The Economic and Fiscal Impacts of the Craig Station in Craig, Colorado

Prepared for:

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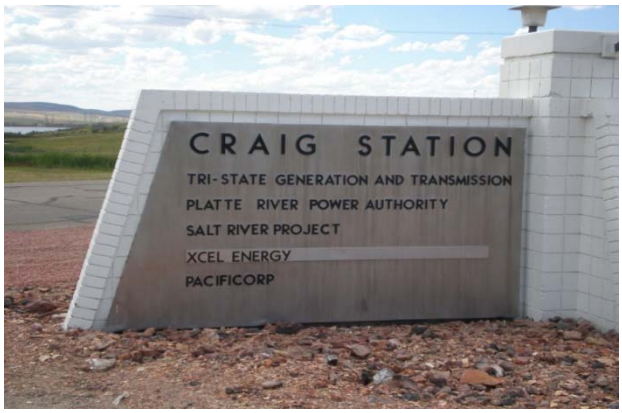

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EXECUTIVE SUMMARY

Colorado is rich in energy resources. The state has significant renewable energy assets, in addition to large concentrations of coal, oil and natural gas resources that have contributed to its competitive advantage in the energy marketplace. Electric utilities based in Colorado are able to take advantage of the bounty of fuels found in their backyard to generate affordable, reliable power, as well as to generate jobs and economic activity for local communities.

This report focuses on the Craig Station power plant located in Moffat County, approximately 2.5 miles southwest of the city of Craig, Colorado. The 1,300-megawatt facility occupies 1,120 acres of land and employs over 300 people. Craig Station is operated by Tri-State Generation and Transmission Association (Tri-State) and is comprised of three coal-fired generating units. The report details the economic and fiscal impacts of the ongoing operations of the power plant and highlights the overall importance of the facility and its key suppliers – most notably, the Colowyo Mine also owned and operated by Tri-State – to the tri-county region that includes Moffat, Rio Blanco and Routt counties.

Direct Power Plant Impacts

The total direct spending by Craig Station is estimated to be $317.1 million annually. Of this amount, ***the direct local spending from the ongoing operations of the power plant in the region is $225.9 million per year.***

- Payroll and benefits for the plant's 310 employees is about $36.8 million annually. Of that amount, approximately $30.1 million is paid directly to individuals and organizations located in the region.
- The power plant owners spend $61.7 million each year on operational and maintenance purchases, including an average of $11.1 million spent for scheduled outages each year. Some of these purchases are transacted with local businesses and vendors, totaling $11.2 million per year.
- Purchases of capital equipment, spare and replacement parts and other personal property total $35.5 million annually. About $5.3 million is transacted with businesses and vendors located in Moffat and Routt counties.
- The largest spending component for ongoing operations is for raw materials. Coal, limestone and lime purchases total $175.2 million per year. Raw materials purchased within the region total $171.3 million.
- Union Pacific Railroad delivers coal daily to the power plant. Freight expenses associated with the delivery of coal to the power plant total $5.4 million annually and are transacted entirely in Moffat County.
- Fly ash is a bi-product of burning finely ground coal in a boiler to produce electricity. Fly ash that does not meet saleable specifications, bottom ash, scrubber filter cake and concentrator wastes are disposed of in a landfill operated by Trapper Mine. The fly ash disposal costs total $1.6 million annually and are transacted entirely in Moffat County.
- The power plant spends about $325,000 annually on water treatment and water rights from the Elkhead and Stagecoach Reservoirs located in the region. Additionally, the power plant spends $582,000 annually on natural gas expenses. These expenditures are transacted entirely in Moffat and Routt counties.

During scheduled major or minor outages, an additional 225 skilled transitory and temporary workers are hired at the power plant each year to perform complex equipment upgrades. These transitory workers temporarily reside in the community in which they are working, spending money locally on food, retail items, lodging and entertainment. ***The direct annual economic impact of transitory worker spending is $505,000 in the region.***

Based on the 2014 tax rates and tax policies, the ongoing ***operations of the power plant generate $9.9 million annually in tax revenue for the local governments, including $9.2 million in property tax revenue, $568,000 in sales tax, $3,000 in lodging tax and $61,000 in impact fee revenue.***

Added together, the direct local spending by the power plant and the transitory workers is $236.3 million per year. This same level of spending will occur annually assuming similar business operations.

