

***sistent with current and planned uses of INTEC outlined in the INEEL Comprehensive Facility and Land Use Plan (DOE 1997). Implementing this option would not affect overall INEEL land use or land use on surrounding areas.***

## 5.2.2 SOCIOECONOMICS

This section presents the potential effects of implementing the waste processing alternatives described in Chapter 3 on the socioeconomic factors of the INEEL region of influence as defined in Section 4.3, Socioeconomics. Changes to INEEL-related expenditures and workforce levels have the potential to generate economic impacts that may affect local employment, population, and community services. These potential impacts should be positive in that they would contribute to stabilization of the INEEL workforce and thus the regional economy. Since 1991, INEEL employment levels have declined about 35 percent to approximately 8,100 jobs. Long-range employment forecasts are not available for INEEL missions but indications based on budget forecasts suggest workforce levels have stabilized at current levels and will not fluctuate more than  $\pm 5$  percent (McCammon 1999). Currently about 1,100 of these workers are associated with INTEC (Beck 1998). DOE assumes that these workers are the basis for the HLW workforce. Since comprehensive staffing plans determining the number of employees that would be retrained and reassigned, if necessary, to support the HLW mission have not yet been prepared, it is assumed all 1,100 would be potentially available for HLW work.

Figure 5.2-1 shows projected total direct waste processing job requirements by alternative and option. The projected employment levels include a total of both construction and operations employment in a given year. Workforce levels marginally exceed the baseline for the Planning Basis Option during the operational phase.

Following a short discussion on methodology, potential impacts for both the construction and operational phases are discussed in terms of employment and earnings, population and housing, community services, and public finance. Facility disposition is discussed in Section 5.3.2.

