MASTER

**South Dakota State Briefing Book
for
Low-Level Radioactive *PK*
Waste Management**

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SOUTH DAKOTA STATE BRIEFING BOOK FOR
LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT

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1. INTRODUCTION

The U.S. Department of Energy (DOE) is the lead Federal agency for commercial low-level radioactive waste management. Several national groups and organizations, including the State Planning Council, the National Governors' Association, and the National Conference of State Legislatures, have endorsed a position of state responsibility for commercial low-level radioactive waste management. The concept that individual states be allowed to enter into regional compacts to meet their responsibilities for disposal of low-level radioactive waste has also been strongly endorsed. This policy of state responsibility for commercial low-level radioactive waste disposal is now formalized in Federal law through the passage of the "Low-Level Radioactive Waste Policy Act," P.L. 96-573.

The South Dakota State Briefing Book has been prepared to assist DOE in its efforts to help states institute a workable waste-management system. This briefing book gives relevant background information on the state's geography, demography, economy, government structure and regulations, public attitudes, and media coverage of radiation issues. In addition, information is presented on low-level radioactive waste generation and disposal practices in South Dakota, the volume and nature of waste generated, and the institutions and industries using radioactive materials. This book is one of a series produced by the Department of Energy's Low-Level Radioactive Waste Management Program.

1.1 History and Background of Low-Level Radioactive Waste Management

Low-Level radioactive waste includes all waste that is not otherwise legally defined, and would therefore exclude high-level radioactive waste, spent reactor fuel, uranium mill tailings, and transuranic waste containing more than 10 nanocuries of activity per gram. The Nuclear Regulatory Commission has issued a proposed regulation, 10 CFR Part 61, that defines low-level radioactive waste as that waste suitable for disposal in near-surface facilities.

The sources of low-level radioactive waste are divided into five categories: medical institutions, academic institutions, industrial facilities, governmental activities, and commercial power reactors. All these sources produce radioactive waste consisting of used glassware and protective clothing, rags, tools, paper, and plastics.

Institutional wastes, which come from educational and medical research, medical diagnosis, and radiological therapy, also include organic wastes such as contaminated chemicals and animal carcasses. Industrial wastes are derived from the manufacture of pharmaceuticals, smoke detectors, luminous dials, emergency exit signs, measuring and testing devices, and other similar activities. The types of waste produced vary for each manufacturing process but include residual raw material, sludge, contaminated equipment, and various chemicals and cleaning agents. Commercial power reactors generate low-level radioactive waste from everyday operation and maintenance activities at the facility. This waste includes materials such as filter sludges, resins, solidified water solutions, and filter bottoms. Defense and research activities of the Federal government also generate low-level radioactive waste, which varies in form and characteristics but is similar to the waste produced by the other sources.

Presently, the Department of Energy manages the waste generated by its facilities and disposes of this waste by shallow land burial at DOE disposal sites. All other generators, including other government agencies, dispose of their waste by shallow land burial at commercial disposal facilities. These commercial facilities are licensed by the Nuclear Regulatory Commission or by an agreement state.

As of January 1981, approximately 2.7 million cubic meters^{1,2,3} of low-level radioactive waste had been disposed of in shallow land disposal facilities operated by commercial companies and the DOE.

1.1.1 Government Low-Level Radioactive Waste Disposal

The U.S. Government has been generating low-level radioactive waste in defense and research programs since the nuclear weapons program started in World War II. About 50,000 cubic meters of this waste are disposed of annually at Department of Energy facilities.¹ In 1980, the DOE generated approximately 57,000 cubic meters of low-level radioactive waste.²

Until October 1979, when a serious shortage of commercial disposal capacity had developed, Department of Energy facilities without onsite disposal capability used commercial sites for low-level radioactive waste disposal. Since then, all of the DOE's low-level radioactive waste has been disposed of at one of its sites. Other government (non-DOE) facilities still send low-level radioactive waste to commercial disposal sites.

1.1.2 Commercial Low-Level Radioactive Waste Disposal

Six commercial facilities have been established for the disposal of low-level radioactive waste. The first opened at Beatty, Nevada, in 1962. During the next ten years, five more facilities were opened in Kentucky, New York, Washington, Illinois, and South Carolina. Three of these six sites are still operating while three have been closed for various reasons. Disposal operations at Sheffield, Illinois, were suspended when the licensed capacity was reached. Disposal operations at West Valley, New York, and Maxey Flats, Kentucky, were suspended because of operating problems. As of January 1, 1981, approximately 776,000 cubic meters of waste had been disposed of at the six commercial sites.³

The facilities at Beatty, Nevada; Richland, Washington; and Barnwell, South Carolina, are still operating.

In 1979, the Richland and Beatty sites were temporarily closed by the Governors of Washington and Nevada, respectively, to protest infractions of packaging and transportation regulations in some shipments. The sites were reopened after corrective action was taken. South Carolina has imposed a

decreasing annual limit on the amount of out-of-state waste to be accepted at the Barnwell facility.

In 1979, approximately 80,000 cubic meters⁴ of low-level radioactive wastes were disposed at the three operating sites; in 1980, total waste disposed at these three commercial sites increased to over 106,000 cubic meters.³ Of the 1979 waste disposed of at commercial facilities, approximately 50 percent was generated from commercial power reactor operations, 19 percent from institutional activities, 22 percent from industrial operations, and 9 percent from non-DOE government activities.⁴

All three states with operating sites have urged that additional regional disposal sites be developed. The Low-Level Radioactive Waste Policy Act of 1980 makes the states responsible for providing disposal capacity for nondefense low-level radioactive waste generated within their boundaries. It also provides a framework for establishing regional disposal sites.

1.2 Regulatory Authority of Federal Agencies

The Department of Energy is the lead Federal agency to assist states in the development of a commercial low-level radioactive-waste management system. However, the department has no regulatory responsibility in the commercial sector. The Nuclear Regulatory Commission, Environmental Protection Agency, Department of Transportation, and agreement states have the regulatory responsibility for management of commercial low-level radioactive waste.

The Nuclear Regulatory Commission (NRC) has overall regulatory responsibility for all types of radioactive waste as defined in Title 10 of the Code of Federal Regulations, Part 50. The commission is responsible for establishing performance and licensing criteria for facilities that generate and dispose of commercial low-level radioactive waste. The commission is developing procedures for licensing disposal facilities in 10 CFR Part 61, which has recently been issued as a proposed regulation.

While the licensing and regulation of low-level radioactive waste generators and disposal sites are responsibilities of the Nuclear Regulatory Commission, states may enter into agreements with the Commission. Under such an agreement the NRC confers upon the state responsibility and authority to license and regulate by-product, source, and special nuclear materials (as defined in the Atomic Energy Act of 1954 as amended) in quantities insufficient to form a critical mass.

The Environmental Protection Agency (EPA) is responsible for the preservation and enhancement of the environment, and issues regulations for that purpose. This agency is responsible for developing the basic criteria and standards for the management of low-level radioactive waste. All Federal and state agencies must use these criteria and standards as the bases for regulating and rulemaking.

The Department of Transportation develops vehicle and package requirements for the transportation of hazardous wastes, including radioactive waste. However, regulations for the transport of radioactive waste are set and enforced by the Nuclear Regulatory Commission. Through a memorandum of understanding, these two agencies have delineated their responsibilities in the area of transportation safety.

1.3 References

1. U.S. Department of Energy, Oak Ridge Operations Office, Spent Fuel and Waste Inventories and Projections, ORO-778, Oak Ridge, Tennessee, August 1980.
2. Department of Energy, Idaho Operations Office, Solid Waste Information Management System Data Summary Fiscal Year 1980, IDO-10086(80), May 1981.
3. Information provided to the Low-Level Radioactive Waste Management Program from Chem-Nuclear Systems and U.S. Ecology, 1981.
4. NUS Corporation, 1979 State-by-State Assessment of Low-Level Radioactive Wastes Shipping to Commercial Burial Grounds, LLWMP-2, 1979.

2. GEOGRAPHY

South Dakota covers 77,047 square miles, ranks as the nation's 16th largest state in terms of land area,¹ and encompasses 66 counties (Figure 2-1). Located in the west northcentral census region, South Dakota shares a common border with North Dakota to the north, Minnesota and Iowa to the east, Nebraska to the south, and Wyoming and Montana to the west.

2.1 Physiography

The state is divided into two physiographically different varieties of terrain by the Missouri River: the Central Lowlands to the east of the river and the Great Plains to the west (Figure 2-2).² In general, the land consists of rolling plains that increase in average elevation of 1,500 feet above sea level in the east to 3,000 feet in the west.³ The state's lowest point is Big Stone Lake (962 feet above sea level) in Roberts County on the eastern border; the highest point is Harney Peak (7,247 feet above sea level) in the Black Hills area. The Black Hills in the southwestern part of the state includes an isolated group of forest-covered mountains.

2.2 Drainage Patterns

Most of South Dakota is drained by the Missouri River and its tributaries. The Missouri enters the state near the midpoint of the northern border, flows south through Pierre, the state capital, and then flows southeast to form the border between South Dakota and Nebraska in the southeastern corner of the state. The tributary rivers draining the western regions are the Grand, Moreau, Cheyenne, and White. The James and the Big Sioux are the major rivers in the Central Lowlands, but much of the precipitation in that area never reaches them. Instead, water is ponded in potholes. During droughts, these potholes often become dry from evaporation and seepage.³

Figure 2-1. South Dakota state map showing county boundaries.

Figure 2-2. Major physiographic divisions of South Dakota.

2.3 Climate

South Dakota is situated near the center of the North American continent, far from any large body of water. This geographic setting results in low humidity and large ranges in daily, monthly, and annual temperatures. The record high in the state is 120°F and the record low is -58°F; both extremes occurred in 1936. Temperatures of less than 0°F and greater than 100°F can occur in October and April.³

Temperatures in the Black Hills region are unique. The high elevation of this area produces the coolest summer temperatures in the state. During the winter, the very cold arctic air that flows into the eastern counties tends to stay at lower elevations, rather than moving to the higher elevations of the western counties, which include the Black Hills. Warm chinook winds and sunny skies are frequent in the Black Hills in winter.³

Most of the precipitation occurs during April through September, reaching a maximum during June and decreasing sharply in early July. With the exception of the Black Hills area, the annual precipitation in the state varies from less than 13 inches in the northwest to about 25 inches in the southeast. In the Black Hills, precipitation varies from almost 25 inches in the northern part to 16 inches in the south. Rainstorms are most frequent in early summer, hailstorms in midsummer, and lightning storms in late summer.³

Winds are generally from the south and southeast in the summer and from the north and northwest during the winter. Winds average 11 or 12 miles per hour year-round.³

2.4 Environmental Hazards

An average of 23 tornadoes a year occur in South Dakota, bringing attendant hazards to life and property. Damage to unprotected buildings can result from straight-line thunderstorm winds. Heavy rainfall or rapid snowmelt sometimes causes flash flooding. Although the Missouri River is controlled in South Dakota by the Oahe, Fort Randall, and Gavins Point

dams, severe flooding has occurred on tributary streams. Even though intense local storms are common, most of the state is considered semiarid, and drought conditions sometimes damage crops, particularly during midsummer. In the winter, occasional ground blizzards present hazards to traffic and cause loss and hardship to livestock feeders.³

2.5 Land Use and Ownership

Agriculture is the major land-use activity in South Dakota and involves over 90 percent of the state's total area. Livestock production is the primary farming enterprise. The major livestock products are cattle and hogs, and the principal field crops are wheat, corn, and oats.

The physiographic differences between western and eastern South Dakota dictate the distribution of farmlands and rangelands (Figure 2-3). Crops grow well in the Central Lowlands because the glaciated clay loam soil is fertile and arable. The dry and rugged terrain of the Great Plains accommodates the production of livestock. Unglaciated soil in the west is formed from weathered shales and supports the production of wheat and other small grains.^{2,3}

Gold and silver are mined in the state, with production principally from the Homestake Mine in Lawrence County. Coal is mined in the northwestern corner of the state, and uranium mining is pursued near Edgemont in Fall River County. Sand, gravel, and oil are also produced in the state.

Eight Sioux Indian reservations and allotted Indian trust lands (Figure 2-4) in South Dakota cover about 4.9 million acres, approximately 10 percent of the state's total area.⁴ The population of these reservations totals 33,860.⁵

State-controlled lands in 1976 covered about 2.1 million acres, or 4.3 percent of the state. These state lands included 78,090 acres established as state parks; 9,100 acres set aside as nature areas, recreation areas, and historical parks; and additional tracts, some of which were available for subsequent sale to the public.^{4,6}

Figure 2-3. Land-use distribution in South Dakota.

Figure 2-4. Indian reservations, national parks, and public lands in South Dakota.

Wind Cave National Park, National Grasslands, Badlands and Jewel Cave National Monuments, Mt. Rushmore National Memorial, Black Hills and Custer National Forests, and other Federal noncroplands cover over 3.4 million acres, or about 6.9 percent of the state.¹

The Indian land and Federally controlled lands, along with the state-controlled lands, thus compose about 21.2 percent of the state's total area. The remaining 78.8 percent is largely private land, but also includes the relatively small amount owned by counties and municipalities.

2.6 References

1. U.S. Department of Commerce, Bureau of the Census, State and Metropolitan Data Book, 1979, U.S. Government Printing Office, Washington, D.C., 1980.
2. State of South Dakota, Department of Labor, South Dakota Annual Planning Report, Report Number 11, Aberdeen, South Dakota, May 1981.
3. National Oceanic and Atmospheric Administration, "Climate of South Dakota," Climatology of the United States No. 60, Asheville, North Carolina, 1977.
4. State of South Dakota, Office of Executive Management, State Planning Bureau, South Dakota Facts: An Abstract of Statistics and Graphics Concerning the People and Resources of South Dakota, Pierre, South Dakota, 1977.
5. U.S. Environmental Protection Agency, Office of Public Awareness, Profile of Environmental Quality, Region 8, Denver, Colorado, September 1980.
6. State of South Dakota, Department of Game, Fish, and Parks, 1981 State Park Guide, Pierre, South Dakota.

3. DEMOGRAPHY

This section identifies those demographic factors and trends that affect or can be related to the quantity and nature of low-level radioactive waste within the State of South Dakota, to assist with an assessment of the state as a potential producer of radioactive waste. It also identifies those institutions, including colleges, universities, and hospitals, that are potential major users of radionuclides that may ultimately become radioactive waste. Educational institutions and hospital facilities tend to increase or decrease in line with state or regional trends for the population that they serve.

3.1 Population

Population trends offer a broad-gauge measure of isotope utilization in medicine, educational and research activities, and industry. A trend revealing an increase in a state's population may imply increasing isotope use and in turn, waste generation. In addition, population distribution throughout the state, as well as within age-group categories, may be useful in assessing and projecting patterns in the production rates of low-level radioactive waste.

South Dakota has experienced very modest population growth during the past decade. The final population count as of April 1, 1980, was 690,178.¹ This figure represents an increase of 23,921 (or 3.6 percent) over the 666,257 inhabitants recorded in the 1970 census. South Dakota's increase was well below that of the nation, which was about 11 percent for the same 10 years.

South Dakota has 66 counties, most of which are relatively small geographically. State departments and agencies group the large number of counties into six districts for planning purposes and presentation of statistical data.² This grouping of counties is shown in Figure 3-1 and will be referred to in this section. Also shown in Figure 3-1 are the two

Figure 3-1. South Dakota state map showing planning districts and standard metropolitan statistical areas (SMSAs).

Standard Metropolitan Statistical Areas (SMSAs) designated within the state. The Sioux Falls SMSA encompasses Minnehaha County, which is located in District 2. Two counties, Meade and Pennington, which are located in District 6, are included in the Rapid City SMSA.

Population data are given for the six planning districts, as well as for the two SMSAs, in Table 3-1. Data for 1970 and 1980 were obtained from census counts of the counties included in each of the districts and both of the SMSAs.² Projected data for the year 2000 are also given.³ Districts 2 and 6 are the only two that experienced overall population growth during the past decade. They are also the two districts of major projected growth. District 2, which includes the Sioux Falls SMSA, has the largest regional portion of the state's residents. District 6, which includes the Rapid City SMSA, is second in population and growing at a greater percentage rate than District 2. These two districts currently contain 46 percent of South Dakota's residents.

TABLE 3-1. RECORDED AND PROJECTED POPULATION CHANGE WITHIN SOUTH DAKOTA

Region	Population			Percent Change	
	1970	1980	2000	1970-1980	1980-2000
Districts					
1	98,213	97,508	95,032	-0.7	-2.1
2	146,654	163,149	195,755	11.2	20.0
3	97,428	92,487	78,900	-5.1	-14.7
4	115,094	107,267	89,717	-6.8	-16.4
5	78,957	78,071	88,399	-1.1	13.2
6	129,911	151,696	187,766	16.8	23.8
SMSAs					
Sioux Falls	95,209	109,435	126,002	14.9	15.1
Rapid City	76,369	90,850	124,288	19.0	36.8
State Total	666,257	690,178	735,569	3.6	6.6

Data for 1970 through mid-1975 indicate that the state's total population increase was 2.6 percent during that span of time.⁴ Natural increase (births less deaths) was 3.7 percent; however, net migration (inmigration less outmigration) amounted to an outflow of 1.1 percent to reduce the overall gain.

South Dakota's population ranks low (45th) nationally.⁵ Because of the state's small population and relatively large land area, the overall population density averages only nine persons per square mile. Figure 3-2 shows the relative density, for 1980, of each of the six planning districts within the state.^{1,6} District 2, with the largest regional share of the population (Table 3-1) and the smallest land area, has the highest population density. Density in District 2 is 48 persons per square mile, over three times the density in District 1, which is second highest with a density of 14 persons per square mile. Even though District 6 ranks second in total population (Table 3-1), its large land area dilutes population density to only seven persons per square mile.

Table 3-2 compares the age distribution of South Dakota's population for 1970 and 1980.^{3,7} In addition, the tabular data project this distribution to the year 2000.³ The columns listing percentage change show that the birth-infant age group (0-4) in 1980 was 7.1 percent above that of 1970; however, projected data show a decrease of 12.4 percent by the year 2000 for that age bracket. The largest percentage gain during the past decade was for ages 20 through 34. Ages 35 through 49 show the greatest projected percentage gain. Reduced infant age and increased early middle-age are, therefore, apparent projected trends. Somewhat surprising, in view of those trends, is the lessened projected growth for ages 55 and over compared to the gains for that age group during the past decade.

3.2 Hospitals and Universities

Several institutions in South Dakota are potential sources of radioactive wastes resulting from the use of radionuclides. Colleges and

Figure 3-2. Relative population densities for South Dakota's planning districts--1980.

TABLE 3-2. COMPARISON AND PROJECTION OF SOUTH DAKOTA'S POPULATION BY AGE GROUP

Age Group	Population Distribution			Percentage Change	
	1970	1980	2000	1970/1980	1980/2000
0-4	54,258	58,121	50,835	7.1	-12.4
5-9	68,635	52,834	51,954	-23.0	-1.6
10-14	74,505	51,276	57,777	-31.2	12.7
15-19	69,989	71,261	65,471	1.8	-8.0
20-24	48,646	78,333	59,376	61.0	-24.1
25-29	35,367	60,894	46,775	72.1	-23.1
30-34	31,705	37,746	44,135	19.1	16.9
35-39	32,959	32,139	58,353	-2.5	81.6
40-44	35,862	29,772	64,071	-17.0	115.2
45-49	36,295	31,602	55,171	-12.9	74.6
50-54	35,141	34,162	34,188	-2.8	0.1
55-59	32,405	33,853	28,534	4.5	-15.6
60-64	29,256	31,719	25,253	8.4	-20.3
65-69	25,208	27,771	24,865	10.2	-10.4
70-74	21,629	23,067	23,808	6.6	3.2
75+	33,647	40,580	45,003	20.6	10.9

universities are among such potential sources. South Dakota has seven public and nine private institutions of higher education; total 1980 fall enrollment was 28,313. Both the public and private institutions are listed, along with their locations within the state, in Table 3-3.⁸

Hospitals are also potential producers of radioactive wastes. Figures 3-3, 3-4, and 3-5 provide informative data for state-licensed hospitals during 1971 through 1978.⁹ Statewide trends relating to inpatient usage are revealed by these data.

Figure 3-3 shows that, even with moderate population growth in the state, the inpatient days decreased during the surveyed years. Figure 3-4 supplements the data in Figure 3-3 with inpatient admissions and the average daily inpatient census for the same years. Inpatient admissions varied during the years but showed an overall upward trend. The fact that both the daily census (Figure 3-4) and inpatient days (Figure 3-3) decreased during the same period that admissions increased reflects the practice of shortening the length of patient stay in the hospital.⁹

Figure 3-5 shows that the number of hospitals in South Dakota has declined. The number of hospital beds has fluctuated somewhat, but overall has remained roughly the same. This is explained by the fact that while some hospitals are closing, others are building additional bed capacity.⁹

A listing of the licensed hospital facilities in South Dakota is provided in Table 3-4.⁹ Included are the location (county and planning district) and number of beds for each facility. Figure 3-6 shows the geographic distribution of these hospitals throughout the state.⁹ The 59 licensed hospitals are widely scattered and located in 45 of the state's 66 counties. Most of those hospitals are small; 44 of the total have 50 or fewer beds.

TABLE 3-3. UNIVERSITY AND COLLEGE FALL ENROLLMENTS AND LOCATIONS IN SOUTH DAKOTA, 1980

Institutions	Enrollment	Location	
		County	Planning District
Public:			
University of South Dakota	5,968	Clay	2
South Dakota State University	6,848	Brookings	1
South Dakota School of Mines and Technology	2,393	Pennington	6
Northern State College	2,603	Brown	4
Black Hills State College	2,099	Lawrence	6
University of South Dakota at Springfield	852	Bon Homme	3
Dakota State College	1,000	Lake	1
Private:			
Augustana College	2,115	Minnehaha	2
Dakota Wesleyan University	543	Davison	3
Freeman Junior College	68	Hutchinson	3
Huron College	321	Beadle	4
Mount Marty College	568	Yankton	3
National College of Business	1,514	Minnehaha	2
Presentation College	300	Brown	4
Sioux Falls College	849	Minnehaha	2
Yankton College	272	Yankton	3

Figure 3-3. Comparison of inpatient days at licensed hospitals and South Dakota population, 1971 through 1978.

SOURCE: Resource Development Program
 Health Planning Program
 SOUTH DAKOTA DEPARTMENT OF HEALTH

Figure 3-4. In-patient admissions and average daily census at licensed hospitals in South Dakota, 1971 through 1978.

Figure 3-5. Licensed hospitals and hospital beds in South Dakota, 1971 through 1978.

