

Appendix L

Socioeconomics Analysis

L.1 INTRODUCTION

This appendix includes the supporting data used for assessing the alternatives in the socioeconomics sections of this *Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility*. The socioeconomic analysis involved two major steps: (1) the characterization and projection of existing social, economic, and infrastructure conditions surrounding each of the candidate sites (i.e., the affected environment); and (2) the evaluation of potential changes in the socioeconomic conditions that could result from alternatives in the regions addressed (i.e., the environmental consequences). Data and analyses used to support the assessment made for the socioeconomic sections are presented in **Tables L-1 through L-27**.

The socioeconomic environment is defined for two geographic regions: the regional economic area and the region of influence. Regional economic areas are used to assess potential effects on the regional economy, and regions of influence are used to assess effects that are more localized in political jurisdictions surrounding the sites.

The regional economic areas for each site encompasses a broad market that involves trade among and between regional industrial and service sectors and is characterized by strong economic linkages between the communities in the region. These linkages determine the nature and magnitude of multiplier effects of economic activity (purchases, earnings, and employment) at each site. Regional economic areas are defined by the U.S. Bureau of Economic Analysis and consist of an economic node that serves as the center of economic activity and the surrounding counties that are economically related and include the places of work and residences of the labor force.

Potential demographic impacts were assessed for each region of influence, a smaller geographic area where the housing market and local community services would be most affected. Site-specific regions of influence were identified as those counties where approximately 90 percent of the current U.S. Department of Energy and contractor employees reside. This residential distribution reflects existing commuting patterns and attractiveness of area communities for people employed at each site and is used to estimate the future distribution of in-migrating workers.

**Table L-1 Oak Ridge Reservation Regional Economic Area
Employment and Economy, 2000-2040**

Regional Economic Area	2000	2005	2010	2020	2030	2040
Civilian labor force	493,669	526,450	549,317	593,551	642,649	697,307
Total employment	473,203	504,572	526,445	568,727	615,630	667,807
Unemployment rate (percent)	4.1	4.2	4.2	4.2	4.2	4.2

Source: DOL 2000; State of Tennessee 2000.

Table L-2 Oak Ridge Reservation Region of Influence Population, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	72,327	74,115	75,836	79,103	82,512	86,068
Knox	373,576	388,868	403,631	431,759	461,847	494,032
Loudon	39,526	42,126	44,718	49,988	55,880	62,467
Roane	50,897	52,596	54,427	58,107	62,035	66,229
Total	536,326	557,705	578,612	618,957	662,274	708,796

Source: Forstall 1995; State of Tennessee 2000.

Table L-3 Oak Ridge Reservation Region of Influence Total Number of Owner and Renter Housing Units, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	31,075	31,843	32,582	33,986	35,451	36,978
Knox	159,759	166,298	172,611	184,640	197,507	211,271
Loudon	16,434	17,515	18,593	20,784	23,234	25,972
Roane	21,914	22,646	23,434	25,018	26,710	28,516
Total	229,182	238,302	247,220	264,429	282,902	302,737

Source: DOC 1992; State of Tennessee 2000.

Table L-4 Oak Ridge Reservation Region of Influence Total Student Enrollment, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	6,849	7,018	7,181	7,491	7,814	8,150
Knox	52,266	54,405	56,471	60,406	64,616	69,119
Loudon	4,700	5,009	5,317	5,944	6,645	7,428
Roane	6,678	6,901	7,141	7,624	8,139	8,690
Total	70,493	73,333	76,110	81,465	87,214	93,387

Source: Davis 2000; Garza 2000; Groover 2000; McKinney 2000; Pierce 2000; State of Tennessee 2000.

Table L-5 Oak Ridge Reservation Region of Influence Total Number of Teachers, 2000–2040

County	Ratio of Students to Teachers	2000	2005	2010	2020	2030	2040
Anderson	13.2	518	531	543	567	591	616
Knox	17.3	3,014	3,137	3,256	3,483	3,726	3,986
Loudon	18.8	250	266	283	316	353	395
Roane	14.8	450	465	481	514	548	586
Total	16.7	4,232	4,399	4,563	4,880	5,218	5,583

Source: Davis 2000; Garza 2000; Groover 2000; McKinney 2000; Pierce 2000; State of Tennessee 2000.