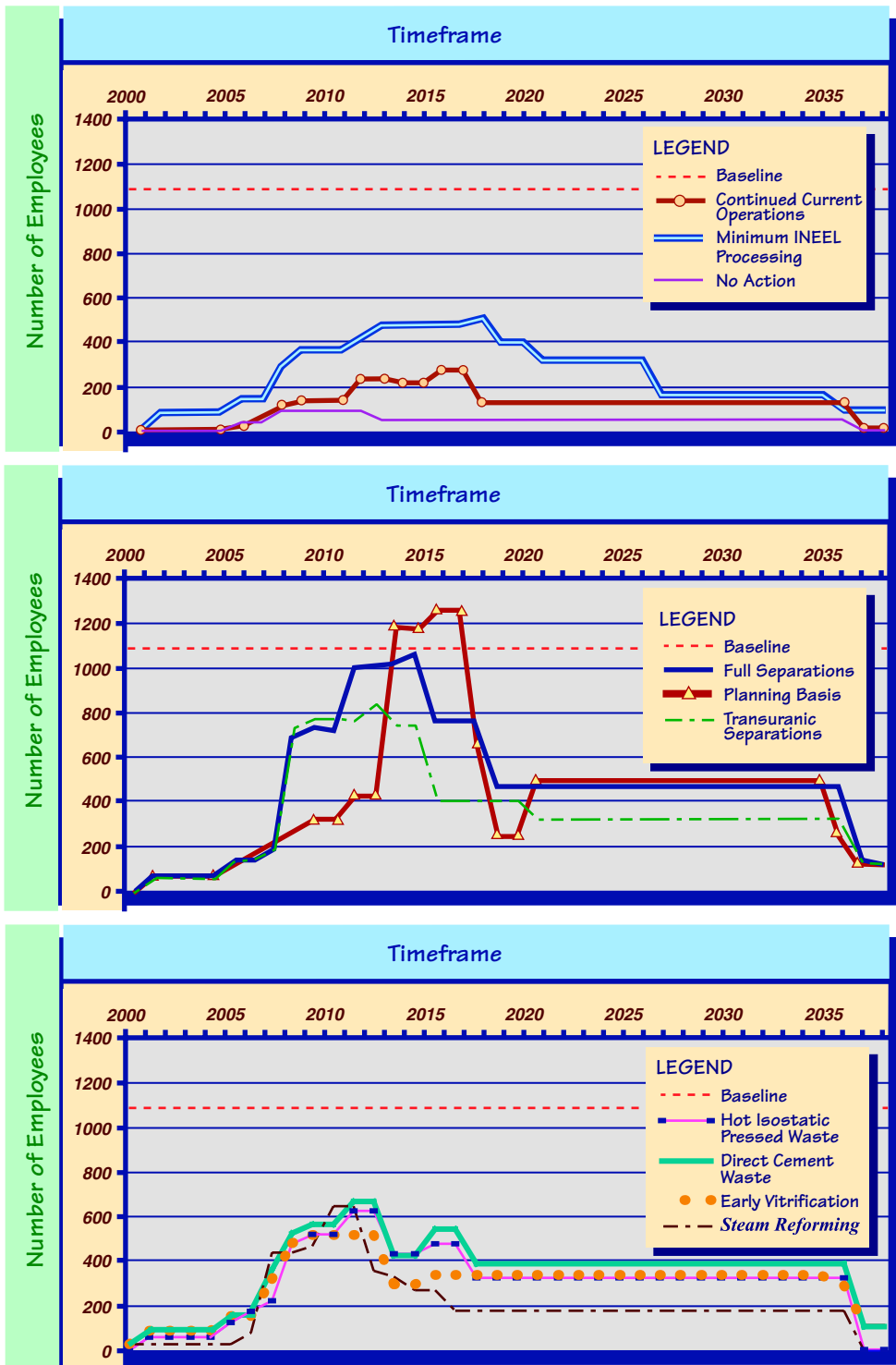
### 5.2.2.1 Methodology

Socioeconomic impacts are addressed in terms of both direct and indirect jobs. Direct jobs are the employment levels directly expected to take place under each alternative and include both construction and operations phases. This may also include existing INEEL employees doing work that will transition to a waste processing alternative, especially in operations where existing employees would be expected to be retrained and reassigned, whenever possible. In some cases, the skill mix and the number of personnel available may dictate a reduction in force. The number of workers affected will depend on the alternatives selected and the timing. History has shown that such reductions are generally small. Indirect jobs can result from spending by INEEL employees which in turn generates non-INEEL jobs. The total economic impact to the region of influence is the sum of direct and indirect impacts.

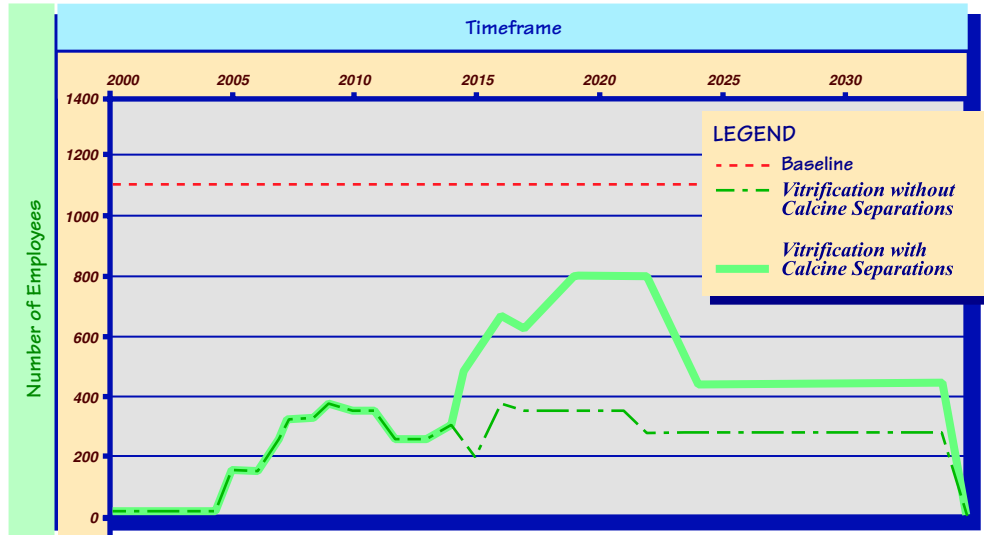
The direct jobs for each option estimated in the socioeconomic analysis are based on the project data provided in Appendix C.6, Project Summaries, for all projects that make up the option. Total employment and earnings impacts were estimated using Regional Input-Output Modeling System (RIMS) multipliers developed specifically for the INEEL region of influence by the U.S. Bureau of Economic Analysis. A discussion of the methodology can be found in Appendix C.1, Socioeconomics.