TABLE 3-4. LICENSED HOSPITAL FACILITIES AND NUMBER OF BEDS, JULY 1979

County	Planning District	Hospital	Number of Beds
Beadle	4	Huron Regional Medical Center	140
Bennett	6	Bennett County Community	20
Bon Homme	3	Landmann-Jungman Memorial St. Michael's	25 25
Brookings	1	Brookings Hospital	61
Brown	4	Dakota Midland St. Luke's Hospital	162 160
Brule	3	Community Bailey	58
Butte	6	Belle Fourche Health Care Center	30
Charles Mix	3	Platte Community Memorial Wagner Community Memorial	27 20
Clay	2	Dakota Hospital	47
Codington	1	Memorial Medical Center St. Ann	94 70
Custer	6	Custer Community	16
Davison	3	Methodist Hospital St. Joseph's	80 120
Day	4	Day County Hospital	39
Deuel	1	Deuel County Memorial	20
Douglas	3	Douglas County Memorial	18
Edmunds	4	Bowdle Hospital Ipswich Community	20 19
Fall River	6	Southern Hills General	49
Faulk	4	Faulk County Memorial	34
Grant	1	St. Bernard's Providence	35
Gregory	3	Gregory Community Community Memorial	32 25
Haakon	5	Hans P. Peterson Memorial	20
Hand	4	Hand County Memorial	30

TABLE 3-4. (continued)

County	Planning District	Hospital	Number of Beds
Hughes	5	St. Mary's	138
Hutchinson	3	Freeman Community	30
		St. Benedict	30
Jackson	6	Memorial Hospital	13
Jerauld	3	Weskota Memorial Medical Center	28
Kingsbury	1	Kingsbury County Memorial	21
		DeSmet Memorial	19
Lake	1	Madison Community	50
Lawrence	6	St. Joseph's	39
		Lookout Memorial	20
Lincoln	2	Canton-Inwood Memorial	28
McPherson	4	Eureka Community	35
Marshall	4	Marshall County Memorial	38
Meade	6	Community Memorial	37
Minnehaha	2	Dell Rapids Community	29
		Crippled Children's	66
		McKenna	356
		Sioux Valley	430
Moody	1	Flandreau Municipal	30
Pennington	6	Rapid City Rehabilitation	43
		Rapid City Regional	266
Perkins	5	Five Counties Hospital	30
Potter	5	Gettysburg Memorial	30
		Holy Infant	30
Roberts	4	Coteau Des Prairies	31
Spink	4	Community Memorial	44
Tripp	5	Baptist	40
Turner	2	Pioneer Memorial	35
Walworth	5	Mobridge Community	50
Yankton	3	Sacred Heart Hospital	163

Figure 3-6. Distribution of licensed hospitals in South Dakota, July 1979.

The state's two largest licensed hospitals, each with over 350 beds, are located, along with two small hospitals, in Minnehaha County, in the Sioux Falls SMSA. The Rapid City SMSA, which encompasses both Meade and Pennington Counties, includes three licensed hospitals. One of these has 266 beds; the other two are small.

3.3 References

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4. ECONOMY

The economic factors and trends identified in this section can affect or be related to the generation of low-level radioactive waste within the State of South Dakota. Distribution of industry and the associated labor force, agricultural acreage distribution, income levels, and energy consumed to sustain the state's economy are factors that are potentially useful in assessing the state as a producer of low-level radioactive waste.

4.1 Economic Indicators

Moderate but consistent economic growth in South Dakota has accompanied the modest population growth cited in Section 3. Table 4-1 presents U.S. Department of Commerce data¹ that give the recorded and projected earnings from a wide spectrum of enterprises in the state. The listed earnings, adjusted to compensate for inflation, include labor and proprietor income for selected years from 1969 through 2000. The total annual growth recorded averages 3.4 percent. Little change is represented by the projected yearly growth rate of 3.2 percent.

4.2 Nonagricultural Industries

Manufacturing, retail trade, and services are the leaders in the privately owned, nonfarm industries of South Dakota, on the basis of earnings consisting of labor and proprietor income.¹ Table 4-1 shows that, in terms of 1972 dollars, earnings for the manufacturing and services sectors have been growing at an average annual rate of about 5 percent during the past decade. Annual earnings growth in the retail trade sector has been 1.4 percent. All sectors of private industry, as well as government enterprises (local, state, and federal), are expected to experience positive income growth during the next two decades.

Distribution of private business establishments, nonfarm employees, and annual payroll by counties within South Dakota is provided, for 1979, in Table 4-2.² These data show Minnehaha County, which encompasses the Sioux Falls SMSA, to be the largest employment center within the state.

TABLE 4-1. RECORDED AND PROJECTED GROWTH OF INCOME IN SOUTH DAKOTA

	Earnings ^a (millions of 1972 dollars)				Average Annual Growth Rate (percent)	
	1969	1978	1990	2000	1969-1978	1978-2000
Farm	380	421	528	598	1.1	1.6
Nonfarm	1,298	1,846	2,895	3,904	4.0	3.5
Private	951	1,407	2,288	3,136	4.4	3.7
Agricultural services, forestry, fisheries, and other	11	9	12	14	-2.2	2.0
Mining	23	33	49	62	4.1	2.9
Construction	88	154	226	289	6.4	2.9
Manufacturing	133	213	389	584	5.4	4.7
Transportation, communication, and public utilities	104	162	267	364	5.0	3.7
Wholesale trade	93	162	232	286	6.4	2.6
Retail trade	219	249	358	458	1.4	2.8
Finance, insurance, and real estate	71	106	190	267	4.6	4.3
Services	209	319	567	811	4.8	4.3
Government and government enterprises	347	439	607	769	2.6	2.6
Federal, civilian	87	119	173	221	3.5	2.9
Federal, military	46	60	78	95	3.0	2.1
State and local	214	260	355	453	2.2	2.6
Total	1,678	2,267	3,423	4,503	3.4	3.2

a. Earnings consist of income by laborers and proprietors.

TABLE 4-2. NONFARM ESTABLISHMENTS, EMPLOYEES, AND PAYROLL BY COUNTY IN SOUTH DAKOTA, 1979

County	1979		
	Number of Establishments ^a	Number of Employees for Week Including March 12 ^b	Annual Payroll (\$1,000)
Aurora	77	355	2,458
Beadle	589	5,915	56,927
Bennet	55	318	2,176
Bon Homme	196	1,272	9,500
Brookings	534	5,215	46,631
Brown	1,072	13,110	119,767
Brule	183	1,373	8,857
Buffalo	9	41	362
Butte	234	1,979	18,048
Campbell	36	208	2,471
Charles Mix	223	1,431	9,995
Clark	118	605	5,523
Clay	242	1,968	12,453
Codington	617	6,545	62,381
Corson	51	225	1,289
Custer	130	738	6,651
Davison	585	6,669	57,668
Day	207	1,290	11,506
Deuel	110	522	4,338
Dewey	67	348	2,907
Douglas	99	504	3,459
Edmunds	111	624	5,156
Fall River	181	1,181	8,055
Faulk	66	328	2,391
Grant	220	2,260	22,172
Gregory	159	862	6,460
Haakon	68	545	4,109
Hamlin	105	545	4,621
Hand	116	732	5,727
Hanson	47	175	1,417
Harding	29	133	875
Hughes	426	3,993	32,622
Hutchinson	243	1,678	12,693
Hyde	48	444	2,388
Jackson	45	328	2,332

TABLE 4-2. (continued)

County	1979		
	Number of Establishments ^a	Number of Employees for Week Including March 12 ^b	Annual Payroll ^c (\$1,000)
Jerauld	66	403	2,814
Jones	48	241	2,622
Kingsbury	192	1,123	7,633
Lake	263	2,884	26,767
Lawrence	471	5,734	59,200
Lincoln	274	2,654	21,299
Lyman	72	429	3,135
McCook	149	1,019	8,610
McPherson	112	606	4,364
Marshall	134	812	6,100
Meade	301	1,905	14,007
Mellette	31	125	769
Miner	89	576	3,288
Minnehaha	3,027	48,245	569,547
Moody	136	896	8,195
Pennington	2,035	23,889	242,368
Perkins	135	942	8,374
Potter	132	804	5,480
Roberts	209	1,341	9,232
Sanborn	53	343	2,460
Shannon	36	1,283	11,327
Spink	190	1,210	9,160
Stanley	51	385	4,495
Sully	42	200	1,487
Todd	55	941	5,398
Tripp	195	1,417	11,835
Turner	198	947	6,837
Union	201	2,166	20,214
Walworth	234	1,594	14,246
Yankton	550	6,344	54,592
Ziebach	13	68	416
Total	16,997	175,997	1,703,085

a. An establishment is defined as a single physical location where business is conducted or where services or industrial operations are performed.

b. Excluded are government employees, railroad employees, and self-employed persons.

The annual payroll in that county for 1979 was \$570 million. Pennington County, which forms part of the Rapid City SMSA, ranks second with a payroll of \$242 million. Brown County follows with a \$120 million payroll. Of the state's 66 counties, these three account for 55 percent of the total annual payroll.

Minnehaha County dominates the other 65 counties in terms of payroll for the state's three leading industries, largely because of the concentration of manufacturing within its borders. Employees in that county receive 40 percent of the state's total manufacturing payroll, 25 percent of the total payroll for retail trade, and 32 percent of that for services.²

Employees in Pennington County, by comparison, receive 11, 17, and 15 percent of the state's total payroll for manufacturing, retail trade, and services, respectively.² The popularity of tourist attractions in the Black Hills, which cross the western side of the county, is reflected by the brisk activity in retail trade and services.

A notable exception to the overall, generalized labor force distribution is the distribution for the mining industry. As indicated by the data in Table 4-1, earnings in the mining sector of private industry are relatively small by comparison with the three major sectors discussed--only 10 percent as much as the earnings in the services sector, for example. But the wide, and for the most part thin, dispersion of mining throughout many of the state's counties, some of which have small overall payrolls (Table 4-2), is unique.

Mining in South Dakota comprises three basic segments or elements: metal mining, nonmetallic mineral (except fuels) quarrying, and oil and gas extraction. The principal mined products in the state, in order of value, are gold, cement, and stone. Over 60 percent of the employment in the mining and quarrying industries concentrates on metals.³ Gold mining in the Black Hills region of Lawrence County, which employs between 1,000 and 2,500,² accounts for most of the state's metal mining.

Interest in underground and strip mining for uranium-bearing ore in Fall River County is evidenced by the thousands of acres of leases acquired for that purpose.⁴ The Department of Commerce, however, reports only 47 mining employees in that county for 1979, and these are not specifically categorized as being employed in uranium mining.

The U.S. Department of Commerce² designated the mining employees in four counties, during 1979, as belonging specifically to the nonmetallic mineral (except fuels) segment. Of the four counties, Butte had the largest portion (250 to 500) of these employees. Pennington had 100 to 250; Custer and Grant each had 20 to 100.

According to data published by the U.S. Department of Commerce, between 20 and 99 employees were engaged in oil and gas extraction within Perkins County in 1979.² According to the South Dakota Department of Labor, recently discovered oil wells have been placed in production in Fall River and Harding counties since 1979, and two natural gas wells have been discovered and flow-tested very recently in Fall River County.³ Gas exploration is extensively pursued in all counties along the western border of the state. Leasing of oil and gas rights has been intensified in all counties west of the Missouri River.

Small mining enterprises were active, in 1979, in several other counties within the state (the Department of Commerce does not categorize these enterprises according to the product extracted).² Between 20 and 99 mining employees are located in each of two counties--Campbell and Minnehaha. An even smaller number of mining employees (less than 20) are located in each of the following counties:

Brookings	Lake
Brown	McCook
Codington	Moody
Davison	Tripp
Gregory	Walworth
Hughes	Yankton.

The widespread and varied mining activities across South Dakota, coupled with intensified leasing of oil and gas rights, support the growth in mining projected by Table 4-1.

4.3 Agriculture

Economic data for agriculture are treated separately from data for nonagricultural industries because of the differences in the respective distribution of the two types of enterprises throughout South Dakota. These differences result in specialized influences for each type on land-use considerations.

Agriculture is a mainstay in South Dakota's economy. Land is farmed in each of the state's 66 counties. Data for 1979 placed the number of farms in the state at 41,500, the average size of these farms at 1095 acres, and the average farm gross income at \$45,000.⁵ Livestock accounted for 70 percent of this income, field crops for 30 percent. The acreage farmed (45.5 million acres) represents about 92 percent of the state's total area.

Figure 4-1 provides a perspective of livestock distribution in 1974 throughout the six planning districts in South Dakota.⁶ The total inventories for four major livestock categories, apportioned by district, are shown by the bar charts. Readily evident is the preponderance of cattle over either sheep or hogs throughout the state. Also evident is the leading producer in each of the four livestock categories: District 5 for cattle, District 6 for sheep, and District 3 for hogs and for poultry.

Figure 4-2 gives a similar perspective of total values for eight major crops produced in 1973.⁶ Corn predominates the other crops charted, followed by wheat. Districts 1, 2, and 3 are the major corn producers. Wheat leads the crops shown for Districts 4, 5, and 6.

Hay is another important state crop, often fed directly to the producer's livestock rather than being sold on the open market. Therefore, a total market value for hay is difficult to establish. Acres of hay

NUMBER OF CATTLE/ DISTRICT, 1974 (in thousands)

NUMBER OF SHEEP/DISTRICT, 1974 (in thousands)

NUMBER OF HOGS/DISTRICT, 1974 (in thousands)

NUMBER OF CHICKENS/DISTRICT, 1974 (in thousands)

Figure 4-1. Distribution of livestock throughout the six planning districts in South Dakota.

Figure 4-2. Total value of selected major crops, by planning district, for South Dakota.

harvested, including alfalfa, in each planning district are listed (for 1973⁶) as follows:

District 1:	479,400	District 4:	1,247,000
District 2:	157,800	District 5:	1,425,400
District 3:	730,800	District 6:	609,600.

Districts 4 and 5, which are the largest cattle producers (Figure 4-1), are also the largest producers of hay, the primary winter feed crop for cattle.

Historical trends in livestock production are given in Table 4-3.⁶ Cattle production showed extensive growth during the 1930-through-1975 period. Hog and sheep production fluctuated, but exhibited overall decline. Poultry recorded the greatest overall decline.

TABLE 4-3. HEAD OF LIVESTOCK IN SOUTH DAKOTA, 1930 TO 1975

<u>Years</u>	<u>Cattle</u> <u>1000 Head</u>	<u>Hogs</u> <u>1000 Head</u>	<u>Sheep and</u> <u>Lambs</u> <u>1000 Head</u>	<u>Chickens</u> <u>1000 Head</u>
1930	1814	2800	1189	10,180
1935	1632	600	1365	5,800
1940	1632	1226	1699	7,604
1945	2610	1585	1953	9,935
1950	2454	1442	869	9,036
1955	3301	1437	1288	8,429
1960	3262	1328	1756	8,713
1965	4196	1514	1478	7,597
1970	4237	1674	1207	5,121
1975	4950	1700	792	4,118

Table 4-4 provides historical production trends for several selected crops.⁶ The production of soybeans, introduced as a state crop in the late 1930s, showed the most consistent growth during the period. Production of barley declined markedly. Trends for other crops fluctuated during the years.

TABLE 4-4. ACRES IN SOUTH DAKOTA PLANTED IN MAJOR CROPS, 1930 TO 1975

<u>Year</u>	<u>Corn Planted 1000 Acres</u>	<u>All Wheat Planted 1000 Acres</u>	<u>Oats Planted 1000 Acres</u>	<u>Barley Planted 1000 Acres</u>	<u>Rye Planted 1000 Acres</u>	<u>Flax Planted 1000 Acres</u>	<u>Soybeans Planted 1000 Acres</u>	<u>Sorghum Planted 1000 Acres</u>
1930	5146	3864	2470	2057	460	830	0	15
1935	3910	3634	2352	2350	588	260	0	373
1940	3111	3070	2160	1976	723	308	4	1345
1945	4268	3355	3597	1381	376	456	15	390
1950	3890	3562	3474	1256	513	533	72	420
1955	4224	2542	4054	538	392	798	249	203
1960	4238	2491	2839	524	243	619	102	322
1965	3433	2294	2590	222	200	577	339	638
1970	3388	1895	2737	389	302	679	253	408
1975	3570	3240	2530	600	140	480	340	395

Table 4-5 indicates the relative importance, in 1981, of South Dakota in the nation's agriculture.⁷ South Dakota is among the top 10 states in 25 of the 42 ranking categories established by the U.S. Department of Agriculture.

Farm earnings for the state are included in the data provided in Table 4-1. In terms of 1972 dollars, these earnings grew at an average annual rate of 1.1 percent during the years 1969 through 1978. The growth rate is expected to increase modestly during the next 20 years.

4.4 Per Capita Income

For 1979, per capita income in South Dakota was \$7,334; this amount is 16 percent lower than the national level of \$8,706.⁸ Approximately 88,000 persons were living below the poverty level in 1975. This represents about 13.1 percent of the state's population for that year, compared to about 11.4 percent nationally.⁸

The civilian labor force in South Dakota numbered 337,000 in 1979. This represented a total labor force participation rate of 68.1 percent, well above the 1979 national rate of 63.7 percent.⁸

4.5 Energy Consumption

Increased mechanization in both agriculture and nonfarm industries, as well as increased appliances and sizes in residences, results in increased energy demands. The trend is evident in South Dakota, even though population growth, as discussed in Section 3, has been modest. Annual energy consumption by user classification in the state, for the period spanning 1960 through 1978, is shown in Table 4-6.⁹ As indicated by the

TABLE 4-5. SOUTH DAKOTA'S RANK IN THE NATION'S AGRICULTURE, 1981^a

Category	Rank
Rye production	1
Flaxseed production	1
Oats production	2
Sunflower seed production	3
All sheep and lambs	4
Commercial sheep slaughter	5
Durum wheat production	5
Other spring wheat production	5
Hay production other than alfalfa	5
Land in farms and ranches	6
Honey production	6
Beef cows that have calved	7
Calf crop	8
All hay production	8
Alfalfa hay production	8
Barley production	8
Harvested acreage, principal crops	8
Alfalfa seed production	8
Sorghum for grain production	8
All cattle and calves	9
Corn for grain production	9
Value of all cattle and calves on farms	10
Cattle and calves on feed	10
Fed cattle marketed	10
Commercial hog slaughter	10

a. Latest data available, first quarter 1981.

TABLE 4-6. CONSUMPTION OF ENERGY BY END-USE SECTORS WITHIN THE STATE OF SOUTH DAKOTA (Trillion Btu)

Year					Total Energy
	Residential ^a	Commercial ^a	Industrial ^a	Transportation ^a	Consumed ^b
1960	39.829	22.296	37.039	42.385	141.550
1961	42.292	23.816	36.714	44.272	147.094
1962	44.570	23.397	38.373	47.104	153.445
1963	43.485	25.227	40.000	48.652	157.364
1964	47.827	26.333	40.613	47.923	162.696
1965	48.464	25.674	39.141	46.878	160.158
1966	48.357	28.230	42.256	48.780	167.623
1967	49.057	29.513	40.664	50.267	169.501
1968	53.385	30.515	40.602	54.073	178.576
1969	56.660	31.726	44.784	53.735	186.905
1970	61.647	34.204	45.876	55.325	197.052
1971	59.859	34.137	44.488	59.777	198.261
1972	66.331	36.621	45.822	62.343	211.117
1973	61.368	37.311	47.845	61.837	208.362
1974	59.939	36.241	46.117	61.527	203.824
1975	62.143	33.794	53.076	63.218	212.232
1976	61.910	35.842	62.415	67.138	227.307
1977	61.395	34.222	71.930	69.342	236.889
1978	66.602	33.951	71.472	69.559	241.584

a. Energy sources include coal, natural gas, petroleum, and electricity (with electrical energy losses incurred in the generation and transmission of electricity).

b. Totals may not equal sum of components due to independent rounding.

tabular data, overall consumption increased steadily (with few minor annual fluctuations) until about 1973, when the oil embargo and resultant increases in energy prices influenced usage trends.

But even that influence was relatively small in South Dakota. In the industrial sector, for example, consumption increased by a factor of 1.3 during the 1960-to-1973 period (Table 4-6). After a small cutback in 1974, energy usage by industry surged upward, rapidly overtaking and exceeding 1973 consumption. By 1978, usage in that sector had nearly doubled the 1960 value. Energy used by the transportation sector also declined slightly in 1973 and 1974, but increased steadily during the subsequent four years. The commercial sector is the only one of the four that has maintained reduced energy consumption since 1973.

Table 4-7 shows the type and amounts of energy sources used during the 1960-to-1978 time span.⁹ As indicated by the included data, use of coal increased dramatically in 1975--by a factor of 3.2 over 1974 consumption--and increased again in 1976. A decline in the use of petroleum is evident for those same two years.

Figure 4-3 charts the comparative proportion of energy consumed in 1978 by each end-use sector. The industrial, transportation, and residential sectors ranked nearly equal, consuming 30, 29, and 27 percent, respectively, of the total energy used. The commercial sector used the remaining 14 percent of the total.

4.6 Electrical Generation by Nuclear Power

No nuclear plants for electrical power generation are planned in South Dakota for a projected period that extends to the year 2000.

TABLE 4-7. CONSUMPTION OF ENERGY BY TYPE, STATE OF SOUTH DAKOTA
(Trillion Btu)

Year	Coal	Natural Gas (dry)	Petroleum	Hydroelectric Power ^a	Total Energy Consumed ^b
1960	7.627	25.392	99.327	12.437	141.550
1961	7.133	26.724	103.107	12.160	147.094
1962	7.552	28.372	107.658	15.855	153.445
1963	6.900	25.939	111.536	30.493	157.364
1964	6.128	28.523	113.333	32.372	162.696
1965	6.183	27.828	109.678	40.479	160.158
1966	5.811	29.188	114.306	50.500	167.623
1967	6.046	28.623	116.371	51.426	169.501
1968	5.621	29.708	123.322	58.692	178.576
1969	5.852	34.875	124.863	66.340	186.905
1970	5.969	37.445	132.063	69.037	197.052
1971	6.093	32.819	134.517	81.497	198.261
1972	5.531	34.997	143.529	77.141	211.117
1973	6.560	31.862	142.296	50.250	208.362
1974	7.685	32.839	133.379	59.110	203.824
1975	24.757	33.204	133.390	82.484	212.232
1976	38.047	39.957	134.658	73.146	227.307
1977	37.009	36.785	143.697	55.252	236.889
1978	39.904	35.990	144.757	71.300	241.584

a. Includes industrial and utility production and net imports of electricity.

b. Totals may not equal sum of components due to independent rounding.

Figure 4-3. Consumption of energy by end-use sector in South Dakota during 1978.

4.7 References

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5. GOVERNMENT AND PUBLIC ATTITUDES

This section describes the structure of South Dakota's state government, and the governmental responsibilities related to low-level radioactive waste management. This section also lists South Dakota's representation in the U.S. Congress. Finally, public attitudes toward radioactive waste management and related issues are discussed.

5.1 State Government

South Dakota entered the Union in 1889. The state constitution divided the government into the executive, legislative, and judicial departments, with prescribed powers and duties for each.

Executive Branch

The elected officials in the executive branch are the Governor, Lieutenant Governor, Attorney General, Secretary of State, Auditor, Treasurer, and Commissioner of Schools and Public Lands. The Governor and Lieutenant Governor are elected on the same ticket; they and the other executive department officers are elected to four-year terms. The key executive officers, with respect to radioactive waste-management issues, are the Governor and the Attorney General.

