICURIES OF NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1978 BY FACILITY TYPE

Facility	Millicuries	% Of Total
MEDICAL		
Hospital	1267	0.08
Other	648	0.04
EDUCATIONAL		
University/College	12	0.00
High School	0	0.04
INDUSTRIAL		
Manufacturing	1396281	86.67
Construction	153650	9.54
Pharmaceutical Mfg.	23	0.00
Other	42	0.00
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	23	0.00
STATE GOVERNMENT		
Highway Department	59000	3.66

TABLE 6.5 MILLICURIES OF NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1979 BY FACILITY TYPE

Facility	Millicuries	% Of Total
MEDICAL		
Hospital	1127	0.07
Other	655	0.04
EDUCATIONAL		
University/College	18	0.00
High School	0	0.04
Other	0	1.55
INDUSTRIAL		
Manufacturing	1359710	90.28
Construction	106650	7.08
Pharmaceutical Mfg.	512	0.03
Other	23333	1.55
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	116	0.01
STATE GOVERNMENT		
Highway Department	14000	0.93

TABLE 6.5 MILLICURIES OF NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1980 BY FACILITY TYPE

Facility	Millicuries	% Of Total
MEDICAL		
Hospital	13056	0.38
Other	664	0.02
EDUCATIONAL		
University/College	13	0.00
High School	0	0.02
Other	0	44.54
INDUSTRIAL		
Manufacturing	1419119	40.85
Construction	422650	12.17
Well logging/ Seismology/ Oil-gas exploration.	4358	0.13
Engineering	50000	1.44
R & D	16	0.00
Pharmaceutical Mfg.	75	0.00
Other	1547052	44.54
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	620	0.02
STATE GOVERNMENT		
Highway Department	16000	0.46
TOTAL MILLICURIES FOR ALL 3 YEARS:		6590688

Table 6.6 Cubic Meters of Solid Nuclear Waste Shipped by Facility Type

Table 6.6 represents those respondents to the survey who reported shipping nuclear waste produced from all sources and categories during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of cubic meters reported shipped. When a specific category was not reported by any licensee, a 0 is shown for that particular category. Each isotope reported on pages 3, 4, and 5 of the survey was included in this table. Isotopes and totals for the three years are shown in millicuries. By using a validation program, multiple reporting of the same isotope and quantity has been corrected in the totals; i.e., respondents were found to report duplicated data in both the Medical category and Educational categories.

TABLE 6.6 CUBIC METERS OF SOLID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1978 BY FACILITY TYPE

Facility	Cubic Meters	% Of Total
MEDICAL		
Hospital	0.25	1.64
Clinic	0.13	0.85
Other	0.33	2.17
EDUCATIONAL		
University/College	0.12	0.79
High School	0.00	2.17
Other	0.00	33.66
INDUSTRIAL		
Manufacturing	0.10	0.66
Pharmaceutical Mfg.	8.00	52.60
Other	5.12	33.66
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	1.40	9.20
STATE GOVERNMENT	0	0

TABLE 6.6 CUBIC METERS OF SOLID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1979 BY FACILITY TYPE

Facility	Cubic Meters	% Of Total
MEDICAL		
Hospital	1.20	1.74
Clinic	0.10	0.15
Other	2.70	3.92
EDUCATIONAL		
University/College	2.62	3.80
High School	0.00	3.92
Other	0.00	0.17
INDUSTRIAL		
Manufacturing	0.10	0.15
Pharmaceutical Mfg.	10.00	14.51
Other	0.12	0.17
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	4.80	6.97
STATE GOVERNMENT	0	0

TABLE 6.6 CUBIC METERS OF SOLID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1980 BY FACILITY TYPE

Facility	Cubic Meters	% Of Total
MEDICAL		
Hospital	3.00	22.63
Other	0.55	4.18
EDUCATIONAL		
University/College	0.51	3.86
High School	0.00	4.18
Other	0.00	0.09
INDUSTRIAL		
Well logging/ Seismology/ Oil-gas exploration.	0.00	0.01
R & D	0.00	0.01
Pharmaceutical Mfg.	7.00	52.81
Other	0.01	0.09
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	2.70	20.37
STATE GOVERNMENT	0	0
TOTAL CUBIC METERS FOR ALL 3 YEARS:		97.37

Table 6.7 Liters of Liquid Nuclear Waste Shipped by Facility Type

Table 6.7 represents those respondents to the survey who reported shipping nuclear waste produced from all sources and categories during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of liters reported shipped. When a specific category was not reported by any licensee, a 0 is shown for that particular category. Each isotope reported on pages 3, 4, and 5 of the survey was included in this table. Isotopes and totals for the three years are shown in liters. By using a validation program, multiple reporting of the same isotope and quantity has been corrected in the totals; i.e., respondents were found to report duplicated data in both the Medical category and Educational categories.

TABLE 6.7 LITERS OF LIQUID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1978 BY FACILITY TYPE

Facility	Liters	% Of Total
MEDICAL		
Other	0.05	0.02
EDUCATIONAL		
University/College	0.05	0.02
Other	0.00	3.49
INDUSTRIAL		
Pharmaceutical Mfg.	219.00	76.00
Other	10.05	3.49
CRITICAL NUCLEAR REACTOR	0	0
FEDERAL GOVERNMENT		
Non-Military	59.00	20.48
STATE GOVERNMENT	0	0

TABLE 6.7 LITERS OF LIQUID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1979 BY FACILITY TYPE

Facility	Liters	% Of Total
MEDICAL		
Hospital	0.50	0.10
Other	0.14	0.03
EDUCATIONAL		
University/College	0.14	0.03
High School	0.00	0.03
Other	0.00	0.03
INDUSTRIAL		
Pharmaceutical Mfg.	419.00	82.17
Other	0.14	0.03
CRITICAL NUCLEAR REACTOR		
FEDERAL GOVERNMENT		
Non-Military	58.00	11.37
STATE GOVERNMENT		
Other	32.00	6.28

TABLE 6.7 LITERS OF LIQUID NUCLEAR WASTE SHIPPED FROM TEXAS FOR 1980 BY FACILITY TYPE

Facility	Liters	% Of Total
MEDICAL		
Hospital	1.51	0.16
Other	0.14	0.01
EDUCATIONAL		
University/College	0.14	0.01
High School	0.00	0.01
Other	0.00	2.11
INDUSTRIAL		
Pharmsceutical Mfg.	874.00	91.55
Other	20.14	2.11
CRITICAL NUCLEAR REACTOR		
FEDERAL GOVERNMENT		
Non-Military	31.00	3.25
STATE GOVERNMENT		
Other	28.00	2.93
TOTAL LITERS FOR ALL 3 YEARS:	1752.333	

Table 6.8 Percent Responses to the Survey

Table 6.8 represents all licensees responding to the survey. When a respondent reported no waste shipped during the three years of the study period (1978, 1979, and 1980), the respondent's survey was divided into one of two major separations in the computer processing. This table illustrates the two groups: no waste generated and waste generated.

STATE	NO WASTE GENERATED	WASTE GENERATED	CUMULATIVE FIGURE
Texas	81	19	589

Table 6.9 Nuclear Waste Shipped in Millicuries Isotopes

Table 6.9 represents those respondents to the survey who reported shipping nuclear waste produced from all sources and categories during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of millicuries reported shipped. When a specific category was not reported by any licensee, a 0 is shown for that particular category. Each isotope reported on pages 3, 4, and 5 of the survey was included in this table. Isotopes and totals for the three years are shown in millicuries. By using a validation program, multiple reporting of the same isotope and quantity has been corrected in the totals; i.e., respondents were found to report duplicated data in both the Medical category and Educational categories.

TABLE 6.7 NUCLEAR WASTE SHIPPED IN MILLICURIES FOR TEXAS IN 1978

Isotope	1	2	3	4	5	6	7	8
H3	0	0	12902	0	2	0	0	129
C14	0	0	14	0	0	0	0	14
CR51	0	0	0	0	15	0	0	15
FE59	1	1	1	0	0	0	0	1
GA67	4	0	0	0	0	0	0	4
TC99	1096	0	0	0	0	0	0	1096
I123	1	1	1	0	0	0	0	1
W125	636	0	668	0	4	0	0	684
I131	55	10	10	0	0	0	0	55
XE133	122	0	0	0	0	0	0	122
RA236	0	0	4000	0	0	0	0	4000
CS137	0	0	450	0	0	0	0	450
IR194	0	0	251950	0	0	59000	0	251950
Other	0	0	1280000	0	2	0	0	1280002
TOTAL	1915	12	1549995	0	23	59000	0	1551299

NOTE: SOME RESPONDENTS REPORTED IN MORE THAN ONE CATEGORY. THE CUMULATIVE TOTAL DOES NOT REFLECT DOUBLE ENTRIES.

1=Medical
2=Educational
3=Industrial
4=Critical Reactor
5=Federal Government
6=State Government
7=Not Specified
8=Cumulative Total

TABLE 6.9 NUCLEAR WASTE SHIPPED IN MILLICURIES FOR TEXAS IN 1979

Isotope	1	2	3	4	5	6	7	8
H3	1	1	216	0	1	0	0	218
	0	0	30	0	0	0	0	30
[illegible]	0	0	7	0	0	0	0	7
CA45	1	1	0	0	0	0	0	1
CR51	5	0	0	0	1	0	0	6
FE59	1	1	1	0	0	0	0	1
CO60	0	0	15000	0	0	0	0	15000
GA67	4	0	0	0	0	0	0	4
SR90	0	0	1000	0	0	0	0	1000
TC99	1104	0	0	0	0	0	0	1104
I123	1	1	1	0	0	0	0	1
I125	641	4	940	0	109	0	0	1059
I131	22	10	10	0	0	0	0	22
XE133	2	0	0	0	0	0	0	2
RA236	0	0	2000	0	0	0	0	2000
CS137	0	0	3050	0	0	0	0	3050
IR194	0	0	187950	0	0	14000	0	187950
Other	0	0	1280000	0	6	0	0	1280036
TOTAL	1782	18	1490205	0	116	14000	0	1491491

NOTE: SOME RESPONDENTS REPORTED IN MORE THAN ONE CATEGORY. THE CUMULATIVE TOTAL DOES NOT REFLECT DOUBLE ENTRIES.

1=Medical
2=Educational
3=Industrial
4=Critical Reactor
5=Federal Government
6=State Government
7=Not Specified
8=Cumulative Total

TABLE 6.9 NUCLEAR WASTE SHIPPED IN MILLICURIES FOR TEXAS IN 1989

Isotope	1	2	3	4	5	6	7	8
H3	1	1	366	0	78	0	0	!
C14	0	0	5	0	0	0	0	
P32	0	0	8	0	0	0	0	8
CR51	36	0	0	0	0	0	0	36
FE59	1	1	1	0	0	0	0	1
CO60	0	0	2321	0	0	0	0	2321
GA67	4	0	0	0	0	0	0	4
SR90	0	0	0	0	1	0	0	1
TC99	13000	0	0	0	0	0	0	13000
I123	12	1	1	0	0	0	0	12
I125	651	0	742	0	0	0	0	749
I131	10	10	10	0	0	0	0	10
XE133	2	0	0	0	0	0	0	2
TL201	3	0	0	0	0	0	0	3
RA236	0	0	6000	0	0	0	0	6000
CS137	0	0	1504550	0	0	0	0	1504550
IR194	0	0	649250	0	0	16000	0	649250
GD154	0	0	1	0	0	0	0	1
Other	0	0	1280010	0	541	0	0	1280551
TOTAL	13720	13	3443269	0	620	16000	0	3456954

NOTE: SOME RESPONDENTS REPORTED IN MORE THAN ONE CATEGORY. THE CUMULATIVE TOTAL DOES NOT REFLECT DOUBLE ENTRIES.

1=Medical
2=Educational
3=Industrial
!=Critical Reactor
5=Federal Government
6=State Government
7=Not Specified
8=Cumulative Total

Table 6.10 Nuclear Waste Shipped Classified by Hazard

Table 6.10 represents those licensees reporting the use of nuclear materials in all forms who reported shipping hazardous forms of nuclear waste during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The number of times a shipment took place is represented in this table. Each hazardous classification reported in Sections 10, 16, and 22 of the survey are reported in this table. Potentially hazardous materials such as corrosive, toxic, flammable, volatile, and explosive materials are reported.

TABLE 6.10 NUCLEAR WASTE SHIPPED CLASSIFIED BY HAZARD FROM TEXAS

Facility	HAZARD CLASS					
	Corros.	Toxic	Flamm.	Volat.	Exp.	N.S.
MEDICAL						
Hospital	0	0	0	0	0	-
Clinic	0	0	0	0	0	2
EDUCATIONAL						
University/College	1	0	4	4	0	23
Other	1	3	4	0	0	26
INDUSTRIAL						
Manufacturing	0	3	0	0	0	19
Construction	0	0	0	0	0	6
Other	1	0	0	0	0	0
CRITICAL NUCLEAR REACTOR	0	0	0	0	0	0
FEDERAL GOVERNMENT	0	0	0	0	0	0
STATE GOVERNMENT						
Highway Department	0	0	0	0	0	3
Health Department	0	0	0	0	0	3
Other	0	2	2	0	0	0
OTHER JURISDICTIONS						
County	0	0	0	0	0	3
TOTALS	3	8	10	0	0	114

Corros.=Corrosive
Toxic=Toxic
Flamm.=Flammable
Volat.=Volatile
Exp.=Explosive
N.S.=Not Specified

Table 6.11 Nuclear Waste Shipped Classified by Container Type

Table 6.11 represents those licensees using nuclear materials who reported the types of shipping containers used for transporting nuclear waste during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The number of times a shipment took place is represented in this table. Each container type classification reported in Sections 10, 16, and 22 of the survey are reported in this table. Shipping container types include Kraft containers, 55 gallon drums, 30 gallon drums within 55 gallon drums, and types not specified.

TABLE 6.11 NUCLEAR WASTE SHIPPED CLASSIFIED BY CONTAINER TYPE FORM FROM TEXAS

Facility	CONTAINER CLASS			
	Kraft	55-Gal. Drum	30-55 Gal. Drum	Type Spec
MEDICAL				
Hospital	0	4	0	37
Clinic	0	2	0	3
Other	0	37	0	3
EDUCATIONAL				
University/College	0	45	0	1
INDUSTRIAL				
Manufacturing	4	4	19	14
Well logging/ Seismology/ Oil-gas exploration	0	0	0	1
Engineering	0	0	0	1
R & D	0	0	0	1
Pharmaceutical Mfg.	0	0	0	1
Other	0	23	0	1
CRITICAL NUCLEAR REACTOR	0	0	0	0
FEDERAL GOVERNMENT				
Non-Military	0	4	9	1
STATE GOVERNMENT				
Highway Department	0	0	0	3
Other	0	4	0	0
TOTALS	4	123	27	75

Corros.=Corrosive
Toxic=Toxic
Flamm.=Flammable
Volat.=Volatile
Exp.=Explosive
N.S.=Not Specified

Table 6.12 Nuclear Waste Shipped Classified by Physical Form

Table 6.12 represents those licensees using nuclear materials who reported the specific forms of waste shipped during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The number of times a shipment took place is represented in this table. Each physical form classification reported in Sections 10, 11, 16, 17, 22, and 23 of the survey have been tabulated in this table. The waste forms reported were dry solids, solid liquids, non-solid liquids, scintillation vials, biological, gaseous, and sealed sources.

TABLE 6.12 NUCLEAR WASTE SHIPPED CLASSIFIED BY PHYSICAL FORM FROM TEXAS

Facility	PHYSICAL CLASS							
	1	2	3	4	5	6	7	8
MEDICAL								
Hospital	6	6	21	0	0	6	0	3
Clinic	2	0	0	0	0	0	0	0
Other	7	0	27	6	0	0	0	1
EDUCATIONAL								
University/College	7	0	20	0	0	0	0	1
INDUSTRIAL								
Manufacturing	4	0	6	1	0	0	19	0
Construction	3	0	0	0	0	0	6	0
Well logging/ Seismology/ Oil-gas exploration	1	0	0	0	0	0	0	0
Engineering	1	0	0	0	0	0	1	0
Pharmaceutical Mfg.	0	2	0	0	0	0	[illegible]	2
Other	3	0	20	0	0	0	1	3
CRITICAL NUCLEAR REACTOR	0	0	0	0	0	0	0	0
FEDERAL GOVERNMENT								
Non-Military	3	2	0	0	0	0	0	0
STATE GOVERNMENT								
Highway Department	3	0	0	0	0	0	0	0
Health Department	0	0	0	4	0	0	0	0
TOTALS	40	10	94	19	0	6	27	21

1=Dry Solids
2=Solid Liquids
3=Non Solid Liquids
4=Scintillation Vials
5=Biological
6=Gaseous
7=Sealed Source
8=Type Not Specified

Table 6.13 Nuclear Waste Shipped Classified by Reduction Process Used

Table 6.13 represents those licensees using nuclear materials who reported the reduction process of the waste shipped during one or more years of the study period (1978, 1979, and 1980). The categories of facilities are the same. The numbers reported in the Total Column represent the total number of licensees reporting shipping nuclear waste. Percentages were computed for each category to equal 100 percent. When a specific category was not reported by any licensee, a 0 is shown for that particular category. The number of times a shipment took place is represented in this table. Each reduction process classification reported in Sections 9, 15, and 21 of the survey have been tabulated in this table. The reduction processes reported were compaction, solidification, evaporation, absorption and incineration.

TABLE 6.13 NUCLEAR WASTE SHIPPED CLASSIFIED BY REDUCTION PROCESS USED BY TEXAS

Facility	REDUCTION PROCESS						
	1	2	3	4	5	6	7
MEDICAL							
Hospital	0	0	0	0	0	0	5
Physician	2	0	0	0	0	0	0
Clinic	1	0	0	0	0	1	2
EDUCATIONAL							
University/College	0	0	0	0	0	0	2
Other	1	0	0	0	0	0	0
INDUSTRIAL							
Manufacturing	0	0	0	0	0	0	4
Mining	0	0	0	0	0	0	1
Well logging/ Seismology/ Oil-gas exploration	0	0	0	0	0	1	0
Engineering	0	0	0	0	0	0	2
R & D	0	0	0	0	0	0	2
Other	1	0	0	0	0	1	3
CRITICAL NUCLEAR REACTOR	0	0	0	0	0	0	0
FEDERAL GOVERNMENT							
Military	6	0	0	0	0	1	78
STATE GOVERNMENT	0	0	0	0	0	0	0
TOTALS	11	0	0	0	0	6	99

1=Compaction
2=Solidification
3=Evaporation
4=Adsorption(Ion Exchange)
5=Absorption
6=Incineration
7=Method Not Specified

APPENDIX A: Annotated Bibliography

ANNOTATED BIBLIOGRAPHY FOR TEXAS

Accidents Involving Radioactive Transport. Critical Mass Project. October 1980.

Table Two: Listing of nuclear transport accidents by state (1979) shows Texas with one incident out of the 122 cited.

"Action Delayed on State Bills Regulatory Radioactive Wastes." Corpus Christi Caller, 16 February 1981.

"The rules of the game under the bills include . . . private companies would be licensed by the Health Department to operate temporary sites, such as those proposed for Leon and LaSalle counties. Temporary sites store and process low-level wastes for shipment to out-of-state burial sites. Only one storage site, near Houston, is open." "Low-level wastes would be defined as those with 100-year half lives, as the Health Department proposed. The citizens' bill set a 35-yr. limit."

"Area Dome is Running as N-Waste Site." Shreveport Times, 11 December 1980.

"A Northwest Louisiana salt dome appears to be in a three-way race to become the first national burial ground for nuclear waste." Ohio research firm (Battelle Laboratories) has winnowed three domes from a field of eight scattered across Texas, Louisiana, and Mississippi." "The Texas domes were eliminated from consideration for reasons ranging from excessive oil and gas drilling to brine production."

"Disposal of Low-Level Radioactive Waste. Issue Brief." Science and Technology for the Legislatures. vol. 5, no. 4. Fall 1979.

"The closing of two of the nation's disposal sites for low-level radioactive wastes . . . has caused a problem for generators of commercial LLW . . . Hanford site . . . the only site available for absorbed liquid waste disposal . . . Some universities will have to store LLW on their premises, whether they have that capability or not. The National Institute and Harvard have sent their wastes to a division of Todd Shipyards in Galveston, Texas. Todd Shipyards had been burning or evaporating radioactive liquids and sending the residual solid wastes to Nevada. With Beatty's closing, the company is now holding the wastes. The Department of Energy had completed a draft study concerning the acceptance of commercial LLW at 14 sites. DOE sites that could be affected included Partex Plant in Amarillo, Texas."

"Fear of Nuclear Waste Spurs Town to Protest." Austin American Statesman, 24 November 1980.

"Ever since NSSI [Nuclear Sources and Services, Inc. of Houston] announced plans to store low-level radioactive waste at Centeville, fear has run a mainstream through rural Leon County." "Centeville, including it's only doctor . . . has contracted the fear." "People in this town . . . tend to agree with McKinney, who argues that even if NSSI maintains a proper operation, its presence will shorten lifespan "through anxiety," at least. A radioactive waste facility will deter commerce . . . lead to possible pollution of the environment." "There will not be any burial of any radioactive material. All storage will be above ground in specialty designed buildings." "We'll seek a moratorium in the Legislature against the granting of permits." [McKinney said].

Identification of Socioeconomic and Institutional Barriers to Radioactive Materials Transportation. Project One. Draft Two. Southern States Energy Board Radioactive Materials Transportation Study. Atlanta, GA. 6 October 1980.

In the summary of relevant state statutes and regulations and state agency responsibilities for Texas, "the lead transportation agency is the Dept. of Public Safety; the NRC Agreement Agency is the Division of Occupational Health and Radiation Control of the Texas Dept. of Health; and the Bureau of Environmental Health is responsible for solid waste management and environmental control."

List of DOE Radioisotope Customers with Summary of Radioisotope Shipments. J.S. Burlison. Pacific Northwest Laboratory; U.S. Department of Energy. Office of Health and Environmental Research. June 1980.

Listing includes industries such as: Dresser Industries, Inc, Gamma Industries, Gulf Nuclear, Inc., Monsanto Co., Nuclear Sources and Services, Texas Instruments, and Vought Corp., as well as the University of Texas at Dallas and Richardson, University of Texas Medical Branch at Galveston, and NASA Space Center at Houston.

Low-Level Radioactive Waste Technology. A Selected Annotated Bibliography. Oak Ridge National Laboratory. October 1980. (ORNL/EIS-133/V2).

Item #63 (p.26) is an abstract of a report by J.O. Duguid entitled "Assessment of Department of Energy Low-Level Radioactive Solid Waste Disposal Storage Activities" (BMI 1984; 1977). "Contains some of the only published information on the DOE disposal facilities at (including) Partex-Amarillo, Texas." Item #78 (p. 32-3) cites a study by Ford, Bacon and Davis Utah, Inc. concerning inactive uranium mill tailings Ray Point Site, Ray Point, Texas. "There are areas of offsite contamination that could contaminate water."

Low-Level Waste Management. Issue Brief. National Conference of State Legislatures. Office of Science and Natural Resources. August 1, 1980. (EV/WR/LO).

Quantities of low-level waste generated in each state are listed in Table 2. For Texas, the 1978 volume is 2,160 cubic meters, 3 percent of total 1978 U.S. volume.

The 1979 State-by-State Assessments of Low-Level Radioactive Waste Shipped to Commercial Burial Grounds. San Francisco, CA: NUS Corporation. November 1980. (NUS-3440, Rev.1).

Total low-level radioactive waste disposed of at commercial facilities is 543 cubic meters. Institutional wastes come from 605 licensees at medical facilities and universities, with industrial waste being generated by 982 licensees.

Nuclear Energy in Texas: Major Issues and Policy Recommendations. Report of the Advisory Committee on Nuclear Energy to the Texas Energy and Natural Resources Advisory Council. Austin, TX. 7 December 1979.

Notation from the executive summary on low-level waste (p.5-6): "The State should (1) pass legislation recognizing the public need for a LLW facility in Texas; (2) pass legislation assigning the Texas Department of Health to license and regulate such a facility; (3) establish a panel of objective experts to address the technical issues; (4) develop and compile specifications for building and licensing a LLW facility; (5) review federal regulations for LLW disposal and coordinate implementation in Texas; (6) develop and present cost estimates to the legislature for implementing a program of licensing and regulating a Texas LLW disposal facility; and (7) petition the (NRC) to define its specifications and regulations for LLW; and specifically to subdivide LLW into categories related to biological hazard."

Predicting Routes of Radioactive Wastes Moved on the U.S. Railroad System. by E.L. Hillsmare et al. Sandia National Laboratories. Transportation Technology Center. 1980. [CONF-801115-5 (Draft)].

"Two routes . . . plotted between the Hanford Plant in south central Washington State and the proposed defense waste repository at Carlsbad, New Mexico. . . . normal route follows a mainline of the Burlington Northern through . . . to Amarillo, Texas, where the shipments would transfer to the Santa Fe."

Preliminary State-by-State Assessments of Low-Level Radioactive Wastes Shipped to Commercial Burial Grounds. Rockville, MD: NUS Corporation. February 1980. (NUS-3440).

A graph illustrates the amount of total low-level radioactive waste generated within the state, detailing percentages by source for institutional, industrial, commercial power reactor, and government/military wastes. Waste forms for institutional wastes from medical facilities and universities are delineated. Total volume is 2,163 meters per year.

Radioactive Waste Management Integrated Data Base: a Bibliography. Oak Ridge National laboratory. September 1980. (ORNL/TM-7385/v2).

Citation #159 (p.59) refers to book by M.T. Halbouty, Salt Dome: Gulf Region, United States and Mexico (1967). The use of such geologic structures for radioactive waste disposed is evaluated.

"Records Tell Story of Nuclear Accidents; Firm's President Involved." Austin American Statesman, 4 January 1981.

"Robert Gallagher, head of Nuclear Sources and Services, Inc., has met heated opposition in Centerville and neighboring Leona since April 1980, when he announced plans to locate nuclear waste storage facilities near those small East Texas towns." "The danger in measuring public reaction is that its main gauge is level of emotion. . . .there are rational arguments concerning Gallagher's track record elsewhere." The remainder of this article follows the past records for various nuclear-related business endeavors in which Mr. Gallagher was involved, citing so-called "numerous contamination incidents." "Now the firm is asking the Texas Health Department for permission to store low-level nuclear waste."

Report of the Advisory Committee on Nuclear Energy on Low-Level Nuclear Waste Disposal. Submitted to the Texas Energy and Natural Resources Advisory Council. September 1980.

In a summary of relevant issues, analyses were prepared by the staff of several state agencies. Topics include: authority of the State of Texas to establish an in-state only low-level nuclear waste disposal facility; economic analysis as related to the volumes of waste generated; operational cost analysis; transportation cost analysis; and decommissioning and long-term care. The establishment of an ECF (extended care fund) may be required. Other topics are: geologic consideration for disposal of low-level radioactive wastes; public health and safety and several letters relating to the transportation of "hazardous" materials. Eight recommendations are outlined: (1) disposal site should be established; (2) site should be located on state-owned land; (3) site should be operated and maintained by an authority of the State of Texas such as the Gulf Coast Waste Disposal Authority; (4) proposed site should be self-supported by disposal fees; (5) waste materials disposed at the proposed site shall be limited to "material with a half-life of 100 years or less; (6) shipments of LLW will be transported in accordance with existing regulations and will comply with additional requirements; (7) schedule of surcharges should be established . . . provision should be made for inspection of shipments; (8) the state authority responsible for managing the proposed site must keep abreast of improvements in LLW technology and implement those improvements as appropriate.

Review and Integration of Existing Literature Concerning Potential Social Impacts of Transportation of Radioactive Materials in Urban Areas. University of Texas; Rice University; U.S. Nuclear Regulatory Commission. July 1980. (NUREG/CR-0742; SAND 78/7017).

"Agencies that should be alerted (in addition to the usual calls to police and fire departments) are generally not familiar to the general public. . . . For example, if . . . accident . . . took place on the grounds of Houston's Texas Medical Center near M.D. Anderson Cancer Clinic . . . there is a fairly good chance . . . of alerting (1) the Medical Center's own police, who could and would radio to county state radiological monitoring teams and the relevant city/county/state police officials, and (2) the M.D. Anderson nuclear medicine section personnel."

A Selected, Annotated Bibliography of Studies Relevant to the Isolation of Nuclear Wastes. Oak Ridge National Laboratory. Ecological Sciences Information Complex. September 1980. (ORNL/EIS-156/V1).

Item numbers 438, 417, and 353 relate to studies conducted on the evaluation of the use of salt domes/deposits in Texas for the storage of rad waste, not necessarily specifying the types of wastes to be considered.

Stable Isotope Sales: Mound Facility Customer and Shipment Summaries, FY 1979. Monsanto Research Corp., Mound Facility; U.S. Department of Energy. October 14, 1980 (MLM-2718).

Customers include: Bureau of Mines/Cemarillo Helvin Plant; Texas Instruments, Inc.; Texas Nuclear Corp; Texas A&M University/Chemistry Dept.; and University of Texas at Austin.

"Texas Energy Advisory Council Advisory Committee on Nuclear Energy's Recommended Policy Statements on Selected Nuclear Issues." Texas Register, 3 August 1979.

"Texas industries and institutions, both academic and medical, are producing increasing amounts of low-level radioactive waste. . . . yearly production of low-level waste will accelerate significantly. Unfortunately, the three licensed low-level waste disposal facilities in the United States present difficulties for disposing of low-level wastes from Texas." "Texas can develop a program for disposal of all LLW." "To establish an effective administration to regulate low-level waste disposal operation, the state legislature has only to enact legislation which allows the state to comply with 10 CFR 20.302(b)." "LLW disposal facility located in Texas offers considerable savings." "In 1978, 10 state-supported institutions spent $115,000 to dispose of their LLW." "Barnwell, South Carolina . . . Chem Nuclear . . . gives preference to regionally and locally generated waste. Texas is not within the preferential area. "Texas has an obligation to provide LLW disposal facilities for waste generated in the state." "It is recognized that if an LLW disposal facility is located in Texas, enforcement of regulations by the State of Texas is preferable to enforcement . . . by the federal government." "Therefore, it is recommended that the state legislature pass legislation which would recognize the public need for a low-level waste disposal site located in Texas."

"Texas Faces Specter of N-garbage Pickup." Dallas News, 24 February 1981.

"Texas ranks 13th in the nation in the production of low-level nuclear waste, but when the four nuclear power plants are completed, the . . . production will . . . catapult it to seventh." "Two of the three major Texas firms licensed to process and store the low-level nuclear waste have been barred by the courts from accepting any more because of repeated violations." "Under federal law, low-level nuclear waste can be disposed of only on sites owned by the state. . . . Texas law makes no provision for state ownership . . . Sen. Kent Caperton, D-Bryan, co-sponsor of a bill . . . lays groundwork for establishing Texas' first burial ground for low-level nuclear waste."

"Texas Hospitals Face N-Waste Backlog Crisis." Dallas News, 23 February 1981.

"The entire Texas Medical Center could be paralyzed . . . certainly by the end of the year if something isn't done." "Storerooms at some of Texas' largest hospitals are bulging with 55-gallon drums of radioactive waste. And barrels are stacked to the ceiling at the state's only active temporary storage facility, Nuclear Sources and Services, Inc. in Houston." "The only other licensed facilities capable of handling any significant amounts of nuclear waste are Todd Shipyards of Galveston and Iso-Tex of Friends Wood, near Houston. Both are under court orders not to accept any more waste because of repeated violations of health department standards." "Virtually all of those who manufacture, use or dispose of radioactive waste have said that Texas needs a permanent nuclear dump site."

"A Texas Nuclear War; Want Not, Waste Not." Texas Observer, 14 November 1980.

Article dwells on the struggle being waged by NSSI (Nuclear Sources and Services, Inc.) to establish a disposal site for nuclear wastes in Leon County. "While lawyers wrangle, the citizens of the area keep the NSSI issue at the front of public and media consciousness." "The Senate Nuclear Regulatory Subcommittee, chaired by Hart, has narrowed to nine the number of states where 'temporary' storage facilities should be built until a permanent solution can be found. Six of the nine states would store commercial wastes. The other three would handle military wastes. The six commercial states [include] Texas." "Several [salt] domes in Texas are under study, including one in Leon County." "To the people of Leon County, there is no 'temporary' storage of nuclear waste. A facility that handles the stuff for 20 years is permanent." "The Texas Legislature is struggling to come up with some nuclear waste guidelines."