Indirect & Induced Impacts

The spending patterns associated with the power plant and transitory worker spending have spin-off effects or multiplicative impacts in the three counties. ***Combined, the ongoing operations of the Craig Station and transitory worker spending generate direct and indirect output valued at $490.9 million produced by 756 workers earning a total of $59.9 million.***

- The presence of the power plant and its employees in the region supports $173.4 million in additional output in all industries throughout the region. Therefore, ***the total direct and indirect impact of the ongoing operations of the power plant is $490.5 million in regional total output.***
- The power plant directly employs 310 workers annually. The indirect and induced output in all industries throughout the region requires about 474 employees. Therefore, ***the ongoing operations of the power plant support the employment of 784 workers annually***.
- The 310 direct power plant employees earn approximately $36.8 million in wages, salaries and benefits each year. The 474 indirect employees have associated earnings of about $23 million. As a result, ***the 784 direct and indirect employees have estimated annual earnings of $59.8 million***.
- Transitory workers spend money in the region on food, lodging, entertainment and other purchases. Based on the RIMS II multipliers for the retail trade and accommodations industries in the region, ***the direct and indirect impacts of the transitory worker spending total $400,000 in the region annually, including $100,000 in local payroll for four workers.***

The power plant spends $225.9 million locally each year for goods and services (including labor) used as inputs into its production of the $317.1 million in direct output. In particular, the ongoing operations of the power plant have significant impacts on various local suppliers. The following provides more detail on the indirect impacts associated with some of the largest suppliers.

- Craig Station currently receives 100 percent of its coal supply from the nearby Trapper Mine (located in Moffat County) and Colowyo Mine (located in Moffat and Rio Blanco counties). Based on the RIMS II multipliers for the coal mining industry, the $170.3 million in coal purchased annually by the power plant supports direct payroll of $41 million for 403 employees at both mines. The power plant currently supports 100 percent of the employees at both mines.
- Moffat Limestone Inc., located in Moffat County, supplies the power plant with limestone that is transported by truck to the Craig Station. Based on the RIMS II multipliers for the stone mining and quarrying industry, the $1.1 million in annual limestone purchases supports the employment of eight workers earning a total of $275,000.
- Fly ash that does not meet saleable specifications, bottom ash, scrubber filter cake and concentrated wastes are hauled by locally-owned trucking companies and disposed in a landfill operated by Trapper Mine. Based

on the RIMS II multipliers for the truck transportation industry, the $1.6 million in annual fly ash expenses supports the employment of 12 workers earning a total of $500,000.

- Union Pacific Railroad transports coal from the Colowyo Mine to the Craig Station daily. Based on the RIMS II multipliers for the rail transportation industry, the $5.4 million in annual freight expenses supports the employment of 13 workers earning $1.1 million.
- The ongoing operations of the power plant also benefit local suppliers that provide water treatment, natural gas and other products and services that support the power plant's infrastructure such as welding. The annual total of other local spending by the Craig Station supports the employment of 28 people earning $2.7 million.

Employees at Craig Station receive paychecks that are then used to purchase goods and services to support their households, representing the first round of the induced impact of Craig Station's ongoing operations. These employees spend about $4.9 million on taxable goods within the tri-county region and support housing valued at about $110.8 million. Employee spending and residential real estate occupied creates sales tax and property tax revenue for the tri-county governments totaling about $303,000 per year.

Regional Profile

Craig Station and its related coal mining operations are large employers in the tri-county region. This section provides some background economic and demographic data for the city of Craig, and Moffat, Rio Blanco and Routt counties to provide context regarding the importance of the facility operations.