The Governor of South Dakota:

- o Is responsible for the faithful execution of the law
- o May enforce compliance with any constitutional or legislative mandate
- o Convenes special sessions of the legislature
- o Makes appointments and fills vacancies for public offices

- o Is the sole official point of communication between the South Dakota government and other state governments
- o Has general veto power for all bills from the legislature, and may strike any items in an appropriations bill.

The Attorney General:

- o Represents the state in civil and criminal matters
- o Provides assistance to local prosecutors when required
- o Processes appeals brought to the South Dakota Supreme Court and, in some cases, the United States Supreme Court
- o Handles citizen complaints and provides assistance to citizens in wide-ranging areas.

Legislative Branch

South Dakota's bicameral legislature consists of the Senate and the House of Representatives. According to the state constitution, the Senate's minimum and maximum membership are 25 and 50, respectively; House membership is between 50 and 75. The legislature reapportions its membership every 10 years. As of 1980, there were 35 in the state Senate and 70 in the House of Representatives. Another reapportionment is to be completed in 1981. Both the senators and representatives serve two-year terms, with no limitations on the number of terms they may serve.

The regular session of the legislature in odd-numbered years is limited to 45 legislative days; regular sessions in even-numbered years are limited to 30 legislative days. Regular sessions are convened on the first Tuesday after the third Monday in January. Thirteen standing Senate committees and thirteen House committees study bills or resolutions and make recommendations for or against passage or amendment of specific bills.

Judicial Branch

The judicial branch plays little or no role in matters related to low-level radioactive waste management. The five justices of the Supreme Court and the Circuit Court judges are each elected in a nonpolitical election for eight-year terms.

Relevant State Agencies

In January 1981, the Department of Water and Natural Resources became the state's enforcement agency for regulations dealing with the generation, transportation, treatment, storage, and disposal of hazardous materials and wastes. (The definition for hazardous wastes and materials, as set forth in South Dakota Statutes, Section 34A-6-2, neither specifically includes nor excludes radioactive waste.) This responsibility was formerly with the state's Department of Health.

5.2 Rules and Regulations

Appendix C contains existing South Dakota laws related to low-level radioactive waste management. The following paragraphs summarize some of these laws.

According to South Dakota's statutes, Section 34-21-1.1, prior approval of the Governor or legislature is required for the containment, disposal, or deposit of high-level and nuclear fuel cycle wastes, defense wastes, nuclear wastes, radioactive substances or radioactively contaminated materials, or the processing of high-level nuclear wastes. Uranium ore and mining waste are not affected by these restrictions. The subsequent paragraphs of this statute include authorization for inspections by the enforcing agency (Water and Natural Resources Department). Chapter 44.03:01 further requires that a licensee obtain written approval of the Water and Natural Resources Department before disposing of any radioactive material.

Bills passed in recent legislative sessions include

- o Section 34-21-47,-48 (SB 65 of the 1980 session), which requires any Federal agency to notify the Governor in writing at least 72 hours any before radioactive waste can be transported through the state
- o HB 1291 (1981 session), which regulates truck transportation of hazardous materials; provides for rulemaking and penalties to be established by the Department of Water and Natural Resources.

5.3 Federal Representatives

South Dakota's Congressional delegation consists of two senators and two representatives. The names and committee assignments for these senators and congressmen are given in Table 5-1.

5.4 Public Attitudes

Although generation of low-level radioactive waste in South Dakota has been minimal, various public-interest groups have actively campaigned for more controls and bans on nuclear energy development and uranium mining. The Initiated Measure No. 2 on the November 1980 ballot would have required a majority approval by South Dakota's voters before new mining or milling, nuclear plant construction, or deposition of nuclear waste could begin. That this measure was barely defeated indicates the concerns of many South Dakotans for safety and the environment. These concerns center primarily on consequences of uranium mining in the state.

Tests in 1980 showed that in at least one case, uranium mill tailings have been used as backfill around a home in Edgemont. Other residences and buildings in Edgemont and nearby Cottonwood also had higher-than-background radiation levels. However, before these findings, the Black Hill Alliance and Black Hills Coalition had been fighting uranium mining development because of the perceived threat to the Black Hills environment.

TABLE 5-1. COMMITTEE ASSIGNMENTS FOR SOUTH DAKOTA SENATORS AND REPRESENTATIVES

Name	Party	Committees	Subcommittees
James Abnor, Senate	(R)	Appropriations ^a	Chairman, Post Office, Treasury, and General Government Agriculture Transportation ^a Energy and Water Development ^a Labor, Health, and Human Services ^a
		Energy and Public Works ^a	Chairman, Water Resources ^a Transportation ^a Toxic Substances and Environmental Oversight ^a
		Joint Committee on Economics	Agriculture and Transportation Trade, Productivity, and Economic Growth
Larry Pressler, Senate	(R)	Commerce, Science, and Transportation ^a	Chairman, Business, Trade, and Tourism Surface Transportation ^a Communication
		Foreign Relations	Chairman, Arms Control, Oceans, International Operation, and Environment ^a European Affairs Near Eastern and Southeast Asian Affairs
		Special Committee on Aging	

TABLE 5-1. (continued)

<u>Name</u>	<u>Party</u>	<u>Committees</u>	<u>Subcommittees</u>
Thomas A. Daschle, House of Representatives	(D)	Agriculture	Conservation, Credit and Rural Development Forests, Family Farms, and Energy ^a Wheat, Soybeans, and Field Grains
		Veterans Affairs	Hospitals and Health Care Education and Training Programs
Clint Roberts, House of Representatives	(R)	Agriculture	Wheat, Soybeans, and Field Grains Conservation, Credit, and Rural Development Tobacco and Peanuts
		Congressional Rural Caucus	
a. Committees that may consider low-level radioactive waste management issues.			

The South Dakota Resources Coalition, comprising various individuals and organizations, is the major lobbyist against nuclear energy development and uranium mining in the state. Member organizations of the South Dakota Resources Coalition include SDSU Great Plains Alpine Club; Lakota Audubon Society; Black Hills Energy Coalition; CRUD (Community Recyclers of Usable Discards, Sioux Falls); Dakota Environmental Council; Friends of the Earth, South Dakota Chapter; South Dakota Lung Association; National Catholic Rural Life Conference, Sioux Falls Diocese; Brookings County National Farmers Organization; Lake County National Farmers Organization; South Dakota Ornithologists Union; Dakota Chapter of the Sierra Club, South Dakota Section; Soil Association of South Dakota; and the Upper Sioux River Basin Conservancy Council.

Some articles from South Dakota newspapers on waste-management issues and a listing of newspapers and radio and television stations are presented in Appendix D.

6. SURVEY RESULTS

This section presents an analysis of low-level radioactive-waste generation and disposal practices for South Dakota licensees. Information collected by survey questionnaires sent to each licensee is first summarized for South Dakota and is then followed by a detailed analysis for each of the four categories of generators (medical, academic, industrial, and governmental). The survey methodology, survey forms, and letters used to obtain the data are presented in Appendix B.

None of the licensees responding to the survey reported shipping low-level radioactive waste to disposal facilities in the years 1978 through 1980. Data from NUS-3440¹ show that less than 1 cubic meter of waste with less than 1 curie of activity was shipped for disposal in 1979 by South Dakota licensees. In addition, according to NUS-3440, this small amount of waste was shipped to Barnwell, South Carolina, for disposal. Similar information for 1980 shows that an equivalent amount was shipped for disposal.

The following subsections present data obtained from the survey on the licensed activities, types of wastes generated, and alternative disposal methods used by the responding licensees in South Dakota.

6.1 Summary of Results

South Dakota licensees are divided into four types of low-level radioactive-waste generators, as shown in Table 6-1. From a list of South Dakota State licensees, 43 potential generators and shippers of low-level radioactive waste were identified. Survey forms, a cover letter, and general instructions were mailed to each. As indicated in Table 6-1, medical licensees are the most numerous, followed by industrial, governmental, and academic licensees. The number of licensees responding to the survey, along with the number of respondents generating waste is also shown in Table 6-1.

TABLE 6-1. SUMMARY OF LICENSEES

<u>Type of Generator</u>	<u>Number of Licensees Surveyed</u>	<u>Number of Licensees Responding</u>	<u>Number of Respondents Generating Waste</u>
Medical	17	10	9
Academic	5	4	3
Industrial	12	6	0
Governmental	<u>9</u>	<u>7</u>	<u>0</u>
Total	43	27	12

The overall survey return rate was 63 percent (27 respondents out of 43 licensees). The return rate in terms of decreasing response by generator type is: academic (80 percent, 4 out of 5), governmental (78 percent, 7 out of 9), medical (59 percent, 10 out of 17), and industrial (50 percent, 6 out of 12).

Table 6-2 gives a summary of low-level radioactive waste-disposal methods. Medical and academic licensees use the largest combination of available disposal methods, (four). Hold for decay and release to sewage systems are the two most common disposal methods. It is significant that none of the respondents incinerates the waste, buries it onsite, or ships it to disposal facilities.

The following subsections present a detailed description of the data obtained from the survey by type of licensee.

6.2 Medical Licensees

Medical licensees include hospitals, clinics, community health centers, diagnostic and radiation treatment clinics, private medical practices, and university medical schools. Of the 10 responding medical licensees, nine have indicated that they generate low-level radioactive wastes (Table 6-1).

TABLE 6-2. SUMMARY OF DISPOSAL METHODS^a

<u>Type of Generator</u>	<u>Hold for Decay</u>	<u>Release to Sewer</u>	<u>Dispose in Common Refuse</u>	<u>Vent to Atmosphere</u>	<u>Return to Manufacturer</u>
Medical	8	4	2		2
Academic	3	2	1	1	
Industrial	—	—	—	—	<u>1</u>
Total	11	6	3	1	2

a. Blank spaces indicate no response for applicable categories.

6.2.1 Licensed Activities

Licensed activities engaged in by the respondents include radiodiagnostic procedures, radiation therapy, clinical radioassay, and biological research, as listed in Table 6-3. The major licensed activities of the medical institutions primarily involve radiodiagnostic procedures and clinical radioassay.

TABLE 6-3. LICENSED MEDICAL ACTIVITIES

<u>Medical Activity</u>	<u>Number of Respondents^a</u>
Radiodiagnostic procedures	9
Radiation therapy	3
Clinical radioassay	6
Biological research	1

a. Based on all medical licensees that responded to the survey.

6.2.2 Generation and Characteristics of Wastes

Table 6-4 shows that 90 percent of the licensed respondents generated low-level radioactive waste and that the number of these generators remained constant, at nine, for the three surveyed years (1978, 1979, and 1980). The type of waste most frequently generated during this period was dry, compressible waste material including paper, cloth, plastic, and glass (see Table 6-5).

One of the licensees classified the chemical form of the generated waste as flammable.

6.2.3 Waste-Disposal Methods

Included in Table 6-2 is a listing of low-level radioactive waste-disposal methods that were reported to be used by the 10 responding medical licensees. Methods most commonly used were: onsite storage of

TABLE 6-4. GENERATION OF LOW-LEVEL RADIOACTIVE WASTE BY MEDICAL LICENSEES

Did Your Facility Generate Low-Level Radioactive Waste?	Number of Respondents		
	1978	1979	1980
Yes	9	9	9
No	<u>1</u>	<u>1</u>	<u>1</u>
Total	10	10	10

TABLE 6-5. TYPE AND PERCENTAGE OF LOW-LEVEL RADIOACTIVE WASTE GENERATED BY MEDICAL LICENSEES

Waste Type	Percentage of Low-Level Waste ^{a,b}											
	1978				1979				1980			
	<25	25-50	51-75	>75	<25	25-50	51-75	>75	<25	25-50	51-75	>75
Dry compressible		1		5		1		5	1	1		5
Liquid scintillation wastes	1		1		1		1		1		1	
Aqueous liquids	3			2	3			2	3			3
Biological wastes:												
Patient excreta	1				1				1			

a. Numbers indicate the total number of respondents in each category; blank spaces indicate no response for applicable categories.

b. Based on nine responses to the survey for each of the years 1979, 1978, and 1980.

wastes for radioactive decay and release of wastes to sewage systems. Other methods listed included disposal in common refuse, venting to the atmosphere, and return of the materials to the manufacturer. Table 6-6 shows the specific type of waste disposed along with the disposal methods used by medical licensees. An individual licensee may use more than one disposal method. As reflected by the data in both Tables 6-2 and 6-6, incineration, vent to the atmosphere, ship for disposal, and bury onsite were not reported as an alternative disposal methods by the medical respondents.

6.3 Academic Licensees

Academic licensees include public universities and colleges as well as private and community colleges. Medical schools are, however, included in the medical licensee category.

6.3.1 Licensed Activities

Four academic licensees responded to the low-level radioactive waste survey by returning completed questionnaires. Table 6-7 indicates that licensed activities of these universities and colleges involve instructional or classroom use of radioactive materials, as well as biological, nonbiological, environmental, material analysis, chemical, and physics research activities.

6.3.2 Generation and Characteristics of Wastes

Table 6-8 indicates that 75 percent of the respondents generated low-level radioactive waste during the 1978 to 1980 period. The waste forms generated by these institutions as listed in Table 6-8 were dry compressibles, consisting of paper, cloth, plastic, and glass; liquid scintillation fluids, aqueous liquid, gaseous wastes, and biological wastes. One of the responding licensees characterized the chemical form of the waste as flammable.

TABLE 6-6. LOW-LEVEL RADIOACTIVE WASTE-DISPOSAL METHODS USED BY MEDICAL LICENSEES

Waste Type	Disposal Method Used ^a								
	Hold for Decay			Release to Sewer			Vent to Atmosphere		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Dry compressible ^b	7	7	7				1	1	1
Liquid scintillation wastes ^c	2	2	2						
Filters, filter cartridges ^d									
Evaporator concentrates ^d	1	1	1						
Aqueous liquids ^e	1	1	1	3	3	4	1	1	1
Biological wastes:									
Patient excreta ^d				1	1	1			
Gaseous wastes ^d									

TABLE 6-6. (continued)

Waste Type	Disposal Method Used ^a												Number of Responses		
	Bury Onsite			Other			Ship for Disposal			Return Manufacturer					
	1978	1979	1980	1978	1979	1980	1978	1979	1980	1978	1979	1980	1978	1979	1980
Dry compressible													7	7	7
Liquid scintillation wastes ^c													2	2	2
Filters, filter cartridges										1	1		1	1	1
Evaporator concentrates													1	1	1
Aqueous liquids										1	1		4	4	5
Biological wastes:															
Patient excreta													1	1	1
Gaseous wastes													1	1	1

a. Numbers indicate the total number of respondents in each category; blank spaces indicate no response for applicable categories.

b. Based on seven responses for each of the years 1978, 1979, and 1980.

c. Based on two responses for each of the years 1978, 1979, and 1980.

d. Based on one response for each of the years 1978, 1979, and 1980.

e. Based on four responses for each of the years 1978 and 1979 and five responses for the year 1980.

TABLE 6-7. LICENSED ACADEMIC ACTIVITIES

<u>Academic Activity</u>	<u>Number of Respondents</u>
Biological research	3
Nonbiological research	1
Environmental research	2
Material analysis	1
Physics research	1
Chemical research	2
Educational or classroom use	4

TABLE 6-8. GENERATION OF LOW-LEVEL RADIOACTIVE WASTE BY ACADEMIC
LICENSEES

Did Your Facility Generate Low-Level Radioactive Waste?	Number of Respondents		
	<u>1978</u>	<u>1979</u>	<u>1980</u>
Yes	3	3	3
No	<u>1</u>	<u>1</u>	<u>1</u>
Total	4	4	4

6.3.3 Waste-Disposal Methods

The four responding academic licensees used several alternative disposal methods for the low-level radioactive waste they generated. Table 6-9 shows the specific type of wastes disposed along with all reported methods used for disposal. An individual respondent may use more than one disposal method. Four alternative disposal methods not used by academic licensee respondents were incineration, bury onsite, return to manufacturer, and ship for disposal.

6.4 Industrial Licensees

Industrial licensees include manufacturers of radiopharmaceuticals, testing and industrial research laboratories, and equipment manufacturers.

6.4.1 Licensed Activities

Table 6-10 lists the reported licensed activities of the six industrial licensees that responded to the survey. Industrial licensees are involved in two types of specific activities: quality-control testing procedures and monitoring services. The largest percentage of industrial licensees, however, failed to identify and characterize the licensed activities.

6.4.2 Generation and Characteristics of Wastes

Only a minority of the responding industrial licensees, one out of six or 17 percent, indicated that they generate low-level radioactive waste. Additionally, as shown in Table 6-11, this percentage of industrial licensees remained constant from 1978 through 1980. Two general types of waste forms are reported by industrial licensees: gaseous waste (less than 25 percent of their total waste) and sealed sources (more than 75 percent of their total waste).

TABLE 6-9. TYPE AND PERCENTAGE OF LOW-LEVEL RADIOACTIVE WASTE GENERATED BY ACADEMIC LICENSEES

Type of Waste	Percentage of Low-Level Waste ^{a,b}											
	1978				1979				1980			
	<25	25-50	51-75	>75	<25	25-50	51-75	>75	<25	25-50	51-75	>75
Dry compressible	1	1			1	1			1	1		
Liquid scintillation wastes	1	1			1	1			1	1		
Aqueous liquids	1	1		1	1	1		1	1	1		
Biological wastes:												
Animal Carcasses	2				2				2			
Gaseous wastes		1				1				1		

a. Numbers indicate the total number of respondents in each category; blank spaces indicate no response for the applicable categories.

b. Based on three responses to the survey for each of the years 1978, 1979, and 1980.

TABLE 6-10. LICENSED INDUSTRIAL ACTIVITIES

<u>Industrial Activity</u>	<u>Number of Respondents^a</u>
Quality control testing	1
Monitoring services	1
Other ^a	5

a. The respondents failed to characterize their licensed activity.

TABLE 6-11. GENERATION OF LOW-LEVEL RADIOACTIVE WASTE BY INDUSTRIAL LICENSEES

<u>Did Your Facility Generate Low-Level Radioactive Waste?</u>	<u>Number of Respondents</u>		
	<u>1978</u>	<u>1979</u>	<u>1980</u>
Yes	1	1	1
No	<u>5</u>	<u>5</u>	<u>5</u>
Total	6	6	6

6.4.3 Waste-Disposal Methods

The industrial licensees reportedly used two disposal methods for their low-level radioactive waste--return to manufacturer and other (the respondent failed to characterize the disposal method).

6.5 Governmental Licensees

This waste-generator category included Federal, state, and local government agencies and institutions. Department of Defense facilities, except for weapons programs, were also included. Of the 16 responding governmental institutions, none indicated that they generate low-level radioactive waste (Table 6-1). Government-operated hospitals were included in the separate, medical licensee category.

APPENDIX A

LICENSEES

APPENDIX A

LICENSEES

The following appendix lists all low-level radioactive waste licensees in South Dakota by name, type of organization, and response to survey.

SOUTH DAKOTA

<u>Licensee Name and Address</u>	<u>Delivered</u>		<u>Response</u>		<u>Type of Licensee</u>
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	
Department of the Air Force 44th Strategic Missile Wing Ellsworth AFB, SD 57706	x			x	Government
Augustana College Sioux Falls, SD 57197	x		x		Academic
Banner Associates Inc. 1024 6th Street Brookings, SD 57006	x		x		Industrial
Brady Consultants Inc. Engineering Department 550 Colorado Boulevard Spearfish, SD 57783	x		x		Industrial
Dakota Midland Hospital Pathology Department 1400 15th Avenue N.W. Aberdeen, SD 57401		x		x	Medical
Dale Electronics Inc. East Highway 50 P.O. Box 180 Yankton, SD 57078	x		x		Industrial
Electro-Test and Maintenance Inc. P.O. Box 1527 Rapid City, SD 57709	x			x	Industrial
Francis-Meador-Gellhaus Inc. Consulting Engineers, Land Surveyors, Materials Engineers 1823 West Main Street Rapid City, SD 57701	x		x		Industrial
Department of Health Education and Welfare Aberdeen Area Indian Health Service Office of Environmental Health 309 Federal Building Aberdeen, SD 57401	x		x		Government
Hensel Phelps Construction Co. P.O. Box 36 Mission, SD 57555		x		x	Industrial

SOUTH DAKOTA

<u>Licensee Name and Address</u>	<u>Delivered</u>		<u>Response</u>		<u>Type of Licensee</u>
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	
Homestake Mining Company P. O. Box 875 Lead, SD 55754	x		x		Industrial
Huron Regional Medical Center 4th and Iowa S.E. Huron, SD 57350	x		x		Medical
Department of the Interior Aberdeen Area Office Bureau of Indian Affairs 115 4th Street SE Aberdeen, SD 57401	x		x		Government
Laboratory of Clinical Medicine 1212 South Euclid Sioux Falls, SD 57105	x		x		Medical
Paul R. Leon, M.D. 315 Professional Arts Building Aberdeen, SD 57401	x		x		Medical
Judson O. Mabee, M.D. Mabee Clinic 305 North Sanborn Mitchell, SD 57301	x			x	Medical
McKenna Hospital 800 East 21st Street Sioux Falls, SD 57101	x		x		Medical
Medical X-Ray Center, P.C. Department of Radiotherapy 1417 South Minnesota Avenue Sioux Falls, SD 57105	x		x		Medical
Mobridge Community Hospital Mobridge, SD 57601	x		x		Medical
Pete Lien & Sons Inc. P.O. Box 440 Rapid City, SD 57709	x			x	Industrial
Pierce & Harris Engineering Co. Inc. Suite 15 Masonic Bldg. Huron, SD 57350	x		x		Industrial

SOUTH DAKOTA

<u>Licensee Name and Address</u>	<u>Delivered</u>		<u>Response</u>		<u>Type of Licensee</u>
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	
Rapid City Regional Hospital Inc. Isotope Laboratory 353 Fairmont Blvd. Rapid City, SD 57701	x		x		Medical
City of Rapid City City Engineering Development 22 Main Street Rapid City, SD 57701	x		x		Government
Sacred Heart Hospital Department of Radiology Yankton, SD 57078	x		x		Medical
City of Sioux Falls Engineering Department 224 West 9th Street Sioux Falls, SD 57102	x		x		Government
Sioux Valley Hospital Association Department of Pathology 19th and Euclid Street Sioux Falls, SD 57105	x			x	Medical
South Dakota Department of Highways East Broadway Pierre, SD 57501	x		x		Government
South Dakota School of Mines & Technology Engineering and Mining Experiment Station 500 East St. Joseph Street Rapid City, SD 57701	x		x		Academic
South Dakota State University Brookings, SD 57006	x		x		Academic
State of South Dakota Department of Health State Capitol Building Pierre, SD 57501	x		x		Government

SOUTH DAKOTA

<u>Licensee Name and Address</u>	<u>Delivered</u>		<u>Response</u>		<u>Type of Licensee</u>
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	
State of South Dakota Department of Military & Veterans Affairs State Capitol Building Pierre, SD 57501	x		x		Government
University of South Dakota School of Medicine Dakota and Clark Street Vermillion, SD 57069	x			x	Academic
University of South Dakota Vermillion, SD 57069	x		x		Academic
St. Joseph Hospital Fifth and Foster Mitchell, SD 57301	x			x	Medical
St. Luke's Hospital 305 South State Street Aberdeen, SD 57401	x		x		Medical
St. Mary's Hospital 803 East Dakota Pierre, SD 57501	x		x		Medical
T&R Electrical Supply Company Inc. P.O. Box 180 Colman, SD 57017	x		x		Industrial
Trident Engineers Inc. Box 641 Fort Pierre, SD 57532	x		x		Industrial
Veterans Administration Center Hot Springs, SD 57747	x		x		Medical
Veterans Administration Center Royal C. Johnson Veterans Memorial Hospital 2501 West 22nd Street Sioux Falls, SD 57101	x		x		Medical
Drs. Wood, Hewitt, Haugan, Kunz, Deweld 716 Quincy Street Rapid City, SD 57701	x			x	Medical

SOUTH DAKOTA

<u>Licensee Name and Address</u>	<u>Delivered</u>		<u>Response</u>		<u>Type of Licensee</u>
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>	
City of Yankton Engineering Department City Hall 5th & Walnut St. Yankton, SD 57078	x		x		Government.
3M Company/Health Physics Services 3M Center, 220-02-E-02 St. Paul, MN 55144	x		x		Industrial

APPENDIX B

SURVEY METHODOLOGY

INTRODUCTION

Appendix B presents the survey methodology used to gather and analyze low-level radioactive waste information for South Dakota. The survey questionnaire, Figure B-1, was designed to obtain information on the flow of low-level radioactive waste from generation to disposal for each of the following waste generator categories: medical, academic, industrial, government, and commercial power reactor. The questionnaire was designed to gather information as accurate as possible in an aggregate form by type of waste generator.