The conditions described for the affected environment region of influence provide the basis for determining the potential impacts of each alternative. Projected baseline employment and population represent socioeconomic conditions that are likely to exist in the region of influence through 2035, which is the latest information available. Long term baseline projections that would serve as a comparison to long term HLW operations would be too speculative to be meaningful. Every alternative is expected to result in short-term employment for the construction of new facilities and longer-term employment for the implementation of the waste processing alternatives.

***Since the publication of the Draft EIS, Census 2000 and related data have been incorporated into the socioeconomic analyses. Population***



**FIGURE 5.2-1. (1 of 2)**  
 Total projected direct employment by alternative compared to projected baseline employment at INTEC.



**FIGURE 5.2-1. (2 of 2)**  
 Total projected direct employment by alternative compared to projected baseline employment at INTEC.

figures, housing characteristics, labor information, and economic multipliers (such as employment and earnings multipliers) have been updated to reflect the most current socio-economic environment in the region of influence.

### 5.2.2.2 Construction Impacts

**Employment and Earnings** - Table 5.2-2 presents construction phase employment and earnings by alternative. Under the No Action Alternative, minimal construction would occur (a calcine retrieval and transport system) and would have the smallest incremental impact, about 40 jobs contributing *approximately* \$1 million (2000 dollars) to the economy. For the construction phase, the Planning Basis Option under the Separations Alternative represents the largest potential impact. A total of **1,700** jobs (870 direct and **840** indirect) are expected to be retained in the peak year (2013) as a result of implementing this option (Table 5.2-2). For the same peak year, *the labor force* in the region of influence is projected to be **154,000** (RIMS II). As can be seen, the INEEL employment levels retained by the Separations Alternative would be small compared to the region as a whole. The Continued Current Operations Alternative

would result in the smallest number of jobs, except for No Action [180 jobs (90 direct and 90 indirect)]. During their respective peak years, the Planning Basis Option would contribute approximately \$43 million (2000 dollars) in earnings to the local economy, while the Continued Current Operations Alternative would add \$4.4 million (2000 dollars). The Minimum INEEL Processing Alternative at Hanford would result in approximately 290 direct jobs during the peak year. These contributions to the local economy would be temporary, lasting only as long as construction.

Although a few technical positions (such as iron and steel workers) may be required that would necessitate the in-migration of some workers and their dependents, the vast majority of workers would come from workers at the INEEL or the region of influence unemployment pool. Table 5.2-3 projects regional employment to the year 2025. Sufficient labor resources appear available at the INEEL and in the regional employment pool to accommodate INEEL employment requirements. Should unforeseen major construction activities begin in the future, availability of workers could become more constrained, but given the forecasted needs and projected labor pool, additional in-migration should be minimal. In the construction sector, forecasts

**Table 5.2-2. Construction phase employment and income by alternative during respective peak year.**

Alternatives	Peak <sup>a</sup>	Employment			Total earnings (Dollars) <sup>c</sup>
		Direct <sup>b</sup>	Indirect	Total	
<b>No Action Alternative</b>	2005	<b>21</b>	20	<b>41</b>	1,000,000
<b>Continued Current Operations Alternative</b>	2008	<b>89</b>	<b>86</b>	180	4,400,000
<b>Separations Alternative</b>					
Full Separations Option	2013	850	<b>830</b>	<b>1,700</b>	<b>42,000,000</b>
Planning Basis Option	2013	870	<b>840</b>	<b>1,700</b>	<b>43,000,000</b>
Transuranic Separations Option	2012	680	<b>650</b>	<b>1,300</b>	<b>34,000,000</b>
<b>Non-Separations Alternative</b>					
Hot Isostatic Pressed Waste Option	2008	360	<b>350</b>	<b>710</b>	<b>18,000,000</b>
Direct Cement Waste Option	2008	400	<b>390</b>	<b>790</b>	<b>20,000,000</b>
Early Vitrification Option	2008	330	<b>320</b>	<b>650</b>	<b>16,000,000</b>
<b>Steam Reforming Option</b>	<b>2010</b>	<b>550</b>	<b>530</b>	<b>1,100</b>	<b>27,000,000</b>
<b>Minimum INEEL Processing Alternative</b>					
At INEEL	2008	200	<b>190</b>	<b>390</b>	<b>9,800,000</b>
At Hanford <sup>d, e</sup>	2024	290	<b>280</b>	<b>570</b>	<b>14,000,000</b>
<b>Direct Vitrification Alternative</b>					
<b>Vitrification without Calcine Separations Option</b>	<b>2011</b>	<b>350</b>	<b>340</b>	<b>690</b>	<b>17,000,000</b>
<b>Vitrification with Calcine Separations Option</b>	<b>2019</b>	<b>670</b>	<b>650</b>	<b>1,300</b>	<b>33,000,000</b>