- Moffat County has an employment base of nearly 5,000 workers and about 475 business establishments. The government supersector employs 22 percent of the county's total employment, followed by retail trade (14 percent), leisure and hospitality (11 percent), mining and logging (11 percent) and education and health services (10 percent). The transportation, warehousing and utilities supersector employs 420 people, representing 8 percent of Moffat County's employment. Craig Station employs 73.8 percent of the total employment in the transportation, warehousing and utilities supersector.
- The highest paid workers in Moffat County are found in the transportation, warehousing and utilities sector, where employees earn an average of $83,500 annually. The high salary in this supersector reflects the importance of the Craig Station, where workers earn an average of $77,200 annually.
- The city of Craig represents 68.7 percent of Moffat County's population and 21.3 percent of the combined population of the tri-county region. The population of the tri-county region totals 0.9 percent of Colorado's population, and the region has a slightly higher male population than female population. About 85 percent of the Craig Station employees are male, which is 33 percent higher than the surrounding male population.
- A significant portion of the population in Craig is under the age of 25, representing 39.6 percent of the city's total population. Similarly, the tri-county region also has a younger population, with nearly a third of each county's population under 25 years of age. Compared with the tri-county region, 64 percent of Craig Station's 310 employees are between 45 and 64 years of age, while only 24.4 percent of Craig's population is in the same age group. Assuming a standard retirement age of 65, nearly a third of the Craig Station workforce will retire over the next nine years.
- About 88.8 percent of Craig's population aged 25 years and older earned a high school degree or higher, 1.1 percentage points lower than the Colorado level of 89.9 percent. One hundred percent of the Craig Station employees earned a higher school degree or higher.

- More than 16 percent of Craig's population had a bachelor's degree or higher, compared with 14.4 percent in Moffat County and 22.3 percent in Rio Blanco County. Routt County had the highest concentration of the population with a bachelor's degree or higher among the tri-county region. At Craig Station, 14 percent of the employees have earned a bachelor's degree or higher.
- The city of Craig's median household income in 2012 ($49,100) was nearly $9,200 lower than the Colorado median household income of $58,200. Moffat County was also below the state median, while Rio Blanco and Routt counties' median household incomes were higher than Colorado.
- The mean household income for Craig in 2012 ($58,900) was almost $19,000 lower than the state average. The mean household income in Craig was below the average household income in each of the three counties.
- Single-family detached units represent 63 percent of Colorado's existing homes. Moffat (66 percent) and Rio Blanco (71 percent) counties have slightly higher portions of single-family detached units and Routt County has a slightly smaller proportion (52 percent). Moffat and Rio Blanco counties have significantly smaller multi-family housing markets than the state level. Moffat County has a large mobile home market, representing 20 percent of the total residential real estate market.
- Craig, Moffat County and Rio Blanco County have the highest concentration of home values in the $200,000 to $299,999 range. The median home value in Routt County of $407,700 is significantly higher than the median values found in Moffat County ($184,800) and Rio Blanco County ($212,000). Based on the average annual earnings of Craig Station employees, the typical worker can afford a home price at about $357,000.
- Craig Station contributes significantly to the tri-county region's sales and use tax and property tax revenue. The property tax revenue paid by Craig Station to Moffat County, as well as the property tax revenue generated from the residential property associated with the Craig Station employees, contributed nearly 37 percent of the total property tax revenue collected by Moffat County. Additionally, Craig Station and its workers contributed 15.7 percent of the total sales and use tax revenue collected by Moffat County. The power plant also contributes a small portion of sales and use tax and property tax revenue to Rio Blanco and Routt counties.