The following presents a list of the types of information elicited to obtain a complete profile of low-level radioactive waste generation and disposal practices for each of the categories noted above:

- o Characterization of institutions and their licensed activities
- o Physical characteristics of the waste generated
- o Description of waste disposal methods
- o Description of waste processing methods
- o Radionuclides and activity levels of the shipped waste
- o Volume of waste shipped
- o Types of containers used
- o Identification of commercial disposal sites and disposal services used
- o Number of waste shipments made and direct total costs of waste disposal
- o Expected trend in future waste volume shipment

A list of potential low-level radioactive waste generators and shippers was supplied by the Nuclear Regulatory Commission.

The list of South Dakota licensees is contained in Appendix A. Each licensee was mailed a survey form (Figure B-1), general instructions (Figure B-2), and a cover letter (Figure B-3). After approximately 30 days, a second letter (Figure B-4) and questionnaire (Figure B-5) were mailed to those licensees that had not responded to the first mailing. The information obtained from the survey is presented in Section 6.

EG&G Idaho, Inc.
Low-Level Waste Management Program
P.O. Box 1625
Idaho Falls, ID 83415

K.F. Downs
(208) 526-0026
FTS 583-0026

Low-Level Radioactive Waste Survey

S.E. Everette
(208) 526-0625
FTS 583-0625

Please answer all questions as best you can. If you are uncertain about any of the quantitative data, give rough approximations. All responses will be kept confidential. The numbers next to the answers are for keypunching and should be ignored.

If you keep records for divisions of your organization located at other sites, make sure your answers reflect waste practices at these sites as well as at your own. If you receive more than one questionnaire, please fill out one, but return the others as well so that we can update our records.

Call S.E. Everette or K.F. Downs at the above number if you have any questions.

1. LICENSEE NAME _____

FACILITY NAME _____

STREET ADDRESS _____

PERSON COMPLETING QUESTIONNAIRE _____

TELEPHONE _____

2. TYPE INSTITUTION AND LICENSED ACTIVITIES
(CHECK AS MANY AS APPLY)

		Government: Federal _____
		State _____ Local _____
<u>Medical (Hospitals, medical labs)</u>		
Radiodiagnostic procedures	_____ 5	Energy/physics/nuclear research _____ 6
Radiation therapy	_____ 6	Defense programs _____ 7
Clinical radioassay	_____ 7	Medical research _____ 8
Biological research	_____ 8	Educational/classroom use _____ 9
Other _____	_____ 9-20	Non-destructive testing _____ 10
(SPECIFY)		(SPECIFY) _____ 11-22
<u>Industrial</u>		<u>Academic</u>
Non-destructive testing		Biological research _____ 27
(radiography) _____ 25		Non-biological research _____ 28
Quality control testing		Environmental research _____ 29
procedures _____ 26		Materials analysis _____ 30
Monitoring services _____ 27		Physics research _____ 31
Sealed source manufacture _____ 28		Chemical research _____ 32
Product monitoring _____ 29		Instructional or classroom use _____ 33
Material activation _____ 30		Product activation
Radiopharmaceutical production _____ 31-42		(Charged particle accelerators,
Other _____ 43-54		research reactors) _____ 34
(SPECIFY)		(SPECIFY) _____ 35-46
<u>Commercial Nuclear Power</u> _____ 1		

If your institution's activities fall into more than one of the types listed above (e.g. a hospital affiliated with a university), which category comprises the bulk of your use of radioactive materials? _____

Medical Industrial Academic Commercial

(Check appropriate cat.)

Figure B-1. Low-Level Radioactive Waste Survey

3. Did your facility generate low-level radioactive waste in:

IF NO RADIOACTIVE WASTE WAS
GENERATED FOR ALL THREE YEARS,
YOU HAVE COMPLETED THE
QUESTIONNAIRE. PLEASE RETURN IT
IN THE ENVELOPE PROVIDED.

1978 Yes _____ No _____ 1
1979 Yes _____ No _____ 2
1980 Yes _____ No _____ 3

4. TYPE OF LOW-LEVEL RADIOACTIVE WASTE GENERATED. Please indicate how much of each waste type your facility generated each year. Indicate the waste type as an approximate **percentage** ($\pm 5\%$) of the total volume of radioactive waste you generated. If no waste of a type is generated, leave that row blank.

TYPE OF WASTE	Percentage of total 1978 radioactive waste	Percentage of total 1979 radioactive waste	Percentage of total 1980 radioactive waste	
Dry compressible (e.g., paper, cloth, plastic, vials, syringes)				8-18
Dry non-compressible (e.g., contaminated and/or irradiated equipment, etc.)				19-29
Liquid scintillation wastes				30-40
Slurry/Resins/Sludges				41-51
Filters/Filter cartridges				52-62
Evaporator concentrates				63-73
Aqueous liquids				1-11
Organic liquids				12-22
Biological wastes:				
Animal carcasses				23-33
Patient excreta				34-44
Other:				45-55
Gaseous wastes				66-76
Sealed sources				1-11
Activation products (accelerators)				12-22
Other (please specify below)				
	100%	100%	100%	23-29

5. Can any of the radioactive waste you generate be classified as: (Use Dept. of Transportation classification guides.)
(CHECK AS MANY AS APPLY)

Corrosive _____ 1
Chemically toxic _____ 2
Flammable _____ 3
Volatile _____ 4
Other _____ 5-15
None of the above _____ 16 (SPECIFY)

Figure B-1. Low-Level Radioactive Waste Survey

5. Please check the final disposal method or methods used for each type of waste generated by your institution in 1978, 79, and 80.
For types not generated, leave corresponding rows blank.

DISPOSAL METHOD

Type Waste	Dispose of as radioactive waste																												
	Hold for decay-dispose as non-radioactive waste			Release to Sewer			Dispose in Common Refuse			Incinerate			Vent to Atmosphere			Bury on Site			Other (Specify Below)			Ship for Disposal				Return to Manufacturer			
	78	79	80	78	79	80	78	79	80	78	79	80	78	79	80	78	79	80	78	79	80	78	79	80		78	79	80	
Dry compressible (e.g., paper, cloth, glass, plastic)																													1-30
Dry non-compressible (e.g., contaminated and/or irradiated equipment, etc.)																													31-61
Liquid scintillation wastes																													1-30
Slurry/resins/sludges																													31-61
Filters/filter cartridges																													1-30
Evaporator concentrates																													31-61
Aqueous liquids																													1-30
Organic liquids																													31-61
Biological wastes:																													
animal carcasses																													1-30
patient excreta																													31-61
other: _____																													1-30
Gaseous wastes																													31-61
Sealed sources																													1-30
Activation products (accelerators)																													31-61
Other waste types (SPECIFY BELOW)																													1-30

If in Question 6 you indicated that wastes were not shipped for disposal during 1978, 79, and 80, you have completed the questionnaire. All subsequent questions relate only to wastes shipped for disposal.

Figure B-1. Low-Level Radioactive Waste Survey

7. What was the total volume in cubic meters or cubic feet of waste shipped off-site for disposal during each year? Please indicate quantity and circle units.

1978 $\frac{\text{ft}^3}{1-4} \frac{\text{m}^3}{6-7}$ 1979 $\frac{\text{ft}^3}{8-12} \frac{\text{m}^3}{13-14}$ 1980 $\frac{\text{ft}^3}{15-19} \frac{\text{m}^3}{20-21}$

8a. What was the total activity from all sources of the waste shipped from your facility for each of the following years? (Give quantity and circle units; allow one digit for each block including the decimal.)

1978			1979			1980		
Quantity	Units		Quantity	Units		Quantity	Units	
$\frac{\text{Ci}}{22-27} \frac{\text{mCi}}{30} \frac{\mu\text{Ci}}{31-32}$			$\frac{\text{Ci}}{35-42} \frac{\text{mCi}}{45} \frac{\mu\text{Ci}}{46-47}$			$\frac{\text{Ci}}{50-55} \frac{\text{mCi}}{58} \frac{\mu\text{Ci}}{59-61}$		

8b. Are these values decay corrected? Yes ☐ No ☐ 65

9. Identify the principal radionuclides making up the bulk activity of the waste shipped off-site for disposal for each of the following three years. Please give quantities to two significant digits (e.g., 2500 Ci or 1.5 mCi) and indicate units by circling Ci, mCi, or μCi .

Radionuclide	1978		1979		1980		
	Quantity	Units	Quantity	Units	Quantity	Units	
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	34-51
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	1-16
		Ci mCi μCi		Ci mCi μCi		Ci mCi μCi	17-33

Figure B-1. Low-Level Radioactive Waste Survey

10. Is the waste you ship processed prior to shipment? Yes _____ No _____

If yes, what processing methods are used? (CHECK AS MANY AS APPLY)

- Volume reduction for solids
 - Compaction _____ 5
 - Incineration, ship residue _____ 6
- Volume reduction for liquids
 - Evaporation _____ 7
 - Filtration _____ 8
 - Ion exchange _____ 9
 - Other (centrifugation, reverse osmosis, fluid bed dryer/calclner) _____ 10
- Solidification
 - In plaster of paris _____ 11
 - In cement _____ 12
 - In polymer _____ 13
 - In bitumen _____ 14
 - Other _____ 15-25
(SPECIFY)
- Absorption of liquids through:
 - Vermiculite _____ 26
 - Microcel _____ 27
 - Diatomaceous earth _____ 28
 - Other _____ 29-39
(SPECIFY)
- On-site storage for decay
 - Less than one year _____ 40
 - One year or more _____ 41

11a. To which commercial disposal site did you ship your waste and what **percentage** of the shipped waste went to each?

	78	79	80
Barnwell, South Carolina	_____ 1-3	_____ 4-7	_____ 8-11
Richland (Hanford), Washington	_____ 12-15	_____ 16-19	_____ 20-23
Beatty, Nevada	_____ 24-27	_____ 28-31	_____ 32-35
Other _____ (SPECIFY)	_____ 36-46	_____ 47-50	_____ 51-54 _____ 55-58

11b. Does your facility use commercially available low-level radioactive waste disposal services (waste brokers)?

Yes _____ No _____ 59

(IF YES)

Disposal service utilized _____
(NAME AND ADDRESS) _____

60-70

12. How many shipments of radioactive wastes did you make in:

1978 _____ 1979 _____ 1980 _____ 1981 (to date) _____
1-3 4-7 8-11 12-15

13. What type of shipping containers are used most often?

55 gallon steel drums: Type A _____ LSA _____ 20

Fiberboard or wooden boxes: Type A _____ LSA _____ 21

Shipping casks (Type B): With disposable liner _____ Without disposable liner _____ 22

30 gallon steel drums: Type A _____ LSA _____ 23

Other _____ 24-34
(SPECIFY)

14. Excluding labor expenses, what were the total costs of radioactive waste disposal at your facility in:

1978 _____ 1979 _____ 1980 _____ 1981 (to date) _____
40-45 46-51 52-57 58-63

15. Is the waste volume shipped off-site by your facility expected in the next several years to:

Increase _____ Remain the same _____ Decrease _____ 65

Feel free to make additional comments. Thank you very much for your cooperation.

EG&G Idaho, Inc.
Low-Level Waste Generator Survey

General Instructions

1. The enclosed Radioactive Waste Survey is self-explanatory. The following instructions provide general guidelines. If you have any specific concerns, please call:

K.F. Downs S.E. Everette
(208) 526-0026 or (208) 526-0625
FTS 583-0026 FTS 583-0625

NOTE: Please complete all applicable questions whether or not your facility generates radioactive waste. If your facility does not generate waste, complete questions 1 through 3 and return the survey.

2. If possible, all quantitative data should be taken directly from shipment records. If this is not practical, please estimate answers as accurately as possible. We prefer to have actual data rather than estimates.
3. Please explain or specify answers (where requested) as completely as possible. If additional space is needed, please use the "Additional Comments" section on the last page of this questionnaire.
4. When you have completed this questionnaire, please return it in the enclosed stamped, self-addressed envelope.
5. If your facility does not dispose of radioactive materials by using the commercial radioactive material disposal sites, please fill out the survey form with the amount of material received in each year and where those radioactive materials received were disposed of (e.g., isotopes used in patient treatment, residues decayed to background, disposed in trash, or shipped out in finished products).

Figure B-2. Low-Level Waste Generator Survey

P.O. BOX 1625, IDAHO FALLS, IDAHO 83415

LOW-LEVEL RADIOACTIVE WASTE SURVEY - SEE-1-81

Dear :

EG&G Idaho, Inc., a contractor to the Department of Energy, is responsible for coordinating the development of a national program for the management of low-level radioactive wastes. The program has identified the need to clarify the scope and type of low-level waste generated and the practices used in managing these wastes. To provide such information, briefing books on low-level waste management are being developed for each state.

These state briefing books will include data on economic, demographic, governmental, and public interest factors that influence low-level waste management practices. Information on the volume, sources, physical forms, and projections of low-level waste will be a major feature of the briefing books.

EG&G Idaho, Inc., in cooperation with the South Dakota Sanitation and Safety Program, is surveying all Nuclear Regulatory Commission licensees to collect data on waste generation in South Dakota.

Data obtained from this survey will be kept confidential and will only be reported in aggregated form by type of low-level waste generators (commercial power reactors, medical institutions, etc.). It will be used to obtain a profile of low-level waste generated in South Dakota and assist in the consideration of alternative approaches in developing a low-level waste management program. This information should enable the national program to respond better to public concerns, government interest, and the desire on the part of the private sector to properly manage low-level waste in the United States.

Please complete the survey and return it within five days in the enclosed self-addressed, stamped envelope. The more detailed the information you provide, the more meaningful the results of the survey.

Please feel free to obtain further information on the national program, the briefing books, or the survey by contacting either of the EG&G Idaho, Inc., program specialists listed below.

Very truly yours,

S. E. Everette
(208) 526-0625

K. F. Downs
(208) 526-0026

amw

Figure B-3. Cover Letter

P.O. BOX 1625, IDAHO FALLS, IDAHO 83415

July 24, 1981

Dear :

EG&G Idaho, Inc. is a contractor for the U.S. Department of Energy on the project to develop state briefing books on low-level radioactive waste concerns.

A major feature of these briefing books will be information on the volume, sources, physical forms and projections of low-level wastes. Since your organization holds a license, a survey form was forwarded to you during May, however to date we have received no response.

The information you provide will be used to obtain a profile of low-level waste generated in South Dakota and assist in the consideration of alternative approaches in developing a low-level waste management program; therefore, responding to this request is in your own interest.

As of mid-July, we have not received a completed survey from you. If you have not received a survey form, please check the appropriate category on the enclosed form and mail it to me. If you are still in the process of completing the survey form, please contact me to resolve any questions. If any one of the three latter categories is applicable, please check the appropriate category and return the enclosed form to me.

Let me close by stressing that the information we are requesting is vital to the validity of this study and that all responses will remain confidential.

Sincerely,

Karen F. Downs
Program Specialist
Low-Level Waste Management Program

amw

Enclosure:
As stated

Figure B-4. Followup Letter

FROM

MR. S. E. EVERETTE
P. O. Box 1625
IDAHO FALLS, ID 83415

PLEASE CHECK THE APPROPRIATE BOX:

- ☐ I HAVE NOT RECEIVED THE LOW LEVEL WASTE GENERATOR SURVEY.
- ☐ I HAVE RECEIVED THE SURVEY AND INTEND TO SEND IT BACK.
- ☐ I HAVE ALREADY SENT IT BACK.
- ☐ USE ONLY SEALED SOURCES.
- ☐ USE NO NUCLEAR MATERIAL.
- ☐ USE NUCLEAR MATERIALS, BUT GENERATE NO RADIOACTIVE WASTE.

Figure B-5. Follow-up Form

APPENDIX C

STATE RULES AND REGULATIONS FOR

RADIOACTIVE WASTE MANAGEMENT

IN SOUTH DAKOTA

APPENDIX C

This Appendix contains the pertinent sections of the statutes, regulations and legislation cited in Section 5 of this handbook. The contents of the Appendix, in the order included, are:

- o State of South Dakota Statutes Concerning Radiation Exposure Control
- o State of South Dakota Statutes Concerning Radiation Safety
- o State of South Dakota Statutes Concerning Radiation Resource Exposure Control
- o State of South Dakota Statutes Concerning Solid Waste Disposal
- o Executive Order Reorganizing the Department of Water and Natural Resources
- o Legislative Bills

House Bill No. 1291

House Bill No. 1119

**State of South Dakota Statutes
Concerning Radiation Exposure Control**

Such rule-making power shall include, but not be limited to, the authority to provide such rules as are necessary to comply with the requirements of any federal act and regulations thereunder, under which the department receives grants or aid; to make regulations governing the protection of records and confidential information.

Source: SL 1974, ch. 264; SDCL
Supp. § 39-17-153.1.

34-20B-113. Severability of provisions and applications. If a provision of this chapter is held unconstitutional or invalid, all constitutional or valid provisions that are severable shall remain in effect. If a provision of this chapter is held unconstitutional or invalid in one or more of its applications, the provision shall remain in effect in all its valid applications that are severable.

Source: SL 1970, ch 229, § 15; SDCL
Supp. § 39-17-154.

34-20B-114. Citation of chapter. This chapter may be cited as the State Drugs and Substances Control Act.

Source: SL 1970, ch 229, § 17; SDCL
Supp. § 39-17-155.

SL 1970, was invalid because the law was not "necessary for the support of government and its existing institutions." State v. Van Loh (1971) 86 SD 22, 191 NW 2d 294.

Emergency Clause Invalid.

The emergency clause of chapter 229.

CHAPTER 34-21

RADIATION EXPOSURE CONTROL

Section

- 34-21-1. State policy as to uses of radiation.
- 34-21-1.1. Activities for which legislative approval required — Ore and mine tailings excepted.
- 34-21-2. Definition of terms.
- 34-21-3. Governor's agreement for discontinuance of federal responsibility — Funds available for establishment of protection program.
- 34-21-4. Department of health as enforcement agency — Functions of secretary.
- 34-21-5. Employment of personnel by agency — Delegation of functions.
- 34-21-6. Training programs to qualify personnel — Participation in federal and interstate programs.
- 34-21-7. Development of comprehensive policies and programs.
- 34-21-8. Investigations and research in radiation problems.
- 34-21-9. Consultation and co-operation with federal, public and other agencies.
- 34-21-10. Acceptance and administration of loans and grants.
- 34-21-11. Collection and dissemination of information.
- 34-21-12. Adoption and enforcement of rules and regulations.
- 34-21-13. Programs for regulation and inspection.
- 34-21-14. Incidental powers of agency.
- 34-21-15. Rules and regulations for control of radiation.
- 34-21-16. Unauthorized use of radioactive materials as misdemeanor.
- 34-21-17. Opinions on construction plans for protection from radiation.
- 34-21-18. Licensing and registration of ionizing radiation sources.
- 34-21-19. Rules and regulations for licensing of nuclear materials and equipment.
- 34-21-20. Registration or licensing required for handling of radioactive materials -- Misdemeanor — Exemption of materials without hazard.

- 34-21-21. Recognition of other state or federal licenses — Previously issued federal license.
- 34-21-22. Notice to secretary of extension or alteration of program by registrant or licensee — Failure to notify as misdemeanor.
- 34-21-23. Unauthorized exposure to diagnostic or therapeutic radiation as misdemeanor.
- 34-21-24. Records required with respect to ionizing radiation sources.
- 34-21-25. Individual exposure records for ionizing radiation.
- 34-21-26. Records submitted to agency on request.
- 34-21-27. Individual exposure records furnished to employees.
- 34-21-28. Access of agency personnel to premises for inspection and investigations — Examination and maintenance of records.
- 34-21-29. Inspection of radiation sources to determine compliance.
- 34-21-30. Inspections for radiation hazards — Report to operator.
- 34-21-31. Orders abating discharge of radioactive material.
- 34-21-32. Impounding of radiation sources for violations.
- 34-21-33. Files maintained by agency.
- 34-21-34. Procedure on license matters.
- 34-21-35. Notice of suspected violations — Opportunity for hearing.
- 34-21-36. Order finding violation — Forwarding to violator.
- 34-21-37. Hearing on suspected violation — Hearing officers.
- 34-21-38. Findings and decision.
- 34-21-39. Emergency order to protect public health and safety — Immediate effect.
- 34-21-40. Hearing on emergency order — Finality of order.
- 34-21-41. Appeal from agency order or determination.
- 34-21-42, 34-21-43. Omitted.
- 34-21-44. Violation as misdemeanor — Injunction — Each day as separate violation.
- 34-21-45. Injunction proceedings brought by attorney general.
- 34-21-46. Chapter supplementary to other legislation.

COMMISSION NOTE

Section 27, ch 3, SL 1974, abolished the position of state health officer and transferred its functions to the secretary of health. See §§ 1-43-2 and 34-1-7.1. The code commission has made text changes to show this change throughout this chapter.

34-21-1. State policy as to uses of radiation. Whereas radiation can be instrumental in the improvement of health, welfare, and productivity of the public if properly utilized, and may impair the health of the people and the industrial and agricultural potentials of the state if improperly utilized, it is hereby declared to be the public policy of this state to encourage the constructive uses of radiation and to control any associated harmful effects.