APPENDIX B: General Bibliography

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APPENDIX C: Selection of Newspaper Articles

ENVIRONMENT REPORTER - CURRENT DEVELOPMENTS
(Bureau of National Affairs)

Apr. 24, 1981

Texas

NEW LOW-LEVEL NUCLEAR WASTE LAW TIGHTENS HANDLING, DISPOSAL REGULATIONS

HOUSTON — (By a BNA Special Correspondent) — Gov. William P. Clements, Jr. signed into law April 1 a bill that provides regulations for handling and disposal of low-level nuclear waste in Texas.

Under the provisions of the new law, the state may take over a waste-handling site if, for instance, a previous operator abandons it. The law also establishes new licensing and site selection criteria, and sets penalties of up to $100,000 a day for violation of the regulations.

Presently, Texas has only one nuclear processing facility Nuclear Sources & Services, Inc., of Houston.

The legislation specifically limits operators of processing and disposal sites from handling any nuclear waste generated outside of Texas in the absence of an interstate compact or reciprocal agreement.

The law establishes an 18-member Radiation Advisory Board, composed of public and industry representatives, to advise the Texas Health Department, which is now empowered to acquire title to disposal and handling facilities under certain circumstances

A provision allowing citizens who show personal or economic injury as a result of site operations to sue violators also is included in the statute.

State licensing under the new law will take into account present land use compatability, effects on the surrounding community, suitability of the site, and qualifications of the prospective operator. Operator qualifications may include plans for providing insurance, monitoring of the low-level waste, security, and training and protection programs for its workers.

Public hearings will be held for new licenses and for any major changes in present disposal and handling sites under the law.

Clements signs nuclear-waste bill into law

By JOHN C. HENRY
American-Statesman Staff

Gov. Bill Clements signed legislation Wednesday tightening controls on storage and handling of low-level nuclear waste in Texas.

Clements' action came the same day the state's lone commercial dump had been scheduled to shut down.

The ink was hardly dry on the law, which went into effect immediately, before Clements called the threat of closing by Nuclear Sources and Services "propaganda" and the state health commissioner declared that the "critical" shortage of dump sites in Texas is being resolved.

In addition to the Houston-area site remaining open, commercial dumps are being proposed in Leon and LaSalle counties.

Robert Gallagher, owner of Nuclear Sources and Services, said he would remain open, but that his prices would increase 25 to 30 percent for processing and disposing of the waste.

In mid-February, Gallagher told a Senate committee that he would shut down April 1, which would have left Texans without an in-state storage site.

The state's two other sites — Todd Shipyards and Isotex, both in the Houston area — had closed previously. At the same time, three states that previously had accepted low-level waste were turning their backs to Texas' situation.

"We were in a crisis, not serious, but approaching that," Clements said after he signed the legislation sponsored by Sens. John Traeger of Seguin and Kent Caperton of Bryan and Rep. Bennie Bock of New Braunfels. "This bill will go a long way toward solving the problem."

At the signing Wednesday, Clements said he was not surprised by Gallagher's decision not to close. "I never expected him to do that," the Dallas Republican said

"What he was saying was for propaganda purposes." Clements said.

Clements, along with a group of lawmakers on hand for the signing, said Gallagher's threat had no effect on the legislation.

The new law expands the state health department's role in inspecting low-level nuclear waste sites, which are prohibited from accepting waste from out of state.

AUSTIN-AMERICAN STATESMAN, Austin, Texas
Apr. 2, 1981

WALL STREET JOURNAL, New York

Mar. 31, 1981

States Grapple With Mandate To Dispose of Atomic Waste

By Sam Allis
Staff Reporter of The Wall Street Journal

STATES ARE PLAYING A LIVELY GAME of musical chairs over the issue of low-level radioactive waste disposal, a subject known to cause outbreaks of yawns a few years ago. Not any more. "There's no technical problem here," says an Edison Electric Institute official. "It's all political."

The politics grew from federal legislation passed last December that says that states are responsible for their own low-level radioactive waste from nuclear power plants and from medical and commercial facilities. It encourages them to form interstate compacts with neighboring states to get rid of the stuff at regional disposal sites. It all sounds very orderly.

And then things get complicated. Starting in 1986, states joined in compacts will be able to prevent nonmember states from disposing of low-level waste at their facilities. Few states want to be left out in the cold. Membership in a compact means lower disposal costs because the expense of building and maintaining a waste facility is spread among member states. And without enough volume, a waste facility is a losing business proposition.

"Regions will be out of luck if they don't have a site by 1986," says Ray Peery of the Southern States Energy Board. Adds Patrick Costello, counsel to Idaho Governor John Evans, "You're going to see a lot of scrambling."

THE PACIFIC NORTHWEST IS CLOSEST to a compact, and the South has made substantial progress. It's no coincidence that these two areas have two of the three existing commercial sites for low-level waste. (The three sites: Hanford, Wash.; Barnwell, S.C., and Beatty, Nev.). The Northeast is beginning to move toward a compact, while the Midwest, second largest generator of the radioactive waste, is farthest behind.

The biggest stumbling block, predictably, is the location of disposal sites. By 1990, according to a study by the National Governors' Association, a total of at least six regional sites will be needed. By that time, the volume of low-level waste is expected to be more than triple the estimated 99,000 cubic meters generated last year. Who in these groups will get stuck with the radioactive waste facilities? "A state's going to have to take the political heat to take on a site," says one expert. "Only then will compacts come about."

A few states—Texas, Massachusetts, Kansas and Virginia among them—are planning for sites within their own borders and could become hubs of future state groupings. But most states want no part of the host role. "No one wants to touch it in Michigan," for example, says Gail Nelson of the National Conference of State Legislatures. "There's real inertia there because it's linked with high-level radioactive waste."

CALIFORNIA HAS A PROBLEM all its own, dubbed "the 800-pound gorilla syndrome" by an expert. The state produces more low-level waste than all of the other Western states combined, yet it is resisting any disposal facility within its borders. Under those terms, no one wants California in a compact.

Idaho's Mr. Costello says of California and its stand on a disposal site: "It's the center of gravity, and it should acknowledge this. It would be uneconomical and politically unacceptable to the small states for California not to take it."

Phillip Greenberg, a representative of California Gov. Edmund Brown, concedes the state's position is "awkward," particularly if Nevada follows through on Gov. Robert List's promise to close the Beatty disposal site when it becomes full by the mid-1980s.

People in Nevada, Washington and South Carolina are tired of taking everyone else's low-level waste. Govs. List and Richard Riley of South Carolina have said that no one should assume that their states will be the homes for facilities provided for in future compacts. Nevada, which generates small amounts of radioactive waste, has done more than its share for years, aides to Gov. List complain.

The people of Washington voted last November to exclude from the Hanford disposal site most low-level waste from any other state that isn't in a compact with Washington. The exclusion takes effect July 1, but few believe it could survive a court challenge because the timetable is at odds with the new federal law. But Washington made its point. It will take waste, but on its own terms.

LEGISLATION CREATING an eight-state compact in the Northwest was passed in the Idaho legislature last week and is pending in Washington. If any two legislatures act favorably before they adjourn this spring, the compact could become a reality this year. Other states in the group would be Alaska, Hawaii, Montana, Utah, Oregon and Wyoming.

Three clusters of states in the South have met to discuss the issue. One group includes nine Southeastern states stretching from Virginia to Florida. But Virginia also has met with five states farther north. A third group has met with Kansas. Some experts believe that Texas and Louisiana may be needed in the Kansas group to provide enough waste volume to make a compact worthwhile.

Northeastern states met a few weeks ago. Only the industrial Midwest states haven't met on the issue since the federal legislation was passed in December. Says William Taylor, science adviser to Michigan Gov. William Milliken, "So far, no governor has taken the lead to get the ball rolling."

FORT WORTH STAR-TELEGRAM, Fort Worth, Texas
Mar. 21, 1981

Nuclear dump bill gets tentative OK

By DAN MALONE
Star-Telegram Austin Bureau

AUSTIN — Representatives tentatively approved a tougher law governing companies that handle and store radioactive waste Wednesday, but they added an amendment making it harder for some residents to sue companies for violating state radiation regulations.

The amendment by Rep. Fred Agnich, R-Dallas, would make residents prove they have been, or will be, damaged by the company before they can file a lawsuit.

The original language in the bill, which the Senate already approved, said residents need only to prove they "may" be damaged — instead of "will" be — by a company in order to go to court.

"This bill is a very tenuous compromise," said bill sponsor Rep. Bennie Bock, D-New Braunfels. "They all want to change one little word. Before you know it, the bill will be a shell of its former self."

House members approved Agnich's amendment 77-63, but defeated a string of others that liberals and conservatives tried to add to the measure at the last moment.

Sen. John Traeger, D-Seguin, who sponsored the measure in the Senate, said he will accept the change the House made and ask senators to send the bill to Gov. Bill Clements. Representatives are expected to grant final approval for the measure Thursday.

The bill is designed to help the state better regulate the companies that handle radioactive waste in Texas. It also gives the Texas Department of Health emergency powers to help the 1,500 hospitals, universities and businesses that use low-level radioactive materials find space to store them.

The state's only operating storage firm — NSSI in Houston — announced it is going out of business on April 1, and some hospital administrators have warned they may have to curtail diagnosis and treatments that uses nuclear medicine unless they find more storage space.

Lawmakers rejected other attempts to change the bill, including three proposals by Rep. Bob Ware, R-Fort Worth.

Ware wanted to make the bill more acceptable to oil well service and logging firms that use radioactive materials.

But representatives out-voted Ware by margins of more than 5-to-1 as he offered his amendments, which Bock said were supported by oilman Eddie Chiles' Fort Worth-based Western Company of North America.

"This is another Western Company bill and I'm mad," said Bock, alluding to Chiles' "I'm mad" radio commentaries.

"There will be a lot of happiness in Fort Worth, Texas, if it is adopted," Ware said, pleading for its passage.

Ware said the amendment would exempt from the bill oil well logging and service businesses that use radioactive materials. But Bock and other lawmakers argued that the bill already exempts those companies from regulation.

"They're concerned that whether they come under the act is to be determined by agency rule (and not by law)," Ware said.

Representatives also turned down attempts to add three more public members to the 18-member radiation advisory commission and to require the health department to inspect all radioactive wastes before they are shipped out of state.

Rep. Mary Polk, D-El Paso, said the state should inspect the barrels in which the waste is stored to prevent Texas firms from having their dumping permits suspended in other states. NSSI had its permit temporarily suspended last year by the state of Washington after an NSSI barrel was found punctured and leaking small amounts of radioactive waste.

Bock's bill is the first of three the Legislature will consider to revamp the state's 20-year-old radiation laws.

The second bill, which controls the burial of mill tailings, a radioactive by-product of some uranium mining operations, won unanimous approval from the Senate Environmental Affairs Committee Wednesday.

A third bill, which has not yet been introduced, establishes a permanent burial site in Texas for low-level wastes. Currently, all Texas wastes are buried in Washington.

HOUSTON CHRONICLE, Houston, Texas

Mar. 18, 1981

Low-level radioactive waste management bill passed by Senate

BY RICHARD FISH
Chronicle Austin Bureau

AUSTIN — Permanent management of the low-level radioactive wastes resulting from uranium mining would be provided by a bill passed unanimously by the Senate and sent to the House.

The measure is part of a package of nuclear waste management legislation sponsored by Sen. John Traeger, D-Seguin.

A broader bill, setting up rules and regulations for handling and disposing of radioactive byproducts from medical and industrial use of nuclear material, was set for Senate consideration today.

Both bills, SB 735, which passed Tuesday, and SB 480, amended in the House and to be debated today, require that the state or federal government be able to take ultimate title to disposal and tailing sites to ensure they are looked after.

Traeger said there are 20 uranium mining sites in Texas. Most are "in situ" mining processes, using fluid to flush out ore for recovery, but two are open pit mines producing "tailings" of waste ore.

He said licensing mine sites and regulating care of their radioactive byproducts would cost the state $105,000 per year. His bill provides both criminal and civil penalties for violation of its provisions.

Meanwhile, the House of Representatives tentatively approved legislation giving the Texas Railroad Commission the authority to regulate underground storage of hydrocrabons in gas and injection wells.

The bill, HB 1379, by Rep. Tom Craddick, R-Midland, amends the Texas Water and Natural Resources Codes to give the Texas Department of Water Resources and the Texas Railroad Commission authority to govern the operation of injection wells and disposal wells which are used to pump liquids into the ground.

Although the Railroad Commission has been regulating injection wells, their legal authority has been unclear, and Craddick's bill would give the commission specific authority to continue regulating all injection wells.

The measure was tentatively approved without opposition.

The bill was designed to let the two state agencies, rather than the federal Environmental Protection Agency, regulate underground wells which store municipal and industrial waste.

The House also tentatively approved a measure by Rep. Larry Browder, D-Coldspring, to allow the Sam Rayburn Municipal Power Agency to sell bonds to purchase interest in an electrical power generating plant in Louisiana.

The power agency, which is composed of the cities of Livingston, Jaspar and Liberty, as well as Benton, La., was formed in 1977. The agency was blocked from selling bonds to purchase an interest in the construction of a 540-megawatt coal-fired power plant, however, by a Texas law which covers only Texas cities. The bill will allow the power agency to proceed with the bond sale.

A bill by Rep. Chris Semos, D-Dallas, to let Dallas and Harris counties charge for admissions to museums was amended to allow all counties to charge museum admission fees without prior legislative approval.

Dallas County recently bought the old Texas Schoolbook Depository Building near the assassination site of President Kennedy to use as a historical museum.

The Semos bill was tentatively approved.

In other action the Senate:

- Passed and sent to the House a bill regulating relationships between beer brewers and their distributors.

SB 720 by Sen. Jack Ogg, D-Houston, prohibits a brewer from canceling a contract with a distributor without good cause. Ogg said there are a number of cases in Texas of distributors who have had their contracts to sell a beer terminated arbitrarily by the manufacturer.

His "Beer Industry Fair Dealing Law," which passed overwhelmingly, also gives distributors the right to bequeath their business to their spouse and children without the manufacturer's approval.

- Voted down 17-13 a proposal by Sen. Walter Mengden, R-Houston, to require the secretary of state to mail to Congress copies of "memorial" resolutions passed by the Legislature.

Mengden is the author of many such resolutions, including a pending one to ask Congress to write a "right-to-work" amendment to the U.S. Constitution.

TIME MAGAZINE

Mar. 16, 1981

Hideaways for Nuclear Waste

Salt domes are considered as crypts for radioactive debris

They are great underground mountains of salt, some of them six miles deep and three miles across. They were formed tens of millions of years ago—some even before the age of the dinosaurs—by the evaporation of ancient saline seas. Layer upon layer of sediment piled atop the dried-up ocean beds. Gradually, columns of the lighter salt were forced upward by the pressure, like putty squeezed through the fingers of a slowly clenching fist. In the U.S. alone, there are more than 500 such salt domes, all of them in or around the Gulf of Mexico.

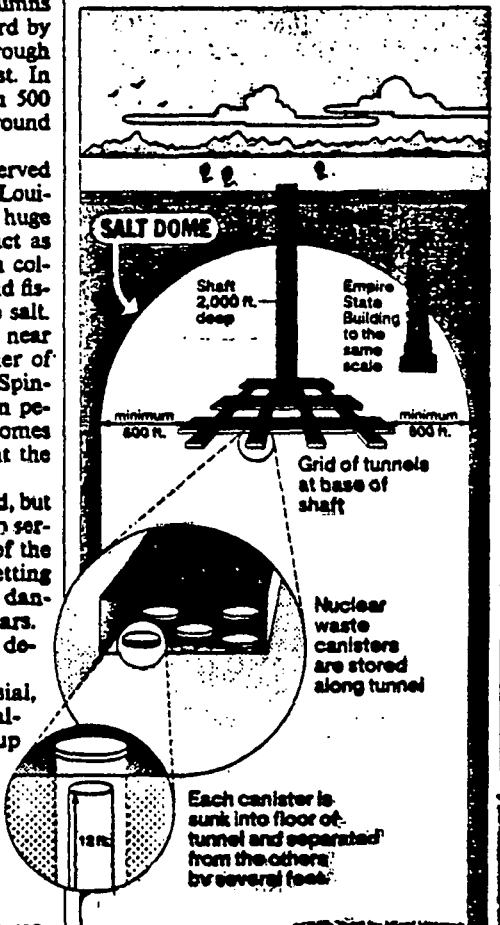
For centuries the domes have served as a source of cheap table salt. In Louisiana, salt miners have carved out huge underground caverns. The domes act as traps for oil and natural gas, which collect in neighboring rock in cracks and fissures created by the upthrust of the salt. In 1901, drilling around a dome near Beaumont, Texas, produced a gusher of unprecedented size. It was called Spindletop and gave birth to the modern petroleum industry. Since then, salt domes in the Gulf States have helped point the way to more than 6 billion bbl. of oil.

Today those riches have dwindled, but salt domes may again be pressed into service, this time as a solution to one of the country's hottest energy problems: getting rid of nuclear wastes, which can stay dangerously radioactive for 10,000 years. Some scientists suggest storing this debris deep inside salt domes.

The proposal is highly controversial, and residents of dome areas are already up in arms. In Louisiana, a group calling itself Citizens Against Radioactive Storage has been formed. During the last session of Congress, Louisiana Senator J. Bennett Johnston introduced a bill that would have blocked the use of salt domes by calling for storage in shallow beds, where, in case of leakage, the material would be more easily retrievable. Vows Louisiana Governor David Treen: "Unless it could be demonstrated that storing nuclear waste in salt domes is absolutely safe, I would oppose it."

Lately, popular fears have been stirred by a rash of mishaps involving salt domes. Last June methane gas exploded at a salt mine on Belle Isle, La., killing three miners and injuring 17 others. In November an oil-drilling rig accidentally punctured a salt-mine shaft under Jefferson Island, La., sending much of a 1.5-sq.-mi. lake gurgling down into the dome. The most frightening accidents have involved still another use of salt domes: as cheap, convenient storage tanks for crude-oil and of people had to flee Mont Belvieu, Texas (pop. 2,700), which sits atop the largest such hydrocarbon reserve in the U.S., after gases began leaking from it.

These accidents have not altered scientific interest in the domes as nuclear-age crypts. Scientists point out that domes appear geologically stable. They do not have ground water circulating through them to carry off radioactive material (such water were present, the soluble would long ago have been washed away.) Even if the salt were cracked by heat from radioactive materials, the rupture would tend to close itself, a self-healing characteristic of salt not found in, say, granitic or volcanic rock masses, which are also being investigated as radioactive refuse sites. Says Physicist Neal Carter of the Battelle Memorial Institute in Columbus, Ohio, which is studying the problem of nuclear-waste disposal: "We've concluded that salt domes are fully capable of containing radioactivity."



Containment is certainly needed. Nuclear wastes have been piling up from years of military, medical and power-plant operations. At present, most of it is temporarily—and perhaps dangerously—stored in huge steel-and-concrete tanks. No decision has yet been made on any of the various types of geological storage dumps under study. Carter explains that unlike the oil or gases kept in the ground under pressure at places like Mont Belvieu, solid nuclear wastes could not trickle through the salt. In fact, he and his colleagues already have some preliminary ideas about how the debris should be buried. Vertical shafts, he explains, would be sunk in solid salt to a depth of about 2,000 ft. Horizontal tunnels would fan out from the bottom of the shafts. The wastes, packaged in corrosion-resistant containers, would be buried beneath the tunnel floors. Then the entire mine would be refilled with salt and sealed.

The chief danger: long after all record of the radioactive crypts has vanished, someone may accidentally intrude into the dome. *—By Frederic Golden. Reported by David S. Jackson/Chicago and Robert C. Wurmstedt/Baton Rouge*

SAN ANTONIO LIGHT, San Antonio, Texas

Mar. 15, 1981

Radioactive-waste disposal crisis looms in S.A.

By PATRICK DOOLAY
Staff Writer

With no one to ship low-level radioactive waste out of the state after June 1, several San Antonio research centers are preparing for on-site storage to weather the impending crisis.

At best, the facilities will be storing 55-gallon barrels of low-level radioactive waste, generated by medical research, in basements and out-of-the-way hallways for only a few months.

But if the problem lingers on for years, as many researchers believe it will, space limitations for storage could force a curtailment in vital medical research.

"Two months ago, we were stacked to the ceiling," said Dr. Wayne Wiatrowski, a physicist and radiation safety officer at the Audie Murphy Memorial Veterans Administration Hospital. "The next barrel would have come into my office."

The VA Hospital had been left holding the barrel when Iso-Tex, a licensed processor and shipper of low-level radioactive waste, was forced to shut down because of repeated alleged violations of Health Department standards.

Fortunately, Nuclear Sources and Services Inc. of Houston, the state's lone remaining processor and shipper at that time, came to the rescue and picked up all of of the stored materials.

"After Iso-Tex stopped picking up, we lasted six months before we were at a crisis point," Wiatrowski said. "If NSSI hadn't come along, we would have lasted maybe another week before we would have been forced to suspend some of our research efforts."

But the VA and other research facilities won't have someone coming to their rescue next time.

Last week, NSSI notified them that they would be supplying barrels through April 1 and would continue picking them up until they were gone or until July 1.

Much of the material the VA uses has a relatively short half-life, the time it takes the material's radioactivity to decrease by 50 percent. After a few weeks or months, it has decayed to the level of background radiation found in the environment and can be disposed of safely at any garbage dump.

But they produce about seven barrels a month of materials that have long half-lives and that have to be disposed of at one of two remaining permanent sites outside the state. These are the barrels that are being stored.

"There is going to be another crisis towards the end of the summer," Wiatrowski said. "We are going to need some relief."

The University of Texas Health Science Center at San Antonio has been shipping around 20 barrels a month with NSSI and they are rethinking their policy on handling low-level radioactive waste.

The health science center, which also handles waste materials for Bexar County Hospital, has been shipping all of its contaminated waste, including the short-half-life materials.

"We are trying to establish policy so we only ship what we have to," said Christy Moore, the center's radiation safety officer. "We're looking at ways to reduce the bulk, such as asking researchers not to throw uncontaminated gloves or garbage into radioactive-waste containers because it is handier than the garbage can across the room. And we will begin disposing the short half-life materials in local dumps when they reach a safe level."

Moore said a storage site in the medical school, away from student areas, is being finished. It will be a restricted-access area for radiation safety personnel only.

"We don't anticipate storage to be a problem," Moore said. "The biggest problem will be to inform the researchers and their assistants of the need for new habits. We must have their cooperation to insure that there is no interruption of research."

Another client of the defunct Iso-Tex, Southwest Foundation for Research and Education, has not had a pickup of radioactive waste since late last year.

"We have about 21 barrels just sitting out here," Dr. Robert Boesel said. "I don't think research will stop, but the problem needs to be answered. It is a concern to us now and we are just waiting to get rid of what we have."

Boesel said SFRE is looking at ways to reduce the amount of waste.

Southwest Research Institute had been using Todd Shipyards of Galveston to dispose of its low-level radioactive waste until it closed two years ago. Then it switched to Iso-Tex.

"We still have some Todd barrels we had contracted for and there is no way of disposing of them," radiation safety officer David Cadena said.

While only 15 to 16 barrels of waste a year are generated, and being stored in a building in a remote area of the institute's complex, Cadena said the facility would rather not have to hold it.

"What we have decided to do is store it here until we get a truckful and then take it to one of the out-of-state sites ourselves," Cadena said.

Both Wilford Hall USAF Medical Center and Brooke Army Medical Center produce small amounts of radioactive waste in need of permanent disposal. They are not affected by the closing of NSSI as are other facilities because the military handles their shipping.

But even the military must use the only three permanent disposal sites in the country, and they are filling up rapidly.

The Texas Legislature is tackling the problem of a state disposal site, said Dr. David K. Lacker, radiation control director with the Texas Department of Health, but if such a site is okayed, it would take a minimum of three to four years to build.

SAN ANTONIO LIGHT, San Antonio, Texas

Mar. 10, 1981

Radioactive waste storage crisis put off

By CARY CARDWELL
The Light's Austin Bureau

AUSTIN — Texas won't reach a crisis in its storage of low-level radioactive waste for several months, Health Commissioner Robert Bernstein said Monday.

Responding to news reports of a pending crisis, Bernstein said that the Houston-based Nuclear Sources and Services Inc., which had threatened to close up shop April 1, would continue to accept the return of disposal drums already placed in many Texas hospitals.

The commissioner spoke at a meeting of the Texas Energy and Natural Resources Advisory Council, summoned together after Gov. Clements last week put responsibility for handling the waste disposal problem with a surprised Bernstein.

But he warned that any breathing room will eventually run out, forcing emergency measures, unless the Legislature acts quickly on a regulatory bill to be heard by the House Wednesday.

With that date approaching, there was a flurry of activity at the Capitol to head off a confrontation between the Health Department and legislators wishing to severely limit the location of low-level waste storage sites.

Senate Bill 480, passed recently by the Senate, tightens storage and processing requirements that must be met for a firm to receive a license. It also gives the state the authority to buy or lease land for the operation of a permanent disposal site.

Until SB 480 passes, the state is under a moratorium not to grant new operators licenses. That moratorium expires June 1 if no bill is passed this session.

Officials of several Houston hospitals were in Austin Monday lobbying for quick action on the bill.

Supporters hope to see the bill pass by a two-thirds margin that would allow it to take effect immediately if the Senate concurs in any amendment.

A passage with fewer votes would mean the bill would not take effect for 90 days.

Clements apparently will sign the bill since he has designated it an emergency item and voiced support in general terms at a recent news conference.

An opponent of sections of the bill is freshman Rep. Jim Turner of Crockett, who happens to represent Leon County, the site of a verbal shootout between resident farmers and ranchers and Gallagher's Nuclear Sources and Services Inc., which has an application pending for another storage site in that county.

Turner amended the bill in the House to include prohibitions against using land in flood plains, over aquifers or of rapid absorption characteristics for storage sites.

"When I got the amendment in committee," Turner said, "some acted like the boat was going to sink. I wasn't party to those amendments."

Turner may be bold because he senses the support of Speaker Billy Clayton, whose hand some see behind the amendment.

SAN ANTONIO LIGHT, San Antonio, Texas Mar. 8, 1981

Legislature works on the regulation of Texas' low-level nuclear waste

By CARY CARDWELL
The Light's Austin Bureau

AUSTIN — Fighting the clock and the emotions of citizens frightened by the specter of radioactive accidents, the Texas Legislature is grappling with laws to regulate the disposal of low-level nuclear waste.

It's an urgent matter.

Presently, only one storage operation in the state is still accepting the tons of low-level waste generated by a score of industries and medical research and treatment procedures each year.

That operator, Bob Gallagher, who owns the Houston-based Nuclear Sources and Services Inc., has warned that he will stop accepting waste materials April 1.

Ironically, Gallagher's warning places legislators in a double-bind.

The Senate two weeks ago passed SB 460 in what was described as a crisis atmosphere resulting from warnings that Gallagher was quickly reaching his legal limit for accepting waste.

But in response to lobbying from citizens in areas where applications for disposal sites are pending, the bill's sponsor, Sen. John Traeger, D-Seguin, included a provision allowing lawsuits by citizens seeking to shut down disposal and storage operations if they are operating unsafely.

For Gallagher, that was the final straw.

"It's just not worth the hassle," he said last week. "And I don't picture them (the state) finding another company even thinking about getting into the business."

That was also the opinion of Sen. John Wilson, D-LaGrange, who argued unsuccessfully on the Senate floor for an amendment outlawing citizen suits. "This law may be so good that it will prevent the free enterprise operation of storage sites in this state," he said.

The Senate bill sets up a mechanism for state ownership of disposal sites, which could be leased to a company which would operate the site under the stricter regulations included in SB 480.

But when the bill reached a House subcommittee, it was amended to include prohibitions against placing disposal sites over aquifers, on flood plains, or on land containing certain types of soil.

Those soil requirements, not coincidentally, matched the configuration of soil at a site in Leon County, where Gallagher has applied for a license to operate a disposal site under the new rules.

"The amendment was designed to keep any disposal or processing site out of Leon County," Gallagher said.

Leon County residents have begun a campaign to keep the site out of their area.

Gallagher says the campaign has included threats and harrassment.

A building on the site was torched recently, and Gallagher says he has received anonymous death threats.

Anther firm, Iso-Tex, has an application pending for a site in La Salle County.

But there is considerable citizen concern about that firm's operation record, because it is under a court order not to accept additional material at an existing site where a court found it had violated its licensed limit for low-level material.

And Gallagher said he doubts if the firm will push for the site.

The emotionalism arising from low-level waste disposal is ill-directed, Gallagher says. The public confuses low-level waste with more dangerous radioactive material, he contends.

"Why does a material that sits in a hospital without restriction suddenly become so terrible when it moves out of a hospital to a storage site?" he asked.

The low-level waste includes, for example, the containers and paper clothing used by medical researchers working with isotopes used for research and treatments.

Gallagher says he thinks the state will eventually have to set up and operate its own storage and disposal site.

But a period of several months, at least, looms until such an arrangement could be set up.

Some cutbacks in research may be necessary, Gallagher said.

"But the crisis is not really a crisis," he added. "But they're effectively saying is they won't have the convenience of a private operator anymore."

Gallagher said that hospitals and industry can package and transport their waste themselves to out-of-state disposal sites in Washington, Nevada and South Carolina, although those sites have been more and more reluctant to accept waste in recent months.

Also, Gallagher said that private concerns would be forced to put up $5 million indemnity bonds with those disposal sites.

Meanwhile, capitol observers fear that the House committee amendment might open the doors to a floor fight that could end up gutting the whole bill and leaving the state with weak regulations and without authority to set up its own permanent disposal site.

"A lot of people are very upset with the amendment," one committee staffer said. "It's too restrictive."

Because of the urgency of the situation, lawmakers had informally agreed not to try to alter the bill.

But with the committee amendment, there may be other attempts to amend.

Waiting in the wings is another companion bill authorizing the state to establish a permanent disposal site for the low-level waste.

Because of various federal regulations, sponsors fear that this bill would be necessary before Texas could be sure that its disposal site would not be required to accept low-level waste from other states.

That assurance is not contained with SB 480, observers say.

Now the question is whether a serious floor fight over SB 480 would hurt the chances for the permanent disposal site bill to pass.

Gallagher wonders why the state is left in a crisis situation without contingency plans. Meanwhile Gov. Bill Clements announced the Department of Health was working to establish a joint public-private disposal site in view of the pending crisis caused by Gallagher shutting down his operation.

AUSTIN-AMERICAN STATESMAN, Austin, Texas

Mar. 6, 1981

State, firms may combine for nuclear-waste storage

By JOHN C. HENRY
American-Statesman Staff

Gov. Bill Clements said Thursday that a combination of state and private facilities might be developed to temporarily store low-level nuclear waste generated in Texas.

The governor said state health officials are considering several options to the storage problem, which was heightened this week with the announcement that Texas' only licensed radioactive-waste site is closing April 1.

Consideration is being given to allowing private companies to store low-level nuclear waste on state property, Clements said. No specific site was mentioned at his weekly news conference, which included the governor's endorsement for a motor-fuels tax increase.

House Speaker Billy Clayton has predicted that the state's highway-maintenance fund would run $900 million short during the next two years, which will continue to drain the state's general revenue fund unless 2 cents is added to the gasoline tax. Clayton's proposal would raise the gasoline tax to 7 cents a gallon.

"Those who use the highways . . . (and) gasoline should pay for the maintenance," Clements said, adding that "it wouldn't be a bad idea" for the Legislature to ensure that the trucking industry pays its share.

"Dipping into the general revenues in place of the user (tax) concept is wrong," he said.

The impending problem of storing radioactive or low-level nuclear waste will be solved, Clements said, through a combination of state and private facilities.

The announcement last week that Nuclear Sources and Services Inc., a Houston-area firm owned by Robert Gallagher, would close April 1 has

prompted officials to schedule an emergency meeting of a nuclear-waste subcommittee of the Texas Energy and Natural Resources Advisory Committee.

The subcommittee, led by state Health Commissioner Dr. Robert Bernstein, is to meet Monday to consider other methods of temporarily storing the low-level nuclear waste generated by hospitals and laboratories.

Hospital officials in Dallas and Houston have expressed concern that they may have to halt radiation therapy of some patients until storage dumps can be set up. Austin medical officials said they face no immediate storage problems.

Bernstein was critical Thursday of a legislative proposal to prohibit storage of radioactive waste in areas with arable soils, that are flood prone or serve as recharge zones for acquifers.

"That covers a good part of Texas," he said. "It will be devastating to our efforts to temporarily store this material" until a permanent storage plan and site are drawn up by TENRAC.

At his news conference, Clements said he had no problem with the legislation, which may be considered by the House of Representatives next week.

The legislation, which passed the Senate last week, is part of the state's effort to rewrite a 1951 law that does not mention radioactive waste.