Table L–6 Oak Ridge Reservation Region of Influence Total Number of Sworn Police Officers, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	158	162	165	173	180	188
Knox	1,159	1,207	1,253	1,340	1,433	1,533
Loudon	84	90	95	106	119	133
Roane	112	115	119	128	136	145
Total	1,513	1,574	1,632	1,747	1,868	1,999

Source: HPI 1999; State of Tennessee 2000.

Table L–7 Oak Ridge Reservation Region of Influence Total Number of Firefighters, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	285	292	299	311	325	339
Knox	625	651	675	722	773	826
Loudon	162	173	183	205	229	256
Roane	241	249	258	275	294	314
Total	1,313	1,365	1,415	1,513	1,621	1,735

Source: State of Tennessee 1998, 2000.

Table L–8 Oak Ridge Reservation Region of Influence Number of Hospital Beds, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	313	321	329	343	357	373
Knox	2,442	2,542	2,638	2,822	3,019	3,229
Loudon	55	59	62	69	78	87
Roane	155	161	166	177	189	202
Total	2,965	3,083	3,195	3,411	3,643	3,891

Source: AHA 1995; State of Tennessee 2000.

Table L–9 Oak Ridge Reservation Region of Influence Total Number of Doctors, 2000–2040

County	2000	2005	2010	2020	2030	2040
Anderson	185	190	194	202	211	220
Knox	1,341	1,396	1,449	1,550	1,658	1,774
Loudon	34	36	39	43	48	54
Roane	36	37	39	41	44	47
Total	1,596	1,659	1,721	1,836	1,961	2,095

Source: Randolph, Seidman, and Pasko 1995; State of Tennessee 2000.

Table L–10 INEEL Regional Economic Area Projected Employment and Economy, 2000–2040

Regional Economic Area	2000	2005	2010	2020	2030	2040
Civilian labor force	161,149	168,979	177,199	194,848	214,255	235,595
Total employment	153,440	160,884	168,784	185,662	204,229	224,652
Unemployment rate (percent)	4.8	4.8	4.7	4.7	4.7	4.6

Source: DOL 1999; Idaho Power 1996; State of Wyoming 1996.

Table L–11 INEEL Region of Influence Projected Population, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	78,600	81,808	85,147	92,240	99,924	108,248
Bingham	44,426	46,236	48,120	52,119	56,450	61,141
Bonneville	85,650	89,154	92,802	100,551	108,947	118,044
Jefferson	20,609	21,646	22,736	25,082	27,670	30,526
Total	229,285	238,844	248,805	269,992	292,991	317,959

Source: DOE 1999.

Table L–12 INEEL Region of Influence Projected Number of Owner and Renter Housing Units, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	30,275	31,510	32,796	35,528	38,487	41,693
Bingham	15,138	15,754	16,396	17,759	19,235	20,833
Bonneville	31,215	32,493	33,822	36,646	39,706	43,021
Jefferson	6,643	6,978	7,329	8,086	8,921	9,843
Total	83,271	86,735	90,343	98,019	106,349	115,390

Source: DOE 1999.

Table L–13 INEEL Region of Influence Projected Student Enrollment, 2000–2040

County	Capacity (percent)	2000	2005	2010	2020	2030	2040
Bannock	86.5	15,413	16,042	16,697	18,088	19,595	21,227
Bingham	84.7	11,867	12,350	12,853	13,921	15,078	16,331
Bonneville	91.8	19,782	20,592	21,434	23,224	25,163	27,265
Jefferson	90.6	5,879	6,175	6,486	7,155	7,893	8,708
Total	88.4	52,941	55,159	57,470	62,388	67,729	73,530

Source: DOE 1999.

Table L–14 INEEL Region of Influence Projected Number of Teachers, 2000–2040

County	Ratio of Students to Teachers	2000	2005	2010	2020	2030	2040
Bannock	17.9	863	899	935	1,013	1,097	1,188
Bingham	18.2	653	680	707	765	828	896
Bonneville	20.1	982	1,022	1,064	1,153	1,249	1,353
Jefferson	18.4	319	335	352	388	428	472
Total	18.8	2,817	2,936	3,058	3,319	3,602	3,909

Source: DOE 1999.