Source: SL 1957, ch 122, § 1; SDC Supp 1960, § 27.17A01.

Collateral References.

Liability for injury by X-ray, 41 ALR 2d 329.

Tort liability incident to nuclear accident or explosion, 21 ALR 3d 1356.

34-21-1.1. Activities for which legislative approval required — Ore and mine tailings excepted. The containment, disposal or deposit of high level nuclear wastes, radioactive substances or radioactively contaminated materials or the processing of high level nuclear wastes shall not be established, allowed or permitted within the boundaries of the state of South Dakota, unless prior approval has been granted by the Legislature, except that uranium ore or uranium mine tailings shall not be affected by this section.

Source: SL 1977, ch 283.

34-21-2. Definition of terms. For the purposes of this chapter, the following words and phrases mean:

- (1) Radiation or ionizing radiation, gamma rays or X-rays, alpha and beta particles, high-speed electrons, neutrons, protons, and other nuclear particles; but not sound or radio waves, or visible, infrared or ultraviolet light.
- (2) Radiation machine, any device that produces radiations when the associated control devices are activated.
- (3) Radioactive material, any material, solid, liquid, or gas which emits radiation spontaneously.
- (4) Nuclear energy, all forms of energy released in the course of nuclear fission or nuclear transformation.
- (5) By-product material, any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.
- (6) Source material:
 - (a) uranium, thorium, or any other material which the agency declares by order to be source material after the United States atomic energy commission, or any successor thereto, has determined the material to be such; or
 - (b) ores containing one or more of the foregoing materials, in such concentration as the agency declares by order to be source material after the United States atomic energy commission, or any successor thereto, has determined the material in such concentration to be source material.
- (7) Special nuclear material:
 - (a) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the agency declares by order to be special nuclear material after the United States atomic energy commission, or any successor thereto, has determined the material to be such, but does not include source material; or
 - (b) any material artificially enriched by any of the foregoing, but does not include source material.
- (8) General license, a license effective pursuant to regulations promulgated by the agency, without the filing of any application, to transfer, acquire, own, possess or use quantities of, or devices or equipment utilizing by-product, source, special nuclear materials, or other radioactive material occurring naturally or produced artificially.
- (9) Specific license, a license, issued after application, to use, manufacture, produce, transfer, receive, acquire, own, or possess quantities of, or devices or equipment utilizing by-

product, source, special nuclear materials, or other radioactive material occurring naturally or produced artificially.

- (10) Person, any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, any other state or political subdivision or agency thereof, and any legal successor, representative, agent, or agency of the foregoing, other than the United States atomic energy commission, or any successor thereto, and other than federal government agencies licensed by the United States atomic energy commission, or any successor thereto.
- (11) Sources of ionizing radiation, any radioactive materials or any device or equipment emitting or capable of producing ionizing radiation.

Source: SL 1957, ch 122, § 2; SDC Cross-References.
 Supp 1960, § 27.17A02; SL 1967, ch 107, Application of statutory definitions,
 § 1. § 2-14-4.

34-21-3. Governor's agreement for discontinuance of federal responsibility — Funds available for establishment of protection program. The Governor, on behalf of this state, is authorized to enter into agreements with the federal government providing for the discontinuance of certain of the federal government's responsibilities with respect to sources of radiation and assumption thereof by this state. This authority for the Governor to enter into an agreement with the environmental protection agency is granted only under the condition that funds are made available for the establishment of an adequate radiation protection program within the agency prior to the signing of this agreement.

Source: SDC Supp 1960, § 27.17A09
 as added by SL 1967, ch 107, § 4.

34-21-4. Department of health as enforcement agency — Functions of secretary. The authority for enforcement of the provisions of this chapter shall be vested in the state department of health, referred to in this chapter as the agency.

The secretary of health, hereinafter referred to as the secretary, shall perform and carry out all functions, and duties given to the agency under this chapter, and shall direct, carry out, and enforce all radiation safety control activities and measures vested in the agency.

Source: SL 1957, ch 122, § 3; SDC
 Supp 1960, § 27.17A03.

34-21-5. Employment of personnel by agency — Delegation of functions. In accordance with the laws of the state, the agency

may employ, compensate, and prescribe the powers and duties of such persons as may be necessary to carry out the provisions of this chapter.

The secretary may delegate to officers and employees of the agency such functions, duties, and authority as are vested in the agency by this chapter; except the authority to adopt and promulgate standards, rules, and regulations, and to issue or modify orders.

Source: SL 1957, ch 122, § 3; SDC
Supp 1960, § 27.17A03.

34-21-6. Training programs to qualify personnel — Participation in federal and interstate programs. The agency may institute training programs for the purpose of qualifying personnel to carry out the provisions of this chapter, and may make personnel available for participation in any program or programs of the federal government, other states or interstate agencies in furtherance of the purposes of this chapter.

Source: SDC Supp 1960, § 27.17A04
(11) as added by SL 1967, ch 107, § 2.

34-21-7. Development of comprehensive policies and programs. The agency shall develop comprehensive policies and programs for the evaluation and determination of hazards associated with the use of radiation, and for their amelioration.

Source: SL 1957, ch 122, § 4; SDC
Supp 1960, § 27.17A04 (1); SL 1967, ch
107, § 2.

34-21-8. Investigations and research in radiation problems. The agency may encourage, participate in, or conduct studies, investigations, training, research, and demonstrations relating to the control of radiation hazards, the measurement of radiation, the effects on health of exposure to radiation, and related problems as it may deem necessary or advisable for the discharge of its duties under this chapter.

Source: SL 1957, ch 122, § 4; SDC
Supp 1960, § 27.17A04 (4); SL 1967, ch
107, § 2.

34-21-9. Consultation and co-operation with federal, public and other agencies. The agency shall advise, consult, and co-operate with other agencies of state, the federal government, other states and interstate agencies, and with affected groups, political subdivisions, and industries in furtherance of the purposes of this chapter.

Source: SL 1957, ch 122, § 4; SDC
Supp 1960, § 27.17A04 (2); SL 1967, ch
107, § 2.

34-21-10. Acceptance and administration of loans and grants. The agency may accept and administer loans, grants, or gifts from the federal government and from other sources, public or private, for carrying out of any of its functions.

Source: SL 1957, ch 122, § 4; SDC Supp 1960, § 27.17A04 (3); SL 1967, ch 107, § 2.

Cross-References.

Federal funding, co-ordination, Chapter 4-8B.

34-21-11. Collection and dissemination of information. The agency shall collect and disseminate information relating to the determination and control of radiation exposure hazards.

Source: SL 1957, ch 122, § 4; SDC Supp 1960, § 27.17A04 (5); SL 1967, ch 107, § 2.

34-21-12. Adoption and enforcement of rules and regulations. The agency shall, in compliance with chapter 1-26, adopt, promulgate, and enforce such rules and regulations as may be necessary to implement or effectuate the powers and duties of the agency under this chapter.

Source: SL 1957, ch 122, § 4; SDC Supp 1960, § 27.17A04 (6); SL 1967, ch 107, § 2; revised pursuant to SL 1972, ch 15, § 4.

Cross-References.

Rules and regulations, procedure for adoption, §§ 1-26-4 to 1-26-14.

34-21-13. Programs for regulation and inspection. The agency shall develop programs, with due regard for compatibility with federal programs, for regulation and inspection of by-product, source, and special nuclear materials.

Source: SDC Supp 1960, § 27.17A04 (17) as added by SL 1967, ch 107, § 2.

34-21-14. Incidental powers of agency. The agency may exercise all incidental powers necessary to carry out the purposes of this chapter.

Source: SL 1957, ch 122, § 4; SDC Supp 1960, § 27.17A04 (10); SL 1967, ch 107, § 2.

34-21-15. Rules and regulations for control of radiation. The agency shall, in compliance with chapter 1-26, prescribe rules or regulations necessary for the control of radiation.

Source: SDC Supp 1960, § 27.17A04 (12) as added by SL 1967, ch 107, § 2; revised pursuant to SL 1972, ch 15, § 4.

Cross-References.

Rules and regulations, procedure for adoption, §§ 1-26-4 to 1-26-14.

34-21-16. Unauthorized use of radioactive materials as misdemeanor. It is a Class 1 misdemeanor for any person to produce radiation, or to produce, use, store, or dispose of radioactive materials, except in accordance with the provisions of this chapter and rules and regulations promulgated thereunder.

Source: SL 1957, ch 122, § 5; SDC **Cross-References.**
 Supp 1960, § 27.17A05; SL 1967, ch 107, **Punishment for classified misdemeanors, § 22-6-2.**
 § 3; 1977, ch 190, § 52.

34-21-17. Opinions on construction plans for protection from radiation. The agency, upon request, shall render opinions concerning such plans and specifications on the design and shielding for radiation sources as may be submitted before or after construction, for the purpose of determining the possible radiation hazard.

Source: SL 1957, ch 122, § 4; SDC
 Supp 1960, § 27.17A04 (8); SL 1967, ch
 107, § 2.

34-21-18. Licensing and registration of ionizing radiation sources. The agency is authorized to require licensing or registration of all sources of ionizing radiation.

Source: SDC Supp 1960, § 27.17A04
 (18) as added by SL 1967, ch 107, § 2.

34-21-19. Rules and regulations for licensing of nuclear materials and equipment. The agency shall, in compliance with chapter 1-26, provide by rules or regulations for general or specific licensing of by-product, source, and special nuclear materials, or devices or equipment utilizing such materials. Such rules or regulations shall provide for amendment, suspension, or revocation of licenses, subject to chapter 1-26.

Source: SDC Supp 1960, § 27.17A04 **Procedure in licensing matters,**
 (16) as added by SL 1967, ch 107, § 2; §§ 1-26-16 to 1-26-29.
 revised pursuant to SL 1972, ch 15, § 4. **Rules and regulations, procedure for**

Cross-References.

Depositions of witnesses, § 1-26-19.2. Subpoena and administration of oaths to witnesses, § 1-26-19.1

34-21-20. Registration or licensing required for handling of radioactive materials — Misdemeanor — Exemption of materials without hazard. It is a Class 1 misdemeanor for any person to produce radiation, or to produce, transport, transfer, receive, acquire, possess, use, store, or dispose of radioactive materials, unless the person registers in writing with the secretary or obtains a license from the secretary in accordance with the procedures prescribed by such secretary. The secretary may exempt from registration or licens-

ing radiation machines or radioactive materials known to be without hazard.

Source: SL 1957, ch 122, § 5; SDC Supp 1960, § 27.17A05; SL 1967, ch 107, § 3; 1977, ch 190, § 53.

Cross-References.

Procedure in licensing matters, §§ 1-26-16 to 1-26-29.
Punishment for classified misdemeanors, § 22-6-2.

34-21-21. Recognition of other state or federal licenses — Previously issued federal license. The agency may provide for recognition of other state or federal licenses as the agency may deem desirable. Any person who, on the effective date of an agreement under § 34-21-3, possesses a radiation license issued by the federal government shall be deemed to possess the same pursuant to a license issued under this chapter, which shall expire either ninety days after receipt from the agency of a notice of expiration or on the date of expiration specified in the federal license, whichever is earlier.

Source: SDC Supp 1960, § 27.17A04 (13) as added by SL 1967, ch 107, § 2; SDC Supp 1960, § 27.17A09 as added by SL 1967, ch 107, § 4.

34-21-22. Notice to secretary of extension or alteration of program by registrant or licensee — Failure to notify as misdemeanor. It is a Class 1 misdemeanor for any person registered or licensed with the agency pursuant to § 34-21-20 to modify, extend, or alter programs involving the production of radiation or the production, use, storage, or disposal of radioactive materials unless he notifies the secretary in accordance with procedures prescribed by the secretary.

Source: SL 1957, ch 122, § 5; SDC Supp 1960, § 27.17A05; SL 1967, ch 107, § 3; 1977, ch 190, § 54.

Cross-References.

Punishment for classified misdemeanors, § 22-6-2.

34-21-23. Unauthorized exposure to diagnostic or therapeutic radiation as misdemeanor. It is a Class 1 misdemeanor for any person to expose any other person to diagnostic or therapeutic radiation unless:

- (1) The person giving diagnostic or therapeutic radiation is licensed to practice the healing art or is a duly licensed dentist in the state of South Dakota;
- (2) The person gives diagnostic or therapeutic radiation exposure upon the direction of a person licensed to practice the healing art or a duly licensed dentist in the state of South Dakota.

Source: SL 1957, ch 122, § 6; SDC Supp 1960, § 27.17A06; SL 1977, ch 190, § 55.

Cross-References.

Punishment of classified misdemeanors, § 22-6-2.

Collateral References. treatments under the doctrine of
Physician's duty to inform patient of informed consent, 69 ALR 3d 1223.
nature and hazards of radiation or x-ray

34-21-24. Records required with respect to ionizing radiation sources. The agency shall require each person who acquires, possesses or uses a source of ionizing radiation to maintain records relating to its receipt, storage, transfer or disposal and such other records as the agency may require subject to such exemptions as may be provided by rules or regulations.

Source: SDC Supp 1960, § 27.17A04
(19) as added by SL 1967, ch 107, § 2.

34-21-25. Individual exposure records for ionizing radiation. The agency shall require each person who acquires, possesses or uses a source of ionizing radiation to maintain appropriate records showing the radiation exposure of all individuals for whom personnel monitoring is required by rules and regulations of the agency.

Source: SDC Supp 1960, § 27.17A04
(20) as added by SL 1967, ch 107, § 2.

34-21-26. Records submitted to agency on request. Copies of the records required to be kept by §§ 34-21-24 and 34-21-25 shall be submitted to the agency on request.

Source: SDC Supp 1960, § 27.17A04
(20) as added by SL 1967, ch 107, § 2.

34-21-27. Individual exposure records furnished to employees. Any person possessing or using a source of ionizing radiation shall furnish to each employee, for whom personnel monitoring is required, a copy of such employee's personal exposure record annually, at any time such employee has received excessive exposure, and upon termination of employment.

Source: SDC Supp 1960, § 27.17A04
(20) as added by SL 1967, ch 107, § 2.

Cross-References.
Occupational disease compensation,
Chapter 62-8.

34-21-28. Access of agency personnel to premises for inspection and investigations — Examination and maintenance of records. The agency or its duly authorized representative shall have the power to enter at reasonable times upon any private or public property for the purpose of inspecting and investigating conditions relative to the purposes of the chapter.

Any authorized representative of the agency may examine any records or memoranda pertaining to the operation of radiation machines and exposure to radioactive materials. The agency may require the maintenance of records relating to the operation of dis-

posol systems. Copies of such records must be submitted to the agency on request.

Source: SL 1957, ch 122, § 8; SDC
Supp 1960, § 27.17A08.

34-21-29. Inspection of radiation sources to determine compliance. Designated representatives of the agency shall inspect and examine such sources of radiation as it desires, in order to determine their compliance with the adopted radiation-protection standards of the agency.

Source: SL 1957, ch 122, § 7; SDC
Supp 1960, § 27.17A07.

34-21-30. Inspections for radiation hazards ~~1~~ Report to operator. The agency may make inspections of radiation sources, shielding and immediate surroundings for the determination of any possible radiation hazard; and shall provide the owner, user, or operator thereof with a report of any known or suspected deficiencies.

Source: SL 1957, ch 122, § 4; SDC
Supp 1960, § 27.17A04 (9); SL 1967, ch
107, § 2.

34-21-31. Orders abating discharge of radioactive material. The agency may, subject to chapter 1-26, issue, modify or revoke orders prohibiting or abating the discharge of radioactive material or waste into the ground, air, or waters of the state in accordance with the provisions of this chapter and rules and regulations adopted thereunder.

Source: SL 1957, ch 122, § 4; SDC
Supp 1960, § 27.17A04 (7); SL 1967, ch
107, § 2, revised pursuant to SL 1972, ch
15, § 4.

Cross-References.

Procedure in contested cases, §§ 1-26-16
to 1-26-29.

34-21-32. Impounding of radiation sources for violations. The agency shall have authority, subject to chapter 1-26, to impound or order the impounding of sources of radiation in the possession of any person who is not equipped to observe or fails to observe the provision of this chapter or any rules or regulations issued hereunder.

Source: SDC Supp 1960, § 27.17A04
(15) as added by SL 1967, ch 107, § 2;
revised pursuant to SL 1972, ch 15, § 4.

Cross-References.

Procedure in contested cases, §§ 1-26-16
to 1-26-29.

34-21-33. Files maintained by agency. The agency shall maintain a file of

- (1) All license applications, issuances, denials, amendments, transfers, renewals, modifications, suspensions, revocations, and any administrative or judicial action pertaining thereto;

- (2) Registrants possessing sources of ionizing radiation requiring registration under the provisions of this chapter and any administrative or judicial action pertaining thereto; and
- (3) All rules and regulations relating to regulation of sources of ionizing radiation, pending, or promulgated, and proceedings thereon.

Source: SDC Supp 1960, § 27.17A04
(14) as added by SL 1967, ch 107, § 2.

34-21-34. Procedure on license matters. In any proceeding under this chapter for the granting, suspending, revoking, or amending any license, the agency shall be subject to chapter 1-26.

Source: SL 1967, ch 107, § 5 (a); Procedure in licensing matters,
revised pursuant to SL 1972, ch 15, § 4. §§ 1-26-16 to 1-26-29.
Cross-References. Subpoena and administration of oaths
to witnesses, § 1-26-19.1.
Depositions of witnesses, § 1-26-19.2.

34-21-35. Notice of suspected violations — Opportunity for hearing. When the agency, or any of its duly authorized agents, determines that there are reasonable grounds to believe a violation of the provisions of this chapter or of the rules and regulations of the agency has occurred, the director of the agency shall give notice and opportunity for hearing pursuant to chapter 1-26.

Source: SL 1967, ch 107, § 5 (b); Cross-References.
revised pursuant to SL 1972, ch 15, § 4. Procedure in contested cases, §§ 1-26-16
to 1-26-29.

34-21-36. Order finding violation — Forwarding to violator. If a hearing is not requested within fifteen days after the receipt of the notice given pursuant to § 34-21-35, the agency shall issue its order finding that the violation of the chapter or the rules and regulations of the agency has or has not occurred, and shall forthwith forward a copy of such order by registered or certified mail to said person. Such order shall be final and may not be appealed from.

Source: SL 1967, ch 107, § 5 (b);
revised pursuant to SL 1972, ch 15, § 3.

34-21-37. Hearing on suspected violation — Hearing officers. If a hearing is requested after notice given pursuant to § 34-21-35, such hearing shall be held in compliance with chapter 1-26 within thirty days after the receipt of the request for hearing. Hearings may be conducted by the secretary or hearing officers appointed by the agency. Such hearing officers shall be persons who are not regular employees of the agency.

Source: SL 1967, ch 107, § 5 (b);
revised pursuant to SL 1972, ch 15, § 4.

Hearings in contested cases, §§ 1-26-18
to 1-26-22.

Cross-References.

Subpoena and administration of oaths
to witnesses, § 1-26-19.1.

Depositions of witnesses, § 1-26-19.2.
Hearing officers, appointment,
§ 1-32-6.1.

34-21-38. Findings and decision. On the basis of the evidence produced at a hearing pursuant to § 34-21-37, the secretary or hearing officer shall, in compliance with chapter 1-26, make and promulgate findings, a decision and, if appropriate, an order.

Source: SL 1967, ch 107, § 5 (b);
revised pursuant to SL 1972, ch 15, §§ 3,
4.

Cross-References.

Findings, decisions and orders in
administrative proceedings, §§ 1-26-23 to
1-26-25.

34-21-39. Emergency order to protect public health and safety — Immediate effect. Whenever the secretary finds that an emergency exists requiring immediate action to protect the public health and safety, he may without notice issue an emergency order reciting that an emergency exists and requiring that such action be taken as is necessary to meet the emergency. Such an order may be issued orally to the person or persons whose operation constitutes the emergency by the secretary or his duly authorized representative and confirmed by a copy of such order mailed within twenty-four hours after the issuance of such oral order. Such emergency order shall be effective immediately and any person to whom such order is directed shall comply therewith immediately.

Source: SL 1967, ch 107, § 5 (c).

34-21-40. Hearing on emergency order — Finality of order. Any person aggrieved by the issuance of any emergency order pursuant to § 34-21-39 shall be entitled to a hearing in the same manner as is provided in §§ 34-21-35 to 34-21-38, inclusive. On the basis of such hearing the emergency order may be continued, revoked, or modified as the circumstances may require. Time limits for giving notice and for such order to become final as provided in §§ 34-21-35 to 34-21-38, inclusive, shall apply.

Source: SL 1967, ch 107, § 5 (c).

34-21-41. Appeal from agency order or determination. An appeal may be taken from any final order or final determination of the agency as provided by chapter 1-26.

Source: SL 1967, ch 107, § 5 (d);
revised pursuant to SL 1972, ch 15, § 4.

reference to repealed chapter 21-33 at the
end of the section.

Commission Note.

The code commission has deleted a

Cross-References.

Appeals from administrative agencies,
§§ 1-26-30 to 1-26-37.

TUBERCULOSIS AND CONTAGIOUS DISEASE CONTROL. 34-21-46

34-21-42, 34-21-43. Omitted.

Commission Note.

These sections have been omitted in accordance with directions to the code

commission contained in § 4, ch 15, SL 1972.

34-21-44. Violation as misdemeanor — Injunction — Each day as separate violation. Any person who violates any of the provisions of, or who fails to perform any duty imposed by this chapter, or who violates any order or rule of the secretary promulgated pursuant to this chapter, shall be guilty of a Class 1 misdemeanor, and in addition thereto may be enjoined in a civil action by a court of competent jurisdiction from continuing such violation. Each day upon which such violation occurs shall constitute a separate violation.

Source: SL 1957, ch 122, § 9; SDC Supp 1960, § 27.9959; SL 1977, ch 190, § 56.

Cross-References.

Injunction, Chapter 21-8.
Punishment for classified misdemeanors, § 22-6-2.

34-21-45. Injunction proceedings brought by attorney general. It shall be the duty of the attorney general on the request of the agency to bring any action for an injunction against any person violating the provisions of this chapter, or violating any rule or order of the agency.

Source: SL 1957, ch 122, § 9; SDC Supp 1960, § 27.9959.

Cross-References.

Injunction, Chapter 21-8.

34-21-46. Chapter supplementary to other legislation. This chapter shall not be construed as repealing any laws of the state relating to radiation sources, exposures, radiation protection, and professional licensure, but shall be held and construed as auxiliary and supplementary thereto, except to the extent that the same are in direct conflict herewith.

Source: SL 1957, ch 122, § 10; SDC Supp 1960, § 27.17A09; SL 1967, ch 107, § 4.

CHAPTER 34-22

TUBERCULOSIS AND CONTAGIOUS DISEASE CONTROL

Section

- 34-22-1. State system of quarantine — Inspection and isolation of conveyances of common carriers.
34-22-2. Failure of local health official to impose quarantine when required as petty offense.

34-20B-85. Procedure for forfeiture of vehicles, etc.

DECISIONS UNDER FORMER LAW

Constitutionality.

