

3.12 Population, Housing, and Economics

The proposed project is located in Walla Walla County, Washington, and the transmission line extends southeast into Umatilla County, Oregon. Neighboring Benton and Franklin Counties in Washington are also included in the study area for this section because of their proximity to the project site and the economic linkages within the region.

3.12.1 Existing Conditions

The power plant would be located approximately 35 miles from the City of Walla Walla, the primary urban center in Walla Walla County, and within 8 to 20 miles of the Tri-Cities (Richland, Kennewick, and Pasco) area in Benton and Franklin Counties. This area has a much larger urban population than Walla Walla. In Umatilla County the southern terminus of the transmission line is adjacent to the City of Umatilla and approximately 37 miles from the City of Pendleton. Consequently, the businesses and communities around the project site are more closely tied to the Tri-Cities in terms of commuting patterns and trade and service linkages. The Tri-Cities market would likely be the dominant source for project labor.

Based on these relationships, socioeconomic impacts from the Wallula Power Project would likely occur to varying degrees in Benton, Franklin, Umatilla, and Walla Walla Counties. For such socioeconomic measures as property values, potential project effects would be limited to one jurisdiction (i.e., Walla Walla County) and any included sub-county taxing districts. Aside from such exceptions, existing and expected future socioeconomic conditions are discussed for all four counties. Walla Walla County is generally treated in greatest detail, and aggregated data are provided for the other counties.

3.12.1.1 Population

Table 3.12-1 displays recent population figures and growth rates for the four counties in the study area. Comparative data for the states of Washington and Oregon are also provided.

Benton County clearly leads the list in terms of population: 142,475 people live within its boundaries according to the 2000 census. The county is among the most populous in the state, ranking 10th among Washington's 39 counties. While population growth in the county was very slow in the 1980s (only 3% between 1980 and 1990), the rate of growth has greatly escalated in the 1990s; population increased 27% from 1990 to 2000. This rate exceeded the state's 21% growth rate for the same period.

Table 3.12-1. Study Area and State Populations, 1980-2000

Region	Population			Growth Rate	
	1980	1990	2000	1980-1990	1990-2000
Benton County	109,444	112,560	142,475	3%	27%
Franklin County	35,025	37,473	49,347	7%	32%
Walla Walla County	47,435	48,439	55,180	2%	14%
Umatilla County	58,861	59,249	70,548	1%	19%
Study Area Total	250,765	257,721	317,550	3%	23%
Washington State	4,132,156	4,866,692	5,894,121	18%	21%
Oregon State	2,633,105	2,842,321	3,421,399	8%	20%

Source: U.S. Census Bureau (2001).

Such growth in the 1990s is typical of the counties in the region and reflects growth in the local economies: people typically follow jobs. Immigration is influenced greatly by increasing industrial development and demand for workers has greatly influenced immigration in the last decade. The quality of life is also cited as a reason that people are attracted to eastern Washington and Oregon counties.

Three-quarters of Benton County's residents live within incorporated cities or towns. Kennewick, with a population of over 53,000 people in the year 2000, is the largest city in the county, followed by Richland, with over 37,000 people.

The 2000 census reported a population of 49,347 for Franklin County, the least populous of the counties in the study area. It ranks 21st in the State of Washington. In the 1980s, Franklin County experienced a greater growth rate than Benton County: its population increased 7%, but this rate was still less than the state's rate of 18% for the same time period. The 1990s, however, brought very strong growth, as Franklin County's population increased 32% from 1990 to 2000, far surpassing the state rate of 21%. Again, this population growth can likely be attributed to the county's strong economy over the recent decade. Such circumstances offer jobs and opportunity for immigrants, in addition to the area's high quality of life. Two-thirds of county residents live within incorporated areas, and most of these people (60% of the county population) reside in Pasco, the largest of the county's cities.

At 55,180 people in year 2000, the population of Walla Walla County is similar in size to Franklin County. Recent growth has lagged behind the state level and the rate of other counties in the study area. From 1980 to 1990, Walla Walla County population increased by only 2%, as compared to 18% growth for the State of Washington. The county population grew at a greater rate in the 1990s, increasing in size by 14%. This performance still trailed the state's growth of 21%. The county's higher recent growth is attributed to an increased number of older, retired people moving into the county for its living environment and relatively inexpensive housing (Washington State Employment Security Department 2001c).

Population distribution patterns in Walla Walla County resemble those of Benton and Franklin Counties. Nearly 70% of county residents live within one of its incorporated cities or towns. The largest city, Walla Walla, had a population of 28,940 in 2000 and is

home to over half of the county's residents. A large number of stable employers are located in Walla Walla, including several secondary schools such as Whitman College and Walla Walla Community College. The U.S. Army Corps of Engineers maintains a regional office in the city, and the Washington State Penitentiary is located there. Many of the city's residents were likely attracted to the area by jobs with such employers.

Umatilla County, with a 2000 population of 70,548, is the second largest county in the study area, but has a population half that of Benton County. It is the only Oregon county within the project area. Umatilla County ranks 13th out of 36 Oregon counties in population. The county grew by only 1% in the 1980s; the State of Oregon, however, experienced population growth of 8% over the same time period. From 1990 to 2000, Umatilla County's population increased by 19%, keeping pace with Oregon's growth rate of 20% for the same period. Recent immigration reflects industrial development and demand for workers created by new agricultural processing facilities and large construction projects. A high quality of life adds to the area's attractiveness.

Over two-thirds of Umatilla County's population lives within incorporated cities and towns, and this pattern is typical of the area. The county's population is more distributed, however, than other counties in the study area, as no single city can claim the majority of the population. The largest city in the county is Pendleton, which had a population of 16,354 in 2000, or 23% of the county's population. Hermiston, the next largest city, is home to 13,154 people. Milton-Freewater is the third largest town with 6,470 people. Umatilla, which is the closest city to the project area, is the fourth largest city in the county, with 4,978 people or 7% of county population. Many of the other towns within Umatilla County are quite small; five have populations fewer than 1,000. The smallest town is Ukiah, with a population of only 255 people in 1998.

The population of Walla Walla County is projected for overall growth of 16.8% between 2000 and 2015. This rate is little more than half of Washington State's projected growth rate. Table 3.12-2 summarizes the trends expected in the project area.

The age distributions of residents in Walla Walla, Benton, Franklin, and Umatilla Counties and the states of Washington and Oregon are shown in Table 3.12-3. Age distribution can affect both the supply of labor and the level and distribution of income within a local area.

Table 3.12-2. Study Area Population Projections, 2000-2015

Area	2000	2005	2010	2015	Percent Change 2000-2015
Walla Walla County	55,802	59,274	62,230	65,197	16.8
Benton County	146,020	155,320	163,037	172,525	18.2
Franklin County	48,831	53,041	56,592	60,195	23.3
Umatilla County	69,854	72,870	75,869	78,963	13.0
Washington State	5,489,893	6,291,772	6,693,325	7,142,144	30.1
Oregon State	3,406,000	3,631,000	3,857,000	4,091,000	20.1
Sources: Port of Walla Walla County (2000); Washington Office of Financial Management (2000b); Office of Economic Analysis (1997a, 1997b).					

Table 3.12-3. Study Area Population Age Distribution, 2000

Area	Age 14 and Under		Age 15 to 64		Age 65 and Over	
	Number	Percent	Number	Percent	Number	Percent
Walla Walla County	11,134	20.5	35,872	64.9	8,174	14.7
Benton County	34,774	24.4	93,046	65.3	14,655	10.3
Franklin County	14,260	29.0	30,887	62.6	4,200	8.5
Umatilla County	16,166	22.9	45,701	64.7	8,681	12.2
Washington State	1,255,051	21.3	3,976,922	67.5	662,148	11.2
Oregon State	699,577	20.5	2,283,645	66.7	438,177	12.8

Source: U.S. Census Bureau (2000).

Table 3.12-4 shows the population, sex and race characteristics of Walla Walla, Benton, Franklin, and Umatilla Counties, along with corresponding statewide figures.

Table 3.12-4. Study Area Sex and Race Composition, 2000

Jurisdiction	Sex (%)		Race (%)				
	Male	Female	White/ Caucasian	Black	American Indian and Alaskan Native	Asian/Pacific Islander	Hispanic Origin
Walla Walla County	50.9	49.1	87.7	2.0	1.7	2.1	15.7
Benton County	49.7	50.3	88.7	1.3	1.6	3.0	12.5
Franklin County	52.2	47.8	65.6	2.9	1.3	2.2	46.7
Umatilla County	51.2	48.8	82.0	0.8	3.4	1.0	16.1
Washington State	49.8	50.2	84.9	4.0	2.7	7.4	7.5
Oregon State	49.6	50.4	86.6	1.6	1.3	3.2	8.0

Sources: U.S. Census Bureau (2000).