Craig Station

Total Annual Direct and Indirect Value of Output

$317.4 million direct + $173.5 million indirect = **$490.9 million**

Total Annual Direct and Indirect Employment

313 direct + 443 indirect = **756 workers**

Total Annual Direct and Indirect Earnings

$36.9 million direct + $23 million indirect = **$59.9 million**

Total Annual Tax Revenue

$9.9 million

Total Transitory Worker Employment

225 workers

I. INTRODUCTION

Coal and Colorado's Electric Power

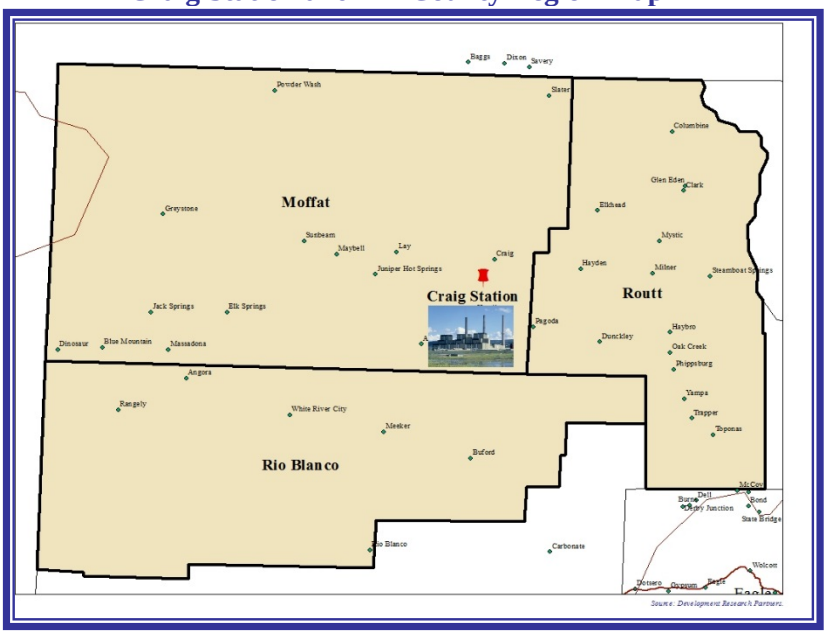
Colorado is an energy-rich state with significant renewable energy assets and large concentrations of coal, oil and natural gas deposits. While all of these resources contribute significantly to the state's competitive advantage in the energy marketplace, coal plays a particularly important role as both an economic driver and a fuel for generating electricity.

The coal industry has been a mainstay of Colorado's energy economy for more than a century. While substantial coal deposits are found throughout the state, the majority of coal deposits and production activity takes place along the Western Slope. Colorado produces the majority of its coal from underground mines (79 percent) and the remaining from surface mines (21 percent). Colorado coal production in 2013 totaled more than 24.2 million short tons, or roughly three percent of the nationwide coal supply. Colorado ranks eleventh in coal production compared with other states in the nation and borders Wyoming, the nation's leading coal-producing state. In 2013, both underground and surface mining employed 2,175 coal workers across the state, while the coal industry overall is responsible for 21,160 direct and indirect jobs in Colorado.

The quality of the state's coal supply has contributed to its high value and large export market. Colorado coal is considered a "super compliant" coal, or cleaner coal, because of its high BTU content (up to 13,000 BTUs per pound) and is much lower in sulfur, arsenic, mercury and ash content than coal produced in other states. Colorado's coal is highly valued because of its ability to blend well with high sulfur coals to meet emission requirements. According to the Colorado Mining Association, 65 percent of Colorado's coal is shipped beyond the state's borders. In fact, approximately 15 percent of Colorado's annual coal production is sold to international buyers. Coal mined in Colorado is primarily distributed for generation of electricity in coal-fired power plants located within the state.

Coal is one of the primary fuels used to generate electricity in Colorado and coal-fired power plants supply the state with about two-thirds of its electricity. In 2013, coal provided 64 percent of Colorado's electricity, with natural gas providing 20 percent, renewables 14 percent and other sources providing the remaining 2 percent. Colorado's average electricity price of 9.8 cents per kilowatt hour in 2013 was below the national average.

Craig Station and Tri-County Region Map



As of August 2011, there are 31 coal-based generating units at 14 active locations in Colorado producing about 5,600 megawatts of combined electricity. The second-largest coal-fired baseload power plant in Colorado is the Craig Station facility located in Moffat County, approximately 2.5 miles southwest of the city of Craig. The facility occupies 1,120 acres of land and employs over 300 people, generating about 1,300 megawatts of electricity. Craig Station is operated by Tri-State Generation and Transmission Association (Tri-State) and is comprised of three coal-fired

generating units. Five electric utilities share the ownership of Craig Station Units 1 and 2. These five utilities (PacifiCorp, Platter River Power Authority, Xcel Energy, Salt River Project and Tri-State) constitute the Yampa Project. Unit 3 is wholly owned by Tri-State.