Because this chapter did not itself provide for notice and hearing before forfeiture of property, the forfeiture provisions

(former §§ 39-17-129 to 39-17-137) were unconstitutional as working a deprivation of property without due process of law. *State v. Miller* (1976) — SD —, 248 NW 2d 377 (before 1977 amendments).

CHAPTER 34-21

RADIATION EXPOSURE CONTROL

Section

34-21-2. Definition of terms.

34-21-4. Department of health as enforcement agency — Functions of secretary — Consultation with other agencies.

34-21-2. Definition of terms. For the purposes of this chapter, the following words and phrases mean:

- (1) Radiation or ionizing radiation, gamma rays or X-rays, alpha and beta particles, high-speed electrons, neutrons, protons, and other nuclear particles; but not sound or radio waves, or visible, infrared or ultraviolet light.
- (2) Radiation machine, any device that produces radiations when the associated control devices are activated.
- (3) Radioactive material, any material, solid, liquid, or gas which emits radiation spontaneously.
- (4) Nuclear energy, all forms of energy released in the course of nuclear fission or nuclear transformation.
- (5) By-product material, any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.
- (6) Source material:
 - (a) uranium, thorium, or any other material which the agency declares by order to be source material. United States nuclear regulatory commission determination that a material is a source material shall be considered as evidence in the agency declaration; or
 - (b) ores containing one or more of the foregoing materials, in such concentration as the agency declares by order to be source material. United States nuclear regulatory commission determination that a material is a source material shall be considered as evidence in the agency declaration.
- (7) Special nuclear material:
 - (a) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the agency declares by order to be special nuclear material.

United States nuclear regulatory commission determination that a material is special nuclear material shall be considered as evidence in the agency declaration; or

(b) any material artificially enriched by any of the foregoing, but does not include source material.

(8) General license, a license effective pursuant to regulations promulgated by the agency, without the filing of any application, to transfer, acquire, own, possess or use quantities of, or devices or equipment utilizing by-product, source, special nuclear materials, or other radioactive material occurring naturally or produced artificially.

(9) Specific license, a license, issued after application, to use, manufacture, produce, transfer, receive, acquire, own, or possess quantities of, or devices or equipment utilizing by-product, source, special nuclear materials, or other radioactive material occurring naturally or produced artificially.

(10) Person, any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, any other state or political subdivision or agency thereof, and any legal successor, representative, agent, or agency of the foregoing, other than the United States atomic energy commission, or any successor thereto, and other than federal government agencies licensed by the United States atomic energy commission, or any successor thereto.

(11) Sources of ionizing radiation, any radioactive materials or any device or equipment emitting or capable of producing ionizing radiation.

Source: SL 1957, ch 122, § 2; SDC Supp 1960, § 27.17A02; SL 1967, ch 107, § 1; 1978, ch 250, §§ 1, 2.

second sentence of each of subdivisions (6)(a), (6)(b) and (7)(a) for a clause making binding a determination by the United States atomic energy commission or its successor.

Amendments.

The 1978 amendment substituted the

34-21-4. Department of health as enforcement agency — Functions of secretary — Consultation with other agencies. The authority for enforcement of the provisions of this chapter shall be vested in the state department of health, referred to in this chapter as the agency.

The secretary of health, hereinafter referred to as the secretary, shall perform and carry out all functions, and duties given to the agency under this chapter, and shall direct, carry out, and enforce all radiation safety control activities and measures vested in the agency. Actions taken relative to this delegated responsibility shall be in part based upon findings following consultation with other state agencies

by-product, source, and special nuclear materials, or devices or equipment utilizing such those materials. Such The rules or regulations shall provide for amendment, suspension, or revocation of licenses, subject to chapter 1-26.

Amended SL 1980, ch 242, § 9.

34-21-24. Records required with respect to ionizing radiation sources and environmental monitoring. The agency shall require each person who acquires, possesses or uses a source of ionizing radiation to maintain records relating to its receipt, storage, transfer or disposal and such any other records as the agency may require subject to such any exemptions as may be provided by rules or regulations. Records shall be kept relating to any environmental monitoring of radiation and shall be submitted to the agency on request.

Amended SL 1980, ch 242, § 10.

34-21-25. Access of agency personnel to premises for inspection and investigations — Examination and maintenance of records. The agency or its duly authorized representative shall have the power to may enter at reasonable times upon any private or public property for the purpose of inspecting, monitoring and investigating conditions relative to the purposes of the this chapter.

Any authorized representative of the agency may examine any records or memoranda pertaining to the operation of radiation machines, and exposure to radioactive materials, and exposures to radiation related to uranium mining and milling. The agency may shall require the maintenance of records relating to the operation of disposal systems which may include mining and milling wastes. Copies of such those records must be submitted to the agency on request.

Amended SL 1980, ch 242, § 11.

34-21-29. Inspection of radiation sources to evaluate compliance — Upgrading monitoring program. Designated representatives of the agency shall inspect and examine such any sources of radiation as it desires, in order to determine their evaluate compliance with the adopted radiation-protection and monitoring standards of the agency. If it is determined that environmental monitoring standards of the agency are not being met, the agency shall commence a monitoring program at that site and shall require the site owner to upgrade its monitoring program or cease operations.

Amended SL 1980, ch 242, § 12.

34-21-33. Files maintained by agency. The agency shall maintain a file of

- (1) All license applications, issuances, denials, amendments, transfers, renewals, modifications, suspensions, revocations, and any administrative or judicial action pertaining thereto;
- (2) Registrants possessing sources of ionizing radiation requiring registration under the provisions of this chapter and any administrative or judicial action pertaining thereto; and
- (3) All rules and regulations relating to regulation of sources of ionizing radiation, pending, or promulgated, and proceedings thereon; and
- (4) All monitoring data gathered by or submitted to the agency.

Amended SL 1980, ch 242, § 13.

34-21-47. Notice by federal agency prior to transmitting waste. Any agency of the United States government shall notify the Governor before transporting any radioactive waste through the state.

Enacted SL 1980, ch 243, § 1.

34-21-48. Time for notice. The notice required in § 34-21-47 shall be delivered, in writing, at least seventy-two hours before the transporting occurs.

Enacted SL 1980, ch 243, § 2.

34-21-49. Transportation without timely notice prohibited. Unless the terms of §§ 34-21-47 and 34-21-48 are complied with no radioactive waste may be transported through the state.

Enacted SL 1980, ch 243, § 3.

CHAPTER 34-23A

PERFORMANCE OF ABORTIONS

34-23A-10.1. Statement of informed consent — Physician's duties — Signature — Copies. At least twenty-four hours before an abortion is scheduled on a woman, unless, in the best medical judgment of the attending physician based upon the particular facts of the case before him, an emergency situation presents imminent peril substantially endangering the life of the woman, the physician shall request that she sign the following statement which shall be provided by the department of social services:

"This is to advise you that you have many alternatives to abortion. One such alternative is adoption. Many qualified persons are unable to adopt because there are not enough children available. If you decide to carry your baby to term and place it for adoption, financial assistance may be available to you. Financial assistance may also be available to you if you decide to keep your child. You may learn

**State of South Dakota Statutes
Concerning Radiation Safety**

ARTICLE 44:03
RADIATION SAFETY

Chapter
44:03:01 Radiation control.

CHAPTER 44:03:01
RADIATION CONTROL

Section

44:03:01:01	Definitions.
44:03:01:02	Licensing of radiation-producing devices and materials.
44:03:01:03	Transferred to § 44:03:01:06.01.
44:03:01:04	Application for license.
44:03:01:05	Repealed.
44:03:01:06	Annual license renewal.
44:03:01:06.01	Exemption from radiation licensing.
44:03:01:07	Repealed.
44:03:01:08	X-ray shoe fitting devices prohibited.
44:03:01:08.01	Equipment standards.
44:03:01:09	Evaluation and correction of hazards.
44:03:01:10	General safety provisions to protect persons from radiation exposures.
44:03:01:11	Repealed.
44:03:01:12	Repealed.
44:03:01:13	Transferred to § 44:03:01:08.04(4).
44:03:01:14	Repealed.
44:03:01:15	Disposal of radioactive materials.
44:03:01:16	Loss or theft of radioactive material.
44:03:01:17	Amendment, suspension, or revocation of license.

44:03:01:01. Definitions. Words defined by SDCL 34-21-2 shall have the same meaning when used in this chapter. In addition, unless the context plainly indicates otherwise, the terms used in this chapter shall mean:

(1) "Dose," a quantity of radiation exposure to the whole human body or any portion of the human body;

(2) "Personnel monitoring," the use of film badges, pocket chambers, or other devices worn or carried on individuals for the monitoring of personnel exposures to radiation;

(3) "Exposure survey," an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radiation. When appropriate, such an evaluation shall include a physical survey of materials and equipment and measurements of levels of radiation or concentration of radioactive material present;

(5) "Shielding," a protective barrier used to reduce radiation exposure to the required degree;

(6) "Leakage radiation," all radiation, except the useful beam, coming from within the source housing;

(7) "Scattered radiation," radiation that, during passage through matter, has been deviated in direction;

(8) "Services," may include, but not be limited to, calibration of radiation-producing machines or instruments, radiation protection surveys, shielding design, radiological health consultations, and personnel dosimetry;

(9) "Stray radiation," the sum of leakage and scattered radiation; and

(10) "Target," the point at which an X-ray is produced.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-11, 34-21-18.

44:03:01:02. Licensing of radiation-producing devices and materials. Licensing of radiation sources shall be required for the production, transport, transfer, receipt, acquisition, possession, use, storage, or disposal of radiation sources. Licensing shall be accomplished using procedures and forms required by the state department of health.

General Authority: SDCL 34-1-17.

Law Implemented: SDCL 34-12-6, 34-12-7, 34-21-11, 34-21-12, 34-21-18, 34-21-20.

44:03:01:03. Transferred to § 44:03:01:06.01.

44:03:01:04. Application for license. Each person having a radiation source, a radiation device, or a radioactive material facility shall apply for licensure with the department within thirty days following the effective date of these rules or within thirty days after the installation of the equipment or purchase of material. The license shall be obtained before the equipment is operated.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-11, 34-21-18.

44:03:01:05. Repealed.

44:03:01:06. Annual license renewal. The licensee shall notify the department in writing within thirty days after any change which makes the location or other information on machines, devices, or other radiation sources no longer accurate. The license shall be renewed annually during the month of January on forms supplied by the department.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-22.

44:03:01:06.01. Exemption from radiation licensing. Electronic equipment that produces radiation incidental to its operation for other purposes is exempt from licensing provided the radiation dose equivalent rate averaged over an area of ten square centimeters does not exceed 0.5 millirem per hour at five centimeters from any accessible surface of the equipment. Domestic television receivers are exempt from the licensing requirement.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-20.

44:03:01:07. Repealed.

44:03:01:08. X-ray shoe fitting devices prohibited. No person shall operate or maintain any fitting devices or machines which use fluoroscopic, X-ray, or radiation principles for the purpose of fitting and selling footwear through commercial outlets. This shall not be construed to limit radiation that may be intentionally applied for diagnostic or therapeutic purposes under the direction of a person licensed to practice the healing arts in the state of South Dakota.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-23.

44:03:01:08.01. Equipment standards. Equipment standards are as follows:

(1) The standards for medical radiographic - diagnostic X-ray machines are as follows:

(a) Leakage radiation from the diagnostic source assemble. The leakage radiation from the diagnostic source assembly measured at a distance of 1 meter in any direction from the source shall not exceed 100 milliroentgens in 1 hour;

(b) Filtration or beam quality. Filtration or beam quality will be considered adequate if the total in the beam is not less than the table below:

Filtration Required vs. Operating Voltage

Total Filtration (inherent plus added)	
Operating Voltage (Peak kilovolt) (kVp)	(Millimeters aluminum equivalent)
Below 50 -----	0.5 millimeters
50 - 70 -----	1.5 millimeters
Above 70 -----	2.5 millimeters

(c) Collimation. Variable, positive beam limitation with rectangular area and a light-defining device shall be provided for all fixed X-ray units. The X-ray beam dimensions shall not exceed the size of film used by greater than 2 inches on any side;

(d) Timer. A device shall be provided to terminate the exposure time after a preset time. Accuracy shall be within 5 percent of the time set for units installed after August 1, 1974; and

(e) The exposure reproducibility shall meet the following requirements:

The coefficient of variation shall not exceed 0.10 when all technique factors are held constant. This requirement shall be met if, when 4 exposures are made at identical technique factors, the value of the average exposure (E) is greater than or equal to 5 times the maximum exposure (E max) minus the minimum exposure (E min);

i.e., $E \pm 5(E_{\max} - E_{\min})$

(2) The standards for fluoroscopic X-ray equipment are as follows:

(a) Filtration. Filtration or beam quality will be considered adequate if the total in the beam is not less than the table below:

Filtration Required vs. Operating Voltage

Total Filtration (inherent plus added)	
Operating Voltage	(Millimeters aluminum equivalent)
Below 50 -----	0.5 millimeters
50 - 70 -----	1.5 millimeters
Above 70 -----	2.5 millimeters

(b) Manually reset cumulative timer. A manually reset, cumulative timing device shall be used which will either indicate elapsed time by an audible signal or turn off the apparatus when the total exposure exceeds a predetermined limit in one or a series of exposures. The devices shall have a maximum range of 5 minutes;

(c) Operator's exposure rate. Exposure to the operator's eyes above the screen and waist behind the leaded drapes shall not exceed 50 milliroentgens per hour; and

(d) Tabletop or patient skin exposure. For routine fluoroscopy the tabletop exposure shall not exceed 10 roentgens per minute;

(3) The standards for dental X-ray equipment are as follows:

(a) Leakage radiation from the source assembly. The leakage radiation from the diagnostic source assembly measured at a distance of 1 meter in any direction from the source shall not exceed 100 milliroentgens in 1 hour.

(b) Filtration. Filtration or beam quality will be considered adequate if the total in the beam is not less than the table below:

Filtration Required vs. Operating Voltage

Total Filtration (inherent plus added)	
Operating Voltage	(Millimeters aluminum equivalent)
Below 50 -----	0.5 millimeters
50 - 70 -----	1.5 millimeters
Above 70 -----	2.5 millimeters

(c) Collimation. The beam shall be restricted to a maximum of 3 inches in diameter;

(d) Timer. Accuracy shall be within 5 percent of the time set for units installed after August 1, 1974.

(4) The standard for the location of the exposure switch on mobile equipment is as follows:

On mobile X-ray and dental X-ray machines, the exposure switch shall be arranged so that the operator can stand at least 6 feet from the useful beam unless sufficient shielding is provided to protect the operator from stray radiation; and

(5) The standard for the target-to-skin distance for mobile radiographic units is as follows:

All mobile medical radiographic units shall have a spacer to limit the target-to-skin distance to at least 12 inches. Seven inches will be adequate for dental units operated above 50 kVp.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-15.

44:03:01:09. Evaluation and correction of hazards. Subsequent to the evaluation of radiation hazards, the state department of health may issue orders for correction of these hazards.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-12.

44:03:01:10. General safety provisions to protect persons from radiation exposures. Every person operating a radiation device shall follow the usual accepted safety precautions which include but are not limited to the following:

(1) Human radiation exposure shall be restricted to the lowest practical amount;

(2) The X-ray beam size shall only be large enough to provide necessary information. Special protective devices or barriers shall be used when necessary to protect eyes, skin, bone, and certain organs from unnecessary radiation exposure;

(3) Personnel monitoring of radiation exposures and records shall be maintained by the owner of the radiation source. Monitoring with dosimetry devices shall be required for all persons routinely exposed to man-made radiation doses in their occupation. Dental offices are exempt from this requirement. Exposures should not exceed 300 millirems per calendar quarter. Use of dosimetry devices may be discontinued if the individual exposures do not exceed 100 millirems per month for 6 consecutive months. Maximum occupation exposures shall not exceed the limits specified in the following table:

Rems per Calendar Quarter

Whole body; head and trunk; active blood-forming organs; lenses of eyes; gonads	1 1/4
Hands and forearms; feet and ankles	18 3/4
Skin of whole body	7 1/2

(4) Operators of fixed medical radiographic units shall be within a shielded area with a lead glass patient-viewing window provided. The area shall be large enough for protection from scatter or stray radiation.

(5) Radiation incidents considered a potential hazard shall be reported to the department by the licensee within twenty-four hours;

(6) Licensees shall make a bioassay examination available to radiation accident victims upon request and shall furnish a copy of the reports to the department; and

(7) Radiation sources shall be labeled and caution signs posted to provide warning.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-25, 34-21-26.

44:03:01:11. Repealed.

44:03:01:12. Repealed.

44:03:01:13. Transferred to § 44:03:01:08.01(4).

44:03:01:14. Repealed.

44:03:01:15. Disposal of radioactive materials. No licensee shall dispose of any radioactive material without prior written approval of the state department of health. Sands or tailings from uranium or other mineral mills shall be retained and stabilized by the owner until agreeable and safe disposal methods are developed. Data regarding the potential radium or other radiation hazard are required.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-31, 34A-6-5.

44:03:01:16. Loss or theft of radioactive material. Each licensee shall report by telephone or telegraph to the state department of health the loss or theft of any source of radiation immediately after the occurrence becomes known.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-11.

44:03:01:17. Amendment, suspension, or revocation of license. Amendments to a license will be made by issuing a new license or a letter showing changes. Suspension or revocation proceedings in accordance with SDCL 1-26 can only be initiated after exposure surveys are conducted by the department and a serious hazard to public health and safety is determined.

General Authority: SDCL 34-1-17, 34-21-15.

Law Implemented: SDCL 34-21-19.

**State of South Dakota Statutes
Concerning Radiation and
Uranium Resources Exposure Control**

34-21-12. Adoption and enforcement of rules and regulations. The agency shall, in compliance with chapter 1-26, and upon recommendation of the board of environmental protection, adopt, promulgate, and enforce such any rules and regulations as may be necessary to implement or effectuate the powers and duties of the agency under this chapter.

Amended SL 1980, ch 242, § 6.

34-21-13. Programs for regulation and inspection — Preoperational environmental radiological monitoring plans. The agency shall develop programs, with due regard for compatibility with federal programs, for regulation and inspection of by-product, source, and special nuclear materials and other sources of radiation. The agency may require persons responsible for facilities which may release radiation to the environment to monitor those facilities for radiation releases to the environment. The agency may require that any government agency, person, private business, industry or corporation involved in uranium exploration, mining, milling, or processing activities shall develop a preoperational environmental radiological monitoring plan which must be approved by the agency prior to the commencement of any such activity. The preoperational environmental monitoring plan must include background radiological monitoring. Any such plan developed to comply with federal law may be used to comply with this section.

Amended SL 1980, ch 242, § 7.

34-21-17. Opinions on construction plans — Information from federal and private entities. The agency, upon request, shall render opinions concerning such plans and specifications on the design and shielding for radiation sources as that may be submitted before or after construction, for the purpose of determining the possible radiation hazard. The agency shall request that the United States nuclear regulatory commission or other federal agencies submit information pertinent to uranium mining, milling and exploratory activities to the department before those activities commence for the purposes of evaluating the potential for release of radiation to the environment. This information may also be submitted by any person, private business, industry or corporation involved in uranium mining, milling and exploration.

Amended SL 1980, ch 242, § 8.

34-21-19. Rules and regulations for licensing of nuclear materials and equipment. The agency, upon recommendation of the board of environmental protection, shall, in compliance with chapter 1-26, provide by rules or regulations for general or specific licensing of

1980 Amendments

34-20B-41

PUBLIC HEALTH AND SAFETY

for a person to dispense, sell or otherwise provide to any other person any legend drug in solid dosage form that fails to comply with §§ 34-20B-2S.1 to 34-20B-2S.5, inclusive.

Enacted SL 1980, ch 241, § 6.

34-20B-41. Rules relating to exclusions, exceptions, registration inventories, records and inspections — Fees. The department, in cooperation with the advisory board, is authorized to promulgate rules and regulations in compliance with chapter 1-26 and may adopt rules pursuant to chapter 1-26 relating to exclusions from uniform drug articles pursuant to subdivision (1) of § 34-20B-2; the definition of precursors; exceptions from schedule III of stimulants and depressants in medicinal preparations; the registration of manufacturers, distributors and dispensers; waivers of registration; the suspending, revoking, surrendering, transferring and reinstating of registration; inventories and records of controlled substances establishing minimum standards for prescribing and dispensing practices, labeling and security requirements and the issuance of prescriptions as provided by this chapter and chapter 22-42; and the inspection of registered premises. The department may charge reasonable fees relating to the registration and control of the manufacture, distribution, and dispensing of controlled drugs and substances within this state.

Amended SL 1980, ch 233, § 2.

34-20B-112. Rules relating to research and education programs. The department of health is authorized, directed, and empowered to make such other rules and regulations pursuant to the provisions of chapter 1-26 as may be necessary for the administration and execution of this chapter. The department may adopt rules pursuant to chapter 1-26 relating to research on misuse and abuse of controlled substances, coordination and regulation of educational programs, long-range planning and initiation of drug treatment, prevention and rehabilitation programs, training for operators and staff of drug abuse programs, the approval of credentials of counselors and methods of transfer of patients from one program to another.

Such rule-making power shall include, but not be limited to, the authority to provide such rules as are necessary to comply with the requirements of any federal act and regulations thereunder, under which the department receives grants or aid; to make regulations governing the protection of records and confidential information.

Amended SL 1980, ch 233, § 1.

CHAPTER 34-21

RADIATION AND URANIUM RESOURCES EXPOSURE CONTROL

34-21-1. State policy as to uses of radiation and uranium resources. Whereas radiation and uranium resources can be instrumental in the improvement of health, welfare, and productivity of the

public if properly utilized and developed, and may impair the health of the people and the industrial and agricultural potentials of the state if improperly utilized or developed, it is hereby declared to be the public policy of this state to encourage the constructive uses of radiation, proper development of uranium resources, and to control of any associated harmful effects.

Amended SL 1980, ch 242, § 1.

34-21-1.1. Waste disposal — Approval required — Uranium ore and mine tailings excepted. The containment, disposal or deposit of high level and nuclear fuel cycle wastes, defense wastes, nuclear wastes, radioactive substances or radioactively contaminated materials or the processing of high level nuclear wastes ~~shall~~ may not be established, allowed or permitted within the boundaries of the state of South Dakota, unless prior approval has been granted by the Governor or upon his request the Legislature, except that uranium ore or uranium mine tailings shall not be affected by this section. Low level nuclear wastes may not be disposed of without approval of the department of health and in accordance with regulations promulgated according to this chapter and chapter 34A-6.

Amended SL 1980, ch 242, § 2.

34-21-7. Development of comprehensive policies and programs. The agency shall develop comprehensive policies and programs for the evaluation and determination of hazards associated with the use of radiation, the development of uranium resources and the natural occurrences of radiation and for their amelioration mitigation.

Amended SL 1980, ch 242, § 3.

34-21-8. Investigations and research in radiation problems and monitoring. The agency may encourage, participate in, or conduct studies, investigations, training, research, and demonstrations relating to the control of radiation hazards, the measurement of radiation, the effects on health of exposure to radiation, monitoring of radiation levels in the environment and related problems as it may deem necessary or advisable for the discharge of its duties under this chapter.