HOUSTON CHRONICLE, Houston, Texas

Mar. 4, 1981

Loss of radioactive waste firm may cut some medical services

BY DICK BRYANT
and RUTH SoRELLE
Chronicle Staff

The announced closing of the state's only company handling low-level radioactive wastes may cause a reduction in services to medical patients but also may force a more realistic handling of the problem, say medical officials here.

"People must understand the implications of this situation, that certain crucial medical procedures will not be possible if we cannot use (and dispose of) this material," said Dr. G. Anthony Gorry, vice president at Baylor College of Medicine.

The growing problem of balancing the benefits and detriments of using weak radioactive materials came to a head Monday when Robert Gallagher said he will discontinue storage operations of his Nuclear Sources and Services Inc. of Houston on April 1.

He said public opinion and action, and the lack of support by state government, have made it too difficult for him to continue handling wastes of low-level radioactive materials that are used to treat cancer patients and test cardiac patients.

Gallagher's firm will be the last of three such Texas companies to close in recent months, following Todd Shipyard in Galveston and Iso-Tex Inc.

Ironically, the use of these materials to aid medical patients has been jeopardized by the fear that their wastes will harm residents near storage sites.

"All Texas Medical Center institutions are affected," Gorry said. "We're storing the material, hoping the Legislature finds some solution.

"I would guess that in the absence of regulatory relief, we will run out of storage space in a few months. Then, in the absence of some breakthrough, certain clinical procedures will be curtailed and research stopped.

"This is a first-rate crisis. This material is essential to patient care. It is the medical technology foremost in the Medical Center especially for the care of heart disease and cancer patients.

"The benefits to the people of Texas from the use of this material is very substantial. With proper controls, the risk of disposing of it is small."

Gallagher noted extreme resistance by residents at locations where he has attempted to store the wastes. Storage, rather than disposal, has been the most common method of dealing with low-level wastes in Texas.

Gallagher announced his closing at a Texas House Environmental Affairs Committee hearing on a bill that would license operators of storage sites, create a state Radiation Control Advisory Board and allow citizens to sue operators of such sites.

Gallagher told legislators the bill does not provide a reasonable framework for operations such as his, and the existence of his company has allowed legislators not to consider a more viable form of regulation.

Dr. John Burdine, chief of nuclear medicine at St. Luke's Episcopal Hospital, Texas Children's Hospital and Texas Heart Institute, said a crisis is definitely at hand.

However, Burdine, who testified in the hearing Monday as a representative of the TMC, said he is impressed with the concern shown by the governor, lieutenant governor and state health department officials.

He said Dr. Robert Bernstein, head of the department, intends to ask Gov. William P. Clements Jr. to call an emergency session of the Texas Energy and Nuclear Advisory Commission to develop a contingency plan.

Burdine said representatives of Medical Center facilities also plan to hold an emergency meeting this week, probably Friday.

"There is no contingency plan," Burdine said. "It was really kind of predictable that it would come to this."

Burdine said his efforts to deal with the lack of adequate waste-handling facilities have been hampered because many of the legislators he was dealing with were voted out of office last fall.

However, "I've never seen Texas throw the baby out with the wash," he said, indicating he believes that state officials may finally face up to the problem.

"If we don't get (some out-of-state company) to come in, it's going to hinge on the emergency powers of the governor and commissioner of health," Burdine said.

If proper state regulation had existed, he said, the state could have helped Gallagher set up sites.

"Gallagher has sort of been the pioneer, the explorer that caught all the flack," Burdine said.

Dr. James Bowen, associate vice president for research at the University of Texas M.D. Anderson Hospital, said radiation medicine there may face a cutback by the end of the year.

The closing of the other two storage companies left Anderson with a surplus of waste, he said.

On Friday, Gallagher "told us that after April 1 he will not deliver any more empty barrels to be filled but will honor his contract to pick up the barrels already filled and those he delivers between now and April 1," Bowen said.

But that leaves Anderson with the Iso-Tex and Todd barrels still not picked up.

"Our institution has about 105 barrels on hand now," Bowen said. "They are safe and monitored. But when we exceed the number we can safely store, between now and the end of the year, we will be in difficulty.

"Our institution has neither the ability nor the inclination to become a storage site.

"The day it will be panic is the day we have to tell the first physician we can't do this procedure on his patient because of the radioactive waste it will generate."

Bowen added that the cost of disposing of radioactive waste at Anderson alone has risen from $4,000 in 1970 to $80,000 in 1979.

Anderson has already curtailed use of radioactive isotopes in some research in an effort to lessen the amounts of waste generated, he said.

"As the push gets worse, the tendency to do unregulated things in all institutions is going to increase, particularly in smaller places without on-site monitoring programs," Bowen added.

He said a recommendation before the federal Nuclear Regulatory Commission to allow low-level isotopes to be incinerated or disposed of in a sewer up to 6 curies per institution per year would take care of 80 percent to 90 percent of the kind of isotopes Anderson generates.

"The majority of Anderson patients have undergone tests with radioactive isotopes," he said.

"In the treatment and diagnosis of cancer, we can't care for the patient without isotopes."

DALLAS TIMES-HERALD, Dallas, Texas

Mar. 4, 1981

Hospitals to store nuclear waste

By VIRGINIA ELLIS
Austin Bureau

AUSTIN — The shutdown of the state's only nuclear waste disposal service forced officials at Parkland Memorial Hospital and the Health Science Center to begin preparations Tuesday for storing nuclear waste on their own premises.

To avoid having to cut back patient treatments that involve the use of radioactive materials, Dr. Samuel Lewis, chief of nuclear medicine for Parkland, said the hospital would store the nuclear waste on its own premises until other disposal methods are available.

Meanwhile, at the University of Texas Health Science Center, Dr. Edmund Griffin said valuable laboratory and classroom space may have to be used for nuclear waste storage.

Griffin, who is the center's radiation officer, said officials were faced with the choice of having to give up the laboratory space or shut down the research programs that use radioactive material.

"Whole laboratories would have to close if they could not use radioactive materials which means we cannot allow that to happen. We have to develop alternatives," Griffin said.

Medical facilities all over Texas suddenly found themselves facing a nuclear waste disposal crisis Monday when the president of the only operating nuclear waste disposal firm in the state announced he was going out of business.

Robert D. Gallegher told the House Environmental Affairs Committee that lawsuits, citizen harrassment and legislative proposals for regulating nuclear waste disposal, were forcing him to close April 1.

The announcement had an immediate effect on doctors and hospitals officials — many of whom were sitting in the audience when Gallegher made his announcement. Gallegher's firm, Nuclear Sources and Services Inc., disposes and processes low-level nuclear waste produced by the state's major medical centers.

Dr. John Burdine, chief of nuclear medicine for St. Luke's Hospital, Texas Children's Hospital and the Texas Heart Institute in Houston, said essential patient treatments in many hospitals may have to be curtailed because without Gallegher's services, there will be no way to dispose of the radioactive waste.

On Tuesday however, Lewis said Parkland would not be one of those hospitals which would reduce patient services because most radioactive material used by his hospital is considered "shortlived," meaning it loses its radioactive potency in a few hours.

But Griffin said research projects make the university a high producer of radioactive wastes.

He said the health center is short on storage space and will probably have to begin using laboratory and classroom areas for waste storage.

Griffin said he hopes the state will consider providing some temporary storage facilities to help users of radioactive materials through the crisis.

State Health Commissionor Robert Bernstein said the state may consider contracting for temporary storage space.

DALLAS TIMES-HERALD, Dallas, Texas

Mar. 4, 1981

Nuclear waste disposal

The announcement that the state's only low-level nuclear waste disposal firm plans to go out of business makes it imperative that the Texas House of Representatives give prompt approval to a bill passed by the State Senate last week regulating the permanent disposal of such waste in Texas.

Robert D. Gallagher, head of Nuclear Sources and Services, Inc., of Houston, shocked the House Environmental Affairs Committee Monday by declaring that his company would no longer accept nuclear wastes for processing and temporary storage after April 1.

The legislation is so important that we urge the House to give it the same two-thirds majority support it received in the Senate so it can become law as soon as it is signed by Gov. William P. Clements Jr., who supports it.

Without the two-thirds majority, the bill, which, among other things, would tighten licensing requirements for waste disposal sites in Texas and would require the state health department to consider a dump site's effect on the community before granting a license, would not become law until 90 days had passed.

Prompt passage is needed to stave off a crisis. There are only three permanent disposal sites in the United States equipped to handle low-level nuclear wastes, and only one of them, in the State of Washington, is available to Texas. The Washington site, however, will be closed in November.

At present, 1,500 licensed users generate low-level radioactive waste in Texas; they range from hospitals and utility companies to oil companies and university research centers.

Dr. John Burdine, chief of nuclear medicine for three hospitals in Houston, testified before the House committee that hospitals across the state would be forced to curtail medical treatment and tests that require the use of radioactive materials, including the treatment of heart disease and cancer, if the disposal situation is not remedied. He said hospitals have small storage areas, but that they will fill up quickly.

"All research, diagnosis and treatment using nuclear medicine may stop as of April 1 if this bill isn't passed," said Rep. Bennie Bock, D-New Braunfels, the committee chairman.

Bock predicted that many firms would want to go into the permanent disposal business in Texas because the going rate for processing low-level nuclear wastes is $300 a barrel. He added his own feeling that Gallagher's testimony was an "insult" to the committee.

Gallagher told the committee that his company had decided to shut down because the pending legislation would give residents additional legal ammunition to attack his firm.

We believe, however, that the Senate acted correctly in defeating an amendment that would have stripped citizens of the power to file for injunctive relief if they believed the disposal sites were in violation of state regulations. The amendment's sponsor, Sen. John Wilson, D-La-Grange, argued that the operators of disposal sites should be free from frivolous "harassment" suits. The sponsors of the bill, however, were able to defeat the amendment by countering that the legislation, as written, explicitly limits injunctions to local governmental entities or individuals who can prove that the sites would damage their personal health or their contiguous property.

Gallagher may be wary of legal problems, but it is doubtful that the legislature could approve a bill totally denying affected citizens the right to sue that would pass constitutional tests.

The Texas Health Department has been studying applications to operate permanent dump sites in Leon and LaSalle counties. But the legislature wisely delayed licensing any sites to give it time to pass legislation setting standards and strengthening the health department's licensing and regulatory powers.

State Sens. Kent Caperton, D-Bryan, and John Traeger, D-Seguin, produced the compromise bill that has the support of a majority of the interested parties, including the producers of low-level radioactive wastes and the Texas Energy and Natural Resources Council, which is made up of state officials and private sector executives. The bill, which also would establish criminal penalties for intentionally processing and disposing of waste without a license and would prohibit all out-of-state waste from being dumped in Texas unless the states ratified contractural agreements, also has won the blessing of the Sierra Club which views itself as the ultimate watchdog on environmental concerns.

The disposal sites for low-level radioactive wastes will not process the much more dangerous, high-level wastes from nuclear power plants. But the time may come in the not-too-distant future when Texas will have to help the federal government cope with that difficult problem, too.

FORT WORTH STAR-TELEGRAM, Fort Worth Texas

Mar. 3, 1981

Only N-waste firm will close its gates

By DAN MALONE
Star-Telegram Austin Bureau

AUSTIN — The radioactive waste time-bomb started ticking Monday as the president of the only operating waste storage and processing firm in Texas told a House committee he's closing his gates in 30 days.

Unless the state takes emergency action, hospitals may be forced to curtail use of radioactive materials by June 1, forcing thousands of patients to forgo medical tests and treatment based on nuclear medicine.

"If they don't have any place to get rid of (the waste), then they'll have to curtail their use," said David Lacker, director of the health department's radiation control division.

Lacker said that slowdown of needed medical treatment could begin as early as June 1.

"I don't think there's any relief that can occur this quickly," Lacker added.

Robert Gallagher, president of the Houston-based Nuclear Sources and Services Inc., told the House Environmental Affairs Committee he will "terminate services in waste disposal" on April 1.

Gallagher's is the only firm in Texas that accepts low-level radioactive waste from the 1,500 hospitals, universities and industries that use the materials. The firm will continue to accept a few barrels after the April 1 date, but only those that were in the process of being filled and not returned by then, Gallagher said.

Another end of his business, which sells radioactive materials to hospitals and industry, will remain open, he said.

Gallagher testified against a bill strengthening state regulation of companies that handle, process and store discarded and no-longer-useful radioactive materials.

The House committee unanimously approved the bill, which the Senate passed last week.

"The legislation as passed by the Senate is simply not acceptable," Gallagher said. "I vehemently opposed it."

Gallagher said he was getting out of the radioactive waste business because of the harassment he and some of his 30 or so employees have received during recent months and because he thinks lawmakers have not given him a fair hearing.

Since he announced plans to operate a second storage site in Leon County, Gallagher said opponents of the site have threatened his employees and destroyed property at the site.

He was also critical of some published reports of NSSI's plans in Leon County, which he described as "garbage."

"These efforts on the part of the opponents incite further acts of violence," Gallagher said.

Health commissioner Robert Bernstein said he'll be meeting with other state officials during the next few weeks to map out a course of emergency action.

"We're going to do everthing we can to get through this crisis," Bernstein said.

"Unless something happens, we'll be out of business," said Dr. John Burdine, a Houston physician. "We have 30 to 90 days after April 1 before we're in dire trouble."

Burdine, representing the Texas Medical Center and the Greater Houston Area Council of Hospitals, was one of several physicians who testified for the bill.

Hospitals use the radioactive materials to test and treat numero s eases, including cancers and coronary heart disease, which claims more lives each year than any other sickness.

Th bill strengthens licensing requirements for handlers of radioactive wastes, increases penalties for those who violate state law, prohibits some out-of-state waste from being shipped into Texas and calls for public hearings before the health department issues a license for a site.

Dr. James Bowen, a research vice president at the M.D. Anderson Cancer Center in Houston, said a slowdown in nuclear medical services would affect most hospital patients.

"Were these activities to be suspended, there would be virtually no kind of patient care that would escape penalty," Bowen said.

Gallagher said he hopes his decision to get out the business will spur the Legislature to solve the problem confronting the state.

He said it has been difficult for him to get a full and fair hearing on his objections to the legislation because of individuals who oppose the site he proposed in Leon County.

Although he said he would shut his Houston facility, Gallagher said he would not withdraw his application for another license in Leon County because it "still has a certain salability." He indicated he would sell the $500,000 site if he can find another buyer.

Two other waste processing firms — Todd Shipyards in Galveston and Isotex near Houston — shut their doors last year after the health department cited them for numerous violations of state radioactive waste regulations.

Gallagher's firm accepted wastes such as no longer useful radioactive materials and equipment contaminated with radioactivity — until they could be shipped out of state for burial. The only out-of-state site still accepting Texas wastes is in Washington and it's expected to close its doors to Texas waste in 1982.

Folks spit venomous threats at N-storage 'rattler' in Leon

By BILL DEENER
Staff Writer of The News

CENTERVILLE, Texas — The normally gentle, churchgoing people are talking mean and hateful. They are afraid because they feel threatened by something they admittedly don't understand.

Bob Gallagher is the enemy — the "rattlesnake" as they call him. He wants to establish a nuclear waste storage plant in the center of a 340-acre tract about 2 miles west of Centerville. The plant would be an extention of Gallagher's Nuclear Sources and Services company in Houston, which handles thousands of barrels of low-level radioactive waste each year.

The 2,000 residents of Leon County speak as one: "Gallagher will be stopped" is the battle cry.

One of the leaders of the opposition to the facility is Dr. Mike McKinney, a talkative 29-year-old physician from Centerville who gushes venom through an ever-present smile.

"All I would have to do is make one phone call and I could have 50 people waiting to burn down the (Leona) facility," McKinney said. "You have to keep them stirred up enough so they don't forget about this, but calm enough so they don't kill anybody."

Gallagher has applied to the state health department for permits to operate a temporary nuclear waste warehouse on 5 acres near Leona, Texas, and another facility west of Centerville where waste could be stored up to four years before shipment to permanent sites out of state. There is an old abandoned school at the Leona site where NSSI stores empty new barrels before they are shipped to Houston.

"It's inevitable that the school will either be burned or blown up," McKinney's wife, Lou Ann, said.

Symbolic of the opposition to the nuclear waste facilities is a burned-out farmhouse that stood on the land Gallagher bought in May. Gallagher said he had planned to use the house, valued at about $25,000, as a dormitory for future employees.

"It was obviously arson," Gallagher said. "What they did really wasn't unexpected, and then the fire department just stood around and watched it burn."

McKinney said he knows the person responsible, but he won't reveal the name.

"We talked about it (burning down the house), but didn't. Somebody else stepped on our thinking," McKinney said. "The house was on fire for 30 minutes before the (volunteer) fire department could decide if it wanted to put out the fire."

Firemen did spray water around the edge of the house to keep it from spreading, McKinney said. "Lightning may have struck that house, and sometimes lightning strikes twice," he said with a beaming smile.

Those lightly veiled threats don't originate just from the young doctor.

"Somebody ought to kill him (Gallagher)," said Bill Ellis, a service station employee.

"He should be beat severely about the face," said Minnie Wakefield, a tax department employee.

Residents say McKinney sometimes must be a calming force in the area or the place would explode. Because the doctor has more education than most Centerville residents, people look to him for leadership.

McKinney said residents oppose the waste facilities because radioactive spills could easily seep into the shallow water table. Highly toxic chemicals stored there would pose health hazards, he said. More importantly, he said, Leon County produces almost no nuclear waste, so why should it have to handle the material?

Bill Wilson, a local land developer, said a nuclear waste dump would cost residents millions of dollars in decreased property value. Land adjacent to the proposed site that normally would bring $1,200 to $1,500 acre sells for $300 an acre — if a buyer can be found.

"We're mad, scared and upset," Wilson said. "What would you do if a rattlesnake crawled up next to your ankle?"

And Frank Knight, a Centerville plumber and native of the area, said many people in Centerville would kill Gallagher on sight. Leon County residents are trying to stay within the law, he said, but if an NSSI facility opens there, violence would erupt.

Referring to the facility in Leona where NSSI is storing its new barrels, Knight said: "They put that right there in nigger town. That's something nobody has thought about. We ought to get the NAACP in on this, too."

Opposition to Gallagher began mounting shortly after it was learned last summer he had bought land in the area and was seeking a permit to open a dump site. By early fall, a Committee for Sound Development of Leon County had formed, more than $12,000 had been raised and lawyers had been hired. Rallies often drew crowds of 1,500 or more and petitions with thousands of signatures were sent to state senators.

"We never expected that kind of opposition," said Jim Roorda of NSSI. "There has been a lot of intimidation, and frankly, Gallagher doesn't deserve it. The local newspaper (the *Center News*) printed eight pages of scare articles. These people are seeing mushroom clouds. But you have that kind of opposition in any uneducated population. I mean they don't even know what radioactive waste is."

Gallagher said he bought the land because it is halfway between Dallas and Houston, is near I-45 and is in a relatively isolated area. He paid $440,000 for the land near Centerville and $50,000 for the Leona site. (Bill Horner, the former landowner, has been nearly ostracized by the 900 residents of Centerville, McKinney said.)

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The nuclear waste material would be stored in barrels inside warehouses and would not be buried underground, Gallagher said.

"When I first met with the mayor, county commissioners and the fine Doctor McKinney, everyone was in favor of the facility, but then the local newspaper ran some stories about it and all hell broke loose," Gallagher said. "I have received all kinds of threats. They have threatened to cut my throat or shoot me any number of times. I'm really surprised that people can act this way."

Gallagher said the Leon County site must open because the Houston facility almost has reached its 4,000-barrel capacity. The backlog was caused because operators of out-of-state permanent dump sites in Nevada, South Carolina and Washington have restricted the radioactive wastes they will accept, Gallagher said.

However, some legislators have said Gallagher is "blackmailing" them by not shipping the barrels to the out-of-state facilities. NSSI is the only major commercial storage and processing firm in business in Texas.

He told legislators last week that if a bill pending in the house passes, he will get out of nuclear waste business. (In a house subcommittee hearing in Austin Monday, he repeated his vow to leave the business if the bill passes.)

The bill allows the Texas Department of Health to acquire title to land where temporary waste would be stored and lease it to a private contractor to operate under TDH regulation.

"So far, all this has been is a personality attack. There has been no attempt to solve the problem, but rather the issue has been 'How do we get Bob Gallagher out of Leon County?' " Gallagher said.

Gallagher, 45, has said he is firm in his resolve to open a waste disposal site in Leon County. (He repeated that plan to the subcommittee Monday.)

He might get out of the business now, but he said he won't abandon permanently his plan to open the Leon County facility.

"Where else could I open a facility? I don't care where you go, there will be opposition. It wouldn't do me any good to go elsewhere. I would face the same opposition," he said.

But just as determined are the people of Leon County.

DALLAS NEWS, Dallas, Texas
Mar. 3, 1981

HOUSTON CHRONICLE, Houston, Texas

Mar. 3, 1981

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Radioactive waste firm quitting business

BY ANNE MARIE KILDAY
Chronicle Austin Bureau

AUSTIN — The president of the only Texas company which disposes of radioactive waste announced he is quitting the business, and medical officials said that could cripple medical research and patient care in the state.

Robert Gallagher, president of Nuclear Sources and Services Inc. of Houston, shocked lawmakers, members of the medical community and the state Health Department Monday, saying he will no longer dispose of low-level radioactive wastes after April 1.

Gallagher's angry declaration came after a string of medical witnesses said that the need to dispose of low-level radioactive wastes, the by-products of medical tests or procedures on three of every four patients at M.D. Anderson Hospital and tests on half the patients at St. Luke's Heart Institute, has reached "crisis" stage.

Gallagher has been the sole disposer of radioactive wastes since the Health Department ordered the Todd Shipyards storage site at Galveston closed, and since Iso-Tex Inc., withdrew from the business.

Gallagher has been waging a bitter fight with residents of Leon County, where had had been attempting to locate a new site for the storage of the radioactive wastes.

He told the House Environmental Affairs Committee that "since April of 1980, our personnel has been threatened, our fences cut and our farmhouse was burned to the ground by arsonists."

Gallagher told lawmakers that proposed legislation outlining a state regulatory framework for the disposal of low-level radioactive wastes was the last straw.

The bill, which has been approved by the Senate, defines licensing requirements for operators of low-level waste sites, creates a state Radiation Control Advisory Board, establishes strict civil and criminal penalties and allows citizens to sue operators of low-level waste sites.

SB 480 by Sen. John Traeger, D-Seguin, and a companion HB 906 by Rep. Bennie Bock, D-New Braunfels, "does not provide a reasonable framework for regulation. It erects legal obstacles to any proposed facility which would help in solving the problem," Gallagher said.

Gallagher angrily told lawmakers that his remaining in business prevented the consideration of a "viable bill" by the Legislature.

"The availability of service allows opponents to attack the record of my company and myself, with all sorts of garbage such as this," Gallagher said.

He said that the bill "will only further incite the public into acts of violence and lawlessness."

He said that the proposed legislation regulating the disposal of radioactive wastes contained overly broad and nebulous definitions, and "encourages lawsuits and harassment by opponents."

Gallagher said "the most onerous portion of the bill is that it will not expedite the location of radioactive waste sites, but will provide the legal avenue for harassment of anyone involved in this business."

Rep. Jim Turner, D-Crockett, got murmurs of approval from his Leon County constituents by telling Gallagher that "you looked at the proposal and realized what standards are going to be applied to you, and you decided you don't want any part of it."

Dr. Robert Bernstein, director of the Texas Department of Health, said that Gallagher's decision to get out of the waste disposal business creates "a very, very serious problem."

"We're in a quandary," Bernstein said. The state Health Department will begin immediately looking for a private operator, either in Texas or out of state, to fill the gap created by Gallagher's decision to withdraw from business, Bernstein said.

Dr. John Burdine, chief of nuclear medicine at St. Luke's Hospital and the Texas Children's Heart Institute, reacted to Gallagher's announcement with shock.

"Lord, have mercy. What happens now is anybody's guess," Burdine said.

Burdine earlier had told the committee that the use of radioactive isotopes is essential in the diagnosis of coronary disease.

"We simply could not do this accurately, or with the precision we now have without the use of these materials," Burdine said. "We really are at a crisis in patient care."

Dr. Stan Hodges of the Texas Medical Association said that without the use of radioactive materials for tests "medicine would be severely crippled in patient care."

"A very critical issue is upon us at this time. Two (out-of-state) sites are no longer accepting radioactive wastes from this state, and by 1982, if this state has not developed its own program to legislate waste disposal, the state of Washington site will be cut off to us," Hodges said.

The proposed bill "attacks and addresses the problem of (site) safety, as well as providing for the necessary health care for the citizens of this state," Hodges said.

Dr. James Bowen, associate vice president for research at M.D. Anderson Hospital, told lawmakers that if Gallagher's firm, NSSI is going out of business "that means we must look to other firms which are interested in getting into the radioactive waste disposal activity."

If disposal of low-level wastes cannot be achieved, "there would be virtually no kind of patient care that would not be suspended were we faced with the loss of radioactive materials," Bowen said.

Although Gallagher said he will leave his permit application for the Leon County site pending at the Health Department, he said he will not operate the site.

"I feel certain no other firm will be able to serve the public as well," Gallagher said.

The House Environmental Affairs Committee approved sending the bill to the full House for approval on a 9-0 vote.

DALLAS NEWS, Dallas, Texas

Mar. 8, 1981

Texas nuclear waste angers Carolinians

By GEORGE KUEMPEL
Staff Writer of The News

BARNWELL, S.C. — Nuclear energy is as American as baseball and apple pie to the residents of rural Barnwell. They've grown up with it, and most have worked at the nearby nuclear bomb factory or have kin who do.

So the 12.3 million cubic feet of potentially deadly low-level nuclear garbage buried in their back yard doesn't bother them much.

Living near the garbage is just the price they pay for the prosperity nuclear energy has brought to Barnwell, they say.

But one aspect does stick in the craws of the usually hospitable Southerners — most of the waste at nearby Chem Nuclear Systems, Inc., is trucked in from other states by those who want the fruits of nuclear power but none of the risks.

"We don't want to bury material for all of the people in the United States," said Ed Richardson, chairman of the Barnwell County Council.

"Why should we be taking stuff from Texas and from all those other places?"

Because Texas doesn't have a nuclear waste dump, sentiments like Richardson's spell trouble for hospitals and industries that use radioactive materials daily.

At another low-level nuclear dump site 3,000 miles to the west in Washington — one of only three operating in the nation — the sentiments are similar.

Last November, Washington voters approved a law banning any more non-medical radioative waste from other states at the commercial dump, which is on the 500-square-mile Federal Nuclear Reservation near the Oregon border.

The ban, which will become effective July 1, probably will be appealed by a pro-nuclear group.

about the way the dump was operated.

The Nevada Board of Health canceled the order six weeks later, however, after ruling List failed to prove the dump was a health hazard. The Nevada attorney general is appealing.

The governors of Washington and South Carolina also have ordered tighter checks on incoming wastes and higher fees for use of the sites to discourage out-of-state dumpers.

Local concern increased after the accident at the Three Mile Island nuclear power plant near Harrisburg, Pa., in March 1979 and the closings of two nuclear dumps in Kentucky and Illinois.

The closings greatly increased the amount of waste going to the three sites and left Barnwell the only dump east of the Rockies. Soon it was handling 85 percent of the low-level nuclear waste in the nation.

South Carolina Gov. Richard Riley said the states are trying to dramatize the need for regional dump sites and to bludgeon the federal government into tightening restrictions on the packaging and transportation of radioactive waste.

"As long as everybody can ship it off to South Carolina and forget about it, then everybody is going to regard low-level nuclear waste as a South Carolina problem," he said.

"It's the old NIMBY Syndrome — Not In My Back Yard."

Lee Hebbard, who runs the Chem-Nuclear dump near Barnwell, said the restrictions on the site were based more on political expediency than need. He warned the problem of stockpiling nuclear waste will worsen unless the politicians back off.

Although he hailed Chem-Nuclear's operation for safety and efficiency, Gov. Riley ordered the firm to cut the amount of waste it receives in half to 100,000 feet a month by October. The company was handling [illegible]

waste to Barnwell in 1977 and 30,750 in 1978 but cut back to 7,226 in 1979 and to 409 last year. The slack apparently is being taken up at the Washington dump, which has reported a significant increase because of the restrictions in South Carolina and Nevada.

No resistence occurred locally when the Washington site opened 16 years ago or when Chem-Nuclear began operating near Barnwell 10 years ago because they are near U.S. nuclear weapons plants that have been operating since the early 1950s, officials said.

"Our friends and neighbors have worked in high-level nuclear facilities for two generations," said Barnwell Mayor Rodman Lemon. "We grew up with nuclear energy. It's just another business to us."

The construction of the Savannah River nuclear arsenal made Barnwell a "boom town," providing critically needed jobs for farmers who were barely able to scratch a living from the poor soil, Lemon said.

In Richland, Wash., the pro-nuclear sentiment is just as strong as it is in Barnwell. Three nuclear power plants are under construction there and a fourth is planned. The three cities most affected — Richland, Pasco and Kennewick — boast of being a national energy center.

The residents were among the few in the state that voted against the ban on non-medical out-of-state waste, and nuclear critics are as scarce as trees on the desert reservation. But a few exist.

Dr. Ruth Weiner, a West Washington University professor of environmental studies who led the fight to ban out-of-state waste, said U.S. Ecology has experienced problems at all its sites.

"They have a national reputation for poor handling and sloppiness," she said. "Generally, we're not overjoyed in having them."

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Dr. Weiner and other critics say nuclear waste should be handled at regional sites, reducing shipping risks.

"If we continue to concentrate it, we run the risk of making that environment highly radioactive," she said.

Carl Berkowitz of Richland, former president of the Columbia Basin Audubon Society, said the lack of local opposition is a matter of economics.

"Nuclear puts dinner on too many tables here for anyone to gripe about it," he said.

HOUSTON CHRONICLE, Houston, Texas

Mar. 7, 1981

Radioactive waste woes a crisis for city hospitals

BY CARLOS BYARS
Chronicle Science Writer

Hospitals in the Texas Medical Center complex are in the midst of a crisis that is affecting patient care and research because they cannot dispose of low-level radioactive waste, hospital officials said Friday.

Representatives of the hospitals, in a meeting of the medical center's Radioactive Waste Disposal Committee, said that drums of low-level radioactive waste are stacking up in temporary storage rooms and that the number of drums is nearing the legal limit.

Low-level radioactive materials are used to diagnose and treat patients with heart disease, cancer and a wide variety of other diseases. The wastes, including various solutions, gloves, containers and other materials, are put into special barrels for disposal.

About 300 to 400 barrels of waste are stored in a variety of buildings in the medical center area and at least 2,000 more belonging to two companies now out of business are stored elsewhere around the state, one official said.

Only one company in Texas, Nuclear Sources & Services of Houston, remains in the business of disposing of these wastes, and the owner of that company says he is temporarily quitting due to public opposition.

Members of the committee represent Baylor College of Medicine, M.D. Anderson Hospital, the University of Texas Health Science Center, St. Luke's Hospital and Hermann Hospital.

As a temporary measure, they urged the Texas Department of Health to approve an increase in the number of drums that Iso-Tex Inc. of Friendswood is allowed to store. That firm is under court order to accept no more drums of waste after having exceeded its permit.

Dr. Robert Bernstein, commissioner of health, said in Austin that "in the present state of litigation and legislation I'm not sure what we can do or would want to do" regarding such a request.,

The Texas House of Representatives is scheduled to vote Wednesday on a bill originally intended to impose more control on facilities for processing and temporary storage of low-level wastes, but still provide a means for approval of such facilities.

But Dr. John Burdine, chief of St. Luke's nuclear medicine section, said a last-minute amendment may have the effect of barring storage sites from the state.

The amendment was aimed at blocking Nuclear Sources & Services from building a processing and temporary storage facility near Centerville in Leon County. It prohibits the location of such a plant on any land where rainfall drains into a known source of underground water.

Burdine, who has been the committee's chief contact with the Legislature, said it is possible that the restrictive amendment may be removed before action is taken on the bill.

Another bill, which he said may be taken up later, would authorize the state to license a permanent disposal area for low-level waste. While this would permanently solve the problem, he estimated that location, approval and development of a permanent disposal site would take at least five years.

Bernstein also characterized the amendment as "devastating to industry, medicine and everything else."

If the bill is passed containing the amendment, it might mean that even permits held by hospitals would have to be reexamined, he said.

Bernstein said he agrees that the present situation is a crisis, adding that even if the bill is passed without the restrictive amendment the state will have a terrible problem. "It seems we will have to do something in an emergency way," he said.

Robert Gallagher, the owner of Nuclear Sources & Services, says that if a crisis exists, the solution is ready at hand. He said the Department of Health could proceed with action on his proposed storage site near Centerville. A request for a permit has been pending for months and will not be withdrawn, he added.