The Craig Station is an important economic driver to the tri-county region of Moffat, Rio Blanco and Routt counties. Despite the diversified industry sectors that make up the economy in the tri-county region, the shared demand for workforce, infrastructure and energy-related natural resources forms the region's interdependence. In addition, the tri-county region is the largest coal provider in the state, extracting 50 percent of all coal produced in Colorado.

This report details the economic and fiscal impacts of the ongoing operations of the power plant. The study highlights the importance of the power plant and its key suppliers – most notably, the Colowyo Mine also owned by Tri-State – to the tri-county region. In addition, estimates for property tax, sales and use tax revenue, lodging tax revenue and impact fees generated by power plant operations and transitory worker spending are estimated for the region.

Economic and Fiscal Impacts Defined

Economic Impacts

Economic impact analysis is the analytical approach used to assess the measurable direct and indirect benefits resulting from a project over a specific time period. Only those benefits that can be measured or quantified are included. Intangible benefits, such as enhancement of community character or diversification of the job base, are not included. Further, economic impact analysis highlights that activity which occurs within a specified geographic area. This analysis estimates the power plant's impacts in Moffat, Rio Blanco and Routt counties. The spending patterns associated with the power plant and transitory worker spending have spin-off effects or multiplicative impacts in the three counties. Therefore, multiplier analysis is used to trace the impacts on businesses, organizations and individuals affected by the power plant's operations.

The multiplicative impacts are discussed in terms of "indirect" and "induced" economic impacts (often collectively referred to as simply indirect impacts). For example, when the power plant purchases supplies from a local vendor, that local vendor in turn provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees, and so on, providing the indirect impact of the initial dollar spent. On a separate but similar spending track, when employees working at the power plant spend their paychecks at local businesses, these local businesses provide payroll to their employees, make purchases from other vendors and so on, creating the induced impact of the power plant.

As a result, the initial dollars spent by the power plant on either business purchases or payroll are circulated throughout the local economy a number of times. The number of times that the initial dollars are circulated throughout the local economy may be estimated using economic multipliers. An economic multiplier summarizes the total impact that can be expected within a specific geographic area due to a given industry's level of business activity. Generally, larger multipliers are associated with industries that (1) spend more dollars locally, (2) pay high salaries and/or (3) sell their goods and services outside of the local area.

The indirect and induced jobs and income flows generated by the direct local spending patterns are estimated using the Regional Input-Output Modeling System II (RIMS II) multipliers developed by the Bureau of Economic Analysis of the U.S. Department of Commerce. The RIMS II multipliers are the most widely used and respected for economic impact analysis. These multipliers are geographic and industry specific and are used to estimate the

total benefits of a project according to three measures of economic impacts: regional output, payroll or earnings and employment.

First, the direct and indirect impact of the power plant on the gross output of the region is estimated. This includes the value of the output produced by the power plant (direct output) plus the value of the additional output in all industries throughout the region (indirect output) supported by the spending patterns associated with the power plant's local suppliers and employees.

Second, the total direct and indirect employment needed in the region to produce this level of gross output is determined. These employees may be full-time or part-time, local or non-local workers. It should be noted that the indirect employment supported might represent fractions of jobs, added to reflect whole positions. That is, the indirect spending may support the annual employment of one-half of a grocery store worker and one-half of a retail apparel store worker. Combined, these two workers represent one indirect employee.

Third, the analysis includes an estimate for the typical direct and indirect payroll or earnings paid to the employees that are producing this level of gross output.

The economic impact analysis described in this report was completed using the SiteStats™ model, a proprietary economic and fiscal impact model developed by Development Research Partners. The model values were derived from primary data supplied by Tri-State and the power plant, and a variety of standard secondary sources, including data from the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, the Colorado State Demography Office, the Colorado Department of Labor and Employment and the Colorado Department of Local Affairs.

