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7.0 COST-BENEFIT ANALYSES

This chapter describes the costs and benefits for the proposed action, quantitatively and qualitatively. Environmental Report (ER) Section 7.1, Economic Cost-Benefits, Facility Construction and Operation, describes the quantitative direct and indirect economic impacts from facility construction and operation. ER Section 7.2 describes the qualitative socioeconomic and environmental impacts from facility construction and operation. ER Section 7.3, No-Action Alternative Cost-Benefit, describes the impacts of the no-action alternative of not building the proposed Eagle Rock Enrichment Facility (EREF).

7.1 ECONOMIC COST-BENEFITS, FACILITY CONSTRUCTION AND OPERATION

This analysis traces the economic impact of the proposed EREF in the 11-county region surrounding the proposed EREF, identifying the direct impacts of the facility construction and operation on revenues of local businesses, on incomes accrued to households, on employment, and on the revenues of state and local government. Further, it explores the indirect impacts of the EREF on local entities using a model showing the interaction of economic sectors in the 11-county region surrounding the proposed EREF.

7.1.1 Introduction

The purpose of ER Section 7.1, Economic Cost-Benefits, Facility Construction and Operation, is to assess the economic impact that construction and operation of the EREF would have on the surrounding area, including Bonneville, Bingham, and Jefferson Counties in Idaho. The analysis estimates the economic impact upon a contiguous 11-county region, comprised of the three previously identified counties, as well as eight more directly affected Idaho counties falling within a 80-km (50-mi) radius of the proposed site, including Bannock, Blaine, Butte, Caribou, Clark, Fremont, Madison, and Power Counties. (See Figure 7.1-1, 11-County Economic Impact Area)

Only a very small part of southeast Lemhi County is included within the 80-km (50-mi) radius of the proposed EREF. The potentially affected area is comprised of Targhee National Forest land, where no one is likely to reside. Including demographic and economic information for the entire county (with a land area of 11,821 km^2 (4,564 mi^2), 1.7 people per 2.6 km^2 (1 mi^2), and a population of 7,806 in 2000 and an estimated population of 7,717 in 2007) could skew the results of the analysis by inflating the size of the potentially affected population. Thus, Lemhi County was excluded from the data analysis (USCB, 2000dd) (USCB, 2007).

For the purpose of assessing the economic impact of the EREF, the analysis is divided into two distinct phases: Construction and Operations. For each of these two periods, both the direct and indirect impacts were assessed. Unless otherwise stated, all fiscal impacts are stated in 2007 real dollars based on the estimated costs and wages/benefits data provided, and are not adjusted for anticipated price or wage inflation over the period analyzed.

ER Section 7.1.2, The Economic Model – USBEA RIMS II Multipliers, includes a discussion of the United States Bureau of Economic Analysis model for evaluating industry impacts. ER Section 7.1.3, Regional Economic Outlook, discusses current economic conditions and the existing economic structure of the 11-county region. ER Section 7.1.4, Direct Economic Impact, is a discussion of the direct impacts associated with the EREF, which includes earnings, employment, and tax-related revenues. ER Section 7.1.5, Total Economic Impact Using RIMS II utilizes the Regional Input-Output Modeling System (RIMS) II framework to assess the total (both direct and indirect) economic impact of the EREF on the regional economy. The origin, general operation, and specific application of the RIMS II framework to the proposed action are discussed below.

7.1.2 The Economic Model – USBEA RIMS II Multipliers

A U.S. Bureau of Economic Analysis (USBEA) RIMS II model provides "multipliers" for approximately 500 industries showing the industry outputs stimulated by new activity, the associated household earnings, and the jobs generated.

The RIMS II model for the Bonneville County, Idaho area is based on the National Input-Output table, employment statistics from the Bureau of Labor Statistics, and the Regional Economic Information System (REIS). The National table is regionalized using location quotients, which compare the local proportion of industry employment to total employment to a similar proportion for the Nation. The model is solved to generate a very large table of multipliers for the entire set of industries existing in a 80 km (50 mi) region of Idaho.

Since the 1970s, the USBEA has provided models designated as RIMS (Regional Input-Output Modeling). RIMS II is the latest version of this system. The following comments are based on Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II) (USBEA, 1997).

As noted in the RIMS II User Handbook, if a one county region is used, impacts at times are underestimated because the RIMS II multipliers do not reflect “feedback” effects. “Feedback” effects can include purchases made by commuters from nearby counties. As such, the choice of a region should account for the specific facility. For this particular facility, workers may choose to live in counties surrounding the proposed location. In addition, non-labor inputs may be purchased from businesses in other counties. A smaller region would be selected if the impacts were expected only in the immediate vicinity of the proposed facility (USBEA, 1997).

RIMS II is based on an accounting framework called an input-output (I-O) table. For each industry, an I-O table shows the distribution of the inputs purchased and the outputs sold. A typical I-O table in RIMS II is derived mainly from two data sources: USBEA's national I-O table, which shows the input and output structure of nearly 500 U.S. industries, and USBEA's regional economic accounts, which are used to adjust the national I-O table in order to reflect a region's industrial structure and trading patterns.

The RIMS II model and its multipliers are prepared in three major steps. First, an adjusted national industry-by-industry direct requirements table is prepared. Second, the adjusted national table is used to prepare a regional industry-by-industry direct requirements table. Third, a regional industry-by-industry total requirements table is prepared, and the multipliers are derived from this table.

Unlike the national I-O tables, RIMS II includes households as both suppliers of labor inputs to regional industries and as purchasers of regional output, because it is customary in regional impact analysis to account for the effects of changes in household earnings and expenditures. Thus, both a household row and a household column are added to the national direct requirements table before the table is regionalized.

The regional industry-by-industry direct requirements table is derived from the adjusted national industry-by-industry direct requirements table. Location quotients (LQ's) are used to "regionalize" the national data. The LQ based on wages and salaries is the ratio of the industry's share of regional wages and salaries to that industry's share of national wages and salaries. The LQ is used as a measure of the extent to which regional supply of an industry's output is sufficient to meet regional demand. If the LQ for a row industry in the regional direct requirements table is greater than, or equal to, one, it is assumed that the region's demand for the output of the row industry is met entirely from regional production. In this instance, all row entries for the industry in the regional direct requirements table are set equal to the corresponding entries in the adjusted national direct requirements table.

Conversely, if the LQ is less than one, it is assumed that the regional supply of the industry's output is not sufficient to meet regional demand. In this instance, all row entries for the industry in the regional direct requirements table are set equal to the product of the corresponding entries in the adjusted national direct requirements table and the LQ for the industry.

The household row and the household column that were added to the national direct requirements table also are adjusted regionally. The household-row entries are adjusted downward, on the basis of commuting data from the Census of Population, in order to account for the purchases made outside the region by commuters working in the region. The household-column entries are adjusted downward, on the basis of tax data from the Internal Revenue Service, in order to account for the dampening effect of State and local taxes on household expenditures.

After the regional direct-requirements table is constructed it is converted into a model using a mathematical process known as "inversion." The resulting model, summarized in a 490-by-490 matrix called the "total requirements" table, now shows the impact of changes in outside sales by each industry on the outputs of every industry in the region. This data can now be manipulated to yield "multipliers."

The output multiplier for an industry measures the total dollar change in output in all industries that results from a $1 change in final demand by the industry in question.

The earnings multiplier for an industry measures the total dollar change in earnings of households employed by all industries that results from a $1 change in output delivered to final demand by the industry in question.

7.1.3 Regional Economic Outlook

A socioeconomic profile of the 11-county region surrounding the EREF provides a baseline from which to understand and measure the economic impacts expected to be derived from the EREF. This section includes a discussion of recent regional trends in output and employment, income, and other socioeconomic measures and concludes with a brief discussion on the industry structure of the region. Data was not available for all counties within the 11-county region.