Gallagher said the site has been ready since last June and needs little work to begin accepting and storing low-level waste.

Earlier statements about his getting out of the business mean that he is temporarily pulling out until the rules of the game are established, he said Friday.

He also offered to assist the hospitals in packaging and shipping their waste to permanent disposal sites, but noted that this would require each hospital to obligate itsself up to $5 million in case of future problems related to the storage.

G. Anthony Gorry, chairman of the waste-disposal committee and vice president of Baylor College of Medicine, said the hospitals may seek individual increases in their allotted storage or consider developing a joint storage center in a temporary building at the medical center.

"If the hospitals can do it in an approved way and be safe, it will be considered," Bernstein said.

Burdine said that an effort by the Nuclear Regulatory Commission to ease the situation nationwide by deregulating the disposal of certain types of low-level waste has been stalled because the radioactive material is used in connection with a toxic chemical: toluene.

This chemical is regulated by the Environmental Protection Agency, but guidelines for its disposal will not be ready before next fall at the earliest, he said.

By that time, the medical center could have more waste on hand than is legal, he added.

Gorry said that the inability of hospitals to get rid of the waste could prevent them from receiving radioactive materials in the first place since this is a condition of their permits.

FORT WORTH STAR-TELEGRAM, Fort Worth, Texas

Feb. 23, 1981

Clements vows to fight dumps

By DAVE MONTGOMERY
Star-Telegram Washington Bureau

WASHINGTON — Gov. Bill Clements said Sunday that Texas will fight all the way to the Supreme Court if the federal government ever tries to authorize construction of a nuclear dumping site in Texas.

Clements, attending a national governors conference here, stepped up his opposition to using Texas as a nuclear dumping ground and said he will press for continuation of a federal policy that in effect gives states veto power against unwanted nuclear waste sites.

He won support of that effort Sunday from Southern governors, who agreed to go along with his resolution asking that the policy be continued.

According to most interpretations of law, the federal government can override the state objections and designate a state as a dump site for high-level nuclear waste.

But Clements, at a preliminary meeting here Sunday, pointed out to fellow governors that the policy of the last three administrations has given states the final say in the matter, permitting them to block a nuclear waste site if they don't want it.

Speculation has arisen that the policy might be altered or reversed under the Reagan administration after new Secretary of Energy James Edwards said publicly that he feels states should not have veto power in such matters. Edwards has ordered accelerated development of nuclear waste sites, and Texas is one of seven states under consideration.

"Under no circumstance do I want nuclear waste dumped in Texas," Clements said. "We will take it to the Supreme Court if they try to put it on us."

In urging support for his resolution, Clements said nuclear waste "is a very lively issue and I see no point at all in our sweeping it under the rug."

Repeating a stand he has made many times before, Clements said Texas is willing to handle its own nuclear waste, but "I vigorously protest with respect to outside waste coming in."

Clements also questioned the interpretation of a fellow governor who said current law allows the federal government to override state objections. The governor, Richard W. Riley of South Carolina, heads a study panel that is recommending a tougher law that would give states more legal say in the matter. The proposed law would require action from both houses of Congress for building a nuclear waste site in a state that doesn't want one.

Clements said he has doubts about Riley's interpretation of the law. "I'm not sure that's right," he said after the meeting.

Under the Nixon, Ford and Carter administrations, Clements said, no nuclear waste sites would be constructed in a state when a governor objected. That policy, Clements said, is "tantamount to a veto."

Clements hinted that he might discuss the subject with Reagan during his visit to Washington. The governors will meet with Reagan Monday to discuss state-federal priorities of the administration.

Monday night, Clements will host the Texas congressional delegation and Vice President George Bush at Clements' nearby estate in Virginia.

EL PASO HERALD-POST, El Paso, Texas

Feb. 19, 1981

Nuclear waste

EDITOR: Concerning the proposed WIPP Project: (Nuclear Waste Site).

"It is required than man take part in the actions and passions of his time at the peril of being judged not to have lived at all." The words of Tom Dooley. In this vein I present this stand on the proposed WIPP project.

Whenever the nuclear age has been questioned, their answers are many times evasive, incomplete and at times very misleading. To wit: Now it is leukemia, cancer and genetic defects in St. George, Utah. Were they told the truth in the 50s? The dumping of radioactive waste off the Atlantic and Pacific coasts for decades: was this well-thought out and the public properly informed? This could be a major disaster for centuries to come. Just a short while ago at Three Mile Island "don't alarm the public" was the theme of some highly trained people who admitted that they were like blind men working in the dark. WIPP, are they telling us the truth? How can they? They have no idea what is going to happen to the geology of the salt beds in the coming ages. Nor will they be held responsible hundreds, thousands of years hence. I not only oppose a nuclear waste site for New Mexico, I oppose a nuclear waste site anywhere on the face of the earth. With this in mind, we must oppose nuclear power on a worldwide basis. We must also oppose the nuclear arms race and the continued further development of more terrible weapons of war.

The real answer to the nuclear waste problem lies in the discontinuence of the use of fissionable material in any form.

Perhaps a more mature generation in another century can find acceptable uses for this very dangerous process. I think that this century has already proven, starting with the "Hell of Hiroshima," that we are not morally, spiritually, nor ethically capable of controlling this very dangerous substance. No more nuclear weapons, no more nuclear power plants, no more nuclear waste.

The curse of accumulated waste now on hand can only be safely disposed of in outer space. Towards that goal, let us work to find a solution.

Let us preserve this precious earth for all who may pass this way. It has been given to us by a generous God, that all mankind might live in plenty and in peace.

I think that the world must condemn the field of nuclear science for the use they have made of Mr. Einstein's tragic discovery so many years ago.

Is there anyone who can say that the world is better off for having known the Nuclear Age? — **Michael Stoy, Box 105, Jemez Springs, New Mexico.**

FORT WORTH STAR-TELEGRAM, Fort Worth Texas

Feb. 20, 1981

N-waste moratorium approved

Star-Telegram Austin Bureau

AUSTIN — With little fanfare, the House passed a resolution Thursday ordering a moratorium on any new licenses for nuclear waste storage sites in Texas.

Aides to Gov. Bill Clements said it will be next week before the governor can review the measure and decide whether to approve the plan to halt issuance of licenses until new rules are enacted to regulate nuclear waste storage.

The House and Senate both had approved the ban this year, but because the Senate made minor changes in the resolution, the House needed to formally approve the measure again Thursday.

The moratorium orders the Texas Department of Health not to grant any more licenses to processors of radioactive waste until the Legislature has time to consider approving a better law. If no new law is passed, the moratorium automatically ends June 1.

DALLAS NEWS, Dallas, Texas

Feb. 18, 1981

Judge gives firm time to dump nuclear waste

By BILL DEENER
Staff Writer of The News

GALVESTON, Texas — A state district judge will allow Todd Shipyards of Galveston to dispose of about 2,000 barrels of radioactive waste at its own pace and not "immediately" as requested by the Texas attorney general's office.

Judge Ed Harris refused this week to issue an injunction against Todd, which has been sued by the state for not complying with a Texas Department of Health order to dispose of nuclear waste.

Harris called Todd "a good citizen of Galveston" and said the company again "is doing all it can to dispose of the waste."

Harris said Todd had "contributed greatly to the economy of Galveston."

State attorneys were seeking an injunction that would have ordered Todd to dispose of all its nuclear waste by May 15. In late 1980, Todd had 12,000 barrels of radioactive material, which was 10,000 above the limit set forth in its state permit. The state filed suit when it learned of the violation.

Petitions filed in Harris' court show that the steel barrels leaked, some were stored below sea level and others too close to the coast.

"It's fair to say we were quite disappointed in the judge's action," said a source in the attorney general's office. "But if Todd hasn't made a good effort to reduce the number of barrels by May 15, we'll request another injunction."

Assistant attorneys general Brian Berwick and David Priester argued that because of Todd's previous noncompliance with state permits, the company should be forced by injunction to comply.

The source said one of the problems in the case is that the state has had to rely on Todd for inventory figures on the number of barrels of nuclear waste. The state health department does not have the manpower to gather this information, the source said.

Harris said he is sympathetic with the state's case but "Todd has told me it is doing everything it can to dispose of the waste."

Most of the radioactive material comes from hospitals and universities.

Todd's attorney, Adrian Levy of Galveston, said the state has "intimidated and persecuted Todd, forcing them out of the nuclear waste business."

But the source in the attorney general's office said Todd decided to get out of the disposal business two days after the state learned of a radioactive spill.

Strontium, which is toxic as well as radioactive, was detected at the facility, although that material was not supposed to be stored at Todd.

SUN, Corsicana, Texas

Feb. 17, 1981

Radioactive-waste regulations studied

Capital Report:
Austin News Special to The Sun

By JACKIE CALMES
Harte-Hanks Austin Bureau

AUSTIN — Most lists of sure-bet controversies for the 1981 Legislature included the anticipated effort to strengthen state regulation of low-level radioactive wastes and to pave the way for Texas' first permanent burial site.

But, pushed by an unlikely coalition, bills to do just that seemed to be moving fast through the legislature: introduced last week in both houses, the senate version was set for committee hearing the next day and — according to the scenario of optimistic sponsors - would pass the senate the following day.

Then the one group that had been left out called time-out.

Lobbyists for industries that will produce the lion's share of radioactive wastes in years ahead — electric companies with nuclear power plants under construction and oil companies with uranium mines - complained they had not had time to read the bills.

SO SEN. JOHN Traeger, primary sponsor along with Sen. Kent Caperton of Bryan, asked the Senate Natural Resources Committee to postpone consideration of Senate Bill 480 for a week, until 1 p.m. this Wednesday.

Friday, lobbyists for utilities, uranium miners and medical facilities met privately with the bills' handlers to discuss differences.

Meanwhile, the companion House Bill 908 has not been scheduled for hearing by the House Environmental Affairs Committee. The chairman is also the bill's House sponsor, Rep. Bennie Bock of New Braunfels.

"I think what we have is good," Bock said. "I'd like to be able to pass it with as little controversy as possible."

The bills combine a draft prepared by the Texas Health Department, which currently regulates low-level radioactive materials, and a so-called "citizens' bill" drafted by an environmental group, the Sierra Club.

THE SENATE BILL bears five names: conservative Traeger, whose South Texas district includes most of the state's uranium mining sites and a proposed low-level storage site in Lasalle County; Caperton, whose East Texas district includes the state's other proposed storage site in Leon County; Lloyd Doggett of Austin, acknowledged citizens' advocate; Peyton McKnight, a Tyler conservative who in 1979 unsuccessfully carried an industry-backed bill; and moderate Chet Brooks of Pasadena.

House support also crosses ideological lines. On one side is conservative Bock. On the other are moderate Reps. Bill Keese of Somerville and Jim Turner of Crockett, whose districts would be affected by the proposed Leon County site. Their names are missing from Bock's bill despite their behind-the-scenes work in its drafting.

Reportedly, the marriage of the two sides, at least in the Senate, was blessed by Lt. Gov. Bill Hobby, in hopes of avoiding a replay of the 1979 battle against McKnight's bill.

Traeger said of their two recent meetings in his office: "We let everybody blow their stacks and then we said, 'Look, we have got to pass a bill.' Everybody gave something to avoid a big rag-fight on the floor."

THE SAME GROUP is behind two related bills: one specifically regulating uranium mining by-products, and a second establishing a state agency to operate a permanent burial site for wastes.

Also, Turner, Keese and Caperton have sponsored a resolution calling for a moratorium on licensing of storage sites while a new law is being worked out. It has passed the House and the Senate Natural Resources Committee.

Gaylord Armstrong, lobbyist for the uranium-mining Exxon Corp. said the industry will not draft its own bills — it just wants a hand in others before they get out of committee.

Caperton says the lobby's involvement "is the big question mark. That's why I'm reluctant to crow about any of this."

But a Senate aide who participated in the recent round-table discussions is optimistic.

"When you come up with a group like that," he said in reference to the sponsors, "it's tough for Houston Light and Power Co. and others to come along and say, 'Now wait, you can't do this to us.' The answer is 'Yes we can, and we're going to, and if you want to operate in Texas, these are the rules of the game.' "

THE RULES OF the game under the bills include these highlights:

For any permanent disposal site, the health department would hold title to the land since federal regulations require state ownership of burial sites.

However, permanent sites would be operated by a separate state authority — not by private operators as some, notably the health department, had proposed.

Such a public entity is provided in a separate bill drafted by TENRAC, the Texas Energy and Natural Resources Advisory Committee. That bill probably will be filed this week.

Only wastes from Texas would be allowed at either temporary or permanent sites.

Recent court decision in other states struck down similar limits as violations of the constitution's interstate commerce clause. But another court upheld limits as long as they are imposed by a state authority. That is why TENRAC wants to create a public entity.

Unlike a permanent site, which would be both owned and operated by the state, private companies would be licensed by the health department to operate temporary sites, such as those proposed for Leon and Lasalle counties.

TEMPORARY SITES store and process low-level wastes for shipment to out-of-state burial sites. Only one storage site, near Houston, is currently open; two others have been closed by court order for repeated violations.

Before the health department could act on license applications, it would have to provide public notice and hearings in affected areas. Also, the bill provides for citizen lawsuits.

Though current law provides for no citizen input, the health department scheduled hearings in Leon County after thousands of citizens there protested.

The health department also would have to insure that proposed sites meet newly defined criteria — such as geological and hydrological suitability. Environmental impact statements would be required.

Low-level wastes would be defined as those with 100-year half-lives, as the health department proposed. The citizens' bill set a 35-year limit.

"A material with a 100-year half-life would take a century to lose half of its original radioactivity, another century to lose half of that, and so on until none remained."

THE 35-YEAR limit would include most radioactive wastes, including the majority from hospital and research institutions, and some from power plants, Sierra Club lobbyist Rick Lowerre said in defense of the lower ceiling.

David Lacker, head of the health department's Radiation Control division, stressed, "The 100-years was not set to satisfy the power plant people and we were able to convince the Sierra Club people of that."

Industry lobbyists indicated Friday they want exceptions to the 100-year definition for power-plant and uranium wastes signalling what may be the major fight over the bills.

Penalties for violations would be increased from the current $200 maximum to $25,000 a day for civil violations and $100,000 a day for criminal violations.

Said Health Commissioner Robert Bernstein: "You can always police something with a bigger club. We just didn't have a club big enough."

Nor enough staff members, he complained. The bill provides $1.6 million so the department can fulfill its new duties through the 1981 fiscal year ending Aug. 31).

Also, the department's 1982-83 state budget request would add 81 employees for radioactive-waste regulation.

"I think if they give us what we are now asking for ... then we can handle it," Bernstein said. "But how much is enough? When you are in the area of preventing something, it's hard to justify your needs how can you ever know how many accidents you avoided?"

FORT WORTH STAR-TELEGRAM, Fort Worth, Texas

Feb. 16, 1981

Editorials

No time to waste

To borrow a pair of cliches and pit them one against the other, haste makes waste but, on the other hand, he who hesitates is lost.

That example is used to portray the position in which the Legislature finds itself with regard to the baffling nuclear waste disposal problem.

Texas is nearing the crisis stage as far as the disposal of low-grade nuclear waste is concerned. All but one waste processing and storing firm still retains a license, the others having been shut down for exceeding their allotted storage capacity, and that one will be filled in either April or May.

In the meantime, out-of-state storage sites have closed their doors to Texas waste, and the amount of material to be disposed of continues to grow at its normal rate.

The one remaining firm still processing nuclear waste, Nuclear Sources and Services Inc. of Houston, has an application pending before the Texas Department of Health to store waste at a site in Leon County in East Central Texas. However, the Senate Natural Resources Committee has approved and sent to the full Senate a resolution calling for a moratorium on the approval of additional sites for the disposal of nuclear wastes.

If passed by the Senate, the resolution will prohibit the department of health from issuing licenses to any new waste disposal site until the Legislature can approve stronger regulations for such activities or until June 1, whichever comes first.

Since the Houston storage site is expected to run out of space in either April or May, if the Legislature doesn't get around to acting on this measure before that time, Texas will not have any legal place to dispose of such material, and that could seriously affect the lives of thousands of Texans undergoing diagnosis or treatment for cancer and other diseases.

On the other hand, the caution exhibited by the Senate is understandable. A great many people believe current regulations on the disposal of nuclear waste material aren't strong enough, and they fear that the opening of new sites under those regulations would constitute a potential health hazard.

With that in mind, we think the Senate would be wise to approve the requested moratorium. But we also feel the people of Texas have the right to expect—indeed to demand—that the Legislature take some positive action on this serious matter as soon as possible.

After June 1, the serious matter will become a critical one.

FORT WORTH STAR-TELEGRAM

Feb. 17, 1981

N-dump moratorium OK'd

Star-Telegram Austin Bureau

AUSTIN — Senators voted unanimously today for a moratorium on new permits for low-level nuclear waste dumps.

The House voted earlier for the resolution but will need to consider some minor changes made by the Senate.

Although the measure does not have the force of law, the Department of Health is expected to comply with the lawmakers' directive to refrain from authorizing any new nuclear waste dumps in Texas through June 1.

PROGRESS, Jacksonville, Texas

Feb. 15, 1981

Senate panel OKs moratorium on nuclear waste licensing

By KEN ORTOLON
Progress Austin Bureau

AUSTIN--The Senate Natural Resources Committee Wednesday gave its approval to a moratorium to prevent the licensing of any low-level radioactive waste storage sites in Texas until June 1.

The committee voted 6 to 0 to recommend that the full Senate approve an amended version of House Concurrent Resolution 21, which was approved by the House of Representatives last week.

The amended resolution, sponsored in the Senate by Bryan Sen Kent Caperton, provides that no additional low-level storage or processing facilities could be licensed until the effective date of new legislation governing such licenses or until June 1.

The House version of the resolution would extend the moratorium until Sep. 1.

Caperton and several other supporters of the moratorium said it would not affect currently licensed storage facilities or prevent such facilities from accepting low level wastes.

Nuclear Sources and Services, Inc. (NSSI), Houston, currently is the only company accepting such wastes.

"We all agree we need a new law regulating storage sites," Caperton said.

The moratorium was strongly supported by residents of and representatives for Leon and LaSalle counties, where storage facilities currently are being planned.

Dr. John Burdine of St. Luke's Episcopal Children's Hospital in Houston also supported the moratorium. "I can't emphasize enough how critical it is to resolve this issue this (legislative) session," Burdine said, adding that storage and disposal of such wastes affects thousands of people who receive nuclear medicine services.

Burdine said the moratorium will provide an opportunity for people with a legitimate interest in the problems of dealing with radioactive wastes to "do something effective for the people of Texas" and also provides a commitment for the Legislature to do something now about the problem.

Edmund E. Griffin, a radiation biologist representing the University of Texas System, and Herbert McKee, assistant health director for the City of Houston, expressed reservations about the moratorium.

Griffin said the moratorium could result in the various UT health science centers and other hospitals having to store more barrels of low-level waste than they have space for.

McKee said it also could lead to illegal dumping of radioactive wastes in sewer systems, landfills and vacant lots.

"The present system, even with all of its problems, is far better than illegal disposal," McKee said.

Robert Gallagher, president of NSSI, also proposed the moratorium stating that his facility probably will reach its 4,000-barrel capacity in April or May.

Gallagher also expressed concern that the moratorium will be used solely as a means for opponents of the proposed NSSI facility in Leon County to further delay hearings on the matter. Caperton countercharged that Gallagher just didn't want to have that facility licensed under new and tougher laws.

The committee voted favorably to report the resolution to the full Senate after Sen. John Wilson, D-Lat Grange, recommended an amendment to clarify that the moratorium addressed only licensing of facilities, not hearings or data collection on such sites.

THE TIMES, Corpus Christi, Texas
Feb. 12, 1981

Waste site moratorium passes Senate committee

By JACKIE CALMES
Harte-Hanks Austin Bureau

AUSTIN — A resolution asking for a temporary moratorium on licensing of low-level radioactive waste storage sites, such as those proposed for Leon and LaSalle counties, unanimously passed the Senate Natural Resources Committee yesterday.

The resolution, sponsored by Sen. Kent Caperton of Bryan, is similar to one that Rep. Jim Turner of Crockett guided through the House last week by a unanimous voice vote.

Both lawmakers' dis-'cts include Leon unty. The packed -mmittee room includ-ed residents of the county — six carloads, one observer said — who oppose the proposed site. They applauded the 6-0 vote.

Sen. Carlos Truan of Corpus Christi voted for the resolution.

Resolutions do not have force of law, and this one still must pass the Senate and be reconsidered by the House because of the changes made Commissioner Robert Bernstein of the Texas Health Department, which regulates low-level wastes, has said he opposes a moratorium.

But he supports a bill, co-sponsored by Caperton, that would strengthen existing regulations of low-level wastes. That bill also was scheduled for yesterday's committee hearing but Sen. John Traeger of Seguin, the primary sponsor, had it postponed one week.

Traeger said utility lobbyists complained they had not had time to study the bill, which was introduced Tuesday. Electric utilities will be major generators of wastes when the four nuclear power units begin operating.

The moratorium resolution, Caperton said, would encourage the Legislature to pass that bill. If it fails to do so, he said, the moratorium would "self-destruct" June 1.

"We don't want the Leon County site licensed under an old, inadequate law," he said.

Sierra Club lobbyist Rick Lowerre testified that "Nowhere in the act does it talk about wastes or tell what to do with them."

Opponents of the resolution, primarily representives of hospitals and research institutes, argued that low-level wastes generated from medical procedures are piling up with nowhere to go.

"I'm concerned that the delay starts the stack of barrels in our parking lot," said Dr. Edmund Griffin, radiation officer of the University of Texas Health Science Center in Dallas.

However, Drs. John Burdine of Houston and Ruth M. Bain of Austin testified for the moratorium. Burdine said improper management of wastes amounted to "a major health problem."

He assured Sen. John Wilson of La Grange, who was concerned about the potential pile-up, that "we should be good until June 1."

But Robert Gallagher, president of Nuclea Sources and Service: Inc. (NSSI), whos Houston facility is th only one in Texas ar cepting low-leve wastes, said, "We wi be filled sometime i late April or earl May."

Gallagher, the appl cant for the Leon Coun site, said his Houston f: cility now has 1,6 drums of low-lev waste and soon may l taking 2,000 more from two sites that recently were shut down by court order after repeated violations.

NSSI's permit from the health department allows a maximum 4,000 barrels, Gallagher said.

But Caperton pointed out that NSSI has not shipped any of the stored drums to Washington state, which has the country's only open burial site, since February 1980, he said. NSSI imported 700 of its last 1,500 barrels from other states.

"Why are you doing that when we need that capacity right now for Texas hospitals?" Houston Sen. Jack Ogg asked.

Gallagher said the U.S. Constitution's interstate commerce clause prevents his rejecting out-of-state wastes.

The Senate committee passed two amendments to the moratorium resolution as it passed the House. The expiration date was changed from Sept. 1 to June 1, and language was added that only licensing — not hearings — should be stalled.

The intent of the latter is not to interfere with a March hearing on NSSI's Leon County application.

ITEM, Huntsville, Texas

Feb. 15, 1981

Officials Show Bias

The Texas Department of Health has shown a clear bias in favor of a private Houston company's plans to store radioactive waste in Leon County.

The head of the department, Robert Bernstein, a doctor and scientist, has made public assurances of the safety of the projects despite obvious dangers to the drinking water supplies of at least four East Texas counties.

And Bernstein, state health commissioner, made the assurances even before tests have been conducted to measure the possibility of serious contamination of those water supplies.

But Bernstein's position is not surprising.

His department's sloppy enforcement of laws designed to protect the public from radioactive contamination and subservience to political pressure applied by the state's doctors and hospital administrators have become increasingly clear over the past year.

The poor performance of the department began to receive public notice early last year when Gov. Bill Clements described conditions at Todd Shipyards, a nuclear waste dump in Galveston, as "deplorable."

Local government officials and former State Sen. A. R. "Babe" Schwartz had earlier pointed out the danger of stockpiling drums of radioactive waste on a ship dock that could be ripped apart and flooded by hurricane winds and rain.

Bernstein, whose department regulates businesses and hospitals that use radioactive materials, finally sent inspectors to the shipyard after Clements called for an investigation.

The health department inspectors reported that the nuclear warehouse held 12,000 barrels of waste — 10,000 more barrels than the company's health department permits allowed.

That wasn't the end, however.

Later that year, 11 company employees were contaminated in an accident at the shipyards; many barrels of waste were found leaking, including some which had been on the dock for years; the company failed to reduce its stock so the state was forced to sue it to seek compliance with the law; and the original health department inspection was found to be wrong. Inspectors actually undercounted the number of barrels of waste that exceeded the firm's permit.

The problems with Todd brought to light other problems as well.

Iso-Tex, a radioactive waste company that is currently trying to locate a storage dump in LaSalle County in South Texas, was found to have exceeded its permit by storing 5,000 barrels of waste when it should have stored only 3,000.

And the department filed suit against another Houston firm, now defunct, that had contaminated and abandoned a filling station that had been converted to a nuclear laboratory. That company once employed Robert Gallagher, now president of Nuclear Sources and Services, Inc., which wants to store radioactive waste in East Texas.

The health department hierarchy quickly made clear throughout those controversies, however, that its overriding concern was not for the health of the people of Houston or Galveston or Leon County.

Shortly after Bernstein closed Todd Shipyards to new shipments of waste (it has since been reopened), one of his subordinates told newspaper reporters that the shutdown endangered the ability

See **HEALTH** *Page 4*

HEALTH from Page 1

of Texas hospitals, universities, and businesses to rid their own loading docks of the nuclear garbage they produce daily.

Bernstein has adopted that theme and sung it loudly ever since.

"The state is approaching a critical situation in its need for facilities for storing low-level radioactive wastes generated in hospitals, research institutions and industry," Bernstein lectured Leon County citizens in an open letter published in November in the county's newspapers.

Although no hydrology tests are required in permits issued by the department, and although the company's applications for a permit contain no engineering criteria that assures that their buildings can withstand tornado winds up to 200 mph, Bernstein insists in the letter that Leon County residents will be safe from contamination.

Because the waste is not to be buried (but will sit on a slab inside a metal building), Bernstein said, "There can be no contamination of Leon County groundwater or other environmental features under these circumstances."

The health commissioner and his department have left residents of Leon County disheartened and disenchanted with the state government that is supposed to protect them.

Bill Wilson, a Leon County land developer who is opposed to the dump, put it this way:

"You lose your rights when one man can capitalize on a situation that can put something in your county without your having a word to say about it."

TRIBUNE-HERALD, Waco, Texas
Feb. 6, 1981

House Measure Could Hurt Waste Storage

By BILL CRYER
Cox News Service

AUSTIN — The House Thursday passed without debate a resolution that could cause serious problems in the storage of low-level radioactive waste.

The resolution, introduced by Rep. Jim Turner of Crockett, would prohibit the State Health Department from issuing any new permits for the storage of low-level waste until 60 days after the passage of a more restrictive waste disposal bill or until Sept. 1 if such a bill is not passed into law.

Turner, whose district includes Limestone County, said the resolution would allow areas where such permits are pending to fall under the new state law that will be far more restrictive than currently on the books.

Robert Bernstein, director of the Department of Health, said, however, that the resolution could cause "a terrible problem for this state."

HE SAID THE one low-level waste site is almost full and that if new permits are not issued soon "we may find it (radioactive waste) on our roofs."

Most low-level radioactive waste is generated by medical facilities, which use radioactive isotopes in diagnosing and treating certain illnesses.

The House and Senate will consider bills that would restrict the storage of radioactive waste to materials generated inside the state. The bills would also create a permanent state-run disposal site for such wastes.

Bernstein said that if the bill is declared an emergency measure and if it takes affect immediately upon passage, then the 60-day moratorium would have minimal impact on the state. If, however, the bill is not acted upon or if it becomes effective in the fall as it would unless it is declared an emergency measure, then the state might be left without a storage site for radioactive materials.

"IF WE HAVE to wait four or five months (before issuing any new permits) then we're in very serious trouble," Bernstein said.

A concurrent resolution of the House and Senate carries no force of law but is simply a statement of policy of the Legislature.

The Senate version of the resolution, sponsored by Kent Caperton of Bryan, is to be introduced at 2 p.m. Wednesday.

JOURNAL, Groesbeck, Texas

Feb. 5, 1981

Jim Turner Presents Nuclear Waste Legislative Goals

AUSTIN — State Rep. Jim Turner (D-Crockett) presented his legislative goals on nuclear waste at a January 28th press conference in the State Capitol. The press conference was held to discuss the major concerns and legislative proposals in regard to readioactive wastes in Texas.

In his statement to the media, Rep. Turner explained the purpose of H.C.R. 21, his resolution which declares a moratorium on the licensing of new low-level nuclear waste facilities in the State. Turner noted that recent studies by legislative committees and public interest groups have "confirmed the need for a new state law to regulate radioactive waste." He later said, "I believe that it would be a betrayal of the public trust if the Legislature allowed new low-level nuclear waste facilities to be licensed under the existing law and regulations. In his future remarks, Turner stated, "One of my primary goals is to assure that our sources of drinking water are protected against possible contamination."

Also participating in the press conference were Sen. Kent Caperton (D-Bryan) Sen. Roy Blake (D-Nacogdoches), Sen. Lloyd Doggett (D-Austin), and Rep. Bill Keese (D-Somerville). John Henry Faulk from Madisonville, served as moderator and other members of the panel included representatives from citizen groups in Leon and LaSalle Counties.

TRIBUNE-HERALD, Waco, Texas

Feb. 6, 1981

N-Waste Licenses May End

AUSTIN — The House has adopted a resolution calling for a moratorium on the issuance of new licenses for low-level radioactive waste facilities in Texas.

The resolution, offered by Reps. Jim Turner, D-Crockett, and Bill Keese, D-Somerville, was approved Thursday on voice vote and sent to the Senate.

Keese and Turner want the Department of Health to delay issuance of new permits until the Legislature can take a look at proposals which would tighten state control of radioactive waste facilities.

The moratorium would end when new legislation is passed, or on Sept. 1 if no new law is approved.

ENTERPRISE, Beaumont, Texas

Feb. 6, 1981

Radioactive moratorium OKd

AUSTIN — A moratorium on the issuance of new licenses for low-level radioactive waste facilities in Texas was passed Thursday by the Texas House of Representatives and now goes to the Senate for a vote.

The House resolution, which passed unanimously on a voice vote, was authored by Reps. Jim Turner of Crockett and Bill Keese of Somerville, whose constituents are now protesting plans to locate either radioactive waste processing, packaging or storage facilities in their area.

It would require the Texas Department of Health to suspend issuing new licenses for radioactive waste handlers until new and stricter legislation upgrading the standards and requirements for such handlers is passed or until Sept. 1.

Turner said this moratorium is "a must" because current regulations are minimal and do not adequately protect the public.

The Texas Energy and Natural Resources Advisory Council has helped draft legislation recommending a permanent disposal site for radioactive waste generated in Texas. No legislator has been chosen to carry this bill, which is expected to be filed soon.

HOUSTON CHRONICLE, Houston, Texas

Feb. 12, 1981

Senate panel recommends nuclear waste site moratorium

BY RICHARD FISH
Chronicle Austin Bureau

AUSTIN — A Senate committee recommended a five-month moratorium on licensing new low-level nuclear waste storage sites while lawmakers try to write better laws for management of radioactive wastes in Texas.

The proposal by Sen. Kent Caperton, D-Bryan, still must be approved by the full Senate and the House.

The Senate Natural Resources Committee which considered his proposal also sent to subcommittee for further work Wednesday an omnibus bill affecting fishermen.

Caperton's nuclear waste moratorium was approved despite protests by a waste processor that the measure was a delaying tactic to block his planned processing facility and concerns by health officers that medical procedures using radioactive substances will be halted in Texas unless waste can be disposed of.

Bob Gallagher, president of Nuclear Sources and Services, Inc. said he feared Caperton's bill was just another effort by citizens of Leon County (in Caperton's district) who oppose the location of a NSSI processing facility there.

Gallagher said his firm, the last processing company operating in the state, could reach the 4,000-barrel limit of its Houston facility as early as May.

The moratorium would prevent any new licenses being granted before June 1.

Committee members responded to Gallagher's worries about delay by adding language to Caperton's bill that would allow licensing hearings to proceed on the Leon County site.

Gallagher acknowledged that in the normal course of events a license could not be granted by June anyway.

Dr. John Burdine of the St. Luke's Children's Hospital complex in Houston, said supporters of the bill made a good-faith effort to satisfy the needs of medical nuclear waste producers by cutting back the moratorium period from an earlier eight-month proposal.

Herbert C. McKee, Houston's assistant health director, said delay increases the possibility of illegal disposal by waste producers desperate to rid themselves of drums of contaminated material.