Amended SL 1980, ch 242, § 4.

34-21-9. Consultation and co-operation with federal, public and other agencies. The agency shall advise, consult, and co-operate with other agencies of the state, the federal government, other states and interstate agencies, and with affected groups, political subdivisions, and industries in furtherance of the purposes of this chapter and to avoid duplication of effort.

Amended SL 1980, ch 242, § 5.

**State of South Dakota Statutes
Concerning Solid Waste Disposal**

- (1) "Solid waste," any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded materials, including radioactive materials as defined in chapter 34-21, solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community or residential activities, but does not include solids solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows or other common water pollutants or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).
- (2) "Person," any individual, partnership, firm, association, municipality, public or private corporation, subdivision or agency of the state, U.S. government trust, estate or any other legal entity.
- (3) "Disposal site," any area, location, tract of land, building, structure or premises at which solid wastes are accepted, disposed of by landfilling, incineration, composting or any other method.
- (4) "Solid waste management system," the entire process of storage, collection, transportation, processing and disposal of solid wastes by any person engaging in such process as a business or by any municipality, authority, county or any combination thereof.
- (5) "Board," the board of environmental protection.
- (6) "Department," the state department of health.
- (7) "Secretary," secretary of the department.
- (8) "Franchise," an agreement in which a municipality, county or sanitary district has bestowed upon a person an exclusive privilege to collect solid waste generated within part or all of its jurisdiction or to operate a disposal site for such solid waste and in which the political subdivision has relinquished substantial control over the collection or disposal process, including but not limited to, the right to supervise its execution and the right to collect fees for the service.
- (9) "Region," any combination or group of municipalities, counties or sanitary districts operating or seeking to operate in a joint venture, pursuant to chapter 1-24, a solid waste management system or part thereof in compliance with this chapter.
- (10) "Hazardous waste," a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may:

- (a) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
- (b) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.

Source: SL 1972, ch 198, § 2; SDCL, § 34-16B-2; SL 1977, ch 280, § 19; 1978, ch 250, § 4; 1980, ch 250, §§ 1, 2.
See Okla Stat Ann, Tit 63, § 2253.

radioactive materials as defined in chapter 34-21" in subdivision (1).

Section 1, ch 250, SL 1980, rewrote subdivision (1).

Section 2, ch 250, SL 1980, added subdivision (10).

Amendments.

The 1978 amendment inserted "including

34A-6-4. Functions performed by department, etc.

Commission Note.

The public health advisory committee, referred to in this section in the parent volume, was abolished by SL 1980, ch 371,

§ 17, which transferred to the state department of health the functions of the former committee under §§ 34-1-13, 34-1-16, 34-1-16.1, 34-1-17, 34-1-20, 34-1-21, 34-1-26 and 34-1-27. See § 34-1-2.2.

34A-6-5. Rules and standards adopted by board — Contents — Acceptable methods of disposal — Procedure for adoption. The board of environmental protection is empowered to, may adopt and promulgate rules and standards for the collection, storage, transportation, processing, resource recovery and disposal of solid wastes. Such rules shall include, but shall not be limited to, the disposal site location, construction, operation, compliance deadlines, and maintenance of the disposal or disposal process as necessary to implement the purpose and intent of this chapter. Methods of acceptable solid waste disposal may include but shall not be limited to incineration, sanitary landfill or any other practical or reasonable method. Open burning shall be considered as an acceptable means of solid waste disposal by municipalities of population of five thousand or less or by counties for areas outside the boundaries of the municipalities, subject to chapter 34A-1. Rules authorized under the provisions herein shall be promulgated and adopted in compliance with chapter 1-26.

Source: SL 1972, ch 198, § 3; SDCL, § 34-16B-4; SL 1977, ch 281, § 2; 1980, ch 238, § 9.

See Okla Stat Ann, Tit 63, § 2259.

34A-6-8. Permit requirements for solid waste disposal established by board — Site plans submitted — Variation to meet local conditions. The board shall establish, by rule a solid waste disposal permit system necessary to prevent, abate, or control unauthorized or unapproved disposal of solid wastes. The permit system may require that appropriate plans and specifications for solid waste disposal sites be submitted for approval prior to the granting of a permit. Such The

**Executive Order Reorganizing the
Department of Water and Natural Resources**

EXECUTIVE ORDER 81-02
EXECUTIVE REORGANIZATION ORDER #1 of 1981

WHEREAS, the Constitution of the State of South Dakota provides that "except as to elected constitutional officers, the Governor may make such changes in the organization of offices, boards, commissions, agencies and instrumentalities, and in allocation of their functions, powers and duties, as he considers necessary for efficient administration. If such changes affect existing law, they shall be set forth in executive orders, which shall be submitted to the Legislature within five legislative days after it convenes, and shall become effective, and shall have the force of law, within ninety days after submission, unless disapproved by a resolution concurred in by a majority of all the members of either house"; and

WHEREAS, this executive order has been submitted to the 56th Legislative Assembly on the fifth legislative day, being the 13th day of January, 1981:

IT IS THEREFORE BY EXECUTIVE ORDER directed that the executive branch of state government be reorganized to comply with the following sections of this order.

GENERAL PROVISIONS

Section 1. This executive order shall be known and may be cited as the "Executive Reorganization Order #1 of 1981."

Section 2. Any agency not enumerated in this order, but established by law within another agency which is transferred to a principal department under this order, shall also be transferred in its current form to the same principal department and its functions shall be allocated between itself and the principal department as they are now allocated between itself and the agency within which it is established.

Section 3. "Agency" as used in this order shall mean any board, commission, department, bureau, division or any other unit or organization of state government.

Section 4. "Function" as used in this order shall mean any authority, power, responsibility, duty, program or activity of an agency, whether or not specifically provided for by law.

Section 5. Unless otherwise provided by this order, division directors shall be appointed by the head of the department or bureau of which the department is a part, and shall be removable at the pleasure of the department or bureau head, provided, however, that both the appointment and removal of division directors shall be subject to approval by the Governor. Departments and bureaus shall submit for approval to the commissioner of personnel minimum qualifications for the division director positions within their departments or bureaus.

Section 6. It is the intent of this order not to repeal or amend any laws relating to functions performed by an agency, unless the intent is specifically expressed in this order or unless there is an irreconcilable conflict between this order and those laws.

Section 7. If a part of this order is invalid, all valid parts that are

severable from the invalid part remain in effect. If a part of this order is invalid in one or more of its applications, the part remains in effect in all valid applications.

Section 8. Except when it is inconsistent with the other provisions of this order, all rules, regulations and standards of the agencies involved in executive reorganization that are in effect on the effective date of this order shall continue with full force and effect until they are specifically altered, amended or revoked in the manner provided by law, unless the statutory authority for such rules is superseded by this order.

Section 9. It is hereby declared that the sections, clauses, sentences and parts of this executive order are severable, are not matters of mutual essential inducement, and any of them may be excised by any court of competent jurisdiction if any section, clause, sentence or part of this executive order would otherwise be unconstitutional or ineffective.

Section 10. In the event that it has been determined that a function of a transferred agency, which has not been eliminated by this order, and its associated records, personnel, equipment, facilities, unexpended balances or appropriations, allocations or other funds have not been clearly allocated to an agency, the Governor shall specify by interim procedures the allocation of the function and its associated resources. At the next legislative session following the issuance of such interim procedures, the Governor shall make recommendations concerning the proper allocation of the functions of transferred agencies which are not clearly allocated by this order. Any interim procedures issued in conjunction with this section shall be filed with the secretary of state.

Section 11. The rights, privileges and duties of the holders of bonds and other obligations issued, and of the parties to contracts, leases, indentures and other transactions entered into, before the effective date of this order, by the state or by any agency, officer or employee thereof, and covenants and agreements as set forth therein, remain in effect, and none of those rights, privileges duties, covenants or agreements are impaired or diminished by the abolition of an agency in this order. The agency to which functions of another agency are transferred is substituted for that agency and succeeds to its rights and leases, indentures and other transactions.

Section 12. No judicial or administrative suit, action or other proceeding lawfully commenced before the effective date of this order by or against any agency or any officer of the state, in his official capacity or in relation to the discharge of his official duties, shall abate or be affected by the reason of the taking effect of any reorganization under the provisions of this order. The court may allow the suit, action or other proceeding to be maintained by or against the successor of any agency or any officer affected by this order.

Section 13. If any part of this order is ruled to be in conflict with federal requirements which are a prescribed condition to the receipt of federal aid by the state, an agency or a political subdivision, that part of this order has no effect and the Governor may by executive order make necessary changes to this order to receive federal aid, and the changes will remain in effect until the last legislative day of the next legislative session or until the Legislature completes legislation addressed to the same question, whichever comes first.

Section 14. The effective date of Executive Reorganization Order #1 of 1981 shall be July 1, 1981.

Section 15. Any provisions of law in conflict with this order are superseded.

Section 16. Whenever a function is transferred by this order, all personnel, records, property, unexpended balances of appropriations, allocations or other funds utilized in performing the function are also transferred by this order.

WATER AND NATURAL RESOURCES

Section 17. The functions of the water management board pursuant to §§ 34A-2-83 through 34A-2-92, inclusive; §§ 34A-2-87.1 through 34A-2-87.7, inclusive; and §§ 34A-2-92.1 through 34A-2-92.4, inclusive, relating to water pollution control grants, community water systems grants, and lake protection grants, respectively, are transferred to the water and natural resources board.

Section 18. The weather modification commission is abolished. All functions exercised by the former weather modification commission are transferred to the water management board.

Section 19. ~~The board of environmental protection~~ prescribed by section 1-43-7 is renamed ~~the board of minerals and environment~~ and is expanded to consist of nine members appointed by the Governor, not all of whom shall be from the same political party.

Section 20. The terms of the members of the board of minerals and environment shall be for four years. Each present member of the board of environmental protection, however, shall continue his existing term on the board of minerals and environment without this order affecting the length or conditions of the present term. Appointments to fill vacancies created by the expiration of the terms of present members of the board of environmental protection shall be for four years.

Section 21. The terms of the members of the board of minerals and environment first appointed after the effective date of this order shall be such that no more than three and no less than two members of the board of minerals and environment including those members continuing from the board of environmental protection shall have terms expiring in any one calendar year. The length of such initial terms shall be designated by the Governor. Section 1-43-7 is superseded.

Section 22. Any member appointed to fill a vacancy arising from other than the natural expiration of a term shall serve for only the unexpired portion of the term.

Section 23. The functions of the water and natural resources board pursuant to chapter 45-9 relating to oil and gas conservation are transferred to the board of minerals and environment.

Section 24. The functions of the state conservation commission pursuant to chapter 45-6A are transferred to the board of minerals and environment. No permit may be issued by the board of minerals and environment unless the

state conservation commission has approved the reclamation plan and bond required for the permit. In addition, no bond may be released or reclamation plan amended and no rules for reclamation may be adopted by the board of minerals and environment until approved by the state conservation commission.

Section 25. The functions of the department of health, the secretary of health, and the director of the division of environmental health pursuant to chapters 34A-1 and 34A-6, their functions relating to radiation monitoring and control for mineral exploration, mining, milling, and processing pursuant to chapter 34-21, and their functions dealing with the generation, transportation, treatment, storage, and disposal of hazardous materials and wastes are transferred to the department and secretary of water and natural resources. The personnel and budget of the division of environmental health are transferred to the department of water and natural resources.

Section 26. The surface mining land reclamation functions of the division of conservation pursuant to § 38-7-2.3 and chapter 45-6A and the surface mining program are transferred to the department of water and natural resources. The secretary of the department of water and natural resources shall perform all the functions of the director of the division of conservation and the secretary of agriculture relating to surface mining and reclamation in § 38-7-2.3 and chapter 45-6A.

Section 27. The functions of the state planning bureau pursuant to § 46-17A-14.1 relating to interdepartmental planning for water development are transferred to the department of water and natural resources.

Section 28. Any provisions of titles 34, 34A, 38, 45 and 46 in conflict with this order are hereby superseded.

DEPARTMENT OF AGRICULTURE

Section 29. The state conservation commission as found in § 38-7-4 is reorganized to the extent that the secretary of water and natural resources will no longer be an ex officio member of the commission.

Dated this 13th day of January, 1981.

Respectfully submitted,

(SIGNED)

William J. Janklow
Governor of South Dakota

ATTEST:

(SIGNED)

Alice Kundert
Secretary of State

Legislative Bills

1 (3) Requiring a motor carrier to obtain a permit before transport-
2 ing hazardous materials within the state; and

3 (4) Establishing a fee schedule for recovery of permitting,
4 enforcement and administrative costs incurred as a result of
5 this Act. The rules for cost recovery shall consider per diem,
6 travel, supplies, and personal services and benefits.

7 Section 5. In the event of an accident resulting in a spill or
8 leakage of a hazardous material, the motor carrier or the first law
9 enforcement officer to arrive at the scene of the accident shall
10 immediately contact the division of emergency and disaster service.
11 The division of emergency and disaster service may coordinate all ac-
12 tions in response to a spill or leakage of a hazardous material.

13 Section 6. A violation of any rules promulgated under the provi-
14 sions of this Act is a class I misdemeanor. Conviction for violating
15 this Act may not preclude prosecution resulting in forfeiture of prop-
16 erty and civil damages.

17 Section 7. The department of health and the department of public
18 safety may accept and administer grants and gifts for carrying out
19 functions pursuant to this Act, subject to the provisions of chapters
20 4-8, 4-8A and 4-8B.

21 Section 8. That § 32-22-46.1 be repealed.

22 ~~32-22-46.1: The secretary of the department of transportation~~
23 ~~shall review the present state and federal rules and regulations con-~~
24 ~~cerning transportation of radioactive materials; adopt such rules and~~
25 ~~regulations that would provide for the safe transportation on South~~
26 ~~Dakota roads and highways of radioactive materials; and provide for~~
27 ~~the adoption of appropriate emergency response procedures in case of~~
28 ~~any accident involving such carriers of radioactive materials; includ-~~

- 1 ing--regulations;-if-necessary;-allocating-costs-for-damages-and-clean
- 2 up---

State of South Dakota

FIFTY-SIXTH SESSION
LEGISLATIVE ASSEMBLY, 1981

SENATE	S. J. Page	Aye	Nay
Assigned to Committee on:			
Senate			
Committee Report:			
Do Pass Amend Table			
Legislative Action on Amendments:			
Adopted Not Adopted			
Second Reading and Final Passage:			
Pass Fail			

HOUSE	H. J. Page	Aye	Nay
Assigned to Committee on:			
House			
Committee Report:			
Do Pass Amend Table			
Legislative Action on Amendments:			
Adopted Not Adopted			
Second Reading and Final Passage:			
Pass Fail			

455D667

HOUSE BILL NO. **1291**

*Signed into
Law*

Introduced by: Representatives Kumm, Cotton, Donald Ham and Oien and
Senators Jones and Streff

1 FOR AN ACT ENTITLED, An Act to regulate the transportation of hazard-
2 ous materials by motor carrier and to provide a penalty.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF SOUTH DAKOTA:

4 Section 1. The secretary of the department of health shall promul-
5 gate rules, in accordance with chapter 1-26, before January 1, 1982,
6 for the safe transportation of hazardous materials, as defined by sub-
7 division (3) of § 33-15-1, by a motor carrier licensed pursuant to
8 chapter 32-9. The rules shall apply to any person who transports, or
9 whose actions require the transportation of a material in a quantity
10 designated hazardous by the rules promulgated under this Act. The
11 rules shall provide for transporting, packaging and labeling hazardous
12 materials to:

- 13 (1) Minimize the chance of accidental spills;
14 (2) Aid state and local officials and private citizens in dealing
15 with hazardous materials if an accident occurs;
16 (3) Reduce the probability of death, injury or property damage in
17 the event of an accident;
18 (4) Allocate the cost for cleanup in the event of an accident; and

Insertions into existing statutes are indicated by underscores.
Deletions from existing statutes are indicated by ~~overstrikes~~.

1 (5) Facilitate state and local enforcement.

2 Section 2. The rules promulgated pursuant to this Act shall con-
3 tain procedures regulating the following:

4 (1) Transportation, loading and unloading of hazardous materials
5 consistent with the requirements in the code of federal regula-
6 tions, chapter 49, part 177, as published on October 1, 1979;

7 (2) Packing, repacking and container specifications for hazardous
8 materials consistent with the requirements in the code of fed-
9 eral regulations, chapter 49, part 173, as published on October
10 1, 1979; and

11 (3) Marking, labeling, placarding and the necessary shipping papers
12 for hazardous materials consistent with the requirements in the
13 code of federal regulations, chapter 49, part 172, as published
14 on October 1, 1979.

15 The rules promulgated under this section are the minimum statewide
16 standards for transporting, packaging and labeling hazardous mate-
17 rials.

18 Section 3. The secretary of the department of health shall annu-
19 ally review the rules for the transportation of hazardous materials
20 contained in the code of federal regulations to determine if the rules
21 promulgated pursuant to section 2 of this Act should be amended.

22 Section 4. The secretary of the department of health, in consulta-
23 tion with the secretary of public safety and the secretary of trans-
24 portation, may promulgate rules:

25 (1) Designating the public highways on which a motor carrier may
26 transport hazardous materials within the state;

27 (2) Allowing for inspection of any shipment of hazardous materials
28 to ensure compliance with this Act;

State of South Dakota

FIFTY-SIXTH SESSION
LEGISLATIVE ASSEMBLY, 1981

SENATE	S.J. Page	Aye	Nay
Assigned to Committee on:			
Senate			
Committee Report			
Do Pass Amend Table			
Legislative Action on Amendments:			
Adopted Not Adopted			
Second Reading and Final Passage:			
Pass Fail			
HOUSE	H.J. Page	Aye	Nay
Assigned to Committee on:			
House			
Committee Report:			
Do Pass Amend Table			
Legislative Action on Amendments:			
Adopted Not Adopted			
Second Reading and Final Passage:			
Pass Fail			

335D529

HOUSE BILL NO. **1119**

*Tabled in
House Judiciary*

Introduced by: Representatives Cotton, Kumm, Oien and Strom on
behalf of the Department of Health

1 FOR AN ACT ENTITLED, An Act to provide a penalty for improper hazard-
2 ous waste storage, treatment, disposal or transportation.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF SOUTH DAKOTA:

4 Section 1. That chapter 34A-6 be amended by adding thereto a new
5 section to read as follows:

6 The exemptions referred to in §§ 34A-6-5 and 34A-6-48 do not apply
7 to the generation, transportation, treatment, storage or disposal of
8 hazardous waste.

9 Section 2. That chapter 34A-6 be amended by adding thereto a new
10 section to read as follows:

11 If the secretary determines that any person is in violation of any
12 requirement of this chapter or rules adopted thereunder relating to
13 hazardous wastes, the secretary may issue an order pursuant to the
14 provisions of chapter 1-26 requiring compliance within a specified
15 time or the secretary may commence a civil action in circuit court for
16 appropriate relief, including a temporary or permanent injunction. If
17 the secretary commences a civil action in circuit court the violator
18 is liable for a civil penalty not to exceed fifty thousand dollars for

Insertions into existing statutes are indicated by underscores.
Deletions from existing statutes are indicated by ~~overstrikes~~.

1 each day of noncompliance.

APPENDIX D

MEDIA

APPENDIX D

MEDIA

This Appendix contains selected newspaper articles, and a listing of T.V. stations, radio stations, and newspapers in South Dakota.

Television Stations

KXON (ABC, Ch. 5)
Interstate 90 & Highway 37
Mitchell, SD 57301

KEVN (ABC, Ch. 7)
P. O. Box 677
Rapid City, SD 57709

KOTA (NBC/CBS, Ch. 3)
P. O. Box 1760
Rapid City, SD 57709

KELO (CBS, Ch. 11)
13th & Phillips Ave.
Sioux Falls, SD 57102

KSFY (NBC, Ch. 13)
6th and Dakota Streets
Sioux Falls, SD 57102

KUSD (PBS, Ch. 2)
S.D. Public Television Network
310 East Clark
Vermillion, SD 57069

Radio Stations

KKLS-AM/KHJ-FM
Box 460
Rapid City, SD 57709

KDAT-FM
210 West 9th Street
Sioux Falls, SD 57102

KS00-AM
210 West 9th Street
Sioux Falls, SD 57102

KXRB-AM/KIOV-FM
3205 South Meadow
Sioux Falls, SD 57106

Newspapers--Daily

Aberdeen American News
124 S. Second Street
P. O. Box 4430
Aberdeen, SD 57401
Phone: (605) 225-4100
Circulation: 22,000

Belle Fourche Daily Post
1004 Fifth Avenue
Belle Fourche, SD 57717
Phone: (605) 892-2528
Circulation: 3,500

Brookings Register
306 Fourth Street
Brookings, SD 57006
Phone: (605) 692-6271
Circulation: 5,400

Deadwood Pioneer-Times
29 Deadwood Street
Deadwood, SD 57732
Phone: (605) 578-2212
Circulation: 3,300