7.1.3.1 Recent Trends in Economic Growth and Employment

The 11-county Idaho region had a total estimated population of 323,348 in 2006 (USCB, 2006j). Economic growth in Idaho slowed from 2005 to 2006; despite a decline over the year in the level of unemployment, the annual growth rate in gross state product was 2.5% in 2006 (IDL, 2008b). This was a drop from 7.4% in 2005 (IDL, 2008a). According to data published by the USBEA, a sharp decline in construction dropped the overall state growth rate. Strength in the manufacture of durable goods and moderate expansion in real estate, health care, retail trade, professional and business services, and agriculture offset the decline (IDL, 2008b). The unemployment rate in Idaho was 5.3% in 2006, which was above the national average of 4.6% (USBLS, 2008). In Bonneville County, the unemployment rate was 5.0% in 2006, which was just below the statewide average. Data was not available in 2006 for Bingham County and Jefferson County due to their small population levels (USCB, 2006c).

7.1.3.2 Recent Trends in Income

Per capita income in Idaho in 2006 was $21,000, below the national average of $25,267. For this region as a whole, per capita income information was available from the U.S. Census Bureau 2006 Community Survey only for Bonneville County and Bannock County. Bonneville County had a 2006 per capita income of $20,933, which was 99.7% of the state average and 82.8% of the national average. Bannock County had a 2006 per capita income of $19,135, which was 91.1% of the state average and 75.7% of the national average (USCB, 2006i).

While median household income generally has increased in Bonneville County, it has not increased as quickly as for the state. The county's median household income was 11.3% greater than the state median in 2000, but only 5.7% greater than the state in 2006. Additionally, the poverty rate in Bonneville County was 12.3% in 2006, about equal to the 12.6% in the state of Idaho (USCB, 2006c; USCB, 2006d). The U.S. Census Bureau defines poverty as those living under specified income thresholds (defined by the Office of Management and Budget) that vary by size of family and composition.

According to AREVA Enrichment Services (AES) estimates, the construction craft jobs created by the EREF would pay wages significantly higher than the regional average income. The USBEA data reported that the 2006 average wage per job in Bonneville County was $32,490, $27,568 in Bingham County, $23,000 in Jefferson County, and $32,968 in the 11-county region (USBEA, 2008b). In contrast, AES expects to pay an average salary of $65,144 to its construction craft employees, which is over 2.0 times more than the average wage per job in Bonneville, 2.4 times more than in Bingham County, 2.8 times more than in Jefferson County, and 2.0 times more than in the 11-county region (USBEA, 2008b).

Similarly, AES expects to pay an average salary of $65,983.

7.1.3.3 Regional Industry Analysis

The distribution of jobs by occupation in Bonneville County has differed in some industries from Bingham County, Jefferson County and the State of Idaho. According to the U.S. Census Bureau, the top three industries in 2000 were education, health, and social services (18.4%); followed by the professional, scientific, management, administrative, and waste services industries (17.3%); and the retail trade industry (14.1%). By 2006, this had changed somewhat to 17.0%, 15.8%, and 12.2%, respectively.

Bingham County's employment in 2000 consisted of 19.6% of the workforce employed in education, health, and social services, while 15.4% were employed in manufacturing and 10.9% in retail trade. These were the same top three employment industries as existed for the state of Idaho in 2000, but with slight variations for the percentages of employment (USCB, 2000d; USCB, 2000e; USCB, 2000f).

Jefferson County's employment in 2000 consisted of 19.4% of the workforce employed in education, health, and social services, while 12.1% were employed in agriculture, forestry, fishing and hunting, and mining, and 11.3% of the workforce was employed in retail trade (USCB, 2000z). The top three employment industries for Jefferson County were different than those in Bonneville and Bingham Counties.

While agriculture is important in the economy of the three counties, in 2000 only 3.0% of the jobs in Bonneville County, 8.8% in Bingham County, and 12.1% of Jefferson County were in the agriculture, forestry, fishing and hunting, and mining industry, as compared to approximately 5.8% for the state of Idaho (USCB, 2000d; USCB, 2000e; USCB, 2000f; USCB, 2000z).

The State of Idaho's labor force has grown since 2000. In 2006, the top eight nonfarm industry jobs were within trade, utilities, and transportation (20%); government (18%); professional and business services (12%); education and health services (11%); manufacturing (10%); leisure and hospitality (9%); construction (8%); and financial activities (5%). In 2006, there were 51,895 private sector establishments that provided 532,849 jobs in Idaho. (IDL, 2008c) (See Figure 7.1-2, Private Employment in Idaho.)

The construction and operation of the EREF would help to diversify the general economy of the three-county ROI (i.e., Bonneville, Bingham, and Jefferson Counties). The construction and

operation of the facility requires a skilled labor force of craftsmen, as well as administrative and management personnel.

7.1.4 Direct Economic Impact

7.1.4.1 Introduction

In building the EREF, AES would spend approximately [*] locally over the seven-year heavy construction period and four-year assemblage and testing period. It also would spend [*] nationally and [*] internationally. The total construction cost is approximately $4.1 billion. During operations, approximately $23.8 million would be spent each year on local purchases. (See Figure 7.1-3, Total Present Value of Expected AREVA Enrichment Services Construction Purchases).

An estimated [*] is expected to be spent locally over the entire construction and operational periods. Of this amount, 60.0%, or approximately [*], would go to households in the form of employee salaries and benefits. Approximately [*], or 40.0%, would go to local businesses from the purchase of goods and services. Annual income, property, and sales and use tax payments are estimated to range from [*], for a total of $323.6 million over the life of the facility.

AES has estimated the economic impacts to the local economy during the seven-year heavy construction period to occur over eight calendar years (2011-2018) and the 30-year license period of the EREF (through 2041). This includes an eight year period when both construction and operation are simultaneous. This analysis identifies the direct impacts of the facility on revenues of local businesses, on incomes accruing to households, on employment, and on the revenues of state and local government. The analysis also estimates the indirect impacts of the EREF within an 80-km (50-mi) radius of the EREF. Details of the analysis are provided below.

* Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

7.1.4.2 Construction Expenditures

AES estimates that it would spend [*] locally on construction expenditures over the seven-year heavy construction period beginning in early 2011 and ending in early 2018 and followed by four years of assemblage and testing. The local payroll would include approximately [*] for craft workers, with an additional [*] for management. This amount would be augmented with the inclusion of the [*] in benefits paid to construction craft employees and [*] for management (based on the assumption of 35% of the average salary).

AES estimates that the construction phase would create an annual average of 304 new construction craft jobs over this period, with peak construction employment estimated at 590 jobs in 2012 (see Table 4.10-2, Estimated Number of Construction Craft Workers by Annual Pay Ranges). A majority of these craft jobs would exist in the first five years of construction, and would be at an annual salary range of [*]. Craft jobs would also exist within the upper pay range of [*]. Figure 7.1-4, Estimated Construction Craft Jobs by Annual Pay, depicts direct employment during the total eleven-year construction period, grouping jobs by salary range.

The regional construction workforce appears to be large enough to support the employment needs for the construction of the EREF. According to U.S. Census Bureau 2000 data, Bonneville County had 2,843 construction workers, Bingham County had 1,410 workers, and Jefferson County had 735 workers (USCB, 2008a; USCB; 2008b; USCB, 2000z). Thus, the construction labor force in the three-county ROI (Bonneville County, Bingham County, and Jefferson County) totaled more than 4,988 employees. The entire 11-county region had

approximately 10,335 construction sector employees (IDC, 2008b). The estimated annual average of 304 new construction craft jobs would represent employment of 6.1% of the existing construction labor force in the three-county ROI and 2.9% of the existing 11-county region construction labor force. AES estimates that most construction craft employees would come from the local labor pool; however, a few positions that require specialized skills might be filled by non-local residents.

A portion of the total expenditures would be spent locally on construction goods and services, benefiting local businesses. This would amount to approximately [*] per year during the seven years of heavy construction. (See Table 7.1-3, Total Impact of Local Spending for Construction Goods and Services in the 11-County Area, for additional details of local construction expenditures.)