3.12.1.2 Housing

From 1990 to 2000, the total number of housing units increased by 11% and 14% in Walla Walla County and Umatilla County, respectively. Renters occupy more than one-third of the housing units in the two counties. In 1990, the rental vacancy rate was 6.6% in Walla Walla County and 8.6% in Umatilla County. Table 3.12-5 provides housing statistics for Walla Walla, Umatilla, Benton, and Franklin Counties from the 1990 and 2000 census.

The lowest rental vacancy rate was 4.6% in Benton County, where many of the Hanford Site employees reside. In the Tri-Cities, occupancy rates have fallen relative to 1990 because of workforce reductions at the Hanford Site. In 1998, the average vacancy rate for all housing units was 9%, while the vacancy rate for multiple unit and manufactured homes was greater, at 13% and 17%, respectively (Pacific Northwest National Laboratory 2000). Detailed housing statistics from the 2000 census are not currently available at the county level. The spring 2000 Benton/Franklin apartment inventory vacancy rate was 5.2%, based on a total of 5,151 units with vacancy of approximately 268 units.

In Walla Walla County, new mobile/manufactured housing outpaced construction of single-family site-built dwellings during the 1990s. Of the 1,674 new single-family residences built in Walla Walla County from 1993 through 1999, 40% were mobile homes. This trend is expected to continue due to rising costs for site-built homes (Port of Walla Walla 2001). A similar trend is occurring in Umatilla County. According to the 1990 census, nearly 20% of all housing units in the county were mobile homes or trailers. The State of Oregon Housing and Community Services Department lists 55 dwelling parks for manufactured housing in Umatilla County with a total of 1,679 spaces (Oregon Housing and Community Services Department 2001).

Table 3.12-5. Study Area Housing Statistics, 1990-2000

	Benton County	Franklin County	Walla Walla County	Umatilla County
Housing Units, 1990	44,877	13,664	19,029	24,333
Housing Units, 2000	55,963	14,840	21,147	27,676
Owner-Occupied Units, 1990	26,663	7,277	17,623	22,020
Renter-Occupied Units, 1990	15,564	4,919	6,643	8,373
Vacant Units, 1990	2,650	1,468	1,406	2,313
Vacancy Rate, 1990	5.9%	10.7%	7.4%	9.5%
Rental Vacancy Rate, 1990	4.6%	8.3%	6.6%	8.6%
Mobile Home, Trailer, Other, 1990	6,092	2,593	2,121	4,640
Median Rent, 1990	\$363	\$295	\$319	\$313
Median Value (Owner-Occupied Units), 1990	\$66,200	\$56,000	\$56,500	\$47,800
Source: U.S. Census Bureau (2001).				

Temporary construction workforces generally rely on short-term housing accommodations such as hotels, apartments, and recreational vehicle (RV) parks. At least 15 RV parks are located near the project, primarily in and around the Cities of Pasco, Kennewick, Richland, and Walla Walla. The 15 parks offer almost 700 full hookup RV spaces and generally charge between \$10 and \$20 daily (Tri-Cities Visitor and Convention Bureau 2001, Oregon Tourism Commission 2001). About 500 hotel/motel units are available in the City of Walla Walla (Walla Walla Valley Chamber of Commerce pers. comm.). There are also approximately 1,300 hotel/motel units located in Hermiston, Pendleton, and Umatilla. Nightly rates range from \$36 to \$120 (Oregon Tourism Commission 2001).

Campgrounds such as Columbia Park Campground, Fort Walla Walla Campground, Arrowhead Campground and RV Park, and Charbonneau Park collectively provide approximately 200 tent sites (Stienstra 2000, CTED 2000). Several of the parks operated by the Corps have stay limits of 14 days and are only open from April through October (U.S. Army Corps of Engineers 2001). Other parks are privately owned and do not impose stay limits. According to an individual familiar with construction projects in Umatilla County, adequate housing opportunities are available in the area to accommodate temporary workers (Armstrong pers. comm.). See Section 3.13, Public Services and Utilities, for additional information on recreational resources.

Despite the reported difference in median home price, monthly rents are comparable among the counties. In 1990, the median monthly rent was \$319 in Walla Walla County and \$313 in Umatilla County. Benton County had the highest median rent at \$363.

3.12.1.3 Employment

All four of the counties in the study area have experienced greater unemployment rates than their respective states in recent years. The study area as a whole had an unemployment rate of 6.9% in 2000, driven by the high rate of Franklin County (9.7%). State unemployment rates for the same year were 5.2% for Washington and 4.9% for Oregon. The region tends to have higher unemployment rates than other areas of the two states because of the seasonal nature of the agricultural work that forms the economic base of the region.

Unemployment rates can also vary monthly. For instance, in 1995, the unemployment rate for Umatilla County varied between 4.6% in October and 10.0% in January. The annual average rate was 7.0% (Oregon Employment Department 1999). Migrants previously performed much of the farm work in the region. Permanent residents have now displaced the migrants in many of the farm jobs, however.

Labor force and unemployment data for 1990 and 2000 are presented in Table 3.12-6 for the study area. State data is also included for comparison. In recent years, all four of the counties have experienced greater unemployment rates than their respective states.

Table 3.12-6. Labor Force and Unemployment, 1990 and 2000

Region	Civilian Labor Force (persons)		Total Unemployed (persons)		Unemployment Rate (%)	
	1990	2000	1990	2000	1990	2000
Benton County	60,600	71,800	3,700	4,600	6.1	6.4
Franklin County	19,200	22,700	1,900	2,200	9.9	9.7
Walla Walla County	23,660	25,730	1,580	1,640	6.7	6.4
Umatilla County	29,780	37,110	2,480	2,370	8.3	6.4
Study Area Total	133,240	157,340	9,660	10,810	7.3	6.9
Washington State	2,538,000	3,045,200	125,100	157,700	4.9	5.2
Oregon State	1,491,000	1,802,900	82,000	87,500	5.5	4.9

Sources: Oregon Employment Department (1994, 2001); Washington State Employment Security Department (1998, 2001a).

Benton County

Overall employment in Benton County has grown by 21% from 1990 to 1999, with significant growth in the retail trade (42%) and services (37%) sectors. The largest employer in the county is the services sector, with over 23,000 employees. Retail trade follows, occupying nearly 14,000 workers. Government is also a significant employer, with over 10,000 workers.

The Hanford Site in Benton County provides a large portion of the local employment; more than 22% of nonfarm employment is attributed to it (Washington State Employment

Security Department 2001b). Some of these jobs were reclassified from the services sector to transportation and public utilities, while a great number still remain within services. A small portion of federal government employment is also associated with the Hanford Site. Much of the work is contracted out to firms such as the Pacific Northwest National Laboratory, Bechtel Hanford, and Kaiser Engineers.

Agriculture is an important segment of the Benton County economy. Farm workers produce crops such as fruits, field crops, vegetables, and cash grains. In 1999, more than 4,900 employees worked on farms in Benton County. Other agriculture-related employers include food processors and fertilizer manufacturers. These employers are categorized under manufacturing. Food processors in the area include both large firms and small specialty firms or smaller vintners.

Franklin County

Overall, the number of jobs in Franklin County has grown 22% from 1990 to 1999. Agriculture plays a significant role in the county, as it does in Benton County. Workers are employed both on farms and in agriculture-related industries such as food processing. In 1999, almost 4,700 jobs, or 17% of total county employment, were associated with farming in Franklin County. Farm work is second only to services as the leading source of employment.

The service category represents the leading industry in Franklin County providing employment for over 6,000 workers. The government is also a significant employer, providing over 4,200 jobs. All sectors except manufacturing have experienced growth in the number of jobs since 1990. Most notable is a 71% increase in construction jobs. The services sector has also grown at a greater rate than other sectors, increasing the number of jobs from 1990 to 1999 by 46%. Retail trade is less significant in Franklin County than in Benton County. This sector grew at 9% between 1990 and 1999 and accounted for only 3,500 jobs in 1999.

Walla Walla County

The number of jobs in Walla Walla County has grown at a slower pace than in Benton and Franklin Counties, increasing only 16% since 1990. Farm employment, however, has greatly expanded, increasing by 42% to 3,154 jobs in 1999. Construction and wholesale trade have also expanded significantly, at 65% and 52%, respectively. Manufacturing jobs have dropped 3% since 1990.