Committee members also voted to let a subcommittee work on a far-reaching fishing bill.

Representatives of the commercial fishermen's group PISCES protested features of the bill that would outlaw cutting the heads and tails off most varieties of fish before bringing them to the dock and prohibit selling many varieties of fish brought in from out-of-state.

Sponsoring Sen. John Wilson, D-La Grange, said undersized redfish and trout are being filleted aboard fishermen's boats to prevent game wardens from being able to determine the fish weren't within legal catch limits.

Wilson said sport fishermen are the most common offenders. His proposal would fine violators $25 to $200 a fish.

Wilson also proposed restricting possession or sale of out-of-state fish, saying that phony documents are used to falsify the origin of fish illegally taken in Texas, "particularly in white bass areas."

Pat Pace, of the Pace Fish Co. in Brownsville, said Wilson's proposal would be an improper restraint on interstate commerce.

STANDARD, Trinity, Texas

Feb. 5, 1981

Stronger regulation planned for nuclear waste in Texas

Several members of the Texas Legislature and representatives of four citizen groups today announced legislative plans for stronger state regulation of nuclear waste management in Texas.

At a joint press conference in the state Capitol, Senator Kent Caperton of Bryan, and Representatives Jim Turner of Crockett and Bill Keese of Sommerville outlined details of several bills that would make comprehensive revisions in current laws governing both low-level and high-level radioactive waste. Senators Lloyd Doggett of Austin and Roy Blake of Nacogdoches also were on hand to support the legislative proposals.

The Texas Department of Health, acting as the state's designated "radiation control agency," is responsible for regulating nuclear waste management in Texas. Committees of both houses of the Texas Legislature have recommended that current regulatory control be revised.

"It should be made clear that we are not trying to prohibit or inhibit the legitimate use of radioactive material in medicine, research, or industry," said Senator Caperton. "We are attempting to insure a good, workable program which includes adequate safeguards for the health and safety of our citizens and for the protection of the environment."

Representatives of four citizen groups-- the Concerned Citizens for Sound Development of Leon County, the Center for Safe Energy, located in Madisonville, South Texas Citizens Against Radioactive Waste, in Cotulla, and the Texas Sierra Club--were on hand to lend their support to the legislation.

John Henry Faulk, from Madisonville, speaking for the four groups, issued a warning "that radioactive waste threatens the purity of the groundwater" in Texas. He called radioactive waste "an evergrowing menace."

Last week all four groups endorsed a temporary moratorium on the licensing of new waste management sites.

Senator Caperton has proposed a new low-level waste law that includes numerous safegaurd provisions.

The legislation does not provide a vehicle for establishment of a permanent disposal site in Texas, said Caperton. Other legislation would be required for that, if the Legislature decides a permanent site is necessary.

One important aspect of Caperton's bill allows for citizen input in the licensing and regulatory process. Public hearings and stiffer penalties for violators would be required under the bill.

"With this legislation we are trying to provide a solution to an existing problem, a very troubling problem that has been neglected too long," said Senator Caperton.

"Making no mistake, we are trying to hinder the necessary and beneficial use of radioactive materials. But health, safety and the protection of citizens from the potential long-term hazards of nuclear material must go hand in hand with its use. Only then can we derive it benefits without fear of its dangers," he said.

SAN JACINTO NEWS-TIMES, Shepherd, Texas

Feb. 5, 1981

Stronger waste regulations called

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DEMOCRAT, Hearne, Texas

Feb. 5, 1981

Legislators working on nuclear waste control

Several members of the Texas Legislature are working on legislative plans for stronger state regulation of nuclear waste management in Texas.

The Texas Department of Health, acting as the state's designated "Radiation Control Agency", is responsible for regulating nuclear waste management in Texas. Committees of both houses of the Texas Legislature have recommended that current regulatory control be revised.

"It should be made clear that we are not trying to prohibit or inhibit the legitimate use of radioactive material in medicine, research, or industry," said Senator Kent Caperton. "We are attempting to insure a good, workable program which includes adequate safeguards for the health and safety of our citizens and for the protection of the environment."

Caperton has proposed a new low-level waste law that includes several safeguard provisions. One aspect of Caperton's bill allows citizen input in the licensing and regulatory process. Public hearings and stiffer penalities for violators would be required under the bill.

The legislation does not provide a vehicle for establishment of a permanent disposal site in Texas, Caperton says. Other legislation would be required for that, if the Legislature decides a permanent site is necessary.

CITIZEN DAILY, Webster, Texas

Jan. 30, 1981

Waste storage company warned

ANGLETON — A lawyer says a waste storage firm will have no trouble complying with a judge's order to reduce its nuclear waste inventory to within state restrictions.

State District Judge Paul Ferguson issued the order to Iso-Tex Inc. this week and warned company officials they will be cited for contempt of court if they fail to comply.

Iso-Tex attorney Alvin Askew denied allegations the firm's nuclear waste storage facilities were deteriorating or contaminating the area. He said the firm will have "no difficulty" complying with Ferguson's order.

The Texas Attorney General's Office filed suit in Brazoria County demanding that Iso-Tex reduce its inventory of low-level waste from 5,000 to 3,000 barrels, a ceiling set for the firm by the Texas Department of Health.

Under Ferguson's order, Iso-Tex must begin reducing its inventory within three weeks and ship more out each month until it complies with the state restriction. Each shipment must contain at least 186 55-gallon drums.

Iso-Tex, like every other nuclear waste storage facility in Texas, is licensed for temporary storage.

Waste companies are encountering increasing difficulty disposing of waste because the nation's few permanent waste storage sites are either shutting down or restricting receipts of out-of-state waste.

NEWS, Dekalb, Texas

Feb. 5, 1981

Faulk says radioactive waste threatens Texas water

John Henry Faulk, speaking for four citizen groups from throughout Texas, Wednesday issued a warning that radioactive waste threatens the purity of the groundwater of the Lone Star state.

Faulk, at a press conference in the state Capitol, told reporters that groundwater under his farm and under the land of many other Texans is being threatened by improper waste management.

He congratulated the Governor and speaker of the House for supporting the spending of a billion dollars for the development of surface water, but Faulk pointed out that an equally important concern is the protection of our precious groundwater, upon which 95 percent of all rural communities in Texas depend.

"Nothing will convert a group of peaceful, conservative Texans into a group of environmentalists like the threat of locating a nuclear waste site over their water supplies", John Henry said. "The reaction of ranchers and farmers in Leon, Madison, Grimes and La Salle counties shows that!

"Inlight of the terrible problem we've had with radioactive waste in Texas, and in light of the total lack of laws in Texas, the legislature needs to turn its attention immediately to these issues," Faulk added.

The four citizen groups are calling for amoratorium on permit and effective laws governing regulation of radioactive waste materials. The groups represented by Faulk are the Sierra Club, the Concerned Citizens for Sound Development of Leon County, The Center for Safe Energy (Madison County) and the South Texas Citizens Against Radioactive Waste (LaSalle County).

MESSENGER, Grapeland, Texas

Jan. 29, 1981

Caperton Issues Resolution In Senate

Senator Kent Caperton of Bryan last week introduced a resolution calling for an immediate moratorium of the licensing of new radioactive waste management sites in Texas.

"Current laws and regulations are not sufficient to ensure safe and effective management of nuclear and radioactive waste materials," said Senator Caperton.

The resolution directs the Texas Department of Health to temporarily halt its licensing of new radioactive waste sites throughout the State. It requests the statewide ban on new licenses until the current legislature has had a chance to pass further legislation governing the handling of hazardous radioactive waste, or until September 1981, if no legislation is passed.

"This will not significantly delay the operation of any new radioactive waste facilities but will allow the Legislature to address this pressing problem," said Senator Caperton.

The resolution directs the Texas Department of Health to review existing laws and issue more effective regulations, if the Legislature fails to provide new guidelines for radioactive waste management.

Committees of both the House and Senate have already recommended that regulation of radioactive waste in Texas be revised.

LEADER NEWS, El Campo, Texas

Jan. 31, 1981

Caperton Calls Halt On More Waste Sites

Senator Kent Caperton of Bryan has introduced a resolution calling for an immediate moratorium of the licensing of new radioactive waste management sites in Texas.

"Current laws and regulations are not sufficient to ensure safe and effective management of nuclear and radioactive waste materials," Caperton said.

The resolution directs the Texas Department of Health to temporarily halt its licensing of new radioactive waste sites throughout the state. It requests the statewide ban on new licenses until the current legislature has had a chance to pass further legislation governing the handling of hazardous radioactive waste, until September, 1981, if no legislation is passed.

"This will not significantly delay the operation of any new radioactive waste facilities but will allow the Legislature to address this pressing problem," said Senator Caperton.

The resolution directs the Texas Department of Health to review existing laws and issue more effective regulations, if the Legislature fails to provide new guidelines for radioactive waste management.

DALLAS TIMES-HERALD, Dallas, Texas

Jan. 29, 1981

Moratorium requested on nuclear waste sites

By SARALEE TIEDE

Austin Bureau

AUSTIN — The prospect of two companies locating nuclear waste dumps in Leon and LaSalle counties brought East Texans to the Capitol Wednesday with pleas to enact a moratorium on permits for new Texas sites.

"I appear on a television show called 'Hee Haw' but this is very serious business," said Madisonville Humorist John Henry Faulk.

"We're talking about an irreversible threat to our water supply. If that is contaminated, all the king's horses and all the king's men and even Gov. (William P.) Clements can't put them back together again," he said.

Isotex, a firm under suit by the attorney general for lax operation of its Friendswood disposal site, is applying for a permit for a storage site in LaSalle County. Nuclear Sources and Services, seeking a permit for a Leon County site, has compiled such a bad record that it should be sued, said Rick Lowerre, an Austin representative of the Sierra Club.

A coalition of East Texas legislators, meanwhile, charged that Texas laws are inadequate to protect citizens from dangerous leaks and accidents. The state health department, charged with granting permits and enforcing them, is ill-equipped and too understaffed to give proper attention to the problem, they said.

Rep. Jim Turner, D-Crockett, supported by 10 other House members, has introduced a resolution that would require the department to suspend the licensing of new storage sites until more effective laws are enacted.

Another bill by Sen. Kent Caperton, D-Bryan, would set strict standards for waste processing and storage facilities. His bill would require that public hearings be held before permits could be granted.

It would also establish a fund to clean up problem sites, prohibit the disposal of out-of-state waste and prohibit the storage of high level wastes in Texas.

Lowerre described his bill as far tougher than the legislation supported by Clements and the Texas Energy and Natural Resources Council. Clements designated that bill an emergency measure this week.

Caperton's bill would add new penalties for violations of standards. The present maximum fine is $200.

The problem, said Sen. Roy Blake, D-Nacogdoches, will be utility company lobbyists who will mount a behind-the-scenes effort to kill effective new legislation.

Blake sponsored a bill in 1979 requiring legislative approval of any long-term storage site or permanent disposal site in Texas. It passed the Senate but died in a House committee.

DALLAS NEWS, Dallas, Texas

Jan. 29, 1981

Group seeks moratorium on nuclear waste sites

By GEORGE KUEMPEL
Austin Bureau of The News

AUSTIN — Warning the health and safety of "tens of millions" of Texans are at stake, a group of legislators and concerned citizens called for a moratorium Wednesday on the licensing of any new nuclear waste disposal sites.

Several dozen East and South Texans, including residents of Leon and LaSalle counties — the sites of two proposed nuclear waste storage areas — voiced their support for the proposal.

HUMORIST JOHN HENRY FAULK, a resident of Madisonville and a regular on the *Hee Haw* television series, said he and his East Texas neighbors are concerned most about the possible contamination of ground-water supplies.

"Ninety-five percent of the rural communities in Texas depend on wells," Faulk said.

State Rep. Jim Turner, D-Crockett, has introduced a resolution calling for a halt in issuing any new permits to give lawmakers time to adopt new safety regulations dealing with the processing and storage of low-grade nuclear waste.

This moratorium is necessary, Turner said, because "state law as it is now does not adequately protect the public interest."

STATE SEN. KENT CAPERTON, D-Bryan, said he will introduce a bill soon containing new safeguards for handling nuclear waste, including stiffer penalties for violations. The bill also will give local landowners a say in where such sites will be located.

"Current law does not require any kind of public hearings to be held. Citizens and local governments must be enabled to participate in decisions on siting," Caperton said.

Caperton said his bill also will prohibit the disposal of any nuclear waste produced out of state, outlaw the storage of any high-level nuclear waste and provide for better monitoring of storage sites.

"With this legislation we are trying to provide a solution to an existing problem — a very troubling problem that has been neglected too long," Caperton said.

SEN. ROY BLAKE, D-Nacogdoches, said he will again introduce a bill that would prohibit any long-term disposal of high-level nuclear waste in Texas without specific approval of the legislature. That bill passed the senate in 1979 but failed to get out of committee in the house.

Faulk and others said the state health department, which is responsible for licensing and regulating nuclear waste storage sites in Texas, has neither the manpower nor equipment to do the job.

He also expressed concern that two of the firms that are now seeking permits for new disposal sites in East Texas — Todd Shipyards and Iso-Tex — have been sued by the state for improper handling of nuclear waste.

"You can't trust those birds who are asking for permits," Faulk said.

AMERICAN STATESMAN, Austin, Texas

Jan. 29, 1981

Group asks moratorium on licenses for radioactive-waste storage

By BRUCE HIGHT
American-Statesman Staff

A group of East Texas legislators, citizens group spokesmen and others, including folk humorist John Henry Faulk, called on the Legislature Wednesday to put a stop to the licensing of any low-level radioactive-waste storage sites until more stringent legislation is adopted.

The potential threat to ground-water supplies for rural areas and the lack of citizen involvement in the selection of storage cities topped the list of complaints and demands made by the group.

The Texas Department of Health is processing two applications for licenses to operate temporary storage sites, one in Leon County in East Texas, the other in La Salle County southwest of San Antonio.

Sen. Kent Caperton of Bryan said at the press conference in the Capitol that a moratorium on issuing any licenses was necessary because "the current law concerning low-level radioactive material is inadequate at best."

"Specifically, it does not address the area of waste processing, storage and management at all," he said. Until strong legislation is enacted, no licenses should be issued.

Rep. Jim Turner of Crockett, whose district includes Leon County, also said the moratorium was necessary because the present law "does not adequately protect the public interest."

The two legislators were accompanied by Austin Sen. Lloyd Doggett, Rep. Bill Keese, whose district abuts Leon County, and Sen. Roy Blake of Nacogdoches. Turner, Keese and Caperton are the prime sponsors of moratorium legislation

John Henry Faulk

Faulk, who lives immediately south of Leon County in Madison County, said too many people in the state don't appreciate how much rural areas depend on ground water for their drinking supplies.

Nuclear Sources and Services Inc. of Houston is seeking to establish a storage site in Leon County, and Faulk said that threatens the area's ground water.

A more "geologically intelligent" place for such a storage site should be picked, he said, and presumably some part of West Texas would be superior.

"We grant that there has to be a place to store it," Faulk said, but a good site has yet to be found.

Both the Houston company and Iso-Tex, a Friendswood company seeking the La Salle County site, came under attack at the press conference for their past record in handling radioactive wastes.

Rick Lowerre, a spokesman for the Sierra Club, said Iso-Tex is being sued by the Health Department for violations of low-level radioactive-waste regulations. As for the Houston company, "They should be sued for the way they've handled radioactive materials in Houston," he said.

John Stiles, speaking for the Center for Safe Energy of Madisonville, said the present law "does not provide for sufficient" public involvement in selection of a storage site and that "open dialogue is the only way to obtain a good site."

NEWS, Groveton, Texas

Jan. 29, 1981

Caperton introduces resolution on radioactive waste sites

Senator Kent Caperton of Bryan today introduced a resolution calling for an immediate moratorium of the licensing of new radioactive waste management sites in Texas.

"Current laws and regulations are not sufficient to ensure safe and effective management of nuclear and radioactive waste materials," said Senator Caperton.

The resolution directs the Texas Department of Health to temporarily halt its licensing of new radioactive waste sites throughout the State. It requests the statewide ban on new licenses untilthe current legislature has had a chance to pass furhter legislature governing the handling of hazardous radioactive waste, or until September, 1981, if no legislature is passed.

"This will not significantly delay the operation of any new radioactive waste facilities but will allow the Legislature to address this pressing problem," said Senator Caperton.

The resolution directs the Texas Department of Health to review existing laws and issue more effective regulations, if the Legislature fails to provide new guidelines for radioactive waste management.

Committees of both the House and Senate have already recommended that regulation of radioactive waste in Texas be revised.

The resolution by Senato: Caperton reads as follows:

SENATE CONCURRENT RESOLUTION

WHEREAS, Effective management of radioactive waste has become significantly more difficult during the past few years as the quantities of the waste have increased and as the number of responsible management facilities has decreased; and

WHEREAS, Texas law governing nuclear and radioactive materials, Article 4590f, Vernon's Texas Civil Statutes, and regulations of the Texas Department of Health are not sufficient to ensure effective regulation of radioactive waste processing and storage; and

WHEREAS, Committees of both houses of the Texas Legislature have recommened amending Article 4590f to provide a new legal basis for regulation of radioactive waste in Texas; and

WHEREAS, In order to assure protection of the public health and welfare, the licensing of new radioactive waste management sites in Texas should be suspended until after this legislature has had an opportunity to provide further legislative directives to the Texas Department of Health; and

WHEREAS, If new legislation is not enacted, the Texas Department of Health should nevertheless issue new more effective regulations governing the operation of radioactive waste management facilities; and

WHEREAS, The operation of new radioactive waste managment facilities will not be significantly delayed if licensing activities of the Texas Department of Health are suspended pending review of the laws by the legislature and pending the issuance of new regulations by the Texas Department of Health; now, therefore, be it

RESOLVED by the Senate of the State of Texas, the House of Representatives concurring, That the 67th Legislature hereby direct the Texad Department of Health to suspend the licensing of new radioactive waste management sites until 60 days after the effective date of new radioactive waste management legislation passed by this legislature or until September 1, 1981, whichever date is earlier; and, be it further

RESOLVED, That the Texas Department of Health issue new regulations based on revision of Article 4590f, V.T.C.S., or other legislature enactd by this legislature relating to the processing or storage of radioactive waste, and that the new regulations be in force as soon as possible after the effective dates of any new laws; and, be it further

RESOLVED, That if this legislature does not enact new law relating to radioactive waste management, the Texas Department of Health is directed to review Article 4590f, V.T.C.S., and agency regulations based on that law and to issue new, more effective regulations based on that law and to issue new, more effective regulations, which would be in force as soon as possible prior to September 1, 1981, and be it further

RESOLVED, That the secretary of state forward official copies of this resolution to the commissioner of health and to each member of the Texas Board of Health as an expression of the sentiment of the Legislature of the State of Texas.

EAGLE, Bryan, Texas

Jan. 29, 1981

Officials fight for tougher nuclear waste regulation

By JACKIE CALMES
Harte-Hanks Austin Bureau

AUSTIN — With entertainer and avowed "environmental extremist" John Henry Faulk as moderator, a group of legislators and activists Wednesday pledged to fight for tougher regulation of radioactive wastes in Texas.

Their audience, which packed a small room outside the Senate chamber, consisted primarily of several dozen East Texans who oppose efforts to locate a waste-storage site in Leon County.

"The current law concerning low-level radioactive material is inadequate at best," Sen. Kent Caperton of Bryan said.

Caperton — along with Sen. Lloyd Doggett of Austin, Reps. Bill Keese of Somerville and Jim Turner of Crockett — has filed a resolution to halt licensing of low-level radioactive-waste facilities until the legislation enacts a new law.

The moratorium would end Sept. 1 if the legislature, which adjourns June 7, fails to act.

In the meantime, Caperton and the others will be pushing for a new law that spells out requirements for storing and processing low-level wastes until they can be transported to a permanent disposal site.

Texas has no permanent burial sites because it has no law, as required by federal regulations, whereby the state could take title to the land. Wastes are shipped to three states.

"The legislature will want to take a hard look at whether we even need a permanent site at this time," Caperton said.

The bill he outlined would require a public hearing before a temporary storage site could be licensed.

"Nothing will convert a group of conservative, peaceful, respectable Texans into environmental extremists like the news that a nuclear dump is going to be located in their community," Faulk said.

Keese also decried companies' and state authorities' disregard for the local communities who are expected to bear the risks associated with radioactive waste facilities."

The legislators said they could not predict their chances of passing either the resolution or a new law.

Sen. Roy Blake of Nacogdoches recalled the death of a bill he and Keese had sponsored during the 1979 session.

"The Texas utilities lobby had a fear that this might in some way hurt their operations," Blake said.

Four nuclear power plants under construction "will produce more low-level nuclear waste per year than is now produced by all the (1,500) licensed users of radioactive materials in the state combined," according to the groups' prepared text.

High-level wastes, mostly from nuclear weapons production, are regulated by the federal government.

Utility spokesman have said establishment of a low-level disposal site is a top priority for the 1981 session. One said the group probably would back a bill drafted by the Texas Health Department, along with the Texas Energy and Natural Resources Advisory Council.

Gov. Bill Clements, in his State of the State speech to the legislature last week, also indicated support for a new law and a permanent disposal site — for Texas-generated wastes only.

The bill legislators outlined Wednesday would not provide for a permanent burial site.

Rick Lowerre, lobbyist for the Sierra Club and other citizen groups, condemned the three companies that currently store wastes until they can be shipped out of state for burial.

Todd Shipyards, which operates a site in Galveston, and Iso-Tex, of Friendswood, have repeatedly violated state law and are being sued by the Attorney General's office, he said.

Of the third company, Nuclear Sources and Services, Inc., Lowerre said, "If you look at the records of the health department, they should be sued."

NSSI is the company currently seeking a much-contested license from the health department to operate the Leon County site, near Interstate-45 halfway between Houston and Dallas.

"The record is deplorable," he said. Faulk also cited numerous incidents of leaking wastes and said, "Where dollars are involved, quite frequently the welfare of the community is not the primary concern."

Faulk and Keese both said they would prefer that waste management not be in the hands of profit-minded companies unless the businesses are totally liable for damages.

Faulk cited the state's $2 million cost of cleaning up a Friendswood site. Keese added, "It ultimately is going to come back to the taxpayers ... and for how long is anybody's guess."

MESSENGER, Jewett, Texas

Jan. 28, 1981

Turner Against Wastes In Leon County

FRONT PAGE

State Representative Jim Turner (D-Crockett) announced today that he has filed a resolution which directs the Texas Department of Health to suspend the licensing of new nuclear waste storage sites until the 67th Legislature considers and enacts stronger laws governing radioactive waste management. Representative Turner represents District 15 (Cherokee, Houston, Leon and Limestone Counties) in the Texas Legislature.

"The health and safety of our citizens must be protected against potential hazards which might arise under the existing nuclear waste laws and regulations," Turner stated. He then said, "The Legislature should act to delay the issuance of additional licenses for the siting and operation of radioactive waste storage and processing facilities, and my legislative resolution seeks to postpone further licensing procedures until the Legislature has had time to adopt a more effective law."

L.C. Wall and Norris Haynie of Leon County assisted in preparing the resolution for Representative Turner. Both Mr. Wall and Mr. Haynie are members of the Concerned Citizens for Sound Development of Leon County, the group leading the opposition to the proposal of locating a nuclear waste facility at a site in Leon County. In commenting on the concerns expressed by this Leon County group, Turner stated, "I believe that the people of Leon County and the surrounding areas have made it clear that they feel that their lives, property and general well-being would be seriously threatened by the location of a nuclear waste site in their region of the state."

Representative Turner indicated that he will keep the people of District 15 advised of the progress of this and other legislative measures, and he said that he would welcome inquiries and correspondence on any matter. Anyone wishing to contact Rep. Turner can call or write him at his capitol office: (512) 475-5737 or P.O. Box 2910, Austin, Texas 78769.

THE SUN, Alvin, Texas

Jan. 28, 1981

District judge orders toxic waste firm to get rid of 2,000 barrels

By SCOTT BIESER
Staff Writer

ANGLETON – A district judge Tuesday ordered an area waste disposal firm to begin removing barrels of low-level radioactive waste from a temporary collection and storage site north of Alvin.

Iso-Tex Inc. was ordered remove 156 55-gallon barrels of waste from its site within three weeks, and continue to ship out 186-barrel loads at four-week intervals until the total number of barrels at the site is no more than 3,000.

The order was a result of hours-long negotiations between attorneys for Iso-Tex and the Texas Attorney General's Office.

The attorney general filed suit against Iso-Tex in Brazoria County on behalf of the Texas Department of Health, which alleges the company is violating the conditions of its license to store waste.

District Judge Paul Ferguson, hearing the case in Judge J.R. Gayle III's 23Sth District Court, asked both sides to work out a compromise arrangement for shipping out the barrels that Iso-Tex can comply with and that would satisfy state regulatory requirements.

Ferguson, who said he did not completely understand the complex technical issues raised in the suit, told Iso-Tex attorney Alvin Askew "I want that stuff away from me."

Askew and Assistant Attorney General David Preister spent about two hours standing before Ferguson and arguing about methods of preparing the drums for transport.

Iso-Tex wanted to compact the waste into larger containers approved by the Department of Transportation for carrying hazardous wastes.

Preister and co-attorney Brian Berwick said the method proposed by Iso-Tex was "illegal and dangerous." The firm is already allowed to compact the material in 55-gallon drums.

Askew said Iso-Tex wanted to compact into the larger containers because this was the method preferred by the Hanford Reservation in Washington, to which the waste would most likely be shipped since it is the only one in the nation now accepting wastes from out of state.

The Iso-Tex attorney denied charges by state lawyers that the situation at the Iso-Tex plant, located on County Road 129 just west of the Brazoria County line, constitutes a health hazard.

"The measure of radioactivity present is less than half of the total curies (a measure of radiation) permitted under the license," he said.

However, Iso-Tex' license requires the firm hold no more than 3,000 barrels of waste at the CR 129 site at any one time. Presently there are roughly 5,000 barrels at the site.

"The only allegation they have made is that there is some rust on the drums. There has been no record of any spill," Askew said.

He added much of the radioactive waste stored there has a short half-life, which means it decays into a non-radioactive substance). Thus about half the barrels at the site have radiation levels low enough "you wouldn't even have to have a license to have it."

Berwick charged Iso-Tex had "been playing regulatory roulette" on the issue. "Hoping something will come along and bail them out." He said the real reason the company was slow to ship its waste out was purely monetary.

Askew said in November 1979 the health department raised Iso-Tex' permitted barrel total to 6,000, when all three permanent storage sites that had been accepting wastes closed down temporarily.

"Then after my client made commitments to accept extra waste, the health department lowered the limit back to 3,000," he said.

He said Iso-Tex collects waste from hospitals and medical research facilities experimenting in radiology.

Before the question of a shipping schedule was raised Ferguson sustained a plea for jurisdiction by Askew, which prevented the Brazoria County court from discussing the merits of the case under the Texas Radiation Control Act.

Askew argued, and Ferguson agreed, the provision for prosecution under that act requires suit be filed in Travis County.

However, the state is also suing Iso-Tex under the Municipal Solid Waste Disposal Act, which provides for civil penalties of $1,000 per day for violations.

Ferguson's order was issued under that act.

At 4 p.m. Ferguson told attorneys for both sides to meet privately and work out a shipping schedule that would satisfy state regulatory requirements and that Iso-Tex could comply with.

"You ought to be willing to set a standard and get started on a program," he said.

At 9 p.m. a proposed order was finally returned, and Ferguson thanked both sides for their efforts in reaching an agreement.

Preister said afterwards he still has the option of filing a suit in Travis County district court under the Radiation Control Act to resolve other disputes the state has with Iso-Tex.

He declined to state whether he would seek further injunctive relief in Brazoria County so long as Iso-Tex complies with the ordered schedule), but added that the firm is being investigated for other possible violations.

BRAZOSPORT FACTS, Freeport, Texas

Jan. 28, 1981

Court orders firm to cut back nuclear waste stock

By DOWARD BEAN
Facts Staff Writer

Under an agreed court order handed down late Tuesday, a company storing radioactive wastes in eastern Brazoria County must start reducing its inventory within three weeks.

Judge Paul Ferguson ordered Iso-Tex Inc. to start making shipments each three weeks to reduce the approximately 5,000 drums of waste radioactives to the permitted 3,000 drums.

However, a new order may have to be prepared if a radioactive wastes disposal site in the state of Washington refuses the materials.

The Texas Health Department (THD), through the attorney general's office, was seeking a temporary injunction against the company, which gathers the wastes from medical facilities, puts the waste in containers, then ships it to one of the nation's three radioactive waste disposal sites.

The company's lead attorney argued that compliance with the state's requested injunction requirements isn't possible for reasons beyond the company's control.

Alvin Askew of Austin said there are only three sites in the nation which accept radioactive wastes. One is unavailable because of the type of wastes and another refuses to accept this company's wastes, he said.

The third, in Washington, is undergoing local legal changes which make acceptance uncertain, Askew said.

Ferguson, after hearing extensive arguments from both sides, ordered the attorneys to hammer out some schedule of compliance before they left the courtroom.

He said that if an agreement couldn't be reached by them, he would make the agreement himself and was willing to hold everyone all night while he did it.

Attorneys worked almost four hours on the agreed order, then spent more time preparing it for Ferguson's signature.

The state filed suit against Iso-Tex

(Please see LAWSUIT, Page 13A)

Lawsuit...

(Continued from page 1)

Jan. 12 under the Texas Radiation Control Act (TRCA) and Texas Solid Waste Disposal Act (TSWDA).

The state claimed Iso-Tex failed to comply with its state permit, issued in 1974, by exceeding the 3,000-drum storage limit and storing the 55-gallon drums for too long a time.

THD previously had ordered Iso-Tex to reduce its drum inventory according to a schedule, but the suit said the schedule wasn't followed.

Other permit violations were also alleged in the suit.

Ferguson said he didn't want to order compliance, then find the company in contempt of court for non-compliance when the compliance might be impossible.

"The company doesn't have control over the disposal facilities in other states," said Askew. He said the company can send the drums, but can't help it if the drums are refused.

If that happens, the company could only send back the wastes to where they were obtained, medical facilities. He said this would turn hospitals into storage facilities and warned that these might soon find themselves violating their own permits.

Askew also warned that if the courts shut down the three companies collecting such wastes in this and nearby counties, all radiological medicine might be shut down soon because of disposal problems.

He also said the radiation levels are minimal and of no danger at the site on County Road 129 near the Galveston County line.

Priester and Assistant Attorney General Brian Berwick said the real reason the company doesn't want to comply is financial.

They said the company has been charging for the collection for several years, but balks at the higher costs lately of getting rid of the wastes.

Ferguson emphasized that he wanted some schedule to show the defendant's good faith.

SAN ANTONIO EXPRESS, SnaAntonio, Texas

Jan. 23, 1981

Governor spurs bills on crime, education

By DICK MERKEL
Chief, Express Capitol Bureau

AUSTIN — Gov. Bill Clements gave Texas lawmakers a taste of honey and a touch of his spurs Thursday in his second biennial "State-of-the-State" address to the Texas Legislature.

At one moment, Clements heaped high praise on the record of past Legislatures which he said had contributed much to making Texas a "Superstate among American states."

He also paused to single out the 13 members of the Legislature with 15 or more years of service — including San Antonio Sens. Glenn Kothmann and Bob Vale — asking for, and receiving, a standing ovation in their honor.

But, in the next moment, Clements withdrew the gladhand, saying: "Our job is not to pat ourselves on the back. Our job is to perform even better, and my message to you at the beginning of this first legislative session of the new decade is that we can do better and we must do better."

With that, the Republican governor laid out his shopping list of pet legislation for the predominantly Democratic 67th Legislature's consideration.

There were few new items on the list from those Clements sought in his first "State-of-the-State" message to the Legislature two years ago shortly after taking office.

One item was most significant for its absence from the list. Clements' address made no mention of his often-sounded call for $1 billion in new tax breaks for Texans. Instead, the governor dwelt heavily on an appeal for lawmaker's support of his programs in the area of education, the war on crime, statewide voter initiative and referendum, greater control of the bureaucracy, and his budget recommendations.

In the area of education, Clements asked for legislative approval of a 22 percent pay increase for public school teachers and a 28 percent increase for college and university faculty members spread over the next two years.

Legislation requiring competency testing for prospective teachers and a "Master Teacher Program" with pay incentives for high-performing classroom teachers was also asked for by Clements.

He asked for an end to the practice of social promotions in public schools.

Clements also made a strong pitch for passage of his package of 10 anti-crime bills which has already been introduced.

Saying polls showed 85 percent of Texans approved of it, Clements came down hard for lawmakers' support of a bill giving the Department of Public Safety authority to conduct wiretaps in the investigation of drug cases.