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7.1.4.3 Operation Expenditures

During the operation period, AES estimates that it would spend $36.3 million annually for payroll and an additional $12.7 million in benefits. The operation of the facility is expected to generate approximately 550 permanent, full-time jobs. AES would pay an average annual salary of approximately $65,983 to its operating facility workers, which is 2.0 times greater than the average wage per job for Bonneville County, 2.4 times greater than for Bingham County, 2.9 times greater than for Jefferson County, and 2.0 times greater than for the 11-county region.

In addition, as shown in Table 7.1-1, Operating Facility Payroll Estimates, 90% of the jobs would have an annual salary of $48,407 or greater. According to AES, employment opportunities would range from facility operations, maintenance, and health physics positions to clerical and security-related jobs. AES plans to provide extensive training for employees, and approximately 20% of employment opportunities would involve an advanced understanding of the EREF. Refer to Table 7.1-4 for additional information about the annual impact of operations payroll.

The local labor force appears to be well positioned for these types of jobs. In 2000, the total Bonneville County civilian labor force was 40,321, the Bingham County civilian labor force was an additional 18,935, and the Jefferson County civilian labor force was 8,669. The total 11-county labor force was 148,204 (IDC, 2008b). Within the 11-county region, between 12% and 43% of the individual county residents have at least a bachelor's degree and between 64% and 90% of the individual county residents have graduated from high school (IDC, 2008b).

Approximately $23.8 million per year would be spent locally on goods and services, benefiting local businesses. (See Table 7.1-5, Annual Impact of EREF Purchases in the 11-County Area, below for additional details of local EREF purchases.)

7.1.4.4 Other Expenditures

The tax revenue to the state of Idaho and Bonneville and Bingham Counties resulting from the construction and operation of the EREF is estimated to be approximately $323.6 million over the life of the facility. Refer to Table 4.10-3, Estimated Annual Tax Payments, for further details.)

Using the State of Idaho and Bonneville County income tax rates, the average number of workers per year, and average salaries from the EREF, it is estimated that income taxes could be [*] each year during the seven-year heavy construction period and four-year assemblage and testing period and approximately [*] each year during the anticipated 30-year license period. Additionally, annual sales and use taxes paid within the State of Idaho are estimated to

range from [*] from 2012 through 2019. Refer to Table 4.10-3, Estimated Annual Tax Payments, for details.

Of course, not all of the economic benefits from the construction and operation of the EREF can be quantified. For example, due to the relatively small size of the manufacturing sector in this 11-county region, the opening of the EREF should have positive spillover effects throughout the region, such as increasing the skill level of the local labor force and potentially attracting other manufacturing firms.

In addition to increasing the role of the manufacturing sector within the region, the EREF would help to diversify the regional economy. Additionally, housing values have the potential to increase from current levels as income and relatively high-paying job opportunities in the area grow, potentially attracting new residents. In 2000, the median housing value in the 11-county region was $103,664 (IDC, 2008b), which was less than the U.S. level of $119,600 (USCB, 2000f).

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7.1.5 Total Economic Impact Using RIMS II

7.1.5.1 Introduction

The RIMS II Methodology, first created by the USBEA in the 1970s, is based on an accounting framework called an Input-Output (I-O) table. For each industry, an I-O table shows the distribution of the inputs purchased and the outputs sold among individual sectors of a national or regional economy. Using RIMS II for impact analysis has several advantages. RIMS II multipliers can be estimated for any region composed of one or more counties and for any industry or group of industries characterized in the national I-O table. According to empirical tests, the estimates based on RIMS II are similar in magnitude to the estimates based on relatively expensive surveys. This analysis utilized the RIMS II regional I-O multipliers for the 11-county area around and including Bonneville County, Idaho based on data obtained from the USBEA (USBEA, 2008a).

7.1.5.2 Construction Impacts

AES estimates that it would spend [*] on payroll (excluding benefits) over the eleven-year construction, assemblage and testing periods for construction craft workers and management. It is possible to compute the total annual impact by converting this amount into an average annual number and using RIMS II multipliers. An annual payroll of approximately [*] is expected to generate a total impact on household earnings equal to [*] (i.e., [*] in direct impacts and [*] in indirect impacts) within the 11-county region (See Table 7.1-2, Annual Impact of Construction Payroll in the 11-County Area). The initial annual average [*] direct jobs ([*] craft workers and [*] management positions) created during the eleven-year total construction period are expected to produce a total employment increase of [*] jobs.

AES estimates that it would spend [*] on construction goods and services in the local economy over the seven-year heavy construction period. Using the minimum amount of expected purchases and RIMS II Final Demand Multipliers, these expenditures are expected to generate a total annual output amounting to [*] and total annual earnings of [*] (See Table 7.1-3, Total Impact of Spending for Construction Goods and Services in the 11-County Area). Additionally, these expenditures are expected to produce a total of [*] new jobs per year (i.e., [*] total new jobs for the seven-year heavy construction period).

To summarize, the construction phase of the project is expected to generate a total impact of [*] in output for local businesses, [*] in household earnings, and [*] new jobs. The total impact figures from the construction period are derived from adding the total impacts from construction payroll and employment and local construction expenditures. The output figure comes directly from Table 7.1-3, Total Impact of Local Spending for Construction Goods and Services in the 11-County Area, and the household earnings figures and the total new jobs figure come from adding the total annual impact on earnings from and new jobs, respectively, Table 7.1-2, Annual Impact of Construction Payroll in the 11-County Area, and Table 7.1-3, Total Impact of Local Spending for Construction Goods and Services in the 11-County Area, as does the total new jobs figure.

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7.1.5.3 Operations Impact

Upon completion of the EREF's construction, AES estimates that it would spend $36.3 million annually for facility operations payroll and an additional $12.7 million for benefits. Using the RIMS II Multipliers, total additional earnings of $119.1 million would be produced (i.e., $36.3 million in direct impacts and $82.8 million in indirect impacts). Additionally, a total employment of 3,289 new jobs would be created during the operational period (Table 7.1-4, Annual Impact of Operations Payroll in the 11-County Area).

The estimated $23.8 million in annual purchases by AES for goods and services associated with facility operation are expected to have a total annual impact on local business revenues equal to $35.6 million, $8.9 million for household income, and an increase in employment of 248 jobs (Table 7.1-5, Total Annual Impact of EREF Purchases During Operations in the 11-County Area).

To summarize, the operational phase of this project is expected to generate a total annual impact of $35.6 million in output for local businesses, $128.0 million in household earnings, and 3,537 new jobs including those indirect jobs created by annual purchases by AES. The total impact estimates from the operations period are derived from adding the total impacts from operations payroll and local expenditures. The output estimate comes directly from Table 7.1-5, Total Annual Impact of EREF Purchases During Operations in the 11-County Area, the household earnings estimate and new jobs figure come from adding the total annual impact on earnings and new jobs, respectively, from Table 7.1-4, Annual Impact of Operations Payroll in the 11-County Area, and Table 7.1-5, Total Annual Impact of EREF Purchases During Operations in the 11-County Area

TABLES

Table 7.1-1 Operating Facility Payroll Estimates
(Page 1 of 1)

Job Level	Proportion of Jobs	Number of Jobs	Average Annual Pay
Management	10%	55	$109,491
Professional	20%	110	$71,457
Skilled	60%	330	$48,407
Administrative	10%	55	$34,576
Total	**100%**	**550**	**Not Applicable***
		Average Annual Salary	**$65,983**
		Total Annual Payroll**	**$36,290,650**

* This figure is not applicable because a total of average annual salaries is not an appropriate measurement, and it is not used in the remainder of the analysis.