The total output, employment and earnings from the power plant are estimated using the RIMS II multipliers for Moffat, Rio Blanco and Routt counties. Some numbers may not add exactly due to rounding. This analysis considers the economic impacts in 2014 dollars.

Fiscal Impacts

Fiscal impact analysis estimates the direct public revenues and public costs resulting from a project over a specific time period. A project may generate a broad array of public revenues ranging from sales tax, use tax, property tax, franchise fees, licenses and permits and other charges for services. In turn, the local government provides a variety of public services such as police protection, public works, community social and recreational programs and community development services, to name a few.

This report includes a limited fiscal impact analysis, including direct public revenue estimates only from sales tax, use tax and property tax. This limited fiscal impact analysis estimates the governmental taxes paid by the power plant due to its business spending and operations. The tax revenue estimates are based on 2014 sales and use tax rates and tax policies for Moffat, Rio Blanco and Routt counties. Additionally, the power plant is subject to property tax since the plant is in operation. There is generally a one-year lag from the time the property is assessed to the time when the tax bill is payable. As a result, 2013 property tax estimates were provided by the five power plant owners (Tri-State, Platter River Power Authority, Salt River Project, Xcel Energy and PacifiCorp) and the Moffat County Assessor's Office.

Report Organization

Following the Introduction, the Direct Power Plant Impacts section details the direct economic and fiscal impacts from annual power plant operations, including employment, materials and maintenance purchases and raw materials expenditures. The direct economic and fiscal impacts are also expanded to include the transitory worker

spending. These operational impacts are discussed as “typical” annual impacts and are not specific to any particular year.

The next section describes the indirect and induced employment, earnings and output supported by the power plant. The ongoing operations of the power plant have significant impacts on various local suppliers in the region. These categories of direct and indirect impacts are combined to establish the overall economic and fiscal impacts of the power plant. These final total values are included in the Summary section of the report.

Following the Summary section of the report, the Regional Profile section provides economic and demographic data for the tri-county region to provide context regarding the importance of the facility operations. Data for the tri-county region includes population, educational attainment, industry base, income, residential real estate and tax revenue.

The final section, the Coal Mines Impacts, provides an estimate of the economic and fiscal impacts of the coal mines as stand-alone business operations. The annual direct and indirect economic and direct fiscal impacts of the supplying coal mines based on a “typical” operating year are provided.

Development Research Partners gathered information from a variety of sources for the study. Development Research Partners made every attempt to collect necessary additional or missing information and believes the information used in this report is from sources deemed reliable but is not guaranteed.

About Development Research Partners

Development Research Partners specializes in economic research and analysis for local and state government and private-sector businesses. Founded in 1994 in Jefferson County, Colorado, Development Research Partners provides clients with reliable consulting services in four areas of expertise: economic and demographic research, industry and workforce studies, fiscal and economic impact analysis and real estate economics.

II. DIRECT POWER PLANT IMPACTS

It is estimated that the U.S. has enough coal to meet its current energy demand for the next 500 years. These plentiful and inexpensive coal reserves provide a reliable and comparatively less expensive form of both residential and commercial electricity. Coal is used as a fuel in the production of electricity in power plants such as Craig Station. In July 2014, coal-based generating units contributed 39 percent of the nation's electric power compared with 30 percent from natural gas-fired plants and nearly 19 percent from nuclear plants.

Coal-based generating units such as Craig Station are highly complex and are designed to operate 24 hours per day. Craig Station Units 1 and 2 were constructed under the Yampa Project between 1974 and 1980 and generate approximately 856 megawatts of electricity. Ten years after the original groundbreaking, a third generating unit was constructed, adding an additional 448-megawatt capacity to the 1,120-acre plant. Unit 3 is owned entirely by Tri-State. In 2001, the Craig Station underwent a massive $121 million retrofitting in order to ensure it will continue to meet environmental standards.