Agriculture is a very important sector for Walla Walla. Area farms grow a variety of vegetables, including the famous Walla Walla sweet onions, grains, fruits, and seed. Other jobs related to agriculture are found in the area, including those within the agricultural services sector and food processors and farm input providers. Food processors in the county include Iowa Beef Processors. This company is a source of consistent employment. Seasonal employers include the produce processors Chiquita and Agripac.

Umatilla County

Umatilla County has also experienced growth in employment. The total number of jobs has increased 29% from 1990 to 1999. Construction leads this trend, and jobs in this sector have increased 166% since 1990. Growth in this sector has been fueled by the large number of projects being built in the area including the Army's chemical weapons incinerator at Umatilla Depot, a locomotive maintenance facility constructed for Union Pacific, a new state prison, and other commercial and residential structures.

Other areas of growth are in services (47%) and retail trade (43%). Some of the growth in retail trade is attributed to the addition of a regional distribution center for Wal-Mart in 1998. This development also contributed to some short-term gains in construction employment. Wholesale trade is the only sector that experienced a decrease in the number of jobs, losing 8% since 1990.

Services and retail trade employ the greatest numbers in Umatilla County, with 8,979 and 7,069 jobs, respectively. The Wal-Mart distribution center is a significant employer in the retail trade sector. Government is also a significant employer, with over 4,900 jobs. The Two Rivers Correctional Facility, employer of 500 people, is included in this sector.

3.12.1.4 *Economics*

Per Capita Income

Per capita income is often used to compare regions to evaluate "well-being" of the residents. In the project area, all county per capita income figures are lower than those of their respective states. The State of Washington per capita income figures include the large population of King County with its high technology and aerospace workers whose higher earnings affect the averages.

The economy in the project area has grown in the recent past. Among the project area counties, Benton County had the highest per capita income in 1999, at \$25,004, compared to \$30,380 for the state. Umatilla County followed, with a per capita income of \$22,024, as compared to \$26,958 for the State of Oregon. Walla Walla County had a per capita income of \$21,366 in 1999, while Franklin County had the lowest figure, \$17,961. The increase in per capita income in study area counties during the past decade (1990-1999) has ranged from a low of 26% in Franklin County to a high of a 51% in Umatilla County. These increases in per capita income represent improved standards of living.

Tax Rates and Distribution

Local governments within the study area depend primarily on sales and property tax revenues to fund government operations and services. Walla Walla County is expected to receive increased sales tax revenue as a result of construction and operation of the Wallula Power Project. Table 3.12-7 shows a breakdown of the sales tax rates applied to

purchases within Walla Walla County. For expenditures within any of the incorporated cities of the county, 85% of the 1% tax (a 0.85% tax rate) goes to the city and 15% goes to the county.

Table 3.12-7. Walla Walla County Sales Tax Rates, 2000

Jurisdiction/Purpose	Rate (Percent)
State	6.5
Valley Transit	0.3
Juvenile Justice	0.1
County/City	1.0
Criminal Justice	0.1
Source: Martin (2000) as cited in Wallula Generation (2001).	

Table 3.12-8 shows total taxable retail sales in Walla Walla, Benton, and Franklin Counties from 1995 through 1999. Data for Umatilla County were not available.

The Wallula Power Project site lies within unincorporated Walla Walla County. The total assessed value of property in Walla Walla County in 1999 amounted to almost \$2.6 billion. Private property within the unincorporated county is taxed at a variety of individual levy rates for state government and multiple-county government purposes, plus levy rates for applicable fire district, school district, and other special purposes.

Applicable tax levy rates for taxable property in Walla Walla County in 2000 ranged from 0.1281 mills (1/1000ths of a dollar) for Juvenile Bond taxes to 14.4332 mills for the Regular Levy rate (Walla Walla County Office of the Assessor 2000). Table 3.12-9 provides an overview of the applicable tax levy rates for taxable property in Walla Walla County in 2000.

Table 3.12-8. Taxable Retail Sales in Study Area Counties, 1995-1999 (\$1,000s)

Area/Industry	1995	1996	1997	1998	1999
Walla Walla County					
Retail Trade	196,455	201,655	201,956	211,971	222,230
Services	50,843	50,341	51,001	51,307	47,734
Contracting	80,847	67,839	65,735	70,608	91,359
Manufacturing	8,886	8,563	8,748	9,841	9,608
Transportation/Communications/Utilities	18,378	19,656	18,462	18,212	23,740
Wholesaling	54,563	58,336	60,748	66,712	58,870
Finance/Insurance/Real Estate	3,514	3,440	3,678	4,609	4,461
Other Business	3,051	3,181	4,142	3,977	3,841
Total, All Industries	416,538	413,009	414,470	437,237	462,061
Annual Percent Change	N/A	(0.8)	0.4	5.5	5.8
Benton County	1,332,487	1,306,825	1,377,284	1,433,773	1,572,740
Annual Percent Change	N/A	(0.9)	5.4	4.1	9.7
Franklin County	520,159	525,811	552,615	551,466	569,699
Annual Percent Change	N/A	1.1	5.1	(0.2)	3.3
Source: Washington Department of Revenue (1995, 1996, 1997, 1998, 1999).					

Table 3.12-9. Walla Walla County Property Tax Rates, 2000

Levy Type	Rate ¹
Regular Levy	14.4332
State	3.1767
County	1.8000
Fire	0.5124
Port	0.4500
Road	2.2500
Library	0.5000
EMS	0.3440
School Special	3.7887
School Bond	1.4843
Juvenile Bond	0.1281
¹ Expressed as mills (1/1000ths of a dollar). At a levy rate of 14 mills (equivalent to \$14 in tax for every \$1,000 of assessed valuation), the owner of home assessed at \$100,000 would pay \$1,400 in annual property taxes.	
Source: Walla Walla County Office of the Assessor (2000).	

3.12.2 Impacts of the Proposed Action

3.12.2.1 Construction

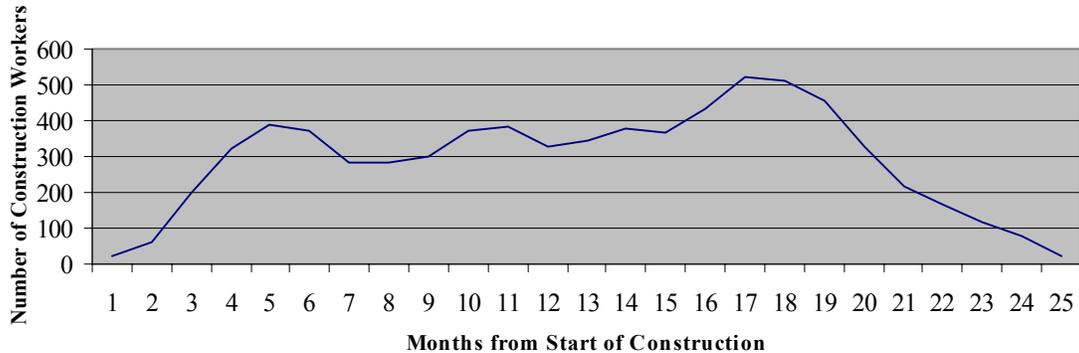
The planned construction schedule for the project spans 2 years (24 months). Power plant construction would occur throughout the 2-year period, while construction of the natural gas pipeline would take approximately 4 months (beginning at the end of Month 4), construction of the makeup water supply pipeline would take approximately 2 months (beginning in Month 11), construction of the Smiths Harbor Switchyard would take approximately 18 months, and construction of the transmission line would take approximately 6 months (expected to begin in fall 2003).

Cumulative impacts on population and housing resulting from construction of the Wallula Power Project and other projects in the area are discussed in Section 3.17, Cumulative Impacts.

Generation Plant and Pipelines

Labor requirements would vary considerably during the construction period for the generation plant and pipeline, as shown in Figure 3.12-1. In the first month of the construction period, the project would employ a total of 21 workers. The construction workforce would increase rather rapidly to 401 workers in Month 5, fluctuate between about 265 and 401 for 10 months, and then climb to a peak of 520 in Month 17. Construction employment would decrease rather rapidly after Month 19, falling to about 216 workers in Month 21. Three months later, the number would fall to 76. Average monthly employment over the entire construction period would be approximately 303 workers.

Figure 3.12-1. Wallula Power Project Construction Employment Schedule



Source: Wallula Generation (2001).

Table 3.12-10 summarizes the power plant’s specific labor force requirements for each of 20 trade or occupational classifications (not including transmission line construction workers). Based on average monthly workforce numbers, the trades with the greatest numbers of workers include electricians, laborers, manual workers, pipefitters, boilermakers, and millwrights.