"I ask you to support it (wiretapping), too, because I think it's high time we got serious about stopping this drug traffic. I want to put those drug peddlers in jail and keep them locked up," Clements fairly shouted to a round of applause which may belie the general reluctance of lawmakers to go along.

Going to the polls once again, Clements said surveys showed more than two-thirds of the people of Texas want initiative and referendum giving them the right to propose or repeal state laws and amend the constitution via the ballot box.

Dealing with state employees, Clements urged lawmakers to support his call for a 3.4 percent emergency pay raise and increases in benefits for retired employees and public school teachers.

Clements also called for a 24 percent pay increase for state employees over the next two years.

Again, Clements mixed the sweet with the sour, saying: "I recommend legislation that will prohibit state employees from authorizing an automatic deduction — or dues check-off — from their paychecks for union dues. Unions will only weaken state government," Clements said.

Other recommendations in the governor's speech included:

- Creation of a Texas Department of Commerce to combine the operations of state agencies involved in economic development, promotion, trade and commerce.
- Legislation to control the disposal of low-level nuclear wastes generated in Texas.
- Legislation to exempt gasohol from any gasoline taxes.
- A proposed constitutional amendment allowing the state to guarantee a low-interest loan program for small business.
- Work toward establishment of a five-state regional primary in March of presidential election years with Louisiana, Arkansas, Oklahoma and New Mexico "in order to give the Southwest the kind of clout in presidential elections we deserve," Clements said.

Clements also called for the Legislature to ensure that legislative and congressional redistricting in this session makes "districts as compact as possible without all the gerrymandering that we have seen in the past."

Clements, who needs the support of House Speaker Bill Clayton if all, or part, of his program is to pass this session, hung out the carrot he obviously hopes will garner that backing.

In his speech, Clements came out strongly in favor of one of the speaker's own pet projects — creation of a State Water Trust Fund.

The fund as proposed by Clayton, and now supported by the governor, would hold surplus state funds in trust for later use in developing new water sources for the state.

Clements called on lawmakers to provide sufficient funds this session to purchase two new prison sites in addition to the one already acquired in Grimes County.

He said his proposed budget includes substantial increases for Texas Southern and Prairie View A&M Universities.

"These two fine institutions have my total commitment and I will fight any effort that seeks to abolish them," the governor promised, an allusion to threats of an end to federal higher education funding in the face of charges that the two predominantly black universities have been discriminated against in the distribution of funds.

Clements' speech was warmly, but hardly enthusiastically, received as evidenced by the sporadic applause which interrupted it only a few times.

THE LIGHT, San Antonio, Texas

Jan. 23, 1981

Excerpts From Clements 'State-of-State Speech'

The Light's Austin Bureau

AUSTIN — Following are excerpts from Gov. Clements' "State-of-the-State" address to the Legislature Thursday:

● Advocating wiretapping in narcotics cases: "I think it's high time we get serious about stopping this drug traffic. I want us to put these drug peddlers in jail and lock them up."

● Initiative and referendum: "Twenty-three other states have given their citizens this right, and polls show that more than two-thirds of the people of Texas want it also."

● Nuclear waste: "I recommend legislation to control and tightly manage the disposal of low-level nuclear wastes that are generated in Texas. I am adamantly opposed to Texas becoming a dumping ground for any out-of-state nuclear wastes."

● Promoting the exemption of gasohol from gasoline taxes: "It's high time that we do all we can to stimulate the use of gasohol and lengthen the life of our precious natural resources."

● Redistricting: "My recommendation to you is that we make the district as compact as possible with out all the gerrymandering that we have seen in the past."

● Regional primary: "I recommend that we work toward the establishment of a five-state regional primary in March with Louisiana, Arkansas, Oklahoma and New Mexico in order to give the Southwest the kind of clout in presidential elections that we deserve."

● On Texas' growth and its role as a "superstate" in the 1980s: "If Texas were an independent nation, it would have the 13th largest economy in the world."

● Emphasizing the "basics" in public education: "I want us to put an end to the practice of social promotions, and now is the time to start."

● On the predominantly black Texas Southern University and Prairie View A&M University: "These two fine institutions have my total commitment, and I will fight any effort that seeks to abolish them."

● On setting aside money for water projects: "Providing an adequate water supply, ultimately, may be the most critical issue for all Texans. We could be facing a crisis if we do not accurately assess our needs and prepare to meet them."

SUN, Alvin, texas
Jan. 22, 1981

Resolution would stop waste storage sites

By JACKIE CALMES
Harte-Hanks Austin Bureau

AUSTIN — Area legislators are uniting behind a resolution to halt licensing of radioactive waste sites until state law and health department regulations have been improved.

The resolution, aimed primarily at controversial applications for sites in Leon and LaSalle counties, was filed Tuesday in the Senate by Sen. Kent Caperton of Bryan, and in the House by Reps. Bill Keese of Somerville and Jim Turner of Crockett.

Sen. Lloyd Doggett of Austin will co-sponsor the Senate resolution. The House resolution has 11 additional sponsors, including both Democrats and Republicans.

"Current laws and regulations are not sufficient to insure safe and effective management of nuclear and radioactive waste materials," Caperton said.

The resolution cites the problem of increasing quantities of radioactive wastes, ineffective management of their storage and disposal, and insufficient regulation by the Texas Health Department.

It calls for a moratorium on the Health Department's licensing of sites until Sept. 1, or 60 days after the effective date of any new regulatory law passed by the 1981 Legislature, whichever date is sooner.

Should the Legislature fail to act, the resolution directs the Health Department to review its procedures under existing law "and issue more effective regulations."

Spokespersons for several sponsors said they expect the resolution to pass. It would not have force of law, they said, but the Health Department would be prodded to act.

Committees in both the House and Senate have recommended new laws to tighten regulation.

Primarily, the operation of three waste management companies are in question. They are Todd Shipyards in Harris County, Iso-Tex, which has applied for a facility in LaSalle County, and Nuclear Sources and Services, Inc., which seeks a license for a site in Leon County.

Caperton said the resolution, if passed, "will not significantly delay the operation of any new radioactive waste facilities, but will allow the Legislature to address this pressing problem."

The resolution won public praise Tuesday from a coalition of citizens' groups — Concerned Citizens for Sound Development of Leon County, the Center for Safe Energy, the South Texas Citizens Against Radioactive Waste and the Texas Sierra Club.

The groups cited Health Department records of repeated violations by the three operating companies, and a suit against Iso-Tex and NSSI filed by the Attorney General as proof that existing regulation is ineffective.

Also, they criticized the existing $200 maximum penalty for violations, and the lack of provisions regarding siting of facilities

PRESS, Buffalo, Texas

Jan. 21, 1981

Good news and bad news in nuclear waste fight

FRONT PAGE

"It's going to be a fight down to the wire," Rep. Jim Turner said of the upcoming legislative struggle to keep nuclear waste out of Leon County.

In a Tuesday telephone interview with The Leon County News and The Buffalo Press shortly before he introduced a resolution calling for a moratorium on the issuance of storage permit until stringent legislation is enacted, he offered both good and bad news:

The good news: House Speaker Bill Clayton told Rep. Turner that he will support the resolution.

"This is very important," Rep. Turner said, "and I am pleased about the action."

The bad news: It will be nearly 30 days before a House of Representatives committee can take up the matter and nearly 60 days before the resolution can be brought to the floor for full House action.

This is because in the opening sessions of the Legislature last week, the House failed to suspend the rules that permit immediate legislative action.

Instead, under the standard rules, action must wait 30 days in committee and 60 days before the full House.

"This is the first time I can remember that the House failed to suspend the rules and allow immediate legislative action," Rep. Turner said.

"We needed that time that running head start."

He introduced the resolution Tuesday afternoon, after which it was referred to a House Committee. There it will be bottled up, with no hearings, until the 30 days are up.

Sen. Kent Caperton is expected to introduce a similar resolution in the Texas Senate.

"From all I've heard since the Legislature convened," Rep. Turner said, "it will be a battle down to the wire."

The resolution must clear both the House and Senate and receive Gov. Clements' signature before it takes effect.

Norris Haynie and L.C. Wall, chairman and treasurer of Concerned Citizens for Sound Development, assisted in drafting the resolution.

Concerned Citizens is the Leon County Committee formally opposing a Houston firm's application with the Texas Department of Health for a license to operate a storage plant at Leona and at a site west of Centerville.

The resolution asks the Legislature to declare a moratorium on issuing license until rigid laws are

SEE WASTE PAGE 2

SUN, Alvin, Texas
Jan. 18, 1981

State seeks fines against N-waste storage site

By SCOTT BIESER
Staff Writer

The Texas Attorney General is seeking an injunction and fines against a local nuclear waste storage company for alleged violations of its plant license.

An attorney with the Texas Department of Health said legal remedies are being sought because Iso-Tex Inc. has done very little" to bring its plant into compliance with department regulations.

David Priester, an assistant in the office who is handling the case, could not be reached for comment.

The matter is scheduled for a hearing in District Judge Paul Ferguson's court in Angleton at 1 p.m. Jan. 27.

The TDH spokesman said they are trying to get Iso-Tex to reduce the number of barrels containing low-level radioactive waste at its plant from the present 2,926 to the 2,500 allowed by its permit.

Iso-Tex may face $1,000-per-day fines for non-compliance, the spokesman added.

John Haygood, who works in the radiation section of the health department, said Iso-Tex was ordered back in September to reduce its stockpile of waste containers by Dec. 15.

When the Dec. 15 deadline passed, Haygood said the matter was referred to the department's legal division, which in turn forwarded the case to the Attorney General's office.

He said this case is comparable to the more highly-publicized Todd Shipyards case. In that issue the shipyard was told to reduce its inventory of waste containers, and although it agreed to do so no such action was taken.

Haygood said Iso-Tex only removed about 226 barrels of waste from its plant between Sept. 12 and Dec. 15. However, it has stopped receiving more waste from its customers, in compliance with TDH orders.

When asked whether the current situation presents a danger to public health, Haygood replied, "I can't say one way or another without doing studies, knowing exactly what is in each container, and so forth."

"What we want is compliance with the licensing requirements," he said.

He said he believes Iso-Tex is not intentially causing problems but that it had hoped to move its excess barrels to another location in the state, but that facility has not yet been licensed by TDH.

The new proposed facility is in La Salle county, about 100 miles south of San Antonio.

Jean Maloney, vice president of Iso-Tex who has been assigned to deal with the news media, could not be reached for comment Friday.

However, she has been quoted in other publications as saying she believes the maximum-barrel requirement is not reasonable.

She reportedly said the department should be more concerned with the total curies of radiation of all barrels, not just how many there are.

She was quoted as citing high transportation and burial costs as one reason Iso-Tex has not shipped the extra 2,000 barrels to one of three locations in the country licensed to bury such wastes.

Haygood said the reasoning behind the maximum-barrel limit is the ability of the facility to properly store the barrels.

"For one thing the drums are not very well protected against the weather, and with a large volume of drums you have corrosion – in fact when I inspected the plant I found some were very close to corroding through," he said.

"In an emergency situation I don't see how they could possibly handle them," he added.

TIMES, Angleton, Texas

Jan. 14, 1981

State Seeks Injunction

Improper Storage Of Radioactive Waste Alleged

By JANE FAULKNER

In a request for a temporary injunction the State has alleged that a Friendswood corporation has improperly stored radioactive waste materials "in a manner which threatens the health of members of the public."

Filed on behalf of the Texas Department of Health, the litigation is brought against Iso-Tex Inc. and Iso-Tex Diagnostics Inc., "under the authority" of the Texas Radiation Control Act and the Texas Solid Waste Disposal Act.

A hearing on the injunction request is tentatively scheduled at 1 p.m. Tuesday, Jan. 27, in the 149th District Court here.

In addition to a court order in the case, the lawsuit seeks imposition of civil penalties for alleged violations of the Texas Solid Waste Disposal Act.

Iso-Tex Inc. operates a facility at 1511 CR 129 in Friendswood "which processes and stores radioactive materials," the suit states.

The lawsuit also claims that Iso-Tex Diagnostics manufactures radioactive pharmaceutical products which are distributed to various medical institutions.

Iso-Tex collects and ships radioactive waste materials in packages to the CR 129 facility for temporary storage, and subsequent transshipment to a licensed radioactive waste disposal site, the petition alleges.

Although the litigation states that both defendants are jointly licensed to handle radioactive materials, it claims that Iso-Tex is not licensed as a radioactive waste disposal site.

Nor does the defendant

(Continued on Page 10)

Improper Storage Of Radioactive Waste

(Continued From Page 1)

purportedly hold a permit to operate a solid waste disposal site pursuant to the Solid Waste Disposal Act, according to the lawsuit.

The petition alleges that radioactive waste was stored at the Iso-Tex facility for more than one year.

"The Iso-Tex license specifies that radioactive waste drums may not be stored on site for longer than one year.

"Within one year, the licensee is expected to properly package and transport the radioactive waste to a licensed disposal facility," the suit states.

According to the plaintiff, a January 1980 inspection of the facility by members of the Radiation Control Branch of state health department allegedly revealed that "377 radioactive waste drums were identified which had been in storage at the site for longer than one year."

The suit asks that Iso-Tex be mandatorily enjoined "to immediately ship all drums which have been in storage longer than one year to a licensed radioactive waste disposal site."

The State also claims that the defendant has allegedly failed to maintain a drum inventory at the business.

The lawsuit states that on Sept. 12, 1980, a Texas Department of Health commissioner ordered Iso-Tex to reduce a purported 5,000-plus drum inventory to a designated limit of 3,000.

A time schedule which called for an 800-drum per month reduction of the inventory beginning Sept. 30, 1980, and ending Dec. 15, 1980, was also issued in conjunction with the order.

Claiming that the defendant did not comply with the time table, the lawsuit states that on Dec. 15, 1980, health department officials allegedly determined that there were approximately 5,038 barrels at the CR 129 facility.

The lawsuit claims further that Iso-Tex allegedly failed to remove within a one-and-a-half year period contaminated soil and debris from a past burial area.

"Among other things, Iso-Tex was to have removed a septic tank and drain field, and pipe storage vaults buried beneath the site," the petition states.

Purported failure by the defendant to grade and contour "back property" at the location, and the alleged failure to install a chain link fence around the radioactive waste storage site was also cited in the State-filed litigation.

It claims that the property was to have been graded and contoured to facilitate proper drainage, including the installation of a drain pipe.

Allegations of radioactive contamination were also listed in the petition in connection with an investigation of the defendant's old Brazoria County facility located at CR 127 and CR 130.

A July 1980 inspection by the health department allegedly "revealed that there were 60-100 drums in the area, most labeled as chemical waste."

According to the lawsuit, the inspector allegedly observed three drums which were labeled "radioactive," and purportedly "found one spot within the fenced area beneath the old barrel storage pad which was contaminated."

The injunction request asks that Iso-Tex be enjoined to "decontaminate this area by removing contaminated soil and shipping it to a licensed burial site."

In yet another claim, the state indicates in the petition that over 5,000 radioactive waste drums are stored at the CR 129 facility "without adequate protection from the weather."

The plaintiff alleges in the litigation that during "drum counts" at the business, inspectors "noted several drum lids in rusted condition."

"The deterioration of these lids poses an imminent threat of leakage and contamination of the soil and the water," the petition states.

In addition to the injunction request, the State has asked that Iso-Tex be required to pay civil penalties of $1,000 per day for each day that it has allegedly allowed deteriorated radioactive waste drums at its site.

Court costs and general relief are also sought in the petition, which was filed by Assistant Attorney General David J. Preister of the Environmental Protection Division, State Attorney General's Office.

RECORD-CHRONICLE , Denton, Texas

Jan. 21, 1981

Council to study report on nuclear materials

Procedures for registration of nuclear materials within city limits, as well as recommendations to monitor nuclear materials transported through Denton and disposal of such materials will be studied by the Denton City Council Tuesday night.

The proposed regulations are the final report of a study committee on control of nuclear materials created in April 1980.

Mandatory registration of nuclear materials is proposed, which would identify the amounts and locations of such materials, as well as a local ordinance based on regulations set by the U.S. Department of Transportation on nuclear materials passing through the city. Procedures for monitoring nuclear waste disposal include notification to the city of any proposed disposal sites and representation at any hearings. The committee also proposes changes in the zoning ordinance aimed at regulating where nuclear materials may be used and stored.

A minority report accompanying the final committee report calls for stricter regulations on both nuclear materials transported through Denton and opposition to disposal of radioactive wastes in the city before such disposal sites are proposed.

The minority report suggests requirements for notification to the city 24 hours prior to transport of nuclear materials and identification of the type of materials to be carried.

Councilmen will also look at an ordinance amending Lone Star Gas Company's responsibility for installation and repair of gas lines up to customer meters.

The change, effective Feb. 1, will give the gas company responsibility for all lines up to meters and customers will be responsible for

See COUNCIL, Page 2A

Council

From Page 1

installation and repair past a meter in compliance with minimum federal safety standards cited by the Texas Railroad Commission.

Under present regulations, customers are responsible for installation and maintenance of customer lines on their property from the company's service lines to a residence.

Other business scheduled for the 7 p.m. meeting includes:

—Award of bids for agricultural leases at the municipal airport.

—An ordinance vacating a utility easement on property at the southwest corner of Audra Lane and Loop 288.

—An agreement with Missouri Pacific Railroad Co. for a power line crossing on Schmitz Street.

—Change orders on the Pecan Creek interceptor and Audra Lane sewer line project and the wastewater treatment plant construction.

—A proposal for a federal grant for a feasibility study of a district heating and air conditioning system.

—A contract with Management and Research Consultants for an innovative rates study under a federal grant.

—A contract for construction of water treatment plant chemical feed facilities improvements.

The council will meet before the regular meeting for a 5 p.m. executive session with the Airport Advisory Board.

ENTERPRISE, Livingston, Texas
Jan. 11, 1981

State Capital Highlights

Waste bill may sail through

By Lyndell Williams

AUSTIN--Last session the Legislature almost passed a bill which would have allowed low-level nuclear waste dumps in Texas.

This session the bill will probably sail through, although the waters may get a bit choppy.

And sometime in the future, probably not this year, the Legislature will approve waste dumps for high-level nuclear waste.

In fact, it may be virtually impossible to stop creation of nuclear waste dumps in the Lone Star State because all three of the national dumps have now been closed to out-of-state users.

Illinois just put the final touches on enforcement of its new state law banning out-of-state waste at its site. Earlier, waste dumps in South Carolina and Nevada were closed to out-of-state dumpers, including Texas.

Texas currently produces low-level nuclear waste at hospitals and laboratories. When the nuclear power plants at Bay City and Glenrose are completed, high-level waste will be generated. Facing stark reality, Texans will have to set aside a place to store its nuclear offal.

NOW WHEN, BUT HOW?

The important question to Texas citizens is not if or when Texas will create the nuclear dump site, but "how?". what legal safeguards will be approved, and will they be sufficient to protect citizen health from radioactivity? For politicians who must vote on the controversial issue, the key question is where to put the dump?

It seems only right that if Texas generates nuclear waste for the benefit of its citizens, then it must accept the responsibility of storing the hazardous nuclear waste somewhere within its borders. But should Texas allow other states to dump their nuclear trash here, possibly to the harm of Texans?

"BAD OL' BILL."

The nuclear dump bill which pass the House but failed in the Senate l session was regarded by many as on the worse bills of the lot. The sor point was a $200 fine for improper du ping or packaging of nuclear wa which one legislator called "an open vitation to out-of-state waste produc to come dump their trash in Texas."

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"Somewhere in West Texas" is site most often mentioned for Texas nuclear dump. Few legisla would be willing to allow a nuc dump in their home district. Bec the potential for harm to health and it is generally assumed that property values in the area will go down. Dump sites might also appear closer to power plants than West Texas. The location will be an intriguing guessing game, and political futures will hinge on th outcome.

CENSUS DECISION

Texas may be able to begin the redistricting process this session, thanks to a ruling by the U.S. Supreme Court last week which cleared the way for the Census Bureau to report its population figures to Congress.

Justice Potter Stewart had issued an emergency order overriding a lower court prohibition on reporting the statistics. Minority groups have legally challenged the validity of the census statistics and sought to delay their release.

Texas Atty. Gen. Mark White had asked for Stewart's action to prevent delay of release of the Texas statistics

The Legislature is scheduled to receive the census report sometime in early April, leaving only a scant two months to redistrict Texas before the Legislature adjourns June 1. State law allows a redistricting board to complete any work left unfinished by the Legislature, but the work must be initiated during a regular session of the Legislature. Thus, a two month delay in reporting the figures to Texas will set back redistricting here by two years.

SCHOOL BUDGET

State budget planners have proposed that Texas spend $7.2 million on elementary and secondary education during the next biennium. The bill will be footed by both state and local government.

The Legislative Budget Board also recommended the state can avoid more civil rights lawsuits by appropriating an additional $20 million to predominantly black universities.

A worried Mark White told the board that a $53 million cutin the budget request by two black universities was being viewed by federal officials as a retrenchment by the state in its commitment to compliance with civil rights laws.

White predicted that if the budget cuts remained, it would be only a matter of days before a formal accusation of racial discrimination would be filed.

BOOSTER WEEKLY, Woodville, Texas

Jan. 8, 1981

State Capital Highlights

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THE HOUSTON POST, Houston, Texas

Dec. 20, 1980

Health commissioner wants to sue Iso-Tex

By HAROLD SCARLETT
Post Environment Writer

Dr. Robert Bernstein, state health commissioner, said Friday he will ask the Texas attorney general to file suit against Iso-Tex Inc. of Friendswood for "significant" violations of its permit to store radioactive wastes.

Bernstein made his decision after Iso-Tex missed a final deadline last Monday to reduce its 5,300-barrel inventory of low-level radioactive wastes to a permitted 3,000 barrels.

The deadline was set in an enforcement order issued by the health department on Sept. 12, but an inspection Monday showed Iso-Tex still had 5,036 drums on hand, the agency said.

"I don't know what else to do," Bernstein said. "We try to be reasonable, but I think we gave them ample opportunity to comply.

"One of the deciding things was that on a recent visit out there, some drums showed signs of deterioration and leaking."

The president of Iso-Tex, Thomas J. Maloney, was unavailable for comment.

The exact objectives of the suit are still to be worked out with the attorney general's office, Bernstein said. But in a similar radioactive waste suit filed in October against Todd Shipyards in Galveston, the state is seeking a permanent injunction against further permit violations, and a civil penalty for each day of violation.

Bernstein said there is no great amount of radioactivity in the medical, research and industrial wastes stored by Iso-Tex. The company is supposed to process the wastes and steadily ship them to out-of-state burial sites.

Iso-Tex is applying for a permit for a new 15,000-barrel storage facility in rural LaSalle County, about 100 miles southwest of San Antonio. About 400 residents there are opposing the new facility.

A public hearing on that permit was scheduled Friday in Cotulla, but the hearing was to be continued until Jan. 5 and possibly longer.

Bernstein said filing of the suit would not affect processing of the permit application by the state health agency.

However, he said he presumes a prohibition on Iso-Tox's accepting any additional wastes will remain in effect while the suit is being litigated. The ban on accepting further wastes was imposed by the September enforcement order.

HOUSTON CHRONICLE, Houston, Texas

Dec. 16, 1980

Chance of Texas nuclear dump site

BY WILLIAM E. CLAYTON JR.
Chronicle Washington Bureau

WASHINGTON — The next big step has been taken toward burying nuclear wastes in tough geological formations, but the possible Texas sites for that process seem to be fading in importance.

A spokesman for the Department of Energy says the agency's nuclear waste office has recommended to the department that salt dome sites in Louisiana and Mississippi be considered more acceptable than those in Texas.

The Department of Energy disclosed in the past week that the final environmental impact statement on nuclear waste disposal confirmed earlier feelings that the best place to store the material is "in mined repositories deep in geologic formations."

The possibilities include salt domes along the Gulf Coast, granite areas of the Midwest and New England, basalt formations in the Far West, and western deposits of tuff, which is a rock made up of compacted volcanic ash.

Originally, three Texas salt domes were among the candidates for permanent storage of nuclear wastes. More than a year ago, the dome at Palestine was eliminated on safety grounds: It was believed water could seep into the dome and spread radioactivity from the wastes.

That left two possibilities in Texas: the domes called Oakwood and Keechi, some 130 miles north of Houston.

grows more unlikely

The Office of Nuclear Waste Isolation recommended last week that one dome in Louisiana and two in Mississippi be given somewhat more weight than the remaining Texas domes.

Officials would not disclose the factors weighing against Texas, but things that were considered included stability, size, closeness of water, intensity of mineral development in the area and isolation.

Having concluded in the environmental statement that deep geologic disposal is the best, the DOE will concentrate its waste disposal research money on geologic disposal.

TIMES, Laredo, Texas
Dec. 12, 1980

La Salle attorney wants more facts on Iso-Tex

COTULLA—The attorney representing LaSalle County in the upcoming hearing on the proposed nuclear waste disposal site here said Thursday he is concerned about the precedent such a site would set.

Morris Reese, a former Cotulla resident now practicing law in Laredo, said he is bothered by the 'foot in the door' the site may represent. "If you look at the history of this sort of thing," he said, " you find that once a permit is granted for one type of radioactive waste, it's comparatively easy to get amendments to the permit to allow the storage of other types of nuclear waste material."

"Then, too, there's the possibility that once we let a site like that to be established here, the State of Texas may decide this is where all the nuclear waste in the state should be buried. The stuff has to go somewhere...but no one wants it in their back yard," Reese said.

Reese said he expects the hearing on Jan. 5, which will be a combined radioactive waste and solid waste permit hearing, will set the ground rules for the conduct of future inquiries into the proposal, and the subject will not be decided once and for all at that meeting.

Reese said he is primarily interested in arriving at some understanding with the hearing examiner of how much Iso-Tex, the Houston company asking for the permit, and the Texas Department of Health will be required to open their files and records to him.

"I think it will be important to look at the company's history of compliance with TDH regulations...the way they've handled themselves in the past," Reese said.

The physical characteristics of the 472 acre site near Woodward proposed for the facility is also a subject of concern, Reese said. He noted that the Carrizo Sands aquifer is very close to the surface there, perhaps as little as 100 feet down in places, and poses a particular threat in the event of a spill or some other mishap.

"Also, that area around is a highly irrigated farm area....the source of a lot of table vegetables...we need to keep an eye on that, too," he said.

Reese said he will ask the hearing examiner for a schedule of depositions to be taken, and a time limit for the discovery process at the hearing in January. He conceded the Dec. 19 hearing will be perfunctory, and will be recessed until Jan. 5.

Reese has been retained by the LaSalle commissioners court for the permit hearings.

TIMES, Laredo, Texas
Dec. 9, 1980

Examiner says opposition must give

Public outcry not enough

COTULLA—In the face of a lengthy petition currently being circulated among residents of LaSalle, Dimmit and Zavala Counties against a proposed radioactive waste site here, an attorney for the Texas Department of Health cautioned that public outcry alone is not sufficient reason to deny the site a permit.

F. Newton Millen, attorney with the TDH and the examiner who will preside at hearings here in December and January, cited a recent appeals court decision that makes it incumbent on the opposition to a waste permit to show compelling reasons why the permit should not be granted.

Millen quoted from the decision to the effect that local opposition standing alone, should not be sufficient reason to deny a permit for waste disposal. The opponents of the proposal must have clear, substantive reasons why the permit should not be granted.

"Otherwise it would be like asking for a show of hands," Millen noted.

Iso-Tex Inc., a Houston firm serving hospitals and universities in the Texas-Oklahoma area, has applied for a permit to store low-level radioactive material on a 472-acre site in western LaSalle county.

Landowners in the area have banded together to oppose the idea, and feelings are running high against the proposal.

Two hearings have been scheduled on the matter, but Millen said Monday both hearings will likely be combined, in the interest of saving time and effort. A hearing has been set for Dec. 19, at the LaSalle County Courthouse, to air the opinions on the granting of a radioactive waste storage permit to Iso-Tex, and a separate hearing was later scheduled for a solid waste Jan. 5 for a solid waste permit for the same company at the same site.

Millen said the two hearings will be combined. He said the Dec. 19 hearing will be opened as scheduled, but will immediately be recessed until Jan. 5, at which time all objections to the proposal will be heard.

Millen said the two hearings were not originally scheduled for the same day because the requirement for a hearing on a solid waste permit is a new state regulation, which took effect after the first hearing had been set.

Meanwhile, LaSalle County Vernon Brown said the LaSalle commissioners approved a resolution hiring an attorney to represent the county's interests at the hearings. The attorney, Morris Reese of Laredo, will be on hand for both hearings, the jud id.

EVENING NEWS, San Antonio, Texas

Dec. 5, 1980

Residents fight planned radioactive waste dump

By JEANNE JAKLE
NEWS STAFF WRITER

COTULLA —A planned radioactive waste dump near here is drawing fire from residents fighting the proposal.

A Texas firm has purchased 472 acres of land northwest of here for a 15,000-drum chemical waste site, said La Salle County Judge Vernon Brown.

"This is not only an emotional issue, but one of human safety as well. We're concerned about the harmful effects of such waste in the event of a tornado or storm," Brown said.

The judge added he is fuming over what he termed "trickery" by the Friendswood-based Iso-tex to get him to grant a location for next month's hearing on the proposed dump.

"They didn't lie to me when they called and asked for a site for a public hearing, but they didn't mention what it was for either.

"If I would've known I probably would have opposed it right off the bat. But because I didn't, I arranged for them to use the courthouse. Now, I just feel helpless," Brown said.

Despite assurances by the Texas Department of Health that the proposed waste warehouses are "safe enough," Brown remains concerned.

"These warehouses are supposed to be able to withstand winds up to 75 mph, but what if a real big storm came up. I know we're not tornado alley here, but we do get one occasionally," Brown said.

Iso-tex officials refused comment.

LEADER, Pearsall, Texas

Dec. 4, 1980

To the Editor

Mr. Editor.

La Salle and surrounding county citizens are clearly upset by the filing for a license by Houston based ISO-TEX, Inc. to dump radioactive waste eight miles north of Cotulla.

ISO-TEX is petitioning the courts for the rights to store and process low-level radioactive materials on 472 acres of land two miles or less east of the Woodward community on state highway 469.

The first permit is for 15,000 barrels of radioactive conminents from disease ridden hospital gowns and other sources. This first small amount is over 160 large trailer trcuk loads with who knows what, and, how many more to follow to accumulate with future license applications.

A public hearing schedu— for December 19, 1980 at 1:30 p.m. at the La Salle County Courthouse is expected to draw quite a large number of concerned citizens securing petitions against this license from as far away as Corpus Christi, since the waters shed from this proposed spot empty into the Nueces River and the Gulf of Mexico.

It is clear that urban areas with their large human populations such as Houston do not wish to have such a health hazard in thier midst by the constant efforts to locate a suitable rural site to dispose of these hazardous radio-active materials.

On the other hand, people in less populated areas such as ours in South Texas are just as concerned with our health and the dangers presented to our business community.

Farmers and Cattlemen of South Texas enjoy a good reputation for their efforts to provide the people of this land with a good clean food supply as well as unlimited recreation for sportsmen the year around.

Radioactive grain, livestock, and wildlife are a reputaion not deserved by those who have worked so long to protect and develop this rich heritage which we now have and love so dearly.

Thank you,

Martin Schultze
Rt. 1 Box 67
Cotulla, Texas 78014
Phone 879-2504

TIMES, Laredo, Texas
Dec. 3, 1980

State official sees little hazard in LaSalle dump site

By BILL BOULDIN
Times City Editor

COTULLA—The director of the state agency charged with the safety of stored nuclear material said Tuesday the facility planned for LaSalle County is one of minimal danger.

"On a scale of one to ten, with ten being the most dangerous, I'd say the facility planned for LaSalle would rate a one, or less than a one," said David K. Lacker, director of the division of occupational health and radiation control for the Texas Department of Health.

Lacker said he is well acquainted with the Iso-Tex firm that has applied for the storage facility east of here, and stated that the Houston based outfit has a good record with the state.

Lacker said the Iso-Tex proposal, filed by the firm's president Tom Maloney, asks for a permit for the establishment of a temporary storage facility for low level radiation material. He said the permit calls for storage of up to 15,000 55-gallon drums for up to five years at the LaSalle site.

For the most part, he said, the drums will be filled with disposable protective clothing worn by medical technicians and researchers who work around radioactive material in the course of the diagnostic or therapeutic procedures in Texas hospitals. Iso-Tex is one of three Texas firms that handle such contaminated material, he said, and they have been in the business since 1974 without significant mishap.