Table L–15 INEEL Region of Influence Projected Number of Sworn Police Officers, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	225	234	244	265	287	311
Bingham	56	58	61	66	72	78
Bonneville	191	199	207	224	243	263
Jefferson	29	30	32	35	39	43
Total	501	521	544	590	641	695

Source: DOE 1999.

Table L–16 INEEL Region of Influence Projected Number of Firefighters, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	188	196	204	221	240	260
Bingham	152	158	165	179	194	211
Bonneville	157	164	170	184	199	215
Jefferson	94	99	104	115	127	141
Total	591	617	643	699	760	827

Source: DOE 1999.

Table L–17 INEEL Region of Influence Projected Number of Hospital Beds, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	434	451	470	509	551	597
Bingham	268	279	290	314	340	368
Bonneville	329	343	357	387	420	456
Jefferson	–	–	–	–	–	–
Total	1,031	1,073	1,117	1,210	1,311	1,421

Source: DOE 1999.

Table L–18 INEEL Region of Influence Projected Number of Doctors, 2000–2040

County	2000	2005	2010	2020	2030	2040
Bannock	146	152	158	171	185	200
Bingham	23	24	25	27	29	32
Bonneville	172	179	186	201	217	235
Jefferson	5	6	6	7	8	10
Total	346	361	375	406	439	477

Source: DOE 1999.

Table L–19 Hanford Regional Economic Area Projected Employment and Economy, 2000–2040

Regional Economic Area	2000	2005	2010	2020	2030	2040
Civilian labor force	369,570	393,230	418,465	473,828	536,515	607,496
Total employment	328,709	349,790	372,278	421,605	477,467	540,732
Unemployment rate (percent)	11.1	11.0	11.0	11.0	11.0	11.0

Source: DOE 1999.

Table L–20 Hanford Region of Influence Projected Population, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	149,100	157,549	166,476	185,870	207,524	231,701
Franklin	50,683	54,562	58,738	68,071	78,887	91,422
Total	199,783	212,111	225,214	253,941	286,411	323,123

Source: DOE 1999.

Table L–21 Hanford Region of Influence Projected Number of Owner and Renter Housing Units, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	58,217	61,516	65,002	72,575	81,030	90,470
Franklin	17,806	19,168	20,635	23,914	27,714	32,118
Total	76,023	80,684	85,637	96,489	108,744	122,588

Source: DOE 1999.

Table L–22 Hanford Region of Influence Projected Student Enrollment, 2000–2040

County	Capacity (percent)	2000	2005	2010	2020	2030	2040
Benton	90.7	30,427	32,151	33,973	37,931	42,350	47,284
Franklin	97.7	10,896	11,730	12,628	14,636	16,963	19,660
Total	92.5	41,323	43,881	46,601	52,567	59,313	66,944

Source: DOE 1999.

Table L–23 Hanford Region of Influence Projected Number of Teachers, 2000–2040

County	Ratio of Students to Teachers	2000	2005	2010	2020	2030	2040
Benton	15.8	1,930	2,039	2,154	2,404	2,683	2,994
Franklin	16.8	647	697	750	869	1,007	1,167
Total	16.0	2,577	2,736	2,904	3,273	3,690	4,161

Source: DOE 1999.

Table L–24 Hanford Region of Influence Projected Number of Sworn Police Officers, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	225	238	251	280	312	348
Franklin	79	85	92	107	125	146
Total	304	323	343	387	437	494

Source: DOE 1999.

Table L–25 Hanford Region of Influence Projected Number of Firefighters, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	399	422	445	496	553	617
Franklin	267	288	310	360	418	485
Total	666	710	755	856	971	1,102

Source: DOE 1999.

Table L–26 Hanford Region of Influence Projected Number of Hospital Beds, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	271	287	303	339	379	424
Franklin	143	154	166	193	224	260
Total	414	441	469	532	603	684

Source: DOE 1999.

Table L–27 Hanford Region of Influence Projected Number of Doctors, 2000–2040

County	2000	2005	2010	2020	2030	2040
Benton	225	238	251	280	312	348
Franklin	53	57	61	70	81	93
Total	278	295	312	350	393	441

Source: DOE 1999

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