a. Peak represents the first year of construction phase that employs the maximum direct workers.

b. Source: Data from project data sheets in Appendix C.6.

c. Source: IDOL (2002) presented in 2000 dollars.

d. Source: Data from project data sheets in Appendix C.8.

e. Based on same wage structure and employment multiplier as INEEL.

indicate that about 7,000 construction workers would be in the area (RIMS II). The Planning Basis Option, the bounding case, requires 870 direct jobs which would be 12 to 13 percent of the projected construction workforce. The potential socioeconomic impacts at the Hanford Site would be similar to those described for the INEEL but would be smaller in magnitude (see Appendix C.8).

**Population and Housing** - As the demand for workers in a region varies, the population also tends to vary depending on the nature of the change in employment demand. For example, as worker demand increases (or decreases) in a region, some potential workers and their families may move into (or out of) the region in search of new jobs. As can be seen from Table 4-1 and Table 5.2-3, both the population and the employment pool are projected to continue growing.

As mentioned in the introduction to this section, indications are the INEEL workforce has stabilized but could vary by about 5 percent. If the

variation resulted in downsizing, about 400 jobs could be lost. As noted in the previous section, any in-migration is expected to be minimal and would do little to offset the job losses.

The actual magnitude of the total population effect would depend to a large extent on the future availability of comparable employment opportunities within the region relative to the availability of employment elsewhere and to a variety of subjective criteria. Consequently, the reduction of employment could result in a reduced demand for housing and rental units. Assuming all 400 individuals own or rent housing and all are relocated, based on 1992 housing units, the amount of available housing would increase by **13** percent.

**Community Services and Public Finance** - The situation involving potential impacts to community services and public finance is similar to that described for population and housing. As the demand for workers in a region varies, the pressure on community services and the tax base also

Table 5.2-3. Population and labor projections.<sup>a</sup>

Year	Region of influence population	Labor force	Unemployment	Employment
2000	250,365	131,352	5,294	126,058
2001	254,065	133,667	6,099	127,568
2002	257,765	135,614	6,188	129,426
2003	261,465	137,560	6,277	131,284
2004	265,165	139,507	6,365	133,142
2005	268,865	141,454	6,454	134,999
2006	270,962	142,557	6,504	136,052
2007	273,059	143,660	6,555	137,105
2008	275,156	144,763	6,605	138,158
2009	277,253	145,867	6,655	139,211
2010	279,350	146,970	6,706	140,264
2011	283,596	149,204	6,808	142,396
2012	287,843	151,438	6,910	144,528
2013	292,089	153,672	7,012	146,661
2014	296,336	155,906	7,114	148,793
2015	300,582	158,140	7,216	150,925
2016	304,489	160,196	7,309	152,887
2017	308,397	162,252	7,403	154,849
2018	312,304	164,308	7,497	156,811
2019	316,212	166,363	7,591	158,773
2020	320,119	168,419	7,685	160,735
2021	324,027	170,475	7,778	162,697
2022	327,934	172,531	7,872	164,659
2023	331,842	174,587	7,966	166,621
2024	335,749	176,642	8,060	168,583
2025	339,657	178,698	8,154	170,545

a. Source: BEA (1998, 2000).

varies. Assuming a stabilized INEEL workforce that would not vary by more than 5 percent, a downsizing of 400 jobs as discussed in the previous section would not likely generate discernible impacts on community services and public finance within the region of influence. While the magnitude of the impacts may be small, they could result in reduced school enrollments and similar decreases in demand for other community services. Similarly, revenues received by the county governments within the region of influence may decrease slightly as a result of the declines in regional economic activity.