** Total Annual payroll = Total Number of Jobs x Average Annual Salary

Table 7.1-2 Annual Impact of Construction Payroll in the 11-County Area (Page 1 of 1)

	RIMS II Direct Effect Multipliers	Impact
Direct Impact On:		
Earnings by Households		$ [ ]
Indirect Impact On:		
Earnings by Households	1.7251	$ [ ]
Total Impact On:		
Earnings by Households	2.7251	$ [ ]
Direct Impact On:		
Employment (jobs)		[ ]
Indirect Impact On:		
Employment (jobs)	1.8596	[ ]
Total Impact On:		
Employment (jobs)	2.8596	[ ]

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Table 7.1-3 Total Impact of Local Spending for Construction Goods and Services in the 11-County Area (Page 1 of 1)

Industry	Local Purchases	Final Demand Multipliers			Total Impact			
		Output	Earnings	Employment*	Output	Earnings	Job-years	Jobs/year
Concrete	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Reinforcing Steel	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Structural Steel	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Lumber	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Site Preparation - Total	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Transportation (freight on all materials)	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Subcontracts by type of service								
Metal Siding	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Multiple Arch/Bldg. Packages	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Equipment Installation Packages	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Mechanical/Piping/HVAC Packages	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Electrical/Controls Packages	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
Total	[ ]				**[ ]**	**[ ]**	**[ ]**	
Per Year (over 6-year period	[ ]	* The employment multiplier is measured on the basis of $1-million change in output delivered to final demand			**[ ]**	**[ ]**		**[ ]**
		Indirect Impact			**[ ]**			

Note: The "Local Purchases" displayed in this table include local material and labor costs.

Source: USBEA, 2008a.

Information in "[ ]" is Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

Table 7.1-4 Annual Impact of Operations Payroll in the 11-County Area (Page 1 of 1)

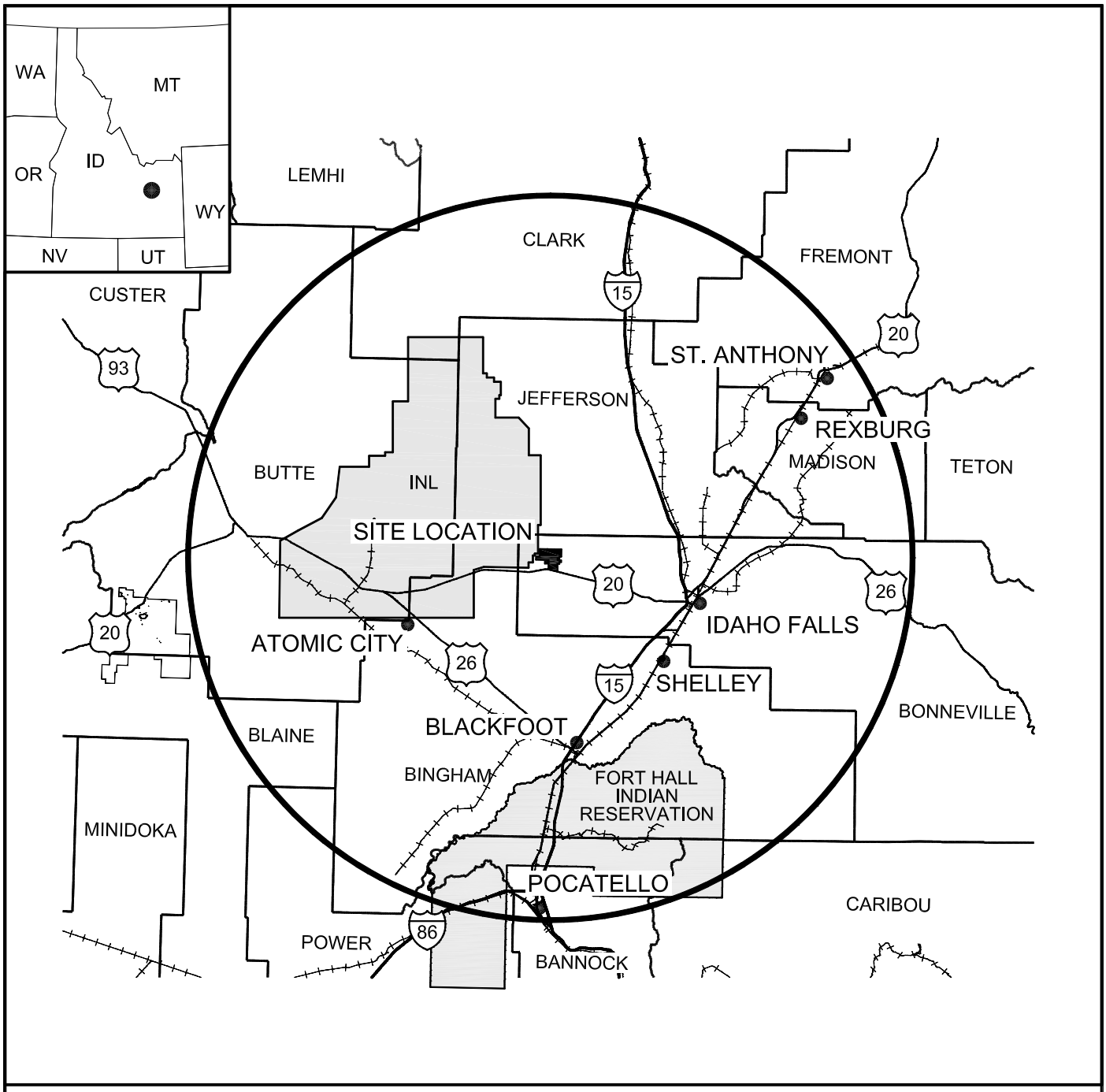
	RIMS II Direct Effect Multipliers	Impact
Direct Impact On:		
Earnings by Households		$ 36,290,650
Indirect Impact On:		
Earnings by Households	2.2806	$ 82,764,456
Total Impact On:		
Earnings by Households	3.2806	$ 119,055,106
Direct Impact On:		
Employment (jobs)		550
Indirect Impact On:		
Employment (jobs)	4.9804	2,739
Total Impact On:		
Employment (jobs)	5.9804	3,289

Table 7.1-5 Total Annual Impact of EREF Purchases During Operations in the 11-County Area (Page 1 of 1)

Item	Local Purchases	Final Demand Multipliers			Total Impact		
	(Direct Impact-2007 dollars-Provided by AES)	Output	Earnings	Employment*	Output	Earnings	Employment
Landscaping	$60,000	1.7339	0.5908	33.0365	$104,034	$35,448	2
Protective Clothing	$72,000	1.4548	0.3210	10.6240	$104,746	$23,112	1
Laboratory Chemicals	$140,000	1.9313	0.3405	9.1357	$270,382	$47,670	1
Plant Spare Equipment	$500,000	1.4839	0.3308	9.5108	$741,950	$165,400	5
Office Equipment	$183,000	1.6636	0.4518	15.1490	$304,439	$82,679	3
Engineered Parts	$400,000	1.5593	0.4076	10.9617	$623,720	$163,040	4
Electrical/Electronic Parts	$640,000	1.6299	0.4222	10.1705	$1,043,136	$270,208	7
Electricity	$18,500,000	1.4492	0.3282	6.8767	$26,810,200	$6,071,700	127
Natural Gas	$0	1.4756	0.2690	5.8119	$0	$0	0
Waste Water	$170,000	1.6529	0.4546	13.2552	$280,993	$77,282	2
Solid Waste Disposal	$60,000	1.8148	0.5391	17.5413	$108,888	$32,346	1
Insurance	$0	1.6957	0.4722	13.6573	$0	$0	0
Catering	$92,000	1.8266	0.6153	43.9806	$168,047	$56,608	4
Building Maintenance	$650,000	1.7339	0.5908	33.0365	$1,127,035	$384,020	21
Custodial Services	$3390,000	1.7339	0.5908	33.0365	$676,221	$230,412	13
Professional Services	$360,000	1.7562	0.6916	18.9169	$632,232	$248,976	7
Security Services	$942,500	1.7204	0.7588	39.8107	$1,621,477	$715,169	38
Mail, Document Services	$170,000	1.6236	0.5383	25.3657	$276,012	$91,511	4
Office Supplies	$236,000	1.6580	0.5356	23.0050	$391,288	$126,402	5
Diesel**	$205,000	1.6300	0.5112	14.6460	$334,150	$104,769	3
Total	$23,770,500	* The employment multiplier is measure on the basis of $1-million change in output delivered to final demand			**$35,618,950**	**$8,926,779**	**248**

**This is diesel fuel consumed by on-site diesel generators. Vehicle fuel purchases are not included in this table.

FIGURES



LEGEND:

80 km (50 mi) RADIUS

RAILROAD LINES

SCALE

0 30 60 km

SCALE

0 20 40 miles

N

Figure 7.1-1 **Rev. 2**

11-County Economic Impact Area

EAGLE ROCK ENRICHMENT FACILITY ENVIRONMENTAL REPORT

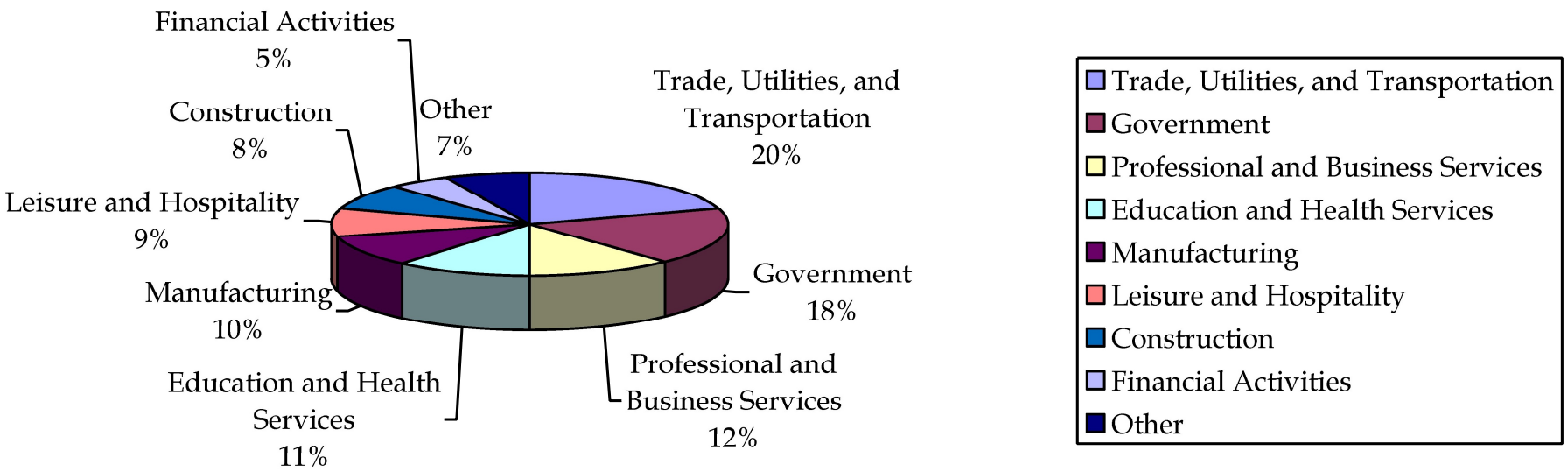


Figure 7.1-2 **Rev. 2**

Private Employment in Idaho in 2006

EAGLE ROCK ENRICHMENT FACILITY
ENVIRONMENTAL REPORT

Figure 7.1-3, Total Present Value of Expected AES Construction Purchases, is Proprietary Commercial Information Withheld in Accordance with 10 CFR 2.390

Figure 7.1-4, Estimated Construction Craft Jobs by Annual Pay, is Proprietary Commercial Information Withheld in Accordance with 10 CFR 2.390

7.2 ENVIRONMENTAL COST – BENEFIT, PLANT CONSTRUCTION AND OPERATION

This section qualitatively describes the environmental costs and benefits of the proposed Eagle Rock Enrichment Facility (EREF) in Bonneville County, Idaho. It identifies the impacts of the plant construction and operation on the site and adjacent environment. Table 7.2-1, Qualitative Environmental Costs/Benefits of EREF During Construction and Operation, summarizes the results.

7.2.1 Site Preparation and Plant Construction

7.2.1.1 Existing Site

There will be minimal disturbance to existing site features at the project site from construction activities. Only 240 ha (592 ac) within the 1,700-ha (4,200-ac) proposed site would be impacted by clearing and earthmoving activities. Site property outside the primary plant area would generally remain in its preconstruction condition or improved through stabilization as needed.

7.2.1.2 Land Conservation and Erosion Control Measures

AREVA Enrichment Services, LLC (AES) anticipates that there would be some short-term increases in soil erosion at the site due to construction activities. Erosion impacts due to site clearing, excavation, and grading would be mitigated through the use of proper construction and erosion best management practices (BMPs). These practices would include minimizing the construction footprint to the extent possible, mitigating discharge, including stormwater runoff (i.e., the use of detention and retention ponds), the protection of all unused natural areas, and site stabilization practices to reduce the potential for erosion. Only about 14% of the site would be used for construction activities. Cleared areas would be stabilized as soon as practicable, and watering would be used to control fugitive dust.

7.2.1.3 Aesthetic Changes

Noise levels during construction of the highway entrances, access roads, and visitor center would range from 80 to 95 dBA. One highway entrance and access road would be visible off site on portions of the Wilderness Study Area (WSA), south of the proposed EREF site. Construction noise would be temporary and be reduced to about 51 to 66 dBA at the nearest hiking trail point on the WSA. Therefore, noise impacts would be small from construction of the visitor center, highway entrances, and access roads. Construction noise from the EREF footprint would have a small impact because the footprint would be about 2.4 km (1.5 mi) from public viewing areas, such as U.S. Highway 20 and the WSA.

The nearest resident would not hear the construction noise on the proposed EREF site since the residence is approximately 7.7 km (4.8 mi) east of the proposed site. The nearest resident would hear noise from construction traffic on U.S. Highway 20. Noise from construction traffic along U.S. Highway 20 would be similar to existing highway noise levels because construction activities largely occur during weekday daylight hours. Existing noise levels were recorded at the proposed site at 57 dBA, at 15 m (50 ft) from U.S. Highway 20, during peak commute times. This noise level likely would be similar during construction when construction traffic is included. However, the duration of noise that is associated with peak commute traffic would increase.

Construction of the proposed EREF would be out of character with current uses and features due to the size of the construction site and the type of buildings. However, similarly sized

industrial facilities have been constructed west of the proposed site. Construction cranes, transmission line structures, and the form of taller buildings would be observable off-site. The construction area of the proposed facility would be about 2.4 km (1.5 mi) from public viewing areas such as U.S. Highway 20 and the WSA, making details of the construction of the proposed facility difficult to observe. Therefore, the impact on views would be small.

The Wasden Complex, an important group of archaeological sites, is about 1.0 km (0.6 mi) from the boundary of the proposed EREF site. AES has assessed the potential visual impact of the EREF on the Wasden Complex viewshed and has provided the results to the Idaho SHPO. The assessment of the viewshed looking from the Wasden Complex to the EREF indicates most of the facilities when constructed would be obscured due to an intervening ridgeline, and due to distance. Construction activities should also be difficult to observe due to this topographical feature. As a result of consultation between AES and the Idaho State Historic Preservation Officer (SHPO), AES is considering planting 2 to 3 m (7 to 10 ft) tall native vegetation to further mask the portion of the EREF buildings that may be visible from the Wasden Complex of sites. Therefore, the construction of the proposed EREF would have a small impact on the Wasden Complex.

7.2.1.4 Ecological Resources

Pre-construction and construction activities at the site would have a small impact on vegetation and wildlife. AES anticipates that construction activities would remove some shrub vegetation and cause wildlife to relocate on the site. Similarly, some wildlife that were using the immediate area would be displaced due to noise, lighting, traffic, and human presence. Limited direct mortality of wildlife may occur from vehicle collisions or collisions with construction cranes and fences. Proposed activities would not impact communities or habitats defined as rare or unique, or that support threatened and endangered species, since no such communities or habitats have been identified anywhere within or adjacent to the proposed site.

7.2.1.5 Access Roads and Local Traffic

All traffic into and out of the site would be along U.S. Highway 20. U.S. Highway 20 is dedicated to heavy-duty use and built to industrial standards; it would be able to handle increased heavy-duty traffic adequately. Traffic volume is low except during commute times. Therefore, the proposed EREF would potentially add to commute traffic and durations but would result in little effect during non-commute times.