Lacker estimated the radioactive material would be in storage in a building on the 472-acre site purchased for the purpose at least until a permanent burial site is located in Texas. He noted that the three burial sites for nuclear waste, located in Barnwell, S.C., Beatty, Nev., and Richland, Wash. have recently imposed restrictions on the amount of out-of-state nuclear waste they are willing to bury. Permanent burial sites for radioactive material must be rigidly engineered for geological and hydrological soundness, he said, and that is a time-consuming and expensive business. Other states have not taken kindly to serving as the dumping ground for states unwilling to build their own dumps.

The next session of the Texas legislature will probably take up the subject of a permanent site for Texas, he said.

As planned by Iso-Tex, the drums of radioactive waste will be housed in a special building, surrounded by a concrete apron with a 3-inch lip to contain any inadvertent spills. The drums will only be opened intentionally just prior to removal for permanent burial elsewhere, according to the health officer.

The license request estimates a total of 100 Curies of radiation in the total 15,000 barrels, he said, adding that if any one of the barrels were opened by accident, the amount of radiation released would be negligible. "There's more radiation in the rooms where nuclear research goes on, day after day, than would be in any of the drums," Lacker said.

"The potential for the contamination of the enviornment is nearly zero," Lacker said. "It's not likely that Iso-Tex will create a significant problem, based on the way the company has operated over the years. They have a fairly good record."

Only two other Texas firms handle radioactive waste from hospitals and universities, he said, and there are now only three temporary storage facilities in the state; one in Galveston, one inside the city limits of Houston, and one operated by Iso-Tex in the suburbs of Houston. Lacker said there is another application on file by another firm to build a similar storage facility in Leon County, between Dallas and Houston. The LaSalle facility would handle waste from hospitals throughout Texas and parts of Oklahoma, he said.

The LaSalle site, which is located 2 miles from the community of Woodward was sold to Maloney last summer by a San Antonio man who had purchased the land only a little while before, according to a Cotulla land broker.

Regardless of the safety record compiled by Iso-Tex in the past, Maloney faces tough opposition locally. Judge Vernon Brown said Tuesday he is inclined to be against the project if only for the way Maloney asked for the hearing. Judge Brown said the Houston man relayed the request through the local health department, even though he had ample opportunity to arrange for the hearing through the judge during one of the conversations held recently between the two.

"He's on my you-know-which list, and I don't know what he's going to do to get off," the judge said.

The judge said the county will have an attorney at the public hearing to protect the county's position. "Why do they tell me it's not dangerous, and then tell me about all the precautions they're taking....I don't comprehend it," Judge Brown said.

TIMES, Laredo, Texas

Dec. 2, 1980

LaSalle residents brace for nuclea waste threat

By BILL BOULDIN
Times City Editor

COTULLA — It's been a hard yeai for the people living east of here. First, 3,000-man maximum security prison was proposed for the area, and now a nuclear waste disposal site has been planned.

The residents of the area bitterly opposed the prison idea, and are marshalling the same sort of sentiment against the nuclear waste proposal.

Most residents here first learned of the proposal with a small legal notice in the weekly Cotulla Record. The notice was an official announcement for a hearing on the subject of the nuclear waste site, to be held in the LaSalle County Courthouse, Dec. 19 at 1:30 p.m.

The notice stated that Iso-Tex, a Houston firm, intended to use a 472 acre site 2 miles east of the community of Woodward as a location for processing and temporary storage of low level nuclear waste. Further probing by local citizens has revealed the nuclear material is waste from nuclear medicine activities of Houston hospitals.

The firm intends to use the site for storage of as many as 15,000 drums of nuclear waste material.

One of the leaders of the opposition to the dump site is local rancher Martin Schulze, whose land adjoins the acreage proposed for the dump site. Schulze said Monday he has already collected 300 signatures of local people opposed to the dump site, and has forwarded the petition to the state health authorities. He said other petitions are circulating in Carrizo Springs, Dilley, and Pearsall.

Although the proposed dump site is at least six miles from the Nueces River, local residents fear an inadvertent leaking of nuclear waste residue into the Carrizo Sand, the aquifer that serves as a water supply for much of South Texas.

Clay Arnold, another local landowner, also said he was inalterably opposed to the nuclear dump site. He said Monday he was most concerned about the long-term effects of nuclear material. "It just never dies," he said.

Arnold said his property is separated from the disposal acreage by a narrow easement. He said he does not know who owns the site planned for the dump, since it has been sold and resold several times in recent years.

Schulze said he and a host of others plan to be on hand for the hearing to let the examiner, E. Newton Millen, know of their dissatisfaction with the plan.

Opposition to the nuclear dump site appears to be much stronger than the voices raised against the prison idea. Although those in the immediate vicinity of the proposed prison viewed the suggestion with a jaundiced eye, many local leaders and government officials gave the proposal their blessing.

Civic leaders in Cotulla cited the great economic benefits to be derived from the prison industry, but no such redeeming feature has been seen in the nuclear waste site proposal.

JOURNAL, Longview, Texas

Dec. 2, 1980

SRA told N-waste sites needed in state's future

By CARL HUFF
East Texas Editor

HOUSTON — Because of the proliferation of nuclear waste and a shortage of storage sites there is a "definite need" for low-level waste storage sites in Texas, a staff member of the Sabine River Authority said Monday.

Albert Gray, SRA development manager, told board members of the problem of coping with nuclear waste during the board's annual meeting.

William Y. Rice elected SRA secretary, page 2A

"There are none (storage sites) in the state now and there are only three places in the United States that accept this type of material," Gray said. "They are getting resistant to accepting waste from other states now," Gray added.

Gray said river authorities would have the authority to establish storage facilities in Texas.

"But I don't think any authority would jump out and establish a waste site without having a statewide agency establish the need and oversee the operation," he added.

The establishment of a site in the Sabine Valley is unlikely, Gray said, because of the area's geology.

The Texas House Commitee on Environmental Affairs also sees the need for the sites and recently recommended construction of a waste storage facility but did not name a site.

"A low level waste disposal site is long overdue. However it should be emphatically stated that Texas should avoid disposal of waste from out of state," a committee report stated.

Gray said the sites being studied would store only low-level waste with a half life of less than 100 years.

He said the waste comes from a variety of industrial and medical operations. According to a report from the Texas Energy and Natural Resources Advisory Council, Texas will generate 4.18 million cubic feet of the waste in the next 20 years.

LEON CO. NEWS, CENTERVILLE, TEXAS
Nov. 26, 1980

Kinney says Gallagher's letter contains untruth about group funding

"There isn't a word of truth in it," Dr. Mike McKinney said of a statement that the Leon County committee opposing nuclear waste storage has received funds from national antinuclear organizations.

Dr. McKinney of Centerville, publicity director of Concerned Citizens for Sound Development, the committee fighting Houston-based Nuclear Sources & Services, Inc.'s, plan to locate a facility at Leona, referred to a statement by NSSI president, Robert Gallagher.

In a form letter to persons inquiring about his company's proposal, Mr. Gallagher said:

"I recently received a number of letters from resident and nonresident landowners in Leon County concerning our low-level (nuclear) waste facilities. The letters were the result of a campaign of fear being waged by a small but vocal Leon County group funded by antinuclear organizations."

Responding to the statement, Dr. McKinney declared: "L.C. Wall, treasurer of Concerned Citizens for Sound Development says absolutely that our committee has not received contributions from national antinuclear organizations.

"There isn't a word of truth in Mr. Gallagher's statement. The fact that he is resorting to untruths simply demonstrates the fact that he and NSSI are running scared.

"Until now the committee has centered its campaign on the issues. There have been no personal references to Mr. Gallagher. Whatever our disagreement with him, we focused our arguments on the dangers of nuclear waste storage in our county.

"By spreading untruths about the funding for our committee, Mr. Gallagher is attempting to change the ground rules to meet his own needs.

"We aren't going to resort to his game of telling untruths. We don't need to. We intend only to point out his untruths."

Dr. McKinney also noted that Mr. Gallagher's statement to the contrary, the committee represents the views of thousands of persons.

"We have more than 8,000 signatures on petitions protesting NSSI's plan," Dr. McKinney declared.

"We have the support of numerous lawmakers and other government officials. The State Democratic Party expressed its support for us in the party platform. Several statewide organizations have endorsed our stand.

"We admit to being vocal, but we're not

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small."

Dr. McKinney also took issue with Mr. Gallagher's statement that Leon County lacks "qualified medical personnel."

"I assume this is aimed at me," the Centerville physician said. "Well, I won't answer it. I'll let my peers, my patients, my record and my credentials speak for me.

"But, I resent Mr. Gallagher's statement that the county lacks qualified medical personnel. We have distinguished medical doctors in the county. Mr. Gallagher needs to get acquainted with them."

The substance of the NSSI president's letter was to attempt to explain the safety of his company's operation and the economic benefits for Leon County in NSSI's capital investment, new jobs and payroll.

Responding, Dr. McKinney said "Texas laws and codes on the licensing and monitoring of nuclear waste storage are wholly inadequate. That's not my opinion. It's the opinion of legal specialists.

"There's no reason to store waste in our county---endangering our health, safety, environment and economy---when waste can be stored on remote desertlands. The fact that this would interfere with Mr. Gallagher's plans--- and his profits--- is of no concern to us."

On another point, Dr. McKinney assailed an open letter to Leon County residents that Texas Health Commissioner Dr. Robert Bernstein had published in county newspapers as paid advertising.

In the letter Dr. Bernstein criticized "the tremendous amount of misinformation" being published about the NSSI application. He attempted to reassure county residents, saying the Texas Department of Health "is concerned about their health and welfare..."

Dr. McKinney said he resented the fact that "one red cent of state money--- taxes that you and I pay--- was spent to publish the letter."

The Health Department also said a pre-hearing conference preceding a public hearing on NSSI's application has been set for Dec. 8 in Austin. The conference previously had been scheduled for Nov. 25.

AMERICAN STATESMAN, Austin, Texas

Nov. 25, 1980

State tries to pull permit from mobile nuclear firm

By BRUCE HIGHT
American-Statesman Staff

A Dallas company whose president says he pioneered "mobile nuclear medicine" may become the first firm of its kind to see its Texas license yanked for improper handling and storage of radioactive materials.

Arkansas recently revoked a state license for the company, Nuclear Diagnostic Laboratories Inc., after a raid at the home of a company employee. The firm's president, George West, said Monday the company has suspended business in Arkansas.

The Texas Department of Health began license-removal proceedings Monday before state hearings examiner R.B. Smith. The hearings continue today.

Among the more serious of the alleged violations is one accusing the company of experimenting with a drug "without permission of the physician nor the knowledge of the physician nor the patient."

Ed Bailey, administrator of the health department's radiation control branch, said the evidence backing up the charge of experimenting without consent was "mostly hearsay."

The company, which had sales last year of $3 million, serves 200 hospitals in at least six states. About one-third of that business is in Texas, West said. The firm does not operate in the Austin area.

Serving doctors and hospitals that cannot afford the huge investment for permanent facilities, the company provides trained technicians using a "portable generator" to produce radioactive chemicals necessary for scan tests of such organs as the brain or liver.

"I pioneered mobile nuclear medicine," West said.

The idea came to him in the early 1960s when he was living in California, and he said he was the "first one, as far as I know, in the whole world" to apply the idea.

Health department records show a lengthy list of violations by the company since 1974, but department officials say many of those were inconsequential violations of record-keeping rules.

The Arkansas Department of Health raided the home of a company technician Aug. 18 and found a generator and other radioactive materials illegally stored in a wood-frame garage.

The Texas Department of Health is using findings from the Arkansas raid.

The company is also accused of using and storing radioactive materials at Henderson Memorial Hospital at Henderson, which lacked the necessary license. The report said the radioactive materials were stored in a room with a common wall to a public passageway. A test showed radioactivity "in excess" of state regulations on the public passageway side of the wall, the report said.

Health department officials said they were still investigating the charge that the company experimented with a drug, tin colloid, without patient or doctor permission. Formal action probably will proceed in January on that charge.

Health department officials declined to say what hospital had been involved in that accusation.

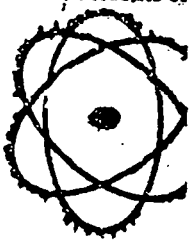
West said he did not know anything about experiments on patients.

THE EL PASO TIMES

Nov. 22, 1980

Tragedy is possible

Each year in the United States, 100,000 fatalities and 10 million disabling injuries result from accidents of various sorts.



Conversely, there never has been and probably never will be a single fatality or disabling injury resulting from so-called nuclear "wastes."

Nevertheless, all sorts of "kooks" prowl through our society proclaiming that we should worry about the dangers of nuclear "waste."

These misguided or malevolent individuals are either unwitting or willing supporters of the Soviet plan to deprive the United States of a cheap and abundant source of energy at a time when our nation sorely needs it — at a time when the consequences of failure to build nuclear power plants as fast as possible may well prove tragic.

—Timothy Higgins
El Paso

CENTERVILLE, TEXAS , LEON CO. NEWS

Nov. 26, 1980

Attorney says health chief may have disqualified self

The attorney representing the Leon County group formally opposing location of a nuclear waste facility in Leon County said he believes Texas Health Commissioner Dr. Robert Bernstein "has clearly disqualified himself from making a decision in the on whether to grant the license."

Austin attorney Stuart Henry, representing the Concerned Citizens for Sound Development, said he believes that Dr. Bernstein disqualified himself on these countys:

---He has had private conversations with Robert Gallagher, president of Houston-based Nuclear Sources & Services, Inc., the firm seeking the licen-

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Attorney

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se from the Texas Department of Health, and Gov. William P. Clements concerning the need for waste storage in Texas. These conversations would appear to prejudice Dr. Bernstein in NSSI's favor, Mr. Henry said.

---An open letter to Leon County residents that Dr. Bernstein had published in county newspapers as paid advertising was pro-application, Mr. Henry said. How can the health commissioner make judgments about the application and the operation when the public hearing hasn't been held or testimony presented, the attorney asked? Additionally, Mr. Henry said he believes the use of state tax funds to pay for publishing the letter is improper.

"In view of these events," the attorney said, "we couldn't hope to get a fair decision from Dr. Bernstein. I think he clearly has disqualified himself."

THE HOUSTON POST

Nov. 15, 1980

State plans no suit over N-waste firm's 2 missed deadlines

By HAROLD SCARLETT
Post Environment Writer

Todd Shipyards of Galveston was sued by the state last month for violating an order to reduce its inventory of stored nuclear wastes.

Another nuclear waste firm, Iso-Tex Inc. of Friendswood, has now missed a second straight deadline for reducing its inventory of stored nuclear wastes.

But a top official of the Texas Department of Health said Friday the agency does not plan any immediate legal action against Iso-Tex.

Gus R. Herzik Jr., deputy commissioner for environmental protection, said his agency will be satisfied if Iso-Tex simply meets its final deadline.

Under a Sept. 12 enforcement order issued by the health agency, Iso-Tex is supposed to reduce stored nuclear wastes to its permit limit of 3,000 barrels by Dec. 15.

Todd was sued, however, even though its final deadline is not until May 15 for reaching a zero inventory and going out of the nuclear waste business.

Asked whether there are differences in the two cases that justify the apparent double standard of treatment, Herzik replied:

"I don't handle those details. I don't know what they might be."

Even though Iso-Tex is in violation of the state order, the health department is continuing to process an application by Iso-Tex for a new nuclear waste facility near Cotulla, southwest of San Antonio.

The new permit would allow 15,000 barrels of waste to be stored at the rural facility instead of the 3,000 at the Friendswood plant.

"The Iso-Tex people feel they can get their site down around Cotulla completed and ready before the final compliance date," Herzik said, "and then move all their wastes down there."

But Newton Millen, a health department hearing examiner, said a public hearing on the new site is not scheduled until Dec. 19 — four days after the final compliance deadline.

Millen said even this date may be delayed if Iso-Tex fails to get a notice in the local newspaper a required 30 days in advance of the hearing.

Asked about the date discrepancy, Herzik replied: "Oh, well, we won't quibble over a few days."

Millen said that apparently no one will contest the new nuclear waste facility at the hearing. But even after an uncontested hearing, it normally takes some time for a permit application to complete the processing procedure.

To even come close to the final compliance date, Iso-Tex apparently would have to park its transferred waste drums in the open while building the new facility.

The Sept. 12 order prohibited Iso-Tex from accepting any more wastes and directed staged reductions of its inventory of more than 5,000 barrels.

The order called for Iso-Tex to cut its stockpiled wastes to 4,800 barrels by Sept. 30. But a health agency inspection on Oct. 7 showed Iso-Tex still had 5,322 drums on hand.

A second reduction to 4,000 barrels was ordered by Oct. 31.

But David Lacker, the health agency's radiation control chief, said an inspection Nov. 3 showed Iso-Tex still had 5,052 drums on hand.

Apparently Iso-Tex has shipped out only two truckloads of wastes since the order was issued Sept. 12.

After Iso-Tex violated the Sept. 30 deadline, state Rep. Bill Caraway of Houston charged in a letter to State Health Commissioner Dr. Robert Bernstein that Iso-Tex had been accepting additional wastes in violation of the order. Caraway asked what action Bernstein intended to take.

Bernstein replied on Oct. 10 that after the barrel count was evaluated, he would decide what action was necessary. Bernstein explained that a time limit on storage of the drums was important to assure that the drums were not allowed to deteriorate.

Bernstein was unavailable for comment Friday. But Herzik, explaining the lack of legal action against Iso-Tex said:

"It's just a judgment call, but that's what we're doing right now. After all, you can't run all the nuclear waste handlers out of the state."

The Todd phase-out and the state order against Iso-Tex leaves Nuclear Sources & Services of Houston as the only company in the state now accepting low-level radioactive wastes from medical and research facilities.

ENVIRONMENT REPORTER - CURRENT DEVELOPMENTS
(Bureau of National Affairs)

Aug. 8, 1980

GOVERNORS DEFEAT PROPOSAL URGING AIR ACT, SURFACE MINING REVISIONS

DENVER, Colo. — (By an Environment Reporter staff correspondent) — Only a tie vote stopped the passage August 5 of a resolution proposed by Republican Governor Bill Clements of Texas calling on Congress to revise the "cumbersome" Clean Air Act and Surface Mining Act at the annual conference of the National Governors' Association.

Nuclear Disposal Sites

The governors also passed a resolution calling for the states to negotiate agreements with nearby states for regional disposal sites for low level nuclear wastes, such as contaminated protective clothing.

A task force issued a report saying at least five new sites would be needed by 1990.

Under the proposal, state compacts would be established to pick a regional dumping site for the radioactive garbage, with the host state receiving federal aid to establish the site and to promote public acceptance.

The task force still maintained that the responsibility for high-level waste, such as spent nuclear fuel and uranium mill tailings, should remain with the Federal Government.

NUCLEAR NEWS

Apr. 1980

INCIDENT

Closure announcement follows radiation leak

A week after employees at a waste storage site in Galveston, Tex., received "significant, but not unacceptable doses" of low-level radiation from radioactive phosphorus, Todds Shipyards Corporation, which operates the facility, announced that it was planning to phase out the disposal site because of adverse publicity.

On February 12, eleven employees at Todd's Research and Technical Division were exposed to low-grade radiation when a worker accidentally cracked an unlabeled vial. None of the workers suffered any health hazards.

The Galveston facility began operations in the early 1960s, when Todd obtained a contract to service and maintain the NS *Savannah*, the first U.S. nuclear cargo vessel. More recently, the facility has been licensed to handle the disposal of radioactive hospital materials. Todd plans to accept no new contracts as it begins its phase-out of the waste disposal operations.

HAZARDOUS WASTE REPORT

Vol. 1, no.21 May 19, 1980

TEXAS—The State Department of Health published the results of their environmental survey. The Department received 490 responses and found that 66 percent agreed or strongly agreed that the state should develop a facility for the disposal of hazardous waste including low-level radioactive waste. Responses from 55 percent agreed or strongly agreed that cities should provide facilities for hazardous waste generated within the municipality. A large majority, 81 percent, agreed or strongly agreed that inadequate control and identification of toxic and hazardous wastes present special dangers to human health.

CONGRESSIONAL QUARTERLY WEEKLY REPORT

Feb. 16, 1980

Carter Plan:

Underground Rock Storage Proposed for Nuclear Waste

The Carter administration has announced a nuclear waste program that calls for burying the waste in an underground rock deposit by the mid-1990s.

The long-awaited proposal was sent to Congress Feb. 12. *(Text, p. 412; background, 1979 Weekly Report p. 2842)*

President Carter called the plan "this nation's first comprehensive radioactive waste management program." The proposal would, he said, avoid what he called the technical and political failings of past disposal efforts.

"The responsibility for solving military and civilian waste management problems shall not be deferred to future generations," Carter said.

Four or five storage sites would be selected and evaluated in detail. By 1985, one of them would be chosen for the first repository, which would be in operation by the mid-1990s, according to Carter's plan.

"We will act surely and without delay, but we will not compromise our technical or scientific standards out of haste," Carter said.

The decision to look at several sites means development of a repository will take longer than if the government concentrated on one site from the start. But having a variety of sites means problems at a particular site won't set back the entire program, administration officials reasoned.

States with salt domes and other mineral deposits that could store waste include Louisiana, Texas, Mississippi, New Mexico, Utah, Nevada and Washington.

The federal government would not give a state a formal veto over federal plans to store waste within its boundaries. But states would be included in a process of "consultation and concurrence," Carter said. States have been reluctant to accept commercial wastes, because they fear they would become nuclear dumping grounds for the nation.

"The safe disposal of radioactive waste, defense and commercial, is a national, not just a federal responsibility," Carter said.

In addition to negotiations about specific storage sites, states also would be involved in federal waste policy through a state planning council that Carter established Feb. 12 by executive order (EO 12192).

The council will be composed of 13 governors or other state officials, one tribal representative, the secretaries of interior, transportation and energy and the administrator of the Environmental Protection Agency. Gov. Richard W. Riley, D-S.C., was named chairman. His state's Savannah River waste storage facility is one of three operating repositories for low-level and military wastes.

Critics Speak Out

Some nuclear advocates have wanted to store waste in a pilot operation near Carlsbad, N.M., that was originally planned for defense wastes. They think a quick demonstration of waste storage would show nuclear critics that waste disposal is feasible.

But Carter said Feb. 2 he was abandoning the Waste Isolation Pilot Plant (WIPP) at the New Mexico site because Congress had refused to allow licensing of the facility for storage there of commercial nuclear wastes. His announcement confirmed the decision reflected in his 1981 budget proposal to stop construction funding of the New Mexico facility. *(Background, Weekly Report p. 316)*

He said the Carlsbad site could be selected as one of the four or five sites to be evaluated in detail.

Carter's decision not to allow a formal state veto of waste disposal was criticized by his chief rival for the Democratic presidential nomination. Sen. Edward M. Kennedy, D-Mass., said no waste policy would be "politically credible until it recognizes the right of states to reject the construction of waste facilities within their borders."

Two Republican members of the House Science and Technology Committee criticized Carter for moving too slowly to store waste. "The president's proposal is very anti-nuclear, very anti-energy," said Barry M. Goldwater Jr., R-Calif. He was joined in his attack by John W. Wydler, R-N.Y., ranking minority member on Science.

Legislative Proposals

Carter had already sent Congress a legislative proposal for authority to build a temporary storage facility for burned-out reactor fuel.

Some utilities are starting to run out of room for this spent fuel in the storage pools built near most reactors. Carter's plan would give them a place to store it on an interim basis until a federal underground repository is ready.

But Carter stressed that "interim spent fuel storage capacity is not an alternative to permanent disposal."

Embodied in that proposal was the principle that utilities would pay the government for handling the waste. The fee would cover both temporary and permanent storage.

But Congress did not act on the measure in 1979. A few of the several legislative proposals for waste storage now pending in Congress include the Carter spent fuel proposal.

Late last year the Senate Energy Committee reported a bill (S 685) that would give the federal government one year to come up with the design and site for a long-term nuclear waste storage facility. Energy Committee leaders could try to attach that proposal to the Department of Energy authorization bill (HR 3000) when it comes to the floor. *(Background, Weekly Report p. 314)*

The Environment Committee also is working on nuclear waste legislation (S 1521, S 1360). And the Senate Governmental Affairs Committee has its own bill (S 742).

On Feb. 12 Carter proposed legislation to:

- Permanently set up the state planning council.
- Extend the licensing authority of the Nuclear Regulatory Commission to cover low-level waste storage. Low-level waste, which includes trash related to medical uses of radioactivity, is not as dangerous as high-level waste.
- Help states manage commercial low-level waste.
- Clarify federal responsibility for continued management of abandoned federal or federally utilized facilities.

DURHAM MORNING HERALD

Nov. 2, 1979

Nuclear Wastes Moving To Texas

COLUMBIA, S.C. (AP) Liquid radioactive wastes, banned from in-state storage under a state policy, will be carried by truck to Galveston, Texas, for reprocessing and temporary burial there, Gov. Dick Riley said Thursday.

Riley said low-level solid wastes generated within South Carolina will continue to be stored at the Chem-Nuclear Systems Inc. burial site in Barnwell.

But under state policy no liquid wastes, which are considered more hazardous than solid materials, can be stored by Chem-Nuclear, Riley said at a news conference.

The Chem-Nuclear site is the only place in the nation still open where low-level solid wastes can be stored.

THE ENERGY DAILY

Oct. 18, 1979

NUCLEAR NEWS...IN BRIEF

Nuclear Waste Site Scratched — The Palestine salt dome in east Texas is no longer under consideration as a candidate site for permanent nuclear waste disposal, following a recommendation to the Department of Energy from the Office of Nuclear Waste Isolation at Battelle Memorial Institute. Data from the Texas state geologic bureau showed the existence of 15 near-surface sinks (soil collapse areas) caused by commercial brining operations that ended in the 1930s. The Palestine dome was one of three salt domes in east Texas included in DOE's original list of repository candidate sites. DOE also is studying two salt domes in north-central Louisiana and two in south-central Mississippi, plus bedded salt areas in the Texas Panhandle and Utah, and other geologic formations such as basalt in Washington State and granite in Nevada.

ENVIRONMENT REPORTER - CURRENT DEVELOPMENTS
(Bureau of National Affairs)

June 1, 1979

Nuclear Energy

DOE SAYS POTENTIAL REPOSITORY SITES TO BE IDENTIFIED BY SEPTEMBER 1979

Department of Energy representatives May 23 said candidate repository site locations are expected to be identified by September 1979 with recommendations on suitable site locations expected by March 1981.

The DOE representatives from Battelle's Office of Nuclear Waste Isolation (ONWI) told Nuclear Regulatory Commission staffers that DOE is currently looking at three salt formations, i.e., salt domes, embedded salt, and basalt, in various regions.

Those regions and their respective states include:

- The Gulf Interior Region which encompasses portions of Louisiana, Mississippi, and Texas;
- The Paradox Region which encompasses portions of Colorado and Utah;
- The Permian Region which includes portions of Texas and Oklahoma; and
- The Salina Region which includes portions of New York, Ohio, Pennsylvania, and Michigan.

Regional environmental studies have been conducted and issued in the Gulf and Paradox regions; however, they have not been issued in the Permian region. The Permian also includes the waste isolation pilot project site near Carlsbad, N.M.

Concerning the Salina region, DOE said the consultation and concurrence process was not established and therefore, they did not intend to go back next year to conduct additional investigations. In Michigan for example, DOE said the state passed legislation prohibiting studies within its boundaries.

Hanford Reservation

In addition to the above regions, Dale St. Laurent from Rockwell's Basalt Waste Isolation Program at Hanford said the Hanford Reservation would make a suitable repository site because vast knowledge exists about the site.

Specifically, he said the 600 square mile reservation has been dedicated to nuclear related activities for years; that the basalt flows appeared to the thickest there in the Columbia Plateau; that basalt is known to have a very low permeability; and environmental surveys indicated insignificant environmental factors as a result of locating the repository at the Hanford site.

Waste Sites

Department of Energy representatives from Battelle Laboratories' Office of Nuclear Waste Isolation told the Nuclear Regulatory Commission staff that DOE is currently looking at three salt formations, salt domes. embedded salt, and basalt, in the following regions for radioactive disposal sites:

- The Gulf Interior Region, encompassing portions of Texas, Louisiana, and Mississippi
- The Paradox Region, encompassing portions of Utah and Colorado
- The Permian Region, includes portions of Texas and Oklahoma
- The Salina Region, including portions of New York, Ohio, Pennsylvania, and Michigan

DOE representatives said that candidate repository site locations were expected to be identified by September 1979, with site location recommendations expected by March 1981. In addition to the above regions, the 600 square mile Hanford, Washington facility may be a suitable site because of the existence of a thick basalt formation with a very low permeability.

APPENDIX D: List of Counties in the State Economic Areas of Texas

LIST OF COUNTIES IN EACH STATE ECONOMIC AREA OF THE STATE OF TEXAS

Area 1
- Brewster
- Culberson
- Hudspeth
- Jeff Davis
- Loving
- Pecos
- Presidio
- Reeves
- Ward

Area 2
- Bandera
- Blanco
- Coke
- Comal
- Concho
- Gillespie
- Hays
- Kendall
- Kerr
- Llano
- McCullough
- Mason
- Medina
- San Saba
- Tom Green

Area 3
- Brooks
- Dimmit
- Duval
- Jim Hogg
- Kenedy
- Kleberg
- La Salle
- McMullen
- Maverick
- Starr
- Webb
- Zapata
- Zavala

Area 4
- Armstrong
- Briscoe
- Carson
- Castro
- Dallam

Area 4 (cont'd.)
- Deaf Smith
- Floyd
- Gray
- Hale
- Hansford
- Hartley
- Hemphill
- Hutchinson
- Lipscomb
- Moore
- Ochiltree
- Oldham
- Parmer
- Roberts
- Sherman
- Swisher

Area 5
- Andrews
- Bailey
- Cochran
- Crane
- Crosby
- Dawson
- Ector
- Gaines
- Hockley
- Howard
- Lamb
- Lynn
- Martin
- Midland
- Terry
- Winkler
- Yoakum

Area 6
- Baylor
- Borden
- Brown
- Callahan
- Childress
- Clay
- Coleman
- Collingsworth
- Cottle
- Dickens
- Donley

Area 6 (cont'd.)
- Fisher
- Foard
- Garza
- Hall
- Hardeman
- Haskell
- Kent
- King
- Knox
- Mitchell
- Motley
- Nolan
- Runnels
- Scurry
- Shackelford
- Stephens
- Stonewall
- Throckmorton
- Wheeler
- Wilbarger
- Young

Area 7
- Bosque
- Burnet
- Comanche
- Cooke
- Coryell
- Eastland
- Erath
- Hamilton
- Hood
- Jack
- Lampasas
- Mills
- Montague
- Palo Pinto
- Parker
- Somervell
- Wise

Area 8
- Bell
- Delta
- Falls
- Fannin
- Grayson
- Hill

LIST OF COUNTIES IN EACH STATE ECONOMIC AREA OF THE STATE OF TEXAS (continued)

Area 8 (cont'd.)
- Hunt
- Kaufman
- Lamar
- Limestone
- Milan
- Navarro
- Rockwall
- Williamson

Area 9
- Bastrop
- Brazos
- Burleson
- Freestone
- Grimes
- Lee
- Leon
- Madison
- Robertson

Area 10
- Caldwell
- Fayette
- Gonzales
- Guadalupe
- Lavaca
- Washington

Area 11
- Aransas
- Atascosa
- Bee
- DeWitt
- Frio
- Goliad
- Jim Wells
- Karnes
- Live Oak
- Refugio
- San Patricio
- Wilson

Area 12
- Anderson
- Bowie
- Camp
- Cass
- Cherokee
- Franklin

Area 12 (cont'd.)
- Gregg
- Harrison
- Henderson
- Hopkins
- Houston
- Marion
- Morris
- Nacogdoches
- Panola
- Rains
- Red River
- Rusk
- Shelby
- Smith
- Titus
- Upshur
- Van Zandt
- Wood

Area 13
- Angelina
- Hardin
- Jasper
- Montgomery
- Newton
- Polk
- Sabine
- San Augustine
- San Jacinto
- Trinity
- Tyler
- Walker

Area 14
- Austin
- Brazoria
- Calhoun
- Chambers
- Colorado
- Fort Bend
- Jackson
- Liberty
- Matagorda
- Victoria
- Waller
- Wharton

Area 15
- Cameron

Area 15 (cont'd.)
- Hidalgo
- Willacy

Area 16
- Crockett
- Edwards
- Glasscock
- Irion
- Kimble
- Kinney
- Menard
- Reagan
- Real
- Schleicher
- Sterling
- Sutton
- Terrell
- Upton
- Uvalde
- Val Verde

Area A
- El Paso

Area B
- Johnson
- Tarrant

Area C
- Collin
- Dallas
- Ellis

Area D
- McLennan

Area E
- Travis

Area F
- Bexar

Area G
- Harris

Area H
- Jefferson
- Orange

Area J
- Potter
- Randall

Area K
- Archer
- Wichita

Area L
- Lubbock

Area M
- Galveston

Area N
- Nueces

Area O
- Denton

Area P
- Jones
- Taylor

APPENDIX E: Texas Regulations for Control of Radiation

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(c) (1) Each licensee, upon receipt of a package containing quantities of radioactive material in excess of the Type A quantities specified in 21.207(b), other than those transported by exclusive use vehicle, shall monitor the radiation levels external to the package. The package shall be monitored as soon as practicable after receipt, but no later than three (3) hours after the package is received at the licensee's facility if received during the licensee's normal working hours, or eighteen (18) hours if received after normal working hours.