### 5.2.2.3 Operational Impacts

**Employment and Earnings** - For the operations phase, the Direct Cement Waste Option represents the largest potential impact. As shown in Table 5.2-4, a total of **1,600** jobs (530 direct and **1,000** indirect) are expected to be retained during the peak year (2015) and would contribute about \$42 million to the economy. Projected Idaho **labor force** levels for the region are expected to be about **158,000** (RIMS II). Again, the INEEL workforce maintained by the waste processing alternatives would be small when compared to the regional workforce. The No Action

Table 5.2-4. Operations phase employment and income by alternative during respective peak year.

Alternatives	Peak <sup>a</sup>	Employment			Income (dollars) <sup>c</sup>
		Direct <sup>b</sup>	Indirect	Total	
<b>No Action Alternative</b>	2007	73	140	220	5,800,000
<b>Continued Current Operations Alternative</b>	2015	280	550	830	22,000,000
<b>Separations Alternative</b>					
Full Separations Option	2018	440	870	1,300	35,000,000
Planning Basis Option	2020	480	950	1,400	38,000,000
Transuranic Separations Option	2015	320	630	950	25,000,000
<b>Non-Separations Alternative</b>					
Hot Isostatic Pressed Waste Option	2015	460	910	1,400	37,000,000
Direct Cement Waste Option	2015	530	1,000	1,600	42,000,000
Early Vitrification Option	2015	330	650	980	26,000,000
<b>Steam Reforming Option</b>	<b>2012</b>	<b>170</b>	<b>340</b>	<b>520</b>	<b>14,000,000</b>
<b>Minimum INEEL Processing Alternative</b>					
At INEEL	2018	330	650	980	26,000,000
At Hanford <sup>d,e</sup>	2029	740	1,500	2,200	59,000,000
<b>Direct Vitrification Alternative</b>					
<b>Vitrification without Calcine Separations Option</b>	<b>2015</b>	<b>310</b>	<b>600</b>	<b>910</b>	<b>24,000,000</b>
<b>Vitrification with Calcine Separations Option</b>	<b>2023</b>	<b>440</b>	<b>880</b>	<b>1,300</b>	<b>35,000,000</b>

a. Peak represents the first year of operations phase that employs the maximum direct workers.

b. Source: Data from project data sheets contained in Appendix C.6.

c. Source: IDOL (2002) presented in 2000 dollars.

d. Source: Data from project data sheets in Appendix C.8.

e. Based on same wage and employment multipliers as INEEL.

Alternative would have the smallest number of jobs and would contribute about \$5.8 million to the economy. The **Steam Reforming Option** would have the next smallest workforce representing 520 jobs (170 direct and 340 indirect) with an economic contribution of about \$14 million. As in the case of the construction phase, wages generated during operations could result in additional non-INEEL jobs. In general, operations would contribute less income to the regional economy than would construction, on a peak-year basis.

Although a few technical positions may be required that would necessitate the in-migration of some workers and their dependents, the vast majority of workers would come from the local unemployment pool in the region of influence.

Unemployment in the region of influence ranged between 4 and 6 percent in the 1990s and 2000 (BLS 1997, 2002). As was the case for construction, sufficient labor resources appear available at the INEEL and in the regional employment pool to accommodate INEEL employment requirements. However, as can be seen on Figure 5.2-1, the operational peak marginally exceeds the baseline employment level. These additional employees would have to be reassigned from other INEEL missions or obtained from the regional employment pool. Again, as with the construction phase, in-migration should be minimal. The Direct Cement Waste Option is projected to require 530 direct employees. During the peak year of operations, forecast indicates about 7,000 to 7,500 operational sector employees would be in the area.