7.2.1.6 Water Resources

Water quality impacts would be controlled during construction by compliance with the State of Idaho's and EPA Region 10's water quality regulations and the use of BMPs as detailed in the site Stormwater Pollution Prevention Plan (SWPPP). In addition, a Spill Prevention, Control, and Countermeasure (SPCC) plan would be implemented to minimize the possibility of spills of hazardous substances, minimize the environmental impact of any spills, and promptly initiate appropriate remediation. Spills that may occur during construction would most likely occur near vehicle maintenance and fueling operations, storage tanks, painting operations, and warehouses. The SPCC plan will identify sources, locations and quantities of potential spills, and response measures. The plan will also identify individuals and their responsibilities for implementation of the plan and provide for prompt notifications of state and local authorities as needed.

7.2.1.7 Noise and Dust Control Measures

Shrub and vegetation outside of the construction areas would be left in place and, combined with the distances from construction areas to the public, would reduce noise. There is considerable existing traffic already present on U.S. Highway 20. Therefore, maximum noise levels from EREF traffic would not increase noise levels along U.S. Highway 20, although the duration of noise that is associated with peak commute traffic may increase.

Dust resulting from traffic and excavation activities during construction would be abated by water spraying as necessary. All potential air pollution and dust emission conditions would be monitored to demonstrate compliance with applicable health, safety, and environmental regulations.

AES will minimize and manage noise and vibration impacts during construction and decommissioning by:

1. Performing construction or decommissioning activities with the potential for noise or vibration at residential areas that could have a negative impact on the quality of life during the day-time hours (7:00 a.m. – 7:00 p.m.). If it is necessary to perform an activity that could result in excessive noise or vibration in a residential area after hours, the community will be notified in accordance with the site procedures.
2. Engineered and administrative controls for equipment noise abatement, including the use of equipment and vehicle mufflers, acoustic baffles, shrouding, barriers and noise blankets.
3. Sequencing construction or decommissioning activities to minimize the overall noise and vibration impact (e.g., establishing the activities that can occur simultaneously or in succession).
4. Utilizing blast mats, if necessary.
5. Creating procedures for notifying State and local government agencies, residents, and businesses of construction or decommissioning activities that may produce high noise or vibration that could affect them.
6. Posting appropriate State highway signs warning of blasting.
7. Creating a Complaint Response Protocol for dealing with and responding to noise or vibration complaints, including entering the complaint into the site's Corrective Action Program.

7.2.1.8 Historic and Cultural Resources

A pedestrian cultural resource survey of the area where the proposed EREF is to be located was conducted. The survey resulted in the recording of 11 sites and 17 isolated occurrences (finds); there are three prehistoric, four historic, and four multi-component sites. Further investigation was conducted to determine the National Register of Historic Places (NRHP) eligibility for the prehistoric components of three sites (MW002, MW012, and MW015). Subsequent testing of these sites resulted in a recommendation of not eligible. This historic component of one site (MW004) is recommended as eligible. Seven sites (MW003, MW006, MW007, MW009, MW011, MW013, and MW014) are recommended not eligible for inclusion in the NRHP. The potentially eligible site is within the proposed plant footprint. A treatment mitigation plan for MW004 will be developed by AES in consultation with the Idaho State Historic Officer (SHPO) to recover significant information.

7.2.1.9 Socioeconomic

Construction of the EREF is expected to have positive socioeconomic impacts on the region. The Regional Input-Output Modeling System (RIMS II) allows estimation of various indirect impacts associated with each of the expenditures associated with the EREF. According to the RIMS II analysis, the region's residents can anticipate an annual impact of [*] in increased economic activity for local businesses, [*] in increased earnings by households, and [*] new jobs during the 7-year heavy construction period and four-year assemblage and testing period. The temporary influx of labor is not expected to overload local services and facilities within the Bonneville-BinghamJefferson Idaho area.

* Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

7.2.1.9.1 Yearly Purchases of Steel, Concrete, and Related Construction Materials

The initial construction period for EREF is approximately three years. This period will encompass site preparation and construction of most site structures. Due to the phased installation of centrifuge equipment, production will commence in the fourth year of the construction period (2014). The manpower and materials used during this phase of the project will vary depending on the construction plan. Table 7.2-2, Estimated Construction Material Yearly Purchases, provides the estimated total quantities of purchased construction materials and Table 7.2-3, Estimated Yearly Labor Costs for Construction, provides the estimated labor that will be required to install these materials. The scheduling of materials and labor expenditures is subject to the provisions of the project construction execution plan, which has not yet been developed.

Approximately [*] in local expenditures (e.g., buildings, equipment, and other materials) will be made in the local EREF site area. According to the labor survey conducted as part of the conceptual estimate, the major portion of the required craft labor forces will come from the eleven counties around the project area.

* Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

7.2.2 Plant Operation

7.2.2.1 Surface and Groundwater Quality

Liquid effluents at the EREF will include stormwater runoff and sanitary wastewater. Any radiologically contaminated, potentially radiologically contaminated, or non-radiologically contaminated aqueous liquid effluents are collected for filtration and precipitation treatment to remove uranium and fluorine. Through repeat treatments, the contamination levels are reduced to acceptable levels, at which time the liquid is sent to an evaporator for vaporization and final discharge to the atmosphere. Any removed solids are shipped for off-site low-level radioactive waste disposal.

Stormwater runoff from the Cylinder Storage Pads and daily treated domestic sanitary effluent will be collected in the Cylinder Storage Pads Stormwater Retention Basins. General site runoff will be routed to the Site Stormwater Detention Basins. During operation, stormwater discharges will be regulated, as required, by the National Pollutant Discharge Elimination System (NPDES) permit for the EREF. Approximately 65,240 m^3 (17,234,700 gal) of stormwater from the Cylinder Storage Pads are expected to be released, based on mean annual precipitation discharging to the Cylinder Storage Pads Stormwater Retention Basins. There is no infiltration in the site soils. Approximately 85,175 m^3 (22,501,000 gal) of stormwater from the site is

expected to be released annually (mean) to the detention basin after taking into account infiltration into the area soils associated with landscaped areas, natural areas, and loose gravel areas of the developed portion of the site. The estimated annual release of treated sanitary effluents to the retention basin is 18,700 m^3 (4,927,500 gal).

7.2.2.2 Terrestrial and Aquatic Environments

No communities or habitats defined as rare or unique, or that support threatened or endangered species have been found or are known to occur on the proposed site. Operation of the EREF is therefore not expected to impact such communities or habitats.

7.2.2.3 Air Quality

No adverse air quality impacts to the environment, either on or off site, are anticipated to occur. Air emissions from the facility during normal facility operations will be limited to the plant ventilation air and gaseous effluent systems. All plant process/gaseous air effluents are to be filtered and monitored on a continuous basis for chemical and radiological contaminants, which could be derived from the UF_6 process system. If any UF_6 contaminants are detected in these systems' exhaust, the air is treated by appropriate filtration methods prior to its venting to the environment.

On-site diesel engines include four standby diesel generators for backup power supply, a security diesel generator, and a fire pump diesel. These engines will be used exclusively for emergency purposes. Their use will be administratively controlled and they will only run a limited number of hours per year. As a result, these engines will be exempt from air permitting requirements of the State of Idaho. Due to their limited use, the diesel generators will have negligible health and environmental impacts.

An on-site fueling facility consisting of two 2,000-gallon above ground storage tanks, dispenser pumps, and appurtenances will service the facility. One above ground tank will store unleaded gasoline. The other above ground tank will store diesel fuel. Because of the low estimated petroleum hydrocarbon emissions from the fueling facility and the associated estimated ambient air concentrations, the fueling facility is exempt from air permitting requirements of the State of Idaho and presents no significant impact to the environment.

7.2.2.4 Visual/Scenic

No impairments to local visual or scenic values will result due to the operation of the EREF. The facility and associated structures will be relatively compact, and located in a rural location. No offensive noises or odors will be produced as a result of facility operations.