Some of the workers in most of these trades would be present on-site throughout the entire construction period, as would operating engineers and nonmanual workers. Considerable variation would occur monthly in the number of workers in these trades, indicating that relatively few of these workers would be employed for longer-term assignments. The number of electricians, for example, would range from 2 to 82 and would average 44. Based on the fluctuation in need for this trade, about 20 electricians might logically work at the project site for 1.5 years or more, while most of the remainder would have assignments ranging from 6 to 12 months and some might be present for only 3 to 4 months.

Some trades, such as sprinkler fitters, plasterers, and start-up engineers, would only be needed for 6 to 10 months and would typically be employed for short-term assignments.

Table 3.12-10. Power Plant Construction Workforce by Trade

Trade	Average Monthly Workforce	Peak Workforce	Minimum Workforce
Boilermakers	26	50	3
Carpenters	10	38	3
Cement Finishers	8	27	2
Electricians	44	82	2
Instrument Technicians	11	14	2
Insulation Workers	15	24	2
Ironworkers	11	14	2
Laborers	40	74	5
Manual	41	111	2
Millwrights	23	50	3
Nonmanual	15	21	2
Operating Engineers	13	25	2
Painters	13	30	2
Pipefitters	37	87	2
Plasterers	4	8	1
Sheet Metal Workers	9	30	4
Sprinkler Fitters	7	12	2
Start-Up Engineers	3	4	1
Surveyors	4	5	2
Teamsters	3	4	2

Source: Utility Engineering (2000).

Population

The level of socioeconomic impact for a project such as the Wallula Power Project depends on the level of worker relocation and immigration needed to meet project labor demands. In turn, the project is dependent upon the ability of the local labor supply to meet this demand.

The primary local labor market for the Wallula Power Project is comprised of Benton and Franklin Counties. Walla Walla County is a secondary source. Umatilla County does not contain large metropolitan areas from which to draw significant portions of the labor force and is not included in the following population analyses. Any construction workers from outside these counties who would be needed to meet construction labor requirements would be considered nonlocal workers who would relocate to the study area for project construction jobs.

Walla Walla, Benton, and Franklin Counties had a combined 1999 average employment level of approximately 106,000 jobs and an aggregate civilian labor force of over 121,000 persons. These figures represent broad measures of the size of the local labor pool from which the Wallula Power Project would draw workers for project construction.

The local construction labor force available when the Wallula Power Project begins—including both workers currently employed in construction and unemployed workers with construction skills—represents one of the primary sources of workers for the project. (However, depending upon supply/demand conditions at the time, some construction labor needs could also be met by hiring employed or unemployed workers from other

sectors and/or by hiring new entrants to the labor force.) The construction contractor will probably bring in additional key employees to ensure that sufficient critical skilled labor is available as needed. In 1999, about 4,400 workers, or 4.2% of the three-county employment total, belonged to the construction industry. The bulk of these construction workers, approximately 3,800 or 85%, came from Benton and Franklin Counties. Clearly, the construction industry in the Benton-Franklin County area is the most likely source for Wallula Power Project workers.

The average overall Wallula Power Project construction labor force of 303 workers represents less than 7% of total construction employment in the Benton-Franklin-Walla Walla County labor market area in 1999, while the peak work force of 520 is equivalent to 12% of local construction employment in 1999. Consequently, the local construction industry appears to be large enough to supply all or most of the construction labor needed for the project.

In addition, 1999 unemployment claims data suggest that the number of workers available in the local Benton-Franklin County area should be sufficient to supply the Wallula Power Project labor force requirements for virtually all specific occupations. While unemployment claims from Walla Walla County construction workers have not been displayed, they would represent an incremental addition to the short-term labor supply available.

The local labor market for the proposed project is relatively large and urbanized. For the purposes of the socioeconomic impact analysis, project construction worker classifications were categorized as nonspecialized occupations likely to be filled locally or as more specialized occupations likely to be filled by workers from outside of Benton, Franklin, and Walla Walla Counties.

The results of this process are reported in Table 3.12-11. Of the 20 occupations needed for construction of the generation plant and pipelines, 14 are common construction trades and/or occupational categories for which the number of unemployment claims substantially exceeds the number of workers needed for the project. Project needs for these occupations would be filled mostly from the local labor market. The remaining six project construction occupations appear to be absent from or under-represented in the Benton-Franklin County unemployment claims data. Workers from outside of the local area would most likely fill these occupations.

Based on the distribution of project construction workers by occupation, the 14 construction trades assigned to the local origin category account for 75% to 80% of total project construction needs. Project construction workers originating from outside of the local area are expected to average 80 to 90 workers per month during the majority of the construction period. During the peak construction period, as many as 150 nonlocal workers could be employed at the project site. At time of hire, these workers would likely reside in relatively distant employment centers such as the Yakima, Spokane, Portland, and Seattle metropolitan areas, beyond normal daily commuting distance from the project site.

Wallula Power Project construction workers originating from outside the local area would probably exercise one of two options with respect to residence and work location: they could retain their current residence and commute to the project area on a weekly basis, staying in short-term accommodations during the work week, or temporarily relocate to rental housing in the project area for the duration of their employment.

Selection of either option would probably depend primarily on the length of the individual's assignment. Those with relatively short-term jobs requiring their presence on the project site for only a few months would be more likely to commute on a weekly basis, while those with longer-term jobs (e.g., lasting a year or more) would be more likely to relocate temporarily. The duration of job assignments would therefore affect the nature of project-related housing demand. Longer assignments would typically cause workers to search for conventional types of temporary housing, such as single-family or multifamily rentals.

Table 3.12-11. Estimated Local Versus Nonlocal Wallula Power Project Construction Worker Origin

Construction Occupation	Wallula Power Project Average Need ¹	Wallula Power Project Power Plant Peak Need ²	Wallula Power Project Power Plant Need, Month 17
Local Origin			
Carpenters	10	38	3
Cement Finishers	8	27	3
Electricians	44	82	76
Ironworkers	11	14	14
Laborers	40	74	70
Manual	41	111	58
Nonmanual	15	1	21
Operating Engineers	13	25	25
Painters	13	30	12
Pipefitters	37	87	69
Plasterers	4	8	2
Sheet Metal Workers	9	30	24
Surveyors	4	5	0
Teamsters	3	4	4
Local Subtotal	252	556	381
Nonlocal Origin			
Boilermakers	26	50	50
Instrument Technicians	11	14	14
Insulation Workers	15	24	19
Millwrights	23	50	48
Sprinkler Fitters	7	12	5
Start-up Engineers	3	4	3
Nonlocal Subtotal	85	154	139
¹ Based on average number of workers during period when each occupation is present onsite; average over the entire 24-month construction period would be fewer for each occupation. ² Summing the Wallula Power Project power plant peak needs by occupation overstates the overall instantaneous construction peak for the project (520 workers in Month 17) because the peak needs for each occupation do not occur in the same month. Source: Wallula Generation (2001).			

Table 3.12-12 summarizes the duration of the construction need for the occupations most likely to be filled by nonlocal workers.

Table 3.12-12. Project Nonlocal Construction Employment Duration of Need (Months)

Occupation	Duration of Construction Need
Boilermaker	17
Instrument Technician	14
Insulation Worker	16
Millwright	20
Sprinkler Fitter	9
Start-Up Engineer	10
Source: Utility Engineering (2000).	

Local labor availability and expected worker origins are based on current labor market conditions. The planned construction of a vitrification plant on the Hanford Site near Richland could cause a significant change in local conditions. Construction of the vitrification plant (scheduled to begin in 2002) could employ as many as 2,500 construction trade workers over 5 years, creating strong competition for the area's construction labor force (Shaw 2000). The likelihood of vitrification plant construction occurring concurrently with the proposed Wallula Power Project is not known.

In the event that few local construction laborers would be available, the number of nonlocal project construction workers could average as many as 30 over the construction period and as many as 520 at the construction peak. There would likely be corresponding increases in the number of Wallula Power Project construction workers relocating to temporary housing and commuting on a weekly basis.

Housing

Based on market size, nonlocal workers could relocate from the Yakima, Spokane, Portland, and/or Seattle areas. Workers relocating for relatively short-term jobs would be less likely to bring dependents with them and more likely to seek transient accommodations (motel lodging or RV campground sites), on a weekly commuting basis. Longer-term workers would be more likely to bring dependents with them and to seek apartments or rental houses.

Up to 150 nonlocal workers could be present at peak construction activity. The project resource-loading schedule suggests that approximately 50 to 70 of these workers would have jobs of short duration and would primarily use temporary accommodations. There are at least 3,200 motel rooms and RV or standard campground sites within a 30-minute drive of the project site. Estimated peak project demand for such accommodations represents about 2% of the current supply, indicating there are sufficient transient and tourist accommodations for these short-term workers.