Huron Plainsman

49 E. Third

Huron, SD 57350

Phone: (605) 352-6401

Circulation: 14,000

Lead Call

7 S. Main Street

P. O. Box 876

Lead, SD 57754

Phone: (605) 584-2303

Circulation: 3,300

Madison Leader

218 S. Egan Avenue

P. O. Box 348

Madison, SD 57042

Phone: (605) 256-4555

Circulation: 4,000

Mitchell Republic

120 S. Lawler

P. O. Box 988

Mitchell, SD 57301

Phone: (605) 996-5514

Circulation: 17,000

Pierre Daily Journal

415 S. Pierre St.

P. O. Box 878

Pierre, SD 57501

Phone: (605) 224-7301

Circulation: 4,900

Rapid City Journal

P. O. Box 450

Rapid City, SD 57709

Phone: (605) 342-0280

Circulation: 33,000

Argus-Leader

200 S. Minnesota

Sioux Falls, SD 57102

Circulation: 47,000

Watertown Public Opinion

120 Third Avenue, N.W.

Watertown, SD 57201

Phone: (605) 886-6903

Circulation: 18,000

Yankton Press & Dakotan

310 Walnut Street

Yankton, SD 57078

Phone: (605) 665-7811

Circulation: 10,000

Newspapers--Weekly

Alcester Union

P. O. Box 217

Alcester, SD 57001

Phone: (605) 934-2640

Circulation: 1,100

Alexandria Herald

Alexandria, SD 57311

Phone: (605) 239-4521

Circulation: 800

Arlington Sun

P. O. Box A

Arlington, SD 57212

Phone: (605) 983-5491

Circulation: 1,500

Armour Chronicle

P. O. Box 128

Armour, SD 57313

Phone: (605) 724-2747

Circulation: 800

Avon Clarion

Avon, SD 57315

Phone: (605) 286-3919

Circulation: 1,100

Belle Fourche Bee

1004 Fifth Avenue

Belle Fourche, SD 57717

Phone: (605) 892-2528

Circulation: 400

Beresford Republic

P. O. Box 111

Beresford, SD 57004

Phone: (605) 763-2006

Circulation: 2,000

Bonesteel Enterprise

Bonesteel, SD 57317

Phone: (605) 654-2678

Circulation: 700

Bowdle Pioneer

P. O. Box 368

Bowdle, SD 57428

Phone: (605) 285-6101

Circulation: 1,100

Bridgewater Tribune

P. O. Box 250

Bridgewater, SD 57319

Phone: (605) 729-2251

Circulation: 1,000

Britton Journal

P. O. Box 69

Britton, SD 57430

Phone: (605) 448-2281

Circulation: 2,200

Burke Gazette

P. O. Box 359

Burke, SD 57523

Phone: (605) 775-2612

Circulation: 1,100

Canova Herald

P. O. Box 217

Canova, SD 57321

Phone: (605) 523-2235

Circulation: 600

Canton Sioux Valley News

215 E. Fifth Street

Canton, SD 57013

Phone: (605) 987-2631

Circulation: 2,800

Carthage News

P. O. Box 166

Carthage, SD 57323

Phone: (605) 772-4441

Circulation: 700

Castlewood Hamlin County Republican

P. O. Box 38

Castlewood, SD 57223

Phone: (605) 793-2171

Circulation: 700

Centerville Journal

Centerville, SD 57014

Phone: (605) 563-2351

Circulation: 1,100

Chamberlain Register

P. O. Box 28

Chamberlain, SD 57325

Phone: (605) 734-5548

Circulation: 2,800

Clark County Courier

Clark, SD 57225

Phone: (605) 532-3654

Circulation: 2,900

Clear Lake Courier

P. O. Box 277

Clear Lake, SD 57226

Phone: (605) 874-2499

Circulation: 2,300

Corsica Globe

Corsica, SD 57328

Phone: (605) 946-5489

Circulation: 1,200

Custer County Chronicle

P. O. Box 551

Custer, SD 57730

Phone: (605) 673-2217

Circulation: 1,800

De Smet News

P. O. Box 69

De Smet, SD 57231

Phone: (605) 854-3331

Circulation: 2,200

Delmont Record

Delmont, SD 57330

Phone: (605) 779-3301

Circulation: 400

Dupree West River Progress

P. O. Box 237

Dupree, SD 57623

Phone: (605) 365-5145

Circulation: 800

Eagle Butte News

P. O. Box 210

Eagle Butte, SD 57625

Phone: (605) 964-2100

Circulation: 1,800

Edgemont Herald-Tribune

P. O. Box 660
Edgemont, SD 57735
Phone: (605) 662-7201
Circulation: 1,000

Elk Point Leader-Courier

P. O. Box 310
Elk Point, SD 57025
Phone: (605) 356-2632
Circulation: 1,500

Emery Enterprise

Emery, SD 57332
Phone: (605) 449-4420
Circulation: 700

Estelline Journal

P. O. Box 159
Estelline, SD 57234
Phone: (605) 873-2475
Circulation: 900

Eureka Northwest-Blade

Eureka, SD 57437
Phone: (605) 289-2631
Circulation: 1,900

Faith Independent

P. O. Box F.F.
Faith, SD 57626
Phone: (605) 967-2161
Circulation: 1,000

Faulkton County Record

P. O. Box 68
Faulkton, SD 57348
Phone: (605) 598-6525
Circulation: 1,600

Flandreau Moody County Enterprise

107 Second Avenue, W.
Flandreau, SD 57028
Phone: (605) 997-3725
Circulation: 2,500

Fort Pierre Times

P. O. Box 508
Fort Pierre, SD 57532
Phone: (605) 224-5888
Circulation: 1,300

Freeman Courier

700 E. Sixth Street
Freeman, SD 57029
(605) 925-4228
Circulation: 2,700

Garretson Weekly

P. O. Box 310
Garretson, SD 57030
Phone: (605) 594-6315
Circulation: 1,300

Gary Interstate

P. O. 128
Gary, SD 57237
Phone: (605) 272-5731
Circulation: 400

Geddes Charles Mix County News

P. O. Box 157

Geddes, SD 57342

Phone: (605) 337-2571

Circulation: 600

Gettysburg Potter County News

P. O. Box G

Gettysburg, SD 57442

Phone: (605) 765-9557

Circulation: 2,300

Gregory Times-Advocate

Gregory, SD 57533

Phone: (605) 835-8089

Circulation: 2,700

Groton Independent

P. O. Box 148

Groton, SD 57445

Phone: (605) 397-2676

Circulation: 1,500

Hayti Hamlin County Herald-Enterprise

Hayti, SD 57241

Phone: (605) 783-3636

Circulation: 1,400

Highmore Herald

P. O. Box 435

Highmore, SD 57345

Phone: (605) 852-2927

Circulation: 1,400

Hill City Prevailer & Guide

P. O. Box 266

Hill City, SD 57745

Phone: (605) 574-2538

Circulation: 1,100

Hot Springs Star

P. O. Box 1000

Hot Springs, SD 57747

Phone: (605) 745-4170

Circulation: 2,700

Hoven Review

P. O. Box 37

Hoven, SD 57450

Phone: (605) 948-2110

Circulation: 900

Howard Miner County Pioneer

P. O. Box P

Howard, SD 57349

Phone: (605) 772-5644

Circulation: 1,300

Hudson Hudsonite

Fifth & Hubbard

Hudson, SD 57034

Phone: (605) 984-2271

Circulation: 500

Hurley Leader

P. O. Box 218

Hurley, SD 57036

Phone: (605) 238-5229

Circulation: 700

Irene Tri-County News

P. O. Box 6

Irene, SD 57037

Phone: (605) 263-3339

Circulation: 1,000

Isabel Dakotan

Isabel, SD 57633

Phone: (605) 466-2123

Circulation: 600

Kadoka Press

P. O. Box 348

Kadoka, SD 57543

Phone: (605) 837-2259

Circulation: 1,000

Kennebec Advocate Leader

Main Street

Kennebec, SD 57544

Phone: (605) 869-2271

Circulation: 500

Kimball Brule County News

P. O. Box 46

Kimball, SD 57355

Phone: (605) 778-6253

Circulation: 1,300

Lake Andes Wave

P. O. Box 216

Lake Andes, SD 57356

Phone: (605) 487-7560

Circulation: 900

Lake Preston Times

Lake Preston, SD 57249

Phone: (605) 847-4421

Circulation: 1,400

Langford Bugle

Langford, SD 57454

Phone: (605) 493-6441

Circulation: 700

Lead Black Hills Weekly

P. O. Box 876

Lead, SD 57754

Phone: (605) 584-2303

Circulation: 400

Lemmon Leader

P. O. Box 180

Lemmon, SD 57638

Phone: (605) 374-3751

Circulation: 2,200

Lennox Independent

P. O. Box 76

Lennox, SD 57039

Phone: (605) 647-2284

Circulation: 2,100

Leola McPherson County Herald

P. O. Box 170

Leola, SD 57456

Phone: (605) 439-3131

Circulation: 1,000

Menno Hutchinson Herald

Menno, SD 57045

Phone: (605) 387-5158

Circulation: 1,100

Milbank Grant County Review

P. O. Box 390

Milbank, SD 57252

Phone: (605) 432-4516

Circulation: 3,300

Milbank Herald-Advance

P. O. Box 630

Milbank, SD 57252

Phone: (605) 432-6777

Circulation: 3,000

Miller Press

P. O. Box 196

Miller, SD 57362

Phone: (605) 853-3575

Circulation: 2,500

Mission Todd County Tribune

P. O. Box 229

Mission, SD 57555

Phone: (605) 856-4469

Circulation: 1,600

Mobridge Tribune

P. O. Box 250

Mobridge, SD 57601

Phone: (605) 845-3646

Circulation: 3,400

Montrose Herald

Montrose, SD 57048

Phone: (605) 454-2511

Circulation: 500

Murdo Coyote

Murdo, SD 57559

Phone: (605) 669-2271

Circulation: 700

Newell Valley Irrigator

Newell, SD 57760

Circulation: 1,800

Onida Watchman

P. O. Box 9

Onida, SD 57564

Phone: (605) 258-2344

Circulation: 1,100

Parker New Era

P. O. Box 577

Parker, SD 57053

Phone: (605) 297-4419

Circulation: 1,700

Parkston Advance

205 W. Main

Parkston, SD 57366

Phone: (605) 928-3111

Circulation: 1,600

Philip Pioneer-Review

P. O. Box 70

Philip, SD 57567

Phone: (605) 859-2516

Circulation: 1,600

Pierre Times

P. O. Box 310

Pierre, SD 57501

Phone: (605) 224-5888

Circulation: 6,700

Plankinton South Dakota Mail

416 N. Main

Plankinton, SD 57368

Phone: (605) 942-3071

Circulation: 900

Platte Enterprise

Platte, SD 57369

Phone: (605) 337-3101

Circulation: 1,700

Pollock Prairie Pioneer

P. O. Box 218

Pollock, SD 57648

Phone: (605) 889-2320

Circulation: 1,800

Presho Lyman County Herald

Presho, SD 57568

Phone: (605) 895-2505

Circulation: 1,000

Pukwana Press-Reporter

Pukwana, SD 57370

Phone: (605) 778-6253

Circulation: 200

Rapid City Guide

P. O. Box 130

Rapid City, SD 57709

Phone: (605) 342-0431

Circulation: 22,000

Redfield Press

P. O. Box 440

Redfield, SD 57469

Phone: (605) 472-0822

Circulation: 3,900

Ree Heights Review

Ree Heights, SD 57371

Phone: (605) 853-3575

Circulation: 300

Rosholt Review

Rosholt, SD 57260

Phone: (605) 537-4276

Circulation: 1,100

Salem Special

P. O. Box 220

Salem, SD 57058

Phone: (605) 425-2361

Circulation: 1,900

Scotland Journal

P. O. Box 388

Scotland, SD 57059

Phone: (605) 538-4419

Circulation: 1,500

Sisseton Courier

P. O. Box 169

Sisseton, SD 57262

Phone: (605) 698-7642

Circulation: 3,900

South Shore Gazette

South Shore, SD 57263

Phone: (605) 756-4200

Circulation: 500

Spearfish Queen City Mail

P. O. Box 152

Spearfish, SD 57783

Phone: (605) 642-2761

Circulation: 3,100

Springfield Times

1203 Walnut Street

Springfield, SD 57062

Phone: (605) 369-2441

Circulation: 800

Stickney Argus

Stickney, SD 57375

Phone: (605) 732-4555

Circulation: 800

Timber Lake Topic

Timber Lake, SD 57656

Phone: (605) 865-3546

Circulation: 1,000

Tripp Ledger

P. O. Box 0

Tripp, SD 57376

Phone: (605) 935-6711

Circulation: 900

Tyndall Tribune & Register

Tyndall, SD 57066

Phone: (605) 589-3242

Circulation: 1,800

Vermillion Plain Talk

P. O. Box 256

Vermillion, SD 57069

Phone: (605) 624-2659

Circulation: 2,500

Volga Tribune

P. O. Box 8

Volga, SD 57071

Phone: (605) 627-9471

Circulation: 1,100

Wagner Post & Advertiser

P. O. Box 100

Wagner, SD 57380

Phone: (605) 384-5555

Circulation: 1,600

Wall Pennington County Courant

Wall, SD 57790

Phone: (605) 279-2565

Circulation: 1,300

Webster Reporter & Farmer

P. O. Box 30

Webster, SD 57274

Phone: (605) 345-3356

Circulation: 4,000

Wessington Times Enterprise

P. O. Box H

Wessington, SD 57381

Phone: (605) 458-2253

Circulation: 700

White Lake Aurora County Standard

White Lake, SD 57383

Phone: (605) 249-2420

Circulation: 600

White River Mellette County News

White River, SD 57579

Phone: (605) 856-4469

Circulation: 550

Wilmot Enterprise

Wilmot, SD 57279

Phone: (605) 938-4651

Circulation: 1,000

Wolsey News

Wolsey, SD 57384

Phone: (605) 458-2253

Circulation: 700

Woodsocket News

P. O. Box 218

Woodsocket, SD 57385

Phone: (605) 796-4221

Circulation: 1,300

Woonsocket Artesian Commonwealth

P. O. Box 218

Woonsocket, SD 57385

Phone: (605) 796-4221

Circulation: 300

Tribune, Inc.

428 Fourth Street

Dell Rapids, SD 57022

Phone: (605) 428-5441

Baltic Beacon (700)

Colman Argus (600)

Dell Rapids Tribune (2,200)

Hartford Herald (800)

Elkton Record Publishers

P. O. Box K

Elkton, SD 57026

Phone: (605) 542-4831

Elkton Record (1,000)

Toronto Herald (400)

White Leader (900)

Brown County News Publishers

P. O. Box 557

Frederick, SD 57441

Phone: (605) 225-9423

Frederick Brown County News (800)

Hecla Independent (500)

Advocate Publishing Company, Inc.

P. O. Box 71

Winner, SD 57580

Phone: (605) 842-1481

Winner Advocate (4,200)

Winner Tripp County Journal (300)

Ipswich Tribune

P. O. Box 7

Ipswich, SD 57451

Phone: (605) 426-6471

Ipswich Tribune (1,100)

Roscoe Independent (600)

Selby Record Publishers

P. O. Box 343

Selby, SD 57472

Phone: (605) 649-7866

Java Herald (400)

Selby Record (1,400)

Allison Publishing

P. O. Box 776

Sturgis, SD 57785

Phone: (605) 347-2503

Sturgis Black Hills Press (4,800)

Sturgis Meade County Times Tribune

(3,000); Whitewood Centennial (1,600)

Wessington Springs Publishers

Main Street

Wessington Springs, SD 57382

Phone: (605) 539-1521

Alpena Journal (300)

Wessington Springs Independent

(1,400)

States moving to end transportation of radioactive wastes

Bob Tucker
Capital Bureau

PIERRE — Low-level radioactive wastes, such as the oil that dribbled out of a truck near Wasta in May, would not be transported cross-country anymore under regional compacts being developed by states.

South Dakota took the first step last week, through a governor's executive order, to negotiate with other states for a place to dispose of its own wastes. By July 1, 1986, a deadline set two years ago by Congress, states with disposal sites can refuse to accept wastes from a state that is not part of an interstate compact.

Three states had complained of being

radioactive dumping grounds for the whole country.

The regional disposal concept advocated as one alternative by Congress is becoming popular among states. It means Interstate 90 in South Dakota will likely be much less of a conduit for trucks with radioactive cargo headed toward Washington state which has one of the nation's three commercial disposal sites.

South Dakota officials don't know how much low-level radioactive waste is shipped across the state's highways each year because no prior notice is required. One case was inadvertently discovered May 26 near Wasta when a truck carrying low-level waste from a New York nuclear power plant to the

disposal site near Richland, Wash., developed a leak in one of 71 drums. The mess was cleaned up with little incident after a two-day vigil by state personnel.

As opposed to spent fuel from commercial reactors, defense wastes or uranium mine and mill tailings, low-level waste is defined in one article on the subject as the "catch-all category that includes anything from contaminated paper towels and protective clothing to machinery parts and sludges."

The issue of where to put the country's ever-increasing volume of such waste is a complicated and politically sensitive issue. Though South Dakota generates less than one cubic yard per

day of such waste compared with 5,000 for Illinois, it's an issue the state can't afford to ignore.

"If we didn't ask to become part of a group we might be left out in the cold as far as a depository for low-level waste from our end," says Clyde Sockerson, an attorney with the governor's office. "The other states are moving and we don't want to get stuck building our own disposal site."

State officials, though keeping their options open, are leaning toward trying to join a group of Northwest states including Idaho, Oregon and Washington. Any agreement involving South Dakota would have to be ratified by the Legislature.

Although regional waste disposal

sites are advocated in the 1979 Low-Level Radioactive Waste Policy Act, other options, less desirable for most states, are to develop their own sites or stop producing low-level radioactive wastes. "Either approach, however, will force states to come to terms with the sensitive political issues of siting and maintaining a disposal facility," according to an article, "Negotiable Junk," published by the National Conference of State Legislatures.

The stickiest problem may be faced by areas such as the industrial Midwest, long accustomed to exporting its wastes to a faraway state for disposal — what the NCSL article calls the "out of state, out of mind" approach. Wastes continued on page 2

proach. A state like Michigan with more than 2,000 cubic yards of waste a year, may have trouble finding partners. Such areas may have to start the long and controversial process of finding hydro-logically and geologically safe disposal sites in their own backyards.

The Midwest group — including Michigan, Illinois and Wisconsin — has "put out feelers" on South Dakota's willingness to join in a compact, said Sockerson. In contrast to that group of states — offering no ready disposal site, the Northwest group has the Washington site — one with a projected capacity for years to come.

Still, "This is very early in the game" as far as any commitments, he added. And South Dakota would have to be accepted by the other states in any group it decided to join.

Washington, which was the depository of wastes from Three Mile Island, and the other states with active disposal sites, Nevada and South Carolina, "are getting tired of being dumping grounds for the rest of the country," says Mary Whitman, associate director of the Western Interstate Energy Board in Denver. "They want equitable distribution."

Washington voters went so far as to approve an initiative prohibiting non-medical radioactive waste from other states that had not entered into an interstate compact with Washington. If South Dakota wanted to be part of the Idaho-Washington-Oregon group, the compact statute may have to be amended by the member Legislatures. States already eligible to join that group are Alaska, Montana, Wyoming, Utah and Hawaii.

With the miniscule wastes South Dakota generates, it probably would have little problem being accepted into such a compact, Ms. Whitman predicts.

The governor's executive order only took the very preliminary step of appointing a representative to the Western Regional Low-Level Radioactive Waste Committee. The committee, which meets regularly, is a forum to hash out regional solutions for management and disposal of low-level waste. That may include the drafting of proposed legislation and interstate compact language.

"For most of the states, this is just a reaction to federal law and to see what's going on," says Sockerson.

Radioactive wastes may bypass S.D.

PIERRE, S.D. (AP) — Low-level radioactive waste such as the oil that dribbled out of a truck near Wasta in May might not be transported cross-country anymore under regional compacts being developed by states.

South Dakota has taken the first step through an executive order by Gov. William Janklow to negotiate with other states for a place to dispose of its own wastes. By July 1, 1986, a deadline set by Congress, states with disposal sites can refuse to accept waste from states that are not part of an interstate compact.

Three states — Washington, Nevada and South Carolina — have complained of being radioactive dumping grounds for the whole nation. All three have commercial dumping sites.

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The issue of where to put the nation's ever-increasing volume of such wastes is complicated and politically sensitive. Though South Dakota generates less than 1 cubic yard per day of such waste compared with 5,000 for Illinois, the state can't ignore the issue.

"If we didn't ask to become part of a group, we might be left out in the cold as far as a depository for low-level waste from our end," said Clyde Saukerson, a lawyer with the governor's office. "The other states are moving and we don't want to get stuck building our own disposal site."

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The stickiest problem may be faced by areas such as the industrial Midwest, long accustomed to exporting its waste to a far-away state for disposal — what the NCSL calls the "out of state, out of mind" approach.

A state like Michigan, with more than 2,000 cubic yards of waste a year, might have trouble finding partners. Such areas may have to start the long and controversial process of finding disposal sites in their own back yard.

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Gamma scanning van' to cruise highway looking to 'hot' waste

By Bill Harlan
Call-Times Writer
(With AP Reports)

Next month a "mobile gamma scanning van" will cruise Highway 85 through the Black Hills looking for buildings and homes built with radioactive waste, but it's unclear which areas of Lawrence County, if any, the \$100,000 plus vehicle will survey.

Project Director Jack Thrall of the Environmental Protection Agency's Radiation Office in Las Vegas, Nev., said the survey will include towns that were near old uranium mines.

Thrall didn't know specifically which towns would be surveyed. He said those decisions will be made by the van's crew. They will be looking for "anomalies," or areas which exceed the normal background radiation.

The \$481,000 survey, started in August, will center largely in Utah, Colorado and Texas because of ex-

tensive uranium mining in those states.

South Dakota produced about 3.2 million pounds of uranium oxide between the early 1950's and 1973.

The history of uranium in Lawrence County is murky. In her book, "Yesterday's Gold Camps and Mines in the Northern Black Hills," Irma Klock tells about the mysterious Louis Von Davier, a uranium mine owner who disappeared in the Black Hills in 1885. Von Davier had uranium interests near Annie Creek.

Klock writes, "He (Von Davier) must have come back as in 1891 a shipment of uranium was made to Germany and a 100 pound sample to the east." (This was seven years before Madame Curie's discovery.)

A 1975 United States Geodetic Survey reports that sometime between 1950 and 1973 62 tons of uranium ore were mined in Lawrence County. This ore, according to the report, yielded 65 pounds of uranium.

But where was this ore mined? A survey of local mining experts and longtime residents failed to turn up evidence of a recent uranium mine in the county.

Lawrence County has seen flurries of exploration for uranium and thorium, a mineral whose radioactivity Madame Curie discovered. Apparently no one has found enough uranium to mine profitably, but the search will probably continue.

Bendix Field Engineering Corp. of Columbia, Md., is operating the survey van, which can survey 4,000 structures a week. Results of the EPA study will be turned over to state authorities.

Since August, 26,000 structures have been surveyed; anomalies have been found in 890. Thrall said that the EPA has returned to survey 40 of these 890 sites more thoroughly. Of those 40, none has been found to be a health hazard.

Wall, S. Dak. Courant, April 30, 1981

Radioactive waste buried in a box

by Liliias Jones

What began as a simple request for information ended up being a roller coaster ride through the Department of the Air Force and a nice illustration of "military intelligence."

Wanting to know more about what's in our backyard, BHA researcher Liliias Jones wrote a Freedom of Information Act request to Ellsworth Air Force Base in October. She asked for information on the radioactive waste stored there and for records on radioactive leaks from the 150 missile sites in western South Dakota. The Air Force's original response didn't include key information such as where the wastes are stored, how they are stored, or if any leaks had occurred. Follow-up letters were sent to the U.S.A.F. Radioisotope Committee in Texas and to Capt. Randall Ostraat at Ellsworth.

Another Air Force representative, Lt. Col. William Hitt, answered the second letter to Ellsworth, giving the location of the radioactive wastes and stating, "we do not maintain documents or records on radioactive leaks, as none have occurred."

A letter from Texas brought more information. Col. William Lawson stated that Ellsworth's wastes "consisted primarily of . . . gloves, rags, paper towels, etc., which became contaminated in the process of handling radioactive material." From the

mid-1950's until 1961, these wastes were stored in five tanks, 42 cardboard boxes, three bottles, and a "package." By 1972, according to a Radioisotope Committee report, everything but the tanks had been replaced by a plywood box buried at ground level, and all warning signs and fences had been removed.

A phone conversation between Lt. Col. Hitt and Attorney Andrew Reid revealed that people at Ellsworth hadn't thought of

testing the waste site or the missile silos until the BHA brought it up.

However, as it turns out, the wastes were tested in 1972, according to the Radioisotope Committee, although current Ellsworth personnel weren't aware of those tests. The test results showed radiation levels under the Federal "safe" limit with one exception.