7.2.2.5 Socioeconomics

AREVA Enrichment Services (AES) applied the Regional Input-Output Modeling System (RIMS) II to estimate the socioeconomic impact from operation of the EREF. The results of the analysis are presented below and are in 2007 dollars. The EREF is expected to employ up to 550 people in high paying jobs relative to the region. Its operation's payroll will generate $36.3 million annually in earnings for households and another $82.8 million in additional household earnings due to indirect impacts. Annual purchases for goods and services are expected to add another $8.9 million in household income for a total increase in household earnings of $128.0 million. An annual increase of 2,987 indirect new jobs (3,537 minus the 550 direct jobs at the EREF) is anticipated during operation.

In general, no significant impacts are expected to occur on population characteristics, economic trends, housing, community services and the tax structure and tax distribution in Bonneville and Bingham Counties.

7.2.2.6 Radiological Impacts

Potential radiological impacts from operation of the EREF would result from controlled releases of small quantities of UF_6 during normal operations and releases of UF_6 under hypothetical accident conditions. As described in ER 4.12.2, Radiological Impacts, the major sources of potential radiation exposure are the gaseous effluent from the Separations Buildings, Technical Support Building and direct radiation from the Cylinder Storage Pads. It is anticipated that the total amount of uranium released to the environment via airborne effluent discharges from the EREF will be less than 20 grams (13.7 µCi or 0.506 MBq) per year. Due to the anticipated low volume of contaminated liquid waste and the effectiveness of the treatment processes, no waste in the form of liquid effluent are expected.

The estimated maximum annual effective dose equivalent and maximum annual organ (lung) committed dose to transient individuals at the maximum site boundary for the ground plane (NNE sector at 1.1 km (0.67 mi)), cloud immersion (N sector at 1.1 km (0.67 mi)), and inhalation exposure (N sector at 1.1 km (0.67 mi)) pathways are 1.5 E-04 mSv/yr (1.5 E-02 mrem/yr) and 1.2 E-03 mSv/yr (1.2E-01 mrem/yr), respectively. Although there are no residences within 8 km (5 mi) from the center of the EREF structures, for a hypothetical residence at the site boundary, the maximum annual effective dose equivalent and maximum annual organ dose (lung) to an individual for all airborne exposure pathways are 8.8 E-04 mSv/yr (8.8E-02 mrem/yr) and 6.4 E-03 mSv/yr (6.4 E-01 mrem/yr), respectively.

The dose equivalent due to external radiation (direct and sky shine) from the Full Tails, Full Feed, and Empty Cylinder Storage Pads and direct dose from product cylinders stored on the Full Product Cylinder Storage Pad, to an individual (2,000 hrs/yr) at the maximum impacted site boundary (North), is 0.0142 mSv/yr (1.42 mrem/yr). The annual dose equivalent (2000 hrs/yr) at the nearest actual off-site work location (Southwest at 4.0 km (2.5 mi)) is estimated to be <1E-12 mSv/yr (<1E-10 mrem/yr) and that to the nearest actual residence (8,766 hrs/yr) at over 8 km (5 mi) from facility structures, is less than <1E-12 mSv/yr (<1E-10 mrem/yr).

These dose equivalents due to normal operations are small fractions of the normal background radiation range of 2.0 to 3.0 mSv (200 to 300 mrem) dose equivalent that an average individual receives in the U.S., and within regulatory limits.

7.2.2.7 Other Impacts of Plant Operation

The EREF water supply will be from on-site wells. The anticipated normal water usage rate for the EREF is 68.2 m^3/d (18,000 gal/d) and the peak water usage requirement is 42 L/sec (664 gpm). The normal annual water usage rate will be 24,870,000 L/yr (6,570,000 gal/yr), which is a very small fraction (i.e., about 4%) of the water appropriation value of 625,000,000 L/yr (165,000,000 gal/yr) for industrial use. The appropriation for seasonal irrigation use will be 147 m^3/d (38,800 gal/d). The peak water usage is developed based on the assumption that all water users are operating simultaneously. Furthermore, the peak water usage assumes that each water user is operating at maximum demand. This combination of assumptions is very unlikely to occur during the lifetime of the EREF. Nevertheless, the peak water usage is used to size the piping system and pumps. Given that the normal annual water usage rate for the EREF is a very small fraction of the appropriation value, momentary usages of water beyond the expected

normal water usage rate is expected to be well within the water appropriation value for the EREF.

Non-hazardous and non-radioactive solid waste is expected to be approximately 70,307 kg (155,000 lbs)] annually. It will be collected and disposed of off-site by a County licensed solid waste disposal contractor and disposed of in a licensed landfill that has adequate capacity to accept EREF non-hazardous waste.

The EREF is expected to generate approximately 146,500 kg (323,000 lbs) of low-level waste annually. In addition, the EREF is expected to generate approximately 5,062 kg (11,160 lbs) of hazardous wastes and 100 kg (220 lbs) of mixed waste annually. These wastes will be collected, inspected, volume-reduced, and transferred off-site to licensed low-level waste facilities.

7.2.2.8 Decommissioning

The plan for decommissioning is to decontaminate or remove all materials promptly from the site that prevent release of the facility for unrestricted use. This approach avoids the need for long-term storage and monitoring of wastes on site. Only building shells and the site infrastructure will remain. All remaining facilities, including site basins, will be decontaminated where needed to acceptable levels for unrestricted use. Excavations and berms will be leveled to restore the land to a natural contour.

Radioactive wastes will be disposed of in licensed low-level radioactive waste disposal sites. Hazardous wastes will be treated or disposed of in licensed hazardous waste facilities.

Depleted UF_6, if not already sold or otherwise disposed of prior to decommissioning, will be disposed of in accordance with regulatory requirements.

Following decommissioning, all parts of the facility and site will be unrestricted to any specific type of use.

TABLES

Table 7.2-1 Qualitative Environmental Costs/Benefits of EREF During Construction and Operation
(Page 1 of 1)

Qualitative Costs	Determination/Evaluation
Change in real estate values in areas/communities adjacent to the facility (e.g., land, homes, rental property etc.)	Unlikely to occur
Traffic increases on U.S. Highway 20	Small impacts mainly associated with Increased traffic during shift changes
Air emissions from construction dust and vehicles	Small impact
Demand on local police and fire services, public utilities, schools, etc.	Some increased utilization and some increased need for additional staff expected
Impact to natural environmental components (e.g., ecology, water quality, air quality, etc.)	Small impacts
Alteration of aesthetic, scenic, historic, or archaeological areas or values	Small impact
Change in local recreational potential	Small impact
Site soil erosion during construction	Small impact
Qualitative Benefits	
Incentive for development of other ancillary/support business development resulting from presence of EREF facility	Beneficial
Change in real estate values in areas/communities adjacent to the facility (e.g., land, homes, rental property etc.)	Potentially beneficial
Increase in local employment opportunities	Beneficial
Impacts to local retail trade and services	Beneficial
Development of local workforce capabilities	Beneficial

Table 7.2-2 Estimated Construction Material Yearly Purchases
(Page 1 of 1)

Commodity	Quantity	Total Value (Material Cost)	Yearly Purchase
Concrete/Forms/Rebar	[ ]	[ ]	[ ]
Metal Siding	[ ]	[ ]	[ ]
Structural Steel	[ ]	[ ]	[ ]
Architectural Items	[ ]	[ ]	[ ]
HVAC Systems	[ ]	[ ]	[ ]
Utility Piping	[ ]	[ ]	[ ]
Electrical Conduit & Wire	[ ]	[ ]	[ ]

Note: Material purchases displayed in this table are for local and non-local (e.g., national and elsewhere) purchases of materials only and do not include associated labor costs.