Based on the number of workers expected to seek temporary (nontransient) housing, the likely maximum impact of project construction workers relocating to the Tri-Cities area and Walla Walla County would be approximately 100 households. Using a typical household size factor of 2.5 people per household (the current average for Benton and Walla Walla Counties), the estimated total population impact of project construction would be 250 individuals. This estimate likely overstates the maximum impact, as some workers would choose not to relocate their dependents.

Based on commuting distances and the relative sizes of the respective markets, most of the relocating project construction workers could be expected to seek temporary housing in the Tri-Cities area, rather than in Walla Walla. Pasco would probably be the preferred location, because it is several miles closer to the project site than Kennewick or Richland.

A simple gravity model was used to develop a specific geographical distribution of relocating workers in relation to the project site. A gravity model is a mathematical technique for assigning attractiveness measures to locations according to distance and population size factors. In this case, the number of Wallula Power Project construction workers relocating to the respective destination communities (the Tri-Cities, the communities of Burbank/Wallula and the City of Walla Walla) is assumed to be directly proportional to the population size of the community and inversely proportional to the square of the distance between the project site and the community.

The communities of Burbank/Wallula are closest to the Wallula Power Project site (7 miles to the community of Burbank, 2 miles to the community of Wallula), but have a relatively small population of fewer than 3,500 persons. The Tri-Cities have a combined incorporated population of over 110,000 and an average distance of 15 to 20 miles from the project site. The City of Walla Walla is approximately 35 miles from the Wallula Power Project site and has a population of 29,000.

Based on distance and population size factors, the gravity model determined that nonlocal workers would relocate to cities near the project site in the following proportions:

Tri-Cities	75%
Burbank/Wallula	20%
Walla Walla	5%

In the Tri-Cities area, these results translate into a peak of about 75 households and a corresponding total population of about 190 people. There are currently over 5,000 apartments in Benton and Franklin Counties. If the current 5.2% vacancy rate exists at peak of project construction, approximately 250 apartments would be available. An unquantified number of single-family rental housing units would represent additional available housing supply. Consequently, the peak project-related demand for temporary rental housing would likely represent a small proportion of the vacant Tri-Cities housing supply. The peak project-related population impact in Burbank represents less than 2% of the existing community population. The model results suggest that a maximum of five households and 15 or fewer people would relocate to Walla Walla in response to project

construction jobs. This result would represent a negligible demand for temporary housing relative to the supply in Walla Walla. The potential project impact on housing is not considered significant.

Potential Employment Effects of Hanford Project. The preceding estimates of temporary worker relocation and population immigration represent the expected outcome under normal local labor market conditions and do not take into account the potential labor supply impact of the proposed Hanford vitrification plant. Depending on that project's labor requirements and hiring schedule, the possibility exists that the available local labor supply could be significantly reduced when the Wallula Power Project construction begins. As a result, it is possible that a significantly higher proportion of the Wallula Power Project workforce would come from outside of the local area.

Under this scenario, the Wallula Power Project would have a much higher population and housing impact that could range as high as 300 to 350 households, based on the number of Wallula Power Project construction worker positions that would have relatively long-term (9 months or more) job durations. Using the expected distribution of population from the gravity model, the high-competition scenario could result in as many as 225 to 260 new households (560 to 650 people) temporarily relocating to the Tri-Cities.

Corresponding impacts for the other local communities in this case would be as many as 60 to 70 households in the communities of Burbank/Wallula and 15 to 20 households in the City of Walla Walla. However, if sufficient rental housing were not available in the communities of Burbank/Wallula, some of the Wallula Power Project construction workers who would prefer to locate near the project site (according to the gravity model application) would need to search for temporary housing in the Tri-Cities area. Again, the probability that the high-competition labor scenario would actually occur is unknown.

Employment

The total construction employment of a project is the sum of direct and indirect employment attributable to the project. "Direct employment" refers to the number of workers directly employed in construction of the project. "Indirect employment" refers to the additional employment generated by the new economic activity created by project construction.

The latter includes employment associated with increased output by suppliers providing goods and services to the construction project (such as sales of construction materials) and additional employment elsewhere in the economy associated with construction-related purchases, such as additional activity in the retail trade and service sectors. The total employment impact of a project is typically determined through the use of an employment multiplier, which is based on the ratio of indirect to direct employment.

As described previously, construction of the Wallula Power Project would require an average of about 303 construction workers over a 24-month construction period. Therefore, the direct construction employment impact of the project would be approximately 303 new temporary jobs, or about 7,395 person-months of direct

construction employment over 26 months. The level of the direct construction impact would vary during the construction period, reaching a short-term peak estimated at 520 construction workers.

The project's direct construction employment would represent a temporary increase in employment for the regional economy. Based on the assessment of local labor availability and expected worker origins, about 75 to 80% of this direct employment impact (225 to 245 jobs, or roughly 5,400 to 5,880 person-months of work) would occur within Benton, Franklin, and Walla Walla Counties, with the remainder distributed among other local economies in the Northwest.

Indirect construction employment impact for the Wallula Power Project was determined using an applicable employment multiplier from the Washington State Input/Output Model. Specifically, the analysis used the total employment multiplier of 2.667 derived for the "Other Construction" sector of the state economy (Washington Office of Financial Management 1987). This ratio indicates that for every direct Wallula Power Project construction job, 1.667 indirect jobs would be generated. Consequently, the average Wallula Power Project construction labor force of 303 represents an indirect employment impact of approximately 505 jobs (or about 12,120 person-months of employment).

Based on the peak Wallula Power Project construction force, the indirect employment impact could range as high as 870 or more jobs for a brief period. An unknown proportion of the indirect employment would occur within the local economy (Benton, Franklin, and Walla Walla Counties), while the remainder would occur elsewhere within the regional, national and (perhaps) international economies, depending largely upon the locations of the suppliers of project construction inputs. The local share of indirect employment would likely be significantly less than the local share of direct employment, as much of the power plant equipment would be purchased from sources outside of the region.

The total employment impact of project construction is the sum of the direct and indirect employment, which would be an average of approximately 808 new jobs (or 19,392 person-months of employment) during the 2-year construction period. Near the peak of construction activity, the project could support a maximum of about 1,387 jobs (520 new direct jobs and 867 new indirect jobs) for a brief period. Much of this employment (primarily the direct employment) would occur within the Benton-Franklin and Walla Walla County labor markets; however, a sizable portion would be distributed more broadly, including areas outside of the state and the region. Both direct and indirect employment impacts from project construction would be temporary effects associated with the construction phase of the project.

Economics

Construction Income. The estimated total payroll costs for construction are about \$36 million (Utility Engineering 2000). This figure is equivalent to approximately 1.2% of the combined total wages paid in 1999 for Walla Walla, Benton, and Franklin

Counties. The largest share of this temporary increase in labor income would likely occur in Franklin County.

A preliminary estimate of local, nonlabor construction expenditures for the project is approximately \$6 million (Utility Engineering 2000). A portion of these expenditures would be registered as employee wages and ownership profits for the local suppliers, and would therefore contribute to aggregate local income from all sources.

Local Fiscal Effects. The local fiscal effects resulting from project construction would depend upon the balance between local tax revenues attributable to the project and the costs of any increase in services needed to support project construction. The primary component of project-related local revenues would be the local share of sales tax receipts, which would be paid on the value of project construction contracts. A secondary component of local tax revenues would be the sales tax paid on local purchases by project construction workers.

Sales Tax Revenue. The Wallula Power Project construction costs subject to sales tax are estimated at \$521.1 million. Based on the location of the project site relative to taxing jurisdictions that levy sales tax, a tax rate of 7.7% would be applied to all Wallula Power Project contracts. (The applicable rate for portions of Walla Walla County within the Valley Transit taxing district is 8%, but the project site is outside of the Valley Transit jurisdiction.)

Project construction would generate an estimated total of approximately \$40.1 million in sales tax revenues for all jurisdictions over a 2-year period. Table 3.12-13 shows the applicable sales tax rates and revenues collected based on the estimated construction value. The State of Washington portion of the total would be approximately \$33.87 million.

Including county funds for juvenile and criminal justice programs, local governments would receive approximately \$6.25 million. Because the location of the construction work would be unincorporated Walla Walla County, the county would receive the entire county/city revenue share, and no project-related sales tax revenues would go directly to municipalities.

Table 3.12-13. Estimated Sales Tax Revenues from Wallula Power Project Construction

Tax Jurisdiction ¹	Rate (%)	Estimated Revenue (\$000s)
State	6.5	33,872
Juvenile Justice	0.1	521
County/City	1.0	5,210
Criminal Justice	0.1	521
Total	7.7	40,124

¹ Project site is outside of Valley Transit jurisdiction, which levies 0.3% sales tax.
Source: Martin (2000) as cited in Wallula Generation (2001).