(2) If radiation levels are found on the external surface of the package in excess of 200 millirem per hour, or at three (3) feet from the external surface of the package in excess of ten (10) millirem per hour, the licensee shall immediately notify, by telephone and telegraph, mailgram, or facsimile, the final delivering carrier and the Agency.

(d) Each licensee shall establish and maintain procedures for opening packages in which radioactive material is received, and shall assure that such procedures are followed and that due consideration is given to special instructions for the type of package being opened.

WASTE DISPOSAL

21.301 General Requirements

No licensee shall dispose of any radioactive material except:

(a) By transfer to an authorized recipient as provided in Part 41, or

(b) As authorized pursuant to 21.106, 21.302, or 21.303.

21.302 Method of Obtaining Approval of Proposed Disposal Procedures

Any person may apply to the Agency for approval of proposed procedures to dispose of radioactive material in a manner not otherwise authorized in this part. Each application shall include a description of the radioactive material involved, including the quantities and kinds of radioactive material and the levels of radioactivity involved, and the proposed manner and conditions of disposal. The application shall also include an analysis and evaluation of pertinent information as to the nature of the environment, including topographical, geological, meteorological, and hydrological characteristics; usage of ground and surface waters in the general area; the nature and location of other potentially affected facilities; and procedures to be observed to minimize the risk of unexpected or hazardous exposures.

The Agency will not approve any application for a license to receive radioactive material from other persons for disposal on land not owned by a State or the Federal Government.

21.303 Disposal by Release Into Sanitary Sewerage Systems

No licensee shall discharge radioactive material into a sanitary sewerage system unless:

(a) It is readily soluble or dispersible in water;

(b) The quantity of any radioactive material released into the system by the licensee in any one day does not exceed the larger of 21.303(b)(1) or (2):

(1) The quantity which, if diluted by the average daily quantity of sewage released into the sewer by the licensee, will result in an average concentration not greater than the limits specified in Appendix 21-A, Table I, Column 2, or

(2) Ten (10) times the quantity of such material specified in Appendix 21-B;

(c) The quantity of any radioactive material released in any one month, if diluted by the average monthly quantity of water released by the licensee, will not result in an average concentration exceeding the limits specified in Appendix 21-A, Table I, Column 2; and

(d) The gross quantity of radioactive material released into the sewerage system by the licensee does not exceed one (1) curie per year.

Excreta from individuals undergoing medical diagnosis or therapy with radioactive material shall be exempt from any limitations contained in this part.

21.304 Disposal by Burial in Soil

No licensee shall dispose of radioactive material by burial in soil except as specifically approved by the Agency pursuant to 21.302.

21.305 Disposal by Incineration

No licensee shall incinerate radioactive material for the purpose of disposal or preparation for disposal except as specifically approved by the Agency pursuant to 21.106 and 21.302.

21.306 Disposal by Release Into Septic Tanks

No licensee shall discharge radioactive material into a septic tank system except as specifically approved by the Agency pursuant to 21.106 and 21.302.

RECORDS, REPORTS, AND NOTIFICATION

21.401 Records of Surveys, Radiation Monitoring, and Disposal

(a) Each licensee or registrant shall maintain records showing the radiation exposures of all individuals for whom personnel monitoring is required under 21.202 of this part. Such records shall be kept on TRC Form 21-3, in accordance with the instructions contained in that form, or on a clear and legible records containing all the information required by TRC Form 21-3. The doses entered on the forms or records shall be for periods of time not exceeding one calendar quarter.

(b) Each licensee or registrant shall maintain records in the same units used in this part, showing the results of surveys required by 21.201, monitoring required by 21.207(b) and 21.207(c), and disposals made under 21.106, 21.302, 21.303, 21.304, 21.305, and 21.306.

(c) Each licensee or registrant shall maintain records showing the results of control device testing and corrective actions taken pursuant to 21.203(c)(6).

(d) Records required pursuant to 11.4, 11.7, 21.401(b), and 21.401(c) shall include the date, the identification of individual(s) making the record, a unique identification of survey instrument(s) used and an exact description of the location of the survey. Records of receipt, transfer, and disposal of sources of radiation shall uniquely identify the sources of radiation.

(e) Records required pursuant to 11.4, 11.7, 21.107, and 21.401(a) through (c) shall be preserved indefinitely or until the Agency authorizes their disposal. These records may be maintained in the form of microfilms.

(f) All records required under this part shall be transferred to the Agency within 30 days following termination of the licensee's or registrant's operations and at such other times as the Agency may direct.

APPENDIX F: Legislation Concerning Nuclear Waste in Texas

AN ACT

relating to the creation, administration, powers, duties, operations, and financing of the Texas Low-Level Radioactive Waste Disposal Authority; providing for civil penalties; making an appropriation.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

ARTICLE 1. GENERAL PROVISIONS

SECTION 1.01. FINDINGS, PURPOSE, AND INTENT. (a) Low-level radioactive wastes are generated as by-products of medical, research, and industrial activities and through the operation of nuclear power plants. Loss of capability to dispose of low-level radioactive waste would pose a threat to the health and welfare of the citizens of the state and would ultimately lead to the loss of the benefits of these activities that are dependent on reliable facilities for low-level radioactive waste disposal.

(b) This state is currently dependent on low-level radioactive waste disposal sites in other states. Recent events have demonstrated that the availability of these sites for low-level radioactive waste disposal is increasingly uncertain and as a consequence, medical institutions, research facilities, and industries within the state could be adversely affected.

(c) It is the purpose and intent of this Act to establish the Texas Low-Level Radioactive Waste Disposal Authority with responsibility for assuring much-needed disposal capability for specific categories of low-level radioactive wastes generated within this state.

SECTION 1.02. SHORT TITLE. This Act may be cited as t
Texas Low-Level Radioactive Waste Disposal Authority Act.

SECTION 1.03. DEFINITIONS. In this Act:

(1) "Person" means an individual, corporation, partnershi
firm, association, trust, estate, public or private institutio
group, government or governmental subdivision or agency, or oth
legal entity or any legal successor to or representative, agent,
agency of any of these.

(2) "Authority" means the Texas Low-Level Radioactive Was
Disposal Authority.

(3) "Agency" means the Texas Radiation Control Agency.

(4) "Radioactive material" means any solid, liquid, c
gaseous material, whether occurring naturally or produce
artificially, that emits radiation spontaneously.

(5) "Low-level waste" means any radioactive material tha
has a half-life of 35 years or less or that has less than 1
nanocuries per gram of transuranics and may include radioactiv
material not excluded by this subdivision with a half-life of mor
than 35 years if special criteria are established by the agency fo
disposal of that waste. The term does not include irradiate
reactor fuel and high-level radioactive waste as defined by Titl
10, Code of Federal Regulations.

(6) "Disposal site" means the property and facilitie
acquired, constructed, and owned by the authority at whic
low-level waste may be processed and may be disposed o
permanently.

(7) "On-site operator" means a person who is employed by o

who contracts with the authority and who is responsible for supervising the overall operations of the disposal site.

(8) "Management" means establishing, adopting, and entering into and assuring compliance with the general policies, rules, and contracts that govern the operation of a disposal site.

(9) "Operation" means the control, supervision, and implementation of the actual physical activities involved in the receipt, processing, packaging, storage, disposal, and monitoring of low-level waste at a disposal site and the maintenance of the disposal site and any other responsibilities designated by the board as part of the operation.

ARTICLE 2. CREATION AND ADMINISTRATIVE PROVISIONS

SECTION 2.01. CREATION OF AUTHORITY. The Texas Low-Level Radioactive Waste Disposal Authority is created as an agency of the state under Article XVI, Section 59(a), of the Texas Constitution.

SECTION 2.02. BOUNDARIES. The jurisdiction of the authority is coextensive with the state.

SECTION 2.03. BOARD OF DIRECTORS. (a) The authority is governed by a board of directors composed of six members that shall manage and control the authority and shall administer and implement this Act.

(b) Members of the board shall be appointed by the governor with the advice and consent of the senate. One member of the board must be a medical doctor licensed to practice medicine in Texas, one member of the board must be a certified health physicist, one member of the board must be an attorney licensed to practice law in Texas, one member of the board must be a geologist, and two members

of the board must represent the general public.

(c) A representative of the general public on the board or a person related within the second degree by affinity or within the third degree by consanguinity to that member may not be an emp__ee of or otherwise have a financial interest in any person that has contract with or that uses the services of any low-level waste storage, processing, or disposal site in the United States.

(d) After a disposal site is selected under Subsection (c) of Section 3.07 of this Act, the governor shall appoint to the board, at the earliest opportunity, at least one representative of the general public as a representative of the local interests. The representative of the general public representing local interests must be a resident of the county in which the disposal site is proposed to be located.

SECTION 2.04. TERM OF OFFICE; VACANCY. (a) Members of the board serve for staggered terms of six years with the terms of two directors expiring February 1 of each odd-numbered year.

(b) A vacancy on the board shall be filled for the unexpired term in the manner provided by Subsection (b) of Section 2.03 of this Act for selection of other directors.

SECTION 2.05. OATH. Each member of the board shall take the constitutional oath of office required of other appointed state officers.

SECTION 2.06. COMPENSATION. Each member of the board is entitled to receive compensation as provided by the authority's budget.

SECTION 2.07. OFFICERS. (a) The members of the board shall

select from their number at the first directors' meeting after appointment of members to the board one person to serve as chairman, one person to serve as vice-chairman, and one person to serve as secretary.

(b) Persons selected to serve as chairman, vice-chairman and secretary shall serve for terms of two years.

(c) The chairman shall preside over meetings of the board, and in his absence, the vice-chairman shall preside.

(d) The chairman, vice-chairman, and secretary shall perform the duties and may exercise the powers specifically given them in this Act or in orders of the board.

SECTION 2.08. ORGANIZATION OF BOARD. Every two years after the appropriate number of directors are appointed and have qualified for office by taking the oath, the board shall meet at the authority's central office in Austin and shall organize by selecting officers and shall begin to discharge its duties.

SECTION 2.09. QUORUM. A majority of the members of the board constitute a quorum for the transaction of business of the authority, but no official act of the board is valid without the affirmative vote of a majority of the members of the board.

SECTION 2.10. GENERAL MANAGER. (a) The board shall employ a general manager who shall be the chief administrative officer of the authority and may delegate to him full authority to manage and operate the affairs of the authority subject only to orders of the board.

(b) The general manager shall execute a bond in the amount determined by the board, payable to the authority, conditioned on

the faithful performance of the general manager's duties. Th authority shall pay for the bond.

(c) The general manager is entitled to receive compens[illegible] as provided in the authority's budget.

SECTION 2.11. EMPLOYEES. (a) The general manager ma employ persons necessary for the proper handling of the busines and operation of the authority.

(b) The board shall determine the terms of employment.

SECTION 2.12. AUTHORITY OFFICE. (a) The board shal maintain a central office in the City of Austin for conducting th business of the authority.

(b) The board also shall maintain an authority office a each disposal site under construction or operated under this Act

SECTION 2.13. MEETINGS OF THE BOARD. The board shall hol regular quarterly meetings on dates established by rule of th board and shall hold special meetings at the call of the chair o on written request to the chairman by one member of the board.

SECTION 2.14. MINUTES AND RECORDS. (a) The board shal keep a complete written account of all its meetings and othe proceedings and shall preserve its minutes, contracts, records, plans, notices, accounts, receipts, and records of all kinds in a secure manner.

(b) Minutes, contracts, records, plans, notices, accounts, receipts, and other records are the property of the authority and are subject to public inspection.

SECTION 2.15. CONTRACTS. The board may enter into contracts as provided by this Act, and those contracts shall be executed by

the chairman of the board and attested by the secretary of the board in the name of the authority.

SECTION 2.16. SUITS. The authority may, through its board, sue and be sued in any and all courts of this state in the name of the authority. Service of process in a suit may be had by serving the general manager.

SECTION 2.17. PAYMENT OF JUDGMENT. A court of this state that renders a money judgment against the authority may require the board to pay the judgment from fees collected under this Act.

SECTION 2.18. SEAL. The board shall adopt a seal for the authority.

ARTICLE 3. POWERS AND DUTIES

SECTION 3.01. JURISDICTION OF AUTHORITY. The authority has jurisdiction over site selection, preparation, construction, operation, maintenance, decommissioning, closing, and financing of disposal sites.

SECTION 3.02. GENERAL POWERS. For the purpose of carrying out this Act, the authority may:

(1) apply for, accept, receive, and administer gifts, grants, and other funds available from any source;

(2) enter into contracts with the federal government and its agencies, the state and its other agencies, interstate agencies, local governmental entities, and private entities for the purpose of carrying out this Act and rules, orders, and standards adopted under this Act;

(3) conduct, request, and participate in studies, investigations, and research relating to selection, preparation,

construction, operation, maintenance, decommissioning, closing, and financing of sites and disposal of low-level waste; and

(4) advise, consult, and cooperate with the federal government and its agencies, the state and its other agencies, interstate agencies, local governmental entities within the state and private entities.

SECTION 3.03. RULES, STANDARDS, AND ORDERS. (a) The board may adopt and amend rules, standards, and orders necessary to properly carry out this Act and to protect the public health and safety and the environment from activities of the authority.

(b) The board may set reasonable civil penalties for the breach of any rule, standard, or order that shall not exceed amounts of $1,000.

(c) These penalties shall be in addition to any other penalties provided by the laws of this state and may be enforced by complaints filed by the attorney general in an appropriate court of jurisdiction in Travis County.

SECTION 3.04. DEVELOPMENT AND OPERATION OF DISPOSAL SITE. The authority shall develop and operate or contract for operation of one disposal site for the disposal of low-level waste in Texas.

SECTION 3.05. STUDIES FOR SITE SELECTION. (a) The authority shall make studies or contract for studies to be made of the future requirements for disposal of low-level waste in this state and to determine the areas of the state that are relatively more suitable than others for low-level waste disposal activities.

(b) In studying future requirements and relative suitability, the authority and any persons with which it contracts

under this section shall consider the following:

(1) the volume of low-level waste generated by type and source categories for the expected life of the site;

(2) geology;

(3) surface characteristics (topography);

(4) other aspects of transportation and access;

(5) meteorology;

(6) population density;

(7) surface and subsurface hydrology;

(8) flora and fauna;

(9) current land use;

(10) criteria established by the agency for site selection;

(11) the proximity to sources of low-level waste, including related transportation costs, to the extent that the proximity and transportation costs do not interfere with selection of the best site for protecting public health and the environment; and

(12) other site characteristics as may need study on a preliminary basis that would require detailed study to prepare any application or license required for site operation.

(c) The studies may be performed either by the authority's staff or under contract with others.

SECTION 3.06. ADDITIONAL ANALYSIS. (a) On completion of the studies required by Section 3.05 of this Act, the board shall select two or more potential disposal sites for further analysis.

(b) The authority shall evaluate or contract to have evaluated the preoperating costs, operating costs, maintenance costs, and costs of decommissioning and extended care and the socioeconomic, environmental, and public health impacts associated

with each of these potential sites.

(c) Socioeconomic impacts to be evaluated shall include fire, police, educational, utility, public works, public access, planning, and other governmental services and assumed and perce d risks of the disposal sites and disposal activities.

(d) Public officials and members of local boards or governing bodies of local political subdivisions of the state within which a potential site is located shall be invited to participate in appropriate evaluation activities.

SECTION 3.07. SITE SELECTION. (a) On receiving the results of the studies and evaluations required under Sections 3.05 and 3.06 of this Act, the board shall select the site that appears from the studies to be the most suitable for a disposal site and shall hold a public hearing to consider whether or not that site should be selected as the disposal site and give 30 days notice thereof, published in the English language once a week for four consecutive weeks preceding the hearing, in some newspaper published in the county of the disposal site. If there is no newspaper published in the county or none which will publish the notice, the board shall then post such notice in writing in three public places in the county, one of which shall be at the courthouse door of the county courthouse, for at least 30 days successively before the day of the hearing. The hearing shall be commenced in the county seat at the county courthouse in which the proposed disposal site is located.

(b) Before giving notice of the hearing, the authority shall prepare a report that includes detailed information regarding all aspects of the disposal site selection process, criteria for site

selection as established by the appropriate licensing authority, and summaries of the studies required under Section 3.05 of this Act and the evaluations under Section 3.06 of this Act and shall make this report available to the public. The authority may contract for the distribution of the report and may hold or contract with others to hold informational seminars for the public.

(c) On a thorough consideration of the studies and evaluations relating to site selection required under Sections 3.05 and 3.06 of this Act, the criteria required to be used in those studies, and testimony and evidence presented at the hearing, the board shall determine if the proposed disposal site should be selected, and if the board selects that site as the disposal site, the board shall issue an order designating that site as the proposed disposal site, shall issue a final report, and shall direct the general manager to prepare necessary applications, disposal plans, and other material for obtaining licenses and other authorizations for the disposal site. If the board determines that the proposed site should not be selected, it shall issue an order rejecting selection of the site and shall call another hearing to consider another site that appears from the studies and evaluations under Sections 3.05 and 3.06 of this Act to be suitable. The board shall continue to follow the procedures under Subsection (a) of this section and this subsection until a suitable disposal site is selected.

(d) A copy of the final report and order selecting a disposal site shall be submitted to the governor and to the legislature for informational purposes.

(e) The authority may appoint a mediator to consider the views of parties interested in the selection of a disposal site. The mediator may conduct a series of meetings with delegates from groups of interested parties. The selection of delegates shall be determined by criteria established by the board. Mediation meetings may be held in the counties in which the potential sites are located and shall be held prior to the public hearing required by Subsection (a) of this section. The mediator shall prepare a report and submit it to the board before the notice is given of the public hearing.

(f) None of the proceedings under this section are a contested case as defined by the Administrative Procedure and Texas Register Act, as amended (Article 6252-13a, Vernon's Texas Civil Statutes).

SECTION 3.08. ACQUISITION OF NECESSARY LICENSES. (a) The authority shall submit to all federal and state agencies from which it must obtain licenses and other types of authorization to construct and operate disposal sites necessary applications and information to obtain those licenses and authorizations.

(b) The authority shall cooperate with appropriate federal and state agencies in the licensing and authorization process and shall supply any additional information and material requested by those agencies.

(c) If the application of the authority for a license for the proposed disposal site is denied, the board shall give notice and hold a hearing on an alternative site, as provided by Section 3.07 of this Act and shall consider and select an alternative site

for the disposal site in the manner provided by this Act for the selection of the original proposed disposal site.

(d) The authority shall provide financial security in the form and manner required by federal and state agencies under federal and state laws and rules adopted under those laws. Supplemental financial security shall be provided as required by any federal or state agency.

SECTION 3.09. ACQUISITION OF PROPERTY FOR SITE. (a) The authority may acquire by gift, grant, or purchase any land, easements, rights-of-way, and other property interests necessary to construct and operate a disposal site.

(b) The authority must acquire the fee simple title to all land and property that is a part of the licensed disposal site.

(c) The authority also may lease property on terms and conditions the board determines advantageous to the authority, provided no lease may be made on land that is part of a licensed disposal site.

SECTION 3.10. SITE CONSTRUCTION. (a) The authority shall construct on the disposal site all works and facilities and from time to time make improvements necessary to prepare for disposal and permanently dispose of low-level waste.

(b) Preparation and construction of works and facilities at the disposal site shall be done in a manner that will comply with the rules and standards for disposal sites adopted by federal and state agencies and with the disposal plans of the authority.

SECTION 3.11. AUTHORITY TO ENTER INTO CONSTRUCTION CONTRACTS. The authority may contract with any person to construct

any part of the works and facilities or from time to time make improvements at the disposal site, provided the contract specifically provides for termination by the authority for failure of the contractor to comply with federal and state standards or rules or with the authority's disposal plans.

SECTION 3.12. BIDS ON CONTRACTS FOR CONSTRUCTION. Construction contracts requiring an expenditure of more than $5,000 may be made only after competitive bidding as provided by Chapter 770, Acts of the 66th Legislature, Regular Session, 1979 (Article 2368a.3, Vernon's Texas Civil Statutes).

SECTION 3.13. ADDITIONAL WORK. After a construction contract is awarded, if the authority determines that additional work is needed or if the character or type of work, facilities, or improvements should be changed, the board may authorize change orders to the contract on terms the board approves. A change made under this section shall not increase nor decrease the total cost of the contract by more than 25 percent.

SECTION 3.14. ATTACHMENTS TO CONSTRUCTION CONTRACTS. A construction contract shall contain or have attached to it the specifications, plans, and details for work included in the contract, and work shall be done according to these plans and specifications under the supervision of the authority.

SECTION 3.15. EXECUTION AND AVAILABILITY OF CONSTRUCTION CONTRACT. (a) A construction contract shall be in writing and signed by an authorized representative of the authority and the contractor.

(b) The contract shall be kept in the authority's records

and shall be available for public inspection.

SECTION 3.16. CONTRACTOR'S BOND. (a) A contractor shall execute a bond in an amount determined by the board, not to exceed the contract price, payable to the authority and approved by the board, conditioned on the faithful performance of the obligations, agreements, and covenants of the contract.

(b) The bond shall provide that if the contractor defaults on the contract, he will pay to the authority all damages sustained as a result of the default. The bond shall be deposited in the authority's depository, and a copy of the bond shall be kept in the authority's central office.

SECTION 3.17. MONITORING CONSTRUCTION WORK. (a) The board has control of construction being done for the authority under contract and shall determine whether or not the contract is being fulfilled.

(b) The board shall have the construction work inspected by engineers, inspectors, and other personnel of the authority.

(c) During the progress of the construction work, the engineers, inspectors, and other personnel doing the inspections shall submit to the board written reports that show whether or not the contractor is complying with the contract.

(d) On completion of construction work, the engineers, inspectors, and other personnel shall submit to the board a final detailed written report including information necessary to show whether or not the contractor has fully complied with the contract.

SECTION 3.18. PAYMENT FOR CONSTRUCTION WORK. (a) The authority shall pay the contract price of construction contracts as

provided in this section.

(b) The authority will make progress payments under construction contracts monthly as the work proceeds or at more frequent intervals as determined by the board.

(c) If requested by the board, the contractor shall furnish an analysis of the total contract price showing the amount included for each principal category of the work in such detail as requested to provide a basis for determining progress payments.

(d) In making progress payments, 10 percent of the estimated amount shall be retained until final completion and acceptance of the contract work. However, if the board, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, it may authorize any of the remaining progress payments to be made in full. Also, if the work is substantially complete, the board, if it finds the amount retained to be in excess of the amount adequate for the protection of the authority, may release to the contractor all or a portion of the excess amount.

(e) On completion and acceptance of each separate project, work, or other division of the contract, on which the price is stated separately in the contract, payment may be made without retention of a percentage.

(f) When construction work is completed according to the terms of the contract, the board shall draw a warrant on the depository to pay any balance due on the contract.

SECTION 3.19. CONTRACTS FOR PURCHASE OF EQUIPMENT, MATERIALS, SUPPLIES, ETC., OVER $5,000. (a) If the estimated

amount of a proposed contract for the purchase of materials, machinery, equipment, or supplies is more than $5,000, the board shall ask for competitive bids as provided by Section 3.12 of this Act.

(b) This section does not apply to purchases of property from public agencies or to contracts for personal or professional services.

SECTION 3.20. MANAGEMENT AND OPERATION OF SITES. (a) The board has general authority to manage and, if necessary, operate the disposal sites under this Act and take any actions necessary under this Act to manage and operate the disposal sites in a manner that will protect the public health and safety and the environment.

(b) The board may enter into contracts with persons to perform overall operation in the operation of a disposal site, but no contract may include provisions that relieve the authority of its management responsibility under this Act. The board shall adopt rules establishing criteria for determining the competence of a person to perform the overall operation of a disposal site in the operation of a disposal site.

(c) The board shall manage and, if necessary, operate the authority's disposal sites in a manner that complies with laws and with rules and standards of appropriate federal and state agencies having jurisdiction over disposal sites.

(d) Each disposal site shall be supervised by an on-site operator with responsibility for all operations at the site. If the authority contracts under Subsection (b) of this section for the overall operation of a disposal site, the on-site operator

shall be a representative of the contractor. If the authorit operates the disposal site, the on-site operator shall be employe by the general manager.

(e) The board shall adopt rules governing the operation o disposal sites, acceptance of low-level waste, maintenance an monitoring of disposal sites, and activities relating to the management and operation of disposal sites. Rules adopted by the board may not be less stringent than those adopted by the agency.

(f) A contract with a person under Subsection (b) of this section shall specify that:

(1) the board retains management authority over the low-level disposal site and may monitor and inspect any part of the disposal site and operations taking place on the disposal site at any time;

(2) the contract operator must operate the site in a manner that complies with laws and licenses regulating operations at the site issued by the agency and the federal government;

(3) the contract operator must comply with the rules governing operation of the site promulgated by the board; and

(4) should the contract operator fail to comply with any license issued for the site by the agency or by the federal government, fail to comply with the rules of the authority, or fail to comply with the contract the contract is subject to termination after notice and hearing.

(g) In contracting with a person under Subsection (b) of this section, the board may:

(1) select the person with whom it will contract before it

obtains the license for the disposal site so that it may allow the person with whom it contracts to advise and consult with the board, general manager, and staff of the authority on the design and disposal plans for the site;

(2) require the person with whom it contracts to make all tests, keep all records, and prepare all reports required by licenses issued for disposal site operations;

(3) require standards of performance;

(4) require posting of a bond or giving of other financial security by the person with whom it contracts to ensure safe operation and decommissioning of the disposal site; and

(5) establish other requirements that are necessary to assure that the disposal site is properly operated and that the public health and safety and the environment are protected.

SECTION 3.21. ACCEPTANCE OF LOW-LEVEL WASTE AT DISPOSAL SITES. (a)(1) Subject to the limitations in this section and Section 3.22 of this Act, each disposal site shall accept for disposal all low-level waste that is presented to it and that is properly processed and packaged.

(2) The Texas Department of Health shall adopt rules relating to the packaging of radioactive waste, and an inspector employed by the department shall inspect all packaged radioactive waste before it is transported to a Texas permanent disposal site. The rules of the department shall provide that the department charge a reasonable fee for the inspection. The fee shall be limited to the cost of the inspection of the radioactive waste.

(b) For shipments of low-level waste that are in excess of

75 cubic feet, the person making the shipment shall give th on-site operator of the disposal site written notice of th shipment containing information required by the board at leas 7 hours before shipment of the low-level waste to the disposal sit begins.

(c) On arrival of a shipment of low-level waste at disposal site, the on-site operator or his agent shall determin that the waste complies with all laws, rules, and standard relating to processing and packaging of low-level waste before th waste is accepted for disposal at the disposal site.

(d) If low-level waste that is not properly processed o packaged arrives at a disposal site, the on-site operator or hi agent shall properly process and package the waste for disposal an charge the person making the shipment the fee required by Sectio 4.03 of this Act.

(e) The on-site operator or his agent shall report to th federal and state agencies that establish rules and standards fo processing, packaging, and transportation of low-level waste an person who delivers to a disposal site low-level waste that is no properly processed or packaged.

SECTION 3.22. LIMITATIONS ON WASTE DISPOSAL. (a) Onl low-level waste that is generated within the State of Texas may b accepted by a disposal site.

(b) The board by rule shall exclude certain types o low-level waste from a disposal site if the low-level waste i incompatible with disposal operations.

SECTION 3.23. DISPOSAL SITE ACTIVITIES. Disposal site

shall be used for permanent storage of low-level wastes, and the authority may adopt any methods and techniques for permanent disposal that comply with federal and state standards for low-level waste disposal and that protect the public health and safety and the environment. Also, the authority may provide facilities at disposal sites for processing and packaging low-level waste for disposal.

SECTION 3.24. EMERGENCY RESPONSE. (a) To protect the public health and safety and the environment, the board, after notice and hearing, shall adopt an emergency response plan for each disposal site to be implemented in the event a disposal site becomes a threat to the public health or safety or the environment.

(b) The authority shall cooperate with and seek the cooperation of federal and state agencies responsible for regulating disposal sites and of federal, state, and local agencies engaged in disaster relief activities.

SECTION 3.25. DECOMMISSIONING AND CLOSING DISPOSAL SITES. (a) On a finding by the board, after notice and hearing, that a disposal site should be closed, the authority and any operator with which it has contracted shall proceed with decommissioning of the disposal site in compliance with federal and state laws and rules and standards adopted under those laws and with rules and plans of the authority.

(b) On completion of decommissioning activities and receipt of necessary approval from any federal and state agencies, the board shall, if required by law, transfer fee simple title to the disposal site to the agency.

SECTION 3.26. REPORTS. At least 60 days before each regular session, the authority shall submit to the appropriate committees of the legislature a biennial report that shall serve as a basis for periodic oversight hearings on the authority's operations and on the status of interstate compacts and agreements.

SECTION 3.27. HEALTH SURVEILLANCE SURVEY. The board, in cooperation with the Texas Department of Health and local public health officials, shall study the feasibility of developing a health surveillance survey for the population in the disposal site vicinity.

ARTICLE 4. FINANCIAL PROVISIONS

SECTION 4.01. FINANCING AUTHORITY ACTIVITIES. Expenses of the authority shall be paid from fees authorized and collected under this article and appropriations made by the legislature.

SECTION 4.02. WASTE DISPOSAL FEE. (a) The board shall adopt and have collected a waste disposal fee to be paid by each person who delivers to the authority low-level waste for disposal.

(b) The board shall adopt and periodically revise by rule a schedule of waste disposal fees based on the volume of low-level waste delivered for disposal and the relative hazard presented by each type of low-level waste that is delivered to the disposal site. In determining relative hazard, the board shall consider the radioactive, physical, and chemical properties of each type of low-level waste.

(c) Waste disposal fees adopted by the board shall be sufficient to allow the authority to recover operating and maintenance costs, expenses incurred before beginning operation of

the site amortized over a period of not more than 20 years, beginning on the first day of operation of the disposal site, an amount necessary to meet future costs of decommissioning and closing the disposal site, an amount sufficient to meet needs for impact assistance under Section 4.04 of this Act, an amount necessary to pay licensing fees and to provide security required by the agency under laws and rules of the agency.

SECTION 4.03. PROCESSING AND PACKAGING FEE. The board shall adopt and periodically revise by rule a schedule of processing and packaging fees based on the volume of improperly processed or packaged low-level waste delivered for disposal and on the cost to the authority for processing and packaging the waste properly in compliance with federal and state standards.

SECTION 4.04. LOW-LEVEL RADIOACTIVE WASTE DISPOSAL IMPACT ASSISTANCE. (a) The board may make grants to a city, county, hospital district, school district, water district, or other political subdivision of this state to reimburse that entity for actual costs or to pay expenses anticipated in connection with additional fire, police, educational, utility, public access, and other governmental services, public works projects, and planning that are required by the city, county, hospital district, school district, water district, or other political subdivision of this state as a result of the construction and operation of a disposal site within or adjacent to the affected city, county, hospital district, school district, water district, or other political subdivision of this state.

(b) The board shall adopt rules establishing:

(1) procedures for the application for grants under this section;

(2) criteria for determining the adverse effect that the construction and operation of a disposal site will have on cities, counties, hospital districts, school districts, water districts, and other political subdivisions of this state;

(3) priorities of needs for affected cities, counties, hospital districts, school districts, water districts, and other political subdivisions of this state; and

(4) methods for monitoring the uses and effectiveness of grants made under this section.

(c) On approval of a grant under this section, the board shall issue an order stating the name of the city, county, hospital district, school district, water district, or other political subdivision of the state receiving the grant and the amount of the grant and shall direct payment of the grant.

ARTICLE 5. MISCELLANEOUS PROVISIONS

SECTION 5.01. INITIAL APPOINTMENTS. Immediately after this Act takes effect, the governor shall appoint, with the advice and consent of the senate, two board members whose terms expire on February 1, 1983, two board members whose terms expire on February 1, 1985, and two board members whose terms expire on February 1, 1987. Successors to these initial appointees serve for full six-year terms.

SECTION 5.02. APPROPRIATIONS. The sum of $3,500,000 is appropriated from the General Revenue Fund to the Texas Low-Level Radioactive Waste Disposal Authority for the biennium beginning