Information in "[ ]" is Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

Table 7.2-3 Estimated Yearly Labor Costs for Construction
(Page 1 of 1)

Type of Work	Number of Craft-Hours	Approx. No. People	Total Value	Yearly Purchases
Civil & Site Work	[ ]	[ ]	[ ]	[ ]
Concrete Work	[ ]	[ ]	[ ]	[ ]
Structural Steel	[ ]	[ ]	[ ]	[ ]
Metal Siding	[ ]	[ ]	[ ]	[ ]
Architectural Finishes	[ ]	[ ]	[ ]	[ ]
Utility Equipment	[ ]	[ ]	[ ]	[ ]
HVAC Sys, & Ductwork	[ ]	[ ]	[ ]	[ ]
Electrical Conduit & Wire	[ ]	[ ]	[ ]	[ ]

Information in "[ ]" is Proprietary Commercial Information withheld in accordance with 10 CFR 2.390

7.3 NO-ACTION ALTERNATIVE COST-BENEFIT

The no-action alternative would be to not build the proposed Eagle Rock Enrichment Facility (EREF). Under the no-action alternative, the NRC would not approve the license application to construct and operate the proposed facility. As a result, it is assumed that the current owners of the private property upon which the proposed facility would be sited would be free to continue the current uses of the property and the potential impacts of constructing and operating the proposed EREF would not occur. Although the no-action alternative would avoid impacts to the EREF area, it could lead to impacts at other locations.

Under the no-action alternative, for example, reactor licensees would be required to meet their uranium enrichment service needs through existing suppliers. In the United States, this would mean that the one remaining operating enrichment facility, the gaseous diffusion facility operated by the United States Enrichment Corporation (USEC) at Paducah, Kentucky, which is expected to shut down in June 2012, would be the only domestic facility currently available to serve this purpose. Therefore, USEC in the near term would remain the sole current domestic supplier of low-enriched uranium.

In the longer term, two companies, Louisiana Energy Services (LES) and USEC, submitted applications to the NRC and received licenses to build and operate new centrifuge-based uranium enrichment plants in the United States. Construction is presently underway on both facilities, the National Enrichment Facility (NEF) and the American Centrifuge Plant (ACP). In addition, General Electric-Hitachi Nuclear Energy (GEH) has initiated work that is based on Silex laser enrichment technology. On January 30, 2009, GEH delivered its environmental report to the NRC with the rest of the license application to be submitted by June 2009 (SILEX, 2009). If GEH ultimately makes the decision to deploy Global Laser Enrichment (GLE) commercially, following results of testing that is scheduled to occur during 2009, GEH then expects to have a commercial Lead Cascade operational by 2012 or 2013.

Nonetheless, if the NEF and ACP are completed and operate in the U.S., then together with small contributions of equivalent supply from down blended U.S. Highly Enriched Uranium (HEU), and limited recycle, they would be capable of supplying only 61% of the U.S. requirements during the period of AREVA's Reference Nuclear Power Growth forecast (ER Section 1.1.2.4.2, Scenario B). In addition, these potential enrichment services alone would be inconsistent with the clear federal policy of fostering the development of additional, secure, reliable, and economical domestic enrichment capacity to promote both U.S. energy security and national security. The Department of Energy (DOE) has recognized that these energy security concerns are due, in large part, to the lack of available replacement for the aging, electric power intensive and high cost gaseous diffusion enrichment plant.

These circumstances, and the expiration of the U.S.-Russian HEU agreement in 2013, have combined to raise concerns among U.S. purchasers of enrichment services with respect to the security of their supplies. They see a world supply and requirements situation for economical uranium enrichment services that is presently in balance, exhibiting a potential for significant shortfall if plans that have been announced by two of the primary enrichers are not executed.

Not building the EREF, therefore, could have the following consequences:

- Failure to satisfy important considerations of energy and national security policy, namely the development of additional, secure, reliable, and economical domestic enrichment capacity.
- Continued reliance on the high-cost and power-intensive technology now in use at the aging Paducah gaseous diffusion plant, or, alternatively, reliance on the NEF and the proposed

USEC gas centrifuge technology which, at present, has yet to be deployed on a commercial scale.

- Continued extensive reliance on uranium enriched in foreign countries.
- The inability to ensure both security of supply and diverse domestic suppliers for U.S. purchasers of enrichment services.
- Increased risk of a uranium enrichment supply deficit with respect to the uranium enrichment requirements forecasts set forth in ER Section 1.1.2, Market Analysis of Enriched Uranium Supply and Requirements.

ER Section 2.4, Comparison of the Predictive Environmental Impacts, describes the environmental impacts of the no-action alternatives and compares them to the proposed action. Table 2.4-1, Comparison of Potential Impacts for the Proposed Action and the No-Action Alternative Scenarios, and Table 2.4-2, Comparison of Environmental Impacts for the Proposed Action and the No-Action Alternative Scenarios, summarize that comparison in tabular form for the 13 environmental categories, described in detail in ER Chapter 4, Environmental Impacts. AES anticipates the effects to the environment of all no-action alternatives to be about the same or greater than the proposed action in the short and long term. There are potentially lesser impacts in some environmental categories, which are offset by greater environmental impacts in other categories due to, for instance, the concentration of larger enrichment plants in one location. In addition, under the no-action alternative, attainment of both important national policy and commercial objectives would be, at best, delayed.

The following types of impacts would be avoided in the Bonneville County area by the no-action alternative (see Table 2.1-7, Summary of Environmental Impacts for the Proposed Action, and Table 7.2-1, Qualitative Environmental Costs/Benefits of EREF during Construction and Operation). During construction, there is the potential short-term impacts of soil erosion and fugitive emissions from dust and construction equipment; disruption to ecological habitats; noise from equipment; and traffic from worker transportation and supply deliveries. These impacts, as discussed in ER Chapter 4, are temporary and limited in scope due to construction Best Management Practices (BMPs), but, in any event, would be avoided under the no-action alternative. During operation, the no-action alternative would avoid increased traffic due to uranium cylinder deliveries and shipments and worker transportation, increased demand on utility and waste services and public and occupational exposure from effluent releases. These impacts, however, will be minimal because the area already has traffic from general trucking commerce, there is sufficient capacity of utility and waste services in the region and effluent releases will be strictly controlled, maintained on-site, monitored, and maintained below regulatory limits.

The proposed action would have moderate to significant beneficial effects (see Tables 7.1-1 through 7.1-5). Under the no-action alternative, however, these beneficial effects would not occur. The results of the economic analysis show that more fiscal impacts (i.e., 57% of total present value impacts) will derive from the eleven-year construction period associated with the proposed facility. The largest impact on local business revenues stems from local construction expenditures. Operation of the facility will also have a net positive impact on the 11-county area and will help diversify the regional economy. The most significant impact on household earnings and jobs is associated with payroll and employment projected during the operational period.

AES estimates the construction payroll will total [*], with an additional [*] in employee benefits, and approximately [*] on goods and services in direct benefits to the local economy over the eleven-year construction period.

AES anticipates the annual operating payroll to be $36.3 million, with an additional $12.7 million in employee benefits once the plant is operational. Approximately $23.8 million will be spent annually on local goods and services required for operation of the EREF.

The tax revenue to the state of Idaho and Bonneville County and Bingham County resulting from the construction and operation of the EREF is estimated to be $323.6 million over the life of the facility. Refer to Table 4.10-3, Estimated Annual Tax Payments, for further details.

The Regional Input-Output Modeling System (RIMS) II allows estimation of various indirect impacts associated with each of the expenditures associated with the operation of EREF. According to the RIMS II analysis, the region's residents can anticipate a total impact of [*] in output for local businesses, [*] in household earnings, and [*] new jobs during the construction period. Over the anticipated 30-year license period of the EREF, the project is anticipated to generate a total annual impact of $35.6 million in output for local businesses, $128.0 million in household earnings, and 3,537 new jobs directly or indirectly relating to the EREF. In general, minor and temporary impacts on community services are expected to occur for local infrastructure areas (e.g., schools, housing, water, and emergency responders). Costs of operation should be diffused sufficiently to be indistinguishable from normal economic growth.

Based on the above information, cost-benefit analyses in ER Section 7.1, Economic Cost-Benefits, Plant Construction and Operation, and ER Section 7.2, Environmental Cost-Benefit, Plant Construction and Operation, and the minimal impacts to the affected environment demonstrated in ER Chapter 4, AES has concluded that the preferred alternative is the proposed action, construction and operation of the EREF.

* Proprietary Commercial Information withheld in accordance with 10 CFR 2.390