Project construction workers would spend a portion of their project wages locally on goods and services subject to sales tax, indirectly generating a temporary stream of sales tax revenue. Consequently, the \$36 million construction payroll would indirectly generate an additional temporary stream of sales tax revenue through this secondary spending mechanism. The exact level of construction-worker spending in the local area, the resulting value of sales tax receipts, or the geographic distribution of these revenues has not been calculated, primarily because the revenue impact in any given local jurisdiction would be relatively small.

If the Wallula Power Project construction workers spent 30% of their project earnings locally on taxable purchases (a reasonable approximation), their total expenditures would be approximately \$10.8 million, and the total sales tax revenue for all affected local jurisdictions (three counties and at least four cities) would be about \$150,000. Therefore, for this portion of the impact analysis, it is sufficient to note that the counties and cities near the project site would experience a slight temporary increase in sales tax revenues through respending of project construction wages.

Government Service Costs. Some aspects of the Wallula Power Project construction process would likely result in temporary increases in demands for some government services. The potential service demands directly attributable to the project primarily involve the following possible needs:

- specialized technical rescue capability that Walla Walla County Fire District 5 does not currently have,
- additional traffic management and accident response needs from law enforcement agencies,
- a possible increase in wear and tear on Walla Walla County roads, and
- an increase in emergency medical services (EMS) call frequency in response to workplace accidents at the site and/or traffic accidents involving project workers.

In addition, project construction would indirectly create increased demand for the full range of government services in any jurisdictions receiving immigrant workers relocating in response to Wallula Power Project construction jobs.

While the public service impact analysis identified several potential increases in service demand associated with project construction, in no case did the analysis indicate that the increased demand would translate into specific needs for increased service provider staff and/or equipment (see Section 3.13, Public Services and Utilities). Therefore, any increased government service costs attributable to project construction are likely to be minor and do not appear to be quantifiable. Nevertheless, some level of increase in government service costs would likely occur as a result of Wallula Power Project construction activity. Walla Walla County and Walla Walla County Fire District 5 are the local jurisdictions most likely to experience minor service cost increases during the construction period (this is discussed further below).

Net Fiscal Impact. The net fiscal impacts of Wallula Power Project construction on any potentially affected jurisdiction would depend on the balance of increased tax revenues and service costs attributable to the project during the construction period. Increases in revenues and service costs would likely vary within and among jurisdictions. Of the jurisdictions receiving project-generated sales tax revenue, the bulk of sales tax receipts would go to the State of Washington, which would be expected to incur negligible service costs during the construction period. Walla Walla County would receive a large share of sales tax revenues and would be likely to experience minor potential cost increases in the areas of additional law enforcement and road maintenance service.

Other jurisdictions could also experience increased service costs, but without the benefit of additional sales tax revenues. Walla Walla County Fire District 5 would not receive sales tax revenue, but could experience higher fire protection and EMS demand. Benton and Franklin Counties would be likely to absorb most of the relocating workers and their demands for general services, but would not receive direct sales tax revenues from construction. In each of these cases, however, workers and dependents relocating to these jurisdictions would pay indirect or direct sales and property taxes that would presumably cover the cost of additional service demands.

Overall, the sales tax revenues generated by Wallula Power Project construction have been quantified and are quite substantial (approximately \$40.1 million total, including \$6.25 million to Walla Walla County), while specific increases in service costs cannot be estimated and are likely to be small. Therefore, the total net fiscal impact of Wallula Power Project construction appears to be significantly positive, and state and county governments would experience a large surplus of increased revenue in excess of increased service costs.

Despite the large overall positive fiscal balance for the project, however, Walla Walla County Fire District 5 may incur additional costs during the construction period created by increased service demands, but the fire district would have no project-related tax revenues to accommodate these costs. As a precondition for use of the project site and as stated in a zoning amendment passed by the Board of Walla Walla County Commissioners dated March 26, 2001, the applicant would enter into an agreement with the county for the prepayment of taxes for mitigation of cost impacts on the county during construction.

The sales tax revenues from Wallula Power Project construction and the corresponding positive net fiscal impact would be a one-time fiscal event that would end approximately upon completion of construction activities.

Local Business Effects. Local business effects during the construction period would result from purchases of construction goods and services from local suppliers and from local spending by project construction workers. Materials needed as inputs to construction of the project and most likely to be purchased locally would include cement, sand and gravel, and fuel and other supplies needed to operate construction equipment. Services during construction likely to be provided by local firms include utilities, contract

work related to project site preparation, and vendor services such as site security and waste disposal.

Local construction spending on goods and services is likely to be spread throughout the Tri-Cities area and Walla Walla County. Nonsalary local expenditures for construction materials, services, and equipment leasing associated with the Wallula Power Project are estimated at approximately \$6 million. During the construction period, these procurements would temporarily augment the revenues of many construction-related businesses in the Tri-Cities area and Walla Walla County.

In addition to the purchases of goods and services, the consumption spending of project workers and their households would represent a temporary stimulus to local economy, primarily the retail trade and services sectors. Total payroll costs, including wages and salaries, are projected to be approximately \$36 million (Utility Engineering 2000). Typically, the average level of local spending is equivalent to 35% of workers' earnings, reflecting a mix of resident and nonresident workers (Sumas 2 Energy 1999). Because most of the Wallula Power Project construction workers are likely to come from the Tri-Cities area, it is expected that their expenditures would be concentrated in that area and that a significantly higher proportion of the payroll would remain within the local economy.

The local fiscal effects resulting from project construction would depend upon the balance between local tax revenues attributable to the project and the costs of any increase in services needed to support project construction. Based upon recent past activities, there is not likely to be an increase in demand for local services related to the construction period, aside from increased pressure placed on Walla Walla County Fire District 5 (see Section 3.13, Public Services and Utilities, for further discussion). Additionally, tax revenue effects would not be significant, depending upon the jurisdiction of the entity collecting the sales tax in Washington and income in Oregon.

Transmission Line and Associated Facilities

There are currently at least six energy-generating facilities under various phases of construction or permitting in southeast Washington and northeast Oregon. The economic impacts and availability of labor and housing for construction of the transmission line would depend somewhat upon the timing of these other projects. (See Section 3.17, Cumulative Impacts, for further discussion.)

Population and Housing

Labor requirements have been estimated for the transmission line portion of the project in the range of 50 to 60 construction workers for a period of about 6 months (approximately 360 person-months). While there would likely be a temporary increase in the workforce and local population because of construction of the transmission line, it is not expected that a significant number of transmission line construction workers would relocate permanently to the project area. According to an individual familiar with construction

projects in Umatilla County, adequate housing opportunities are available in the area to meet the needs of the nonlocal workforce (Armstrong pers. comm.).

Employment

According to an individual responsible for staffing the construction of a recent generation project in Hermiston, approximately 30% of the construction workforce was obtained locally (Hermiston, Tri-Cities, etc.). A transient workforce familiar with building energy generation facilities filled the majority of the positions (Armstrong pers. comm.).

The total construction workforce required for the proposed transmission line is not expected to be large in comparison to other recently completed projects in the study area, nor is this component of the project likely to have a significant impact on long-term employment. The scheduling of other proposed projects could result in competition in the local labor market for skills in limited supply and may result in a reduction in unemployment, which is currently relatively low by economic definitions.

The employment multiplier effect related to construction of the transmission line is also expected to be small. The amount of construction supplies and services that may be purchased locally is not yet known. However, given the specialized nature of the project, local purchases are not expected to be large. While some construction materials may be purchased locally, the majority would not be manufactured in the area. This fact reduces the multiplier effects to local wholesale or retail margins associated with locally purchased materials.

Economics

Impacts on the local economy would depend to a large extent on the schedule of the significant volume of current and planned construction activities in the study area. Local income effects would depend upon the size of the workforce employed on the projects and the degree to which construction supplies and services are purchased locally. If the patterns of recently completed construction activities are an indicator of future effects, economic impacts from the construction of the transmission line should be minimal and brief given the size of the study area economy. Multiplier effects would result from locally spent payroll and local construction purchases and are not likely to be significant. Payroll information was not available for the transmission line workforce.

Fee Acquisition. Fair market value would be offered to landowners for the fee purchase of property needed for the Smiths Harbor Switchyard. Any new transmission line right-of-way and access road easement would be appraised and landowners would be offered the fair market value for these land rights. Some short-term adverse impacts on property value and salability along the new right-of-way may occur on an individual basis. However, these impacts are highly variable, individual, and unpredictable. This transmission line is not expected to cause overall long-term adverse effects on property values along the existing right-of-way.

Property Values. Construction of the proposed transmission line is not expected to have long-term impacts on property values in the area. Whenever land uses change, the concern is often raised as to the effect the change may have on property values nearby. Zoning is the primary means that most local governments use to protect property values. By allowing some uses and disallowing others, or permitting them only as conditional uses, conflicting uses are avoided. Some residents consider transmission lines to be an incompatible use adjacent to residential areas; however, this feeling is not universal.

The question of whether nearby transmission lines can affect residential property values has been repeatedly studied in the United States and Canada over the last 20 years, with mixed results. In 1995, Bonneville contributed to the research by examining the sale of 296 pairs of residential properties in the Portland, Oregon metropolitan area (including Vancouver, Washington) and in King County, Washington. The study evaluated properties adjoining 16 Bonneville high voltage transmission lines (subjects) and compared them with similar property sales located away from transmission lines (comps). All of the sales occurred in 1990 and 1991 and adjustments were made for time and other factors. Study results showed that the subjects in King County were worth approximately 1% less than their matched comps, while the Portland/Vancouver area subjects were worth almost 1.5% more (Cowger et al. 1996).

Bonneville recently updated this earlier study using 1994/95 sales data. The sales of 260 pairs of residential properties in King County and Portland/Vancouver metropolitan areas were reviewed. The information confirmed the results of the earlier study, i.e., that the presence of high voltage transmission lines does not significantly affect the sale price of residential properties. The residential sales did, however, identify a small but negative impact from 0 to 2% for those properties adjacent to the transmission lines as opposed to those where no transmission lines were present. Although this study identified a negative effect, the results are similar to the earlier study and the differences are relatively small (Cowger et al. 2000).

Studies of impacts during periods of physical change, such as new transmission line construction or structural rebuilds, generally have revealed greater short-term impacts than long-term effects. However, most studies have concluded that other factors, such as general location, size of property, improvements, condition, amenities, and supply-and-demand factors in a specific market area, are far more important criteria than the presence or absence of transmission lines in determining the value of residential real estate.

As a result of the proposed project, some short-term adverse impacts on property values (and salability) might occur on an individual basis; however, these impacts would be highly variable, individualized, and unpredictable. Constructing the transmission line is not expected to cause long-term adverse effects to property values along the right-of-way or in the general vicinity. Nonproject impacts, along with other general market factors, are already reflected in the market value of properties in the area. These conditions are not expected to change appreciably. Therefore, no long-term impacts to property values are expected as a result of the proposed project.

3.12.2.2 Operation and Maintenance

Generation Plant and Pipelines

Population

Table 3.12-14 shows the estimated staffing for operation and maintenance of the completed power plant. Operation of the Wallula Power Project is projected to require 32 full-time employees, including 20 operating technicians and a variety of other technicians and managers. Based on the types of occupational skills needed and the small number of operations employees, the local labor market should be able to supply all of the operations employment.

Table 3.12-14. Estimated Wallula Power Project Operation and Maintenance Staffing

Position Requirement	Number of Personnel
Plant/Site Manager	1
Operations Manager	1
Lead Operating Technicians	5
Operating Technicians	15
Maintenance Manager	1
Maintenance Technician	4
Elec. Inst. Technician	2
Compliance Engineer	1
Administrative Manager	1
Administrative Assistant	1
Total	32

Source: Utility Engineering (2000).

Housing

Because the local labor market should be able to supply all of the operations employment, and because no increase in population is expected, it is unlikely that the project would have any significant long-term impacts on housing.

Employment

The addition of 32 full-time positions to operate the Wallula Power Project would translate into a small increase in local employment opportunities.

Economics

Income. The applicant has not yet determined appropriate pay scales for project operations positions or estimated the annual payroll. Based on the statewide average wage of about \$59,000 per electrical services worker (Washington Employment Security Department 2000), the annual operating payroll could be approximately \$1.9 million.

The project would represent a minor long-term increase in labor income to the local economy.

Property Values. The Port of Walla Walla currently owns the Wallula Power Project site. As publicly owned land, it is not assessed a property valuation for tax purposes. Assuming that the applicant exercises its option to purchase the project site from the Port of Walla Walla on receipt of permit approvals, the value of the land and the project improvements would be assessed for taxing purposes, and the applicant would pay annual property taxes based on that value.

Given the estimated construction cost for the project, the assessed value of the property during operation is likely to be approximately \$523.8 million. (This is a preliminary estimate based on projected construction costs, and is subject to change; it does not reflect any input from the Walla Walla County Assessor's Office, which would be responsible for determining the assessed value of the property for tax purposes.) If the property value of the project were actually assessed at \$523.8 million, that figure would be equivalent to nearly 19% of the total assessed valuation of all property in Walla Walla County in 1999.

Because the project site is located in an industrial zone, the presence of a new industrial facility in this location is unlikely to adversely affect the value of adjacent industrial properties. Significant adverse effects on the value of nearby agricultural or residential properties are also unlikely, as the impact analysis for the Walulla Power Project did not identify project characteristics (emissions or noise) that would have adverse physical effects on these properties.

Property Tax Revenue. Under Washington State law, annual increases in property tax revenues from regular levies are limited to 6% above the highest level in the previous 3 years. Revenue from new construction in any year is exempt from this limit (which is known as the 106% limit), but the limit still serves to restrain both property tax revenues and levy rates in local jurisdictions.

Passage of Referendum 47 in 1997 also limited annual increases in property tax revenues in jurisdictions with populations greater than 10,000 to the annual rate of inflation. As a result of these property tax limitations, it difficult to accurately predict the annual property tax revenue that would be generated by a major new development with a large assessed value. Because the Wallula Power Project would increase the current total assessed property valuation in Walla Walla County (\$2,817,468,073 as of January 1, 2001) by about 18.6%, the future regular levy rates for local government purposes would necessarily be lower than at present, because maintaining the current levy rates would raise revenues in excess of the limits on annual property tax revenue increases.

A number of independent economic and fiscal factors, including overall local growth and development, general increases in property values, and government budgetary needs, would determine the actual level of property tax levy rates during future plant operation. Table 3.12-15 displays the amount and distribution of annual property tax revenue that may be generated if 81.4% of the 2000 levy rates were applied to the assumed project

assessed value. Using the assessed value figure of \$523.8 million and the 2000 levy rates reduced by 18.6%, the project would generate an annual total of nearly \$6.15 million for all affected taxing jurisdictions.

Again, the actual property tax revenues from the completed project could be either higher or lower depending upon final assessed values and changes to the total Walla Walla County assessed value base over time. Nevertheless, it is clear that the long-term operation of the project would generate millions of dollars of property tax revenue annually, and that all taxpayers in Walla Walla County would benefit from lower levy rates.

During construction, the facility work in progress would be valued on each January 1 to determine an assessed value for the property tax levy. The applicant estimates that if an average levy rate during construction is \$13 per \$1,000 of assessed value (reflecting a lower rate than currently exists because of the tax base increase), the total construction property tax bill over a 2-year period would range from \$5 million to \$7 million. The actual property tax proceeds during construction would depend upon the timing of construction activities relative to the annual assessment dates and actual construction progress.

Table 3.12-15. Hypothetical Annual Property Tax Revenue During Project Operation¹

Jurisdiction	2000 Tax Rate/\$1,000	81.4% Of 2000 Tax Rate/\$1,000	Property Tax Revenue (\$)
State of Washington	3.1767	2.585830	1,354,500
Walla Walla County	1.8000	1.465200	767,500
Walla Walla County Fire District 5	0.5124	0.417090	218,500
Port of Walla Walla	0.4500	0.366300	191,900
Road District (Walla Walla County)	2.2500	1.831500	959,300
Walla Walla County Library System	0.5000	0.407000	213,200
Emergency Medical Services	0.3440	0.280000	146,700
Columbia School District Special	3.7887	3.084000	1,615,400
Columbia School District Bond	1.4843	1.208220	632,900
Juvenile Bond	0.1281	0.104373	54,600
Total Regular Levy	14.4342	11.749413	\$6,154,500
¹ Based on applying current levy rates to assumed project assessed value of \$523.8 million; actual future levy rates may differ. Source: Walla Walla County Assessor's Office (2000).			

The \$6.15 million in estimated annual property tax revenue attributable to the Wallula Power Project does not represent a net increase in total property tax revenues collected; instead it represents a reapportionment of the tax burden away from existing property taxpayers to the applicant. All property tax payers should benefit, with the greatest benefit realized by those with the largest assessed values such as Boise Cascade Corporation (\$212 million), Ponderosa Fibers of America (\$76.8 million), and PG&E Gas Transmission-Northwest (\$61.8 million).

Additionally, the passage of Ballot Initiative 747 in November 2001 limits the amount that counties can increase property tax collections to no more than 1% per year (applied to a tax base assessment year). The assessed value of incremental construction after the base year can be added to annual property tax revenues for purposes of calculating the allowable 1% per annum increase. Without new construction such as the project proposed by the applicant, it would be very difficult for rural, less populated counties to meet the growing cost of services without eliminating or reducing the services provided.

Public Utility Tax Revenue. As a public service business, the applicant would be subject to the 3.873% public utilities tax; however, because all of the sales from the Wallula Power Project would be for resale, the applicant is allowed a deduction on its Washington combined excise tax return equal to the full value of gross receipts.

To the extent all or a portion of the sales from the Wallula Power Project ultimately result in retail sales within the State of Washington, the state would collect 3.873% of the total value of such retail sales. The maximum estimated annual public utilities tax revenue attributable to the Wallula Power Project is estimated to be \$12.4 million, assuming 8 million MWh per year of ultimate in-state retail sales valued at \$40/MWh wholesale. The annual public utility tax revenues would be smaller because of out-of-state wholesale transactions.

Brokered Natural Gas Use Tax. Liability for the Brokered Natural Gas Use Tax (BNGT) arises from the use of natural gas from out-of-state sources in the production of electricity. The BNGT rate is 3.852% of the price paid for the acquisition and transport of natural gas. The applicant assumes that the BNGT would be levied upon the selected tollor for the Wallula Power Project, as the tollor would be responsible for delivering natural gas to the facility. Assuming annual average natural gas usage of 58,320,000 million Btu/year at a \$3.00/million Btu cost of natural gas, BNGT revenue is estimated at \$6.74 million per year. Obviously, BNGT revenues would be affected by how many hours the facility operates at base load and with duct firing, and by the commodity price of natural gas.

Sales Tax Revenue. Local purchases of supplies and services for the power plant and the personal consumption spending of project employees would generate long-term sales tax revenue throughout the operation period of the project. These revenues would accrue primarily to the State of Washington and to Benton, Franklin, and Walla Walla Counties. Because the volume of these revenues would be relatively small compared to the property tax and utility tax revenues, specific estimates of sales tax revenue attributable to project operation have not been developed.

Government Service Costs. For most service providers, no probable or potential significant adverse impacts on government service costs resulting from the project operation have been identified. Operation of the project is not expected to have any measurable effect on local long-term demands for law enforcement, education, recreation, maintenance, communication, medical, or utility services. In general, this is because the power plant facility itself does not have any unique characteristics that would

require new or expanded capabilities for these services, and the small project workforce would not create significant traffic or residence-based service demands.

It is anticipated that the Wallula Power Project's primary long-term impact on public services would be on fire protection, specifically the need for foam fire suppression capability. Walla Walla County Fire District 5 does not currently have the capability to fight some potential fires at the power plant, and alternative service providers are located at a considerable distance from the project site.

Walla Walla County Fire District 5 has not presented an estimated capital and operating cost to develop the desired fire suppression capability. The project would generate substantial annual property tax revenues, and Fire District 5 would receive a share of these revenues. However, because there typically is a lag between the completion of construction and the actual receipt of full property tax revenues from a new facility, there may be an initial period of project construction and operation during which there are reduced new tax revenues to offset any resources needed to meet increased demand for fire services.

Net Fiscal Impact. Because of the limited impact on government service costs, a long-term net fiscal surplus would probably result for all jurisdictions receiving tax revenue from the Wallula Power Project. Absent any compensating mechanisms, and pending more specific determination of fire suppression capability needs and costs, it is possible that Walla Walla County Fire District 5 could experience a temporary negative balance during the early years of project construction and operation. As a precondition for use of the project site and as stated in a zoning amendment passed by the Board of Walla Walla County Commissioners dated March 26, 2001, the applicant would enter into an agreement with county for the prepayment of taxes for mitigation of cost impacts on the county during construction and the first 2 years of plant operations.

Local Business Effects. Local business effects from power plant operation would be parallel in nature to those effects resulting from construction activity, but smaller in magnitude. The power plant would require some ongoing supplies and services (mostly electric energy, natural gas and chemicals, plus minor amounts of office products, janitorial services, etc.) that would be purchased from local businesses. Firms receiving this type of ongoing business from project operation would likely be concentrated in the services sector of the local economy. Operations employees would spend their incomes mostly in the local area, providing a slight increase in revenue for firms in the retail trade and services sectors. With respect to both plant-related purchases and employee expenditures, businesses in the Tri-Cities area would likely receive the greatest share of increased activity.

Because additional workforce may not be needed to operate and maintain the transmission line, there would likely be little or no economic impact on the study area from operation and maintenance.

There may be some change in real estate values. However, property taxes are typically determined through the use of two independent processes, one to establish the tax base

and one to establish the tax rate. Changes in the tax base by itself would result in redistribution of the tax burden and probably not in an overall increase or decrease to all taxpayers.

Transmission Line and Associated Facilities

The number of employees needed to maintain access roads and operate the additional transmission line and switchyard is not known at this time. Estimated cost of annual maintenance of these facilities is approximately \$169,000 with a majority of that cost related to labor. This could translate into perhaps two or three additional positions. However, this project represents a small incremental addition to an existing system and additional employment is difficult to estimate. No significant long-term impact on population in the local area is likely, however.

3.12.3 Environmental Justice

Walla Walla, Franklin, and Benton Counties all have relatively high proportions of individuals with Hispanic origins in comparison to the Washington State average of 7.5%. Likewise, Umatilla County has a relatively high proportion of individuals of Hispanic origin (16.1%) as compared with the Oregon State average (8.0%). Franklin County has the highest percentage with almost half of its population (46.7%) being of Hispanic origin. Walla Walla and Benton Counties' Hispanic populations are approximately twice the Washington State average (15.7% and 12.5% respectively). The high representation of individuals with Hispanic origins is a reflection of the high concentration of seasonal migrant work in the Tri-Cities area. (See Table 3.12-4.)

Both Franklin and Walla Walla Counties have poverty levels that are among the highest in the State of Washington. In comparison to the statewide estimated average of 10.2%, Franklin County has 17.7% of its population under the poverty level while Walla Walla County has 14.5%. In contrast, Benton County's poverty rate is below the estimated statewide average with a 9.3% poverty rate. In Umatilla County, 15.6% of the population is under the poverty level, a result higher than the Oregon statewide estimation of 11.6%. (U.S. Census Bureau 1997, estimates based on model, released November 2000)

The Wallula Power Project is not expected to displace or adversely affect any minority or low-income populations near the project site or in the surrounding region. Minority and low-income residents may benefit, directly or indirectly, from the employment opportunities and other positive economic impacts of project construction. Alternatively, however, it is possible that these groups would not directly benefit from the project. In many areas, minority and low-income workers are less likely than Caucasian and middle-income workers to have sufficient language skills, education, or training to compete with skilled laborers. If such a scenario occurred, that result would not be intentional and would be outside the power of the applicant to change.

Because of the absence of displacement or other expected direct adverse impacts to minority and low-income populations, the applicant has not incorporated corresponding

mitigation measures into the project. However, the applicant is currently working in partnership with the CTUIR to support habitat improvement projects of interest to the Tribes.

3.12.4 Impacts of Alternatives

3.12.4.1 *Alternative Tower Height and Longer Span Design*

There are no differences to impacts on population, housing, and economics under this alternative when compared with the proposed action.

3.12.4.2 *Alternative Alignment near McNary Substation*

There are no differences to impacts on population, housing, and economics under this alternative when compared with the proposed action.

3.12.4.3 *No Action Alternative*

Under the No Action Alternative, there would be no impacts to population, housing, and economics.

3.12.5 Mitigation Measures

No additional mitigation measures are required for potential impacts to population, housing, and economics beyond those committed to in the project design and project description.

3.12.6 Significant Unavoidable Adverse Impacts

There are no identified significant unavoidable adverse impacts to population, housing, and economics related to the proposed project construction, operation, and maintenance. The Wallula Power Project is expected to operate commercially for 35 years. At the end of the operating period the power plant would be closed and, absent any plans for redevelopment or reuse of the project site, the facility would be decommissioned. The project site would be restored according to plans developed by the applicant. If subsequent economic uses of the project site were not developed, facility closure would represent a long-term loss of employment and associated economic activity for the local and regional economy and a loss of tax base. The local economy would likely be considerably larger at the time of facility closure. Consequently, the socioeconomic impact of facility closure would be minor.