The power plant significantly affects the regional economy through its ongoing business operations. The power plant also supports the spending of transitory workers during scheduled major or minor outages. The economic and fiscal impacts in this section describe the typical annual business operations of the 1,300-megawatt power plant. These impacts are likely to occur on an annual basis, assuming similar business operations and tax policies.

Direct Employment & Local Spending

Ongoing Operations

The total direct spending by Craig Station is estimated to be $317.1 million annually. This includes the value of business expenditures on such items as equipment, parts, raw materials, operational materials and maintenance services, as well as spending resulting from scheduled outages. Of this amount, ***the direct local spending from the ongoing operations of the power plant in the region is $225.9 million per year****, as detailed in Table 1.*

- Ongoing operation of the power plant requires about 310 employees, making it one of the largest employers in Moffat County.

Moffat County Largest Employers

Employer	Employees
Peabody Energy	350
Moffat County School District*	333
Tri-State Generation and Transmission Association (Craig Station)	**310**
Moffat County*	230
The Memorial Hospital	229
Colowyo Coal Mine	220
Trapper Mine	183
CO NW Community College	160
City of Craig	157
Wal-Mart*	140

** Includes full-time and part-time employees.*
Sources: Yampa Valley Partners and Development Research Partners, October 2014.

- Wages and salaries for these 310 employees total about $23.9 million, resulting in an average annual salary of about $77,210. One hundred percent of these workers reside in the region, with approximately 273 employees coming from Moffat County, 34 employees from Routt County and 3 employees from Rio Blanco County.

- Total benefit spending for the 310 employees is about $12.9 million, bringing total personnel expenses to $36.8 million annually. Employee benefits include such items as paid leave and supplemental pay, health and dental insurance, retirement programs and various legally required benefits (Social Security, Medicare, federal and state unemployment insurance and workers compensation). This analysis assumes that 100 percent of the paid leave and supplemental pay expenditures represent direct monetary flows to the employees. Further, 50 percent of the per employee health insurance expenditures, but none of the retirement or legally required benefits, are spent in the region. As a result, $5.4 million in benefits are paid in Moffat County, $680,000 in benefits are paid in Routt County, and $62,000 in Rio Blanco County, totaling $6.2 million in locally paid benefits.

- The power plant owners spend approximately $61.7 million each year on operational purchases such as diesel and unleaded fuel, maintenance services and scheduled outages. Of the total $61.7 million spent on operational purchases and maintenance services each year, an average of $11.1 million is spent for scheduled outages. A scheduled outage involves bringing down the power plant for inspections, repairs, installation of engineering and equipment upgrades and replacing parts and materials. The power plant is routinely scheduled for either a minor or a major outage, with a major and minor outage planned for 2015. During a major outage, the generator or turbine is usually repaired or replaced and the power plant is usually down for a longer period.

  Some of these purchases are transacted with businesses and vendors located in the region. Based on the power plant's current spending patterns and availability of local suppliers, the typical annual local spending from operational purchases and subsequent maintenance services totals about $11.2 million per year.

- Typical annual purchases of capital equipment, spare and replacement parts and other personal property for the power plant total an estimated $35.5 million per year. While the majority of these purchases are transacted with businesses located outside the region, about eight percent of these purchases are transacted with businesses located in Routt County, resulting in about $2.8 million of local capital purchases. Additionally, about seven percent of these purchases are transacted with businesses located in Moffat County, resulting in about $2.5 million of local capital purchases. Further, a scheduled major outage involves repairing or replacing capital equipment and parts such as generators or turbines. As a result, the capital budget increases dramatically during the years in which a major outage is scheduled. In 2015, the capital budget is estimated to be $46.4 million during these scheduled outages. However, these capital purchases are likely to be transacted with suppliers located outside of the three-county region.

II. DIRECT POWER PLANT IMPACTS

Table 1: Direct Economic and Fiscal Impacts of Typical Annual Operations of Craig Generating Station

	Total	Moffat County	Rio Blanco County	Routt County	Regional Total
Direct Economic Impacts					
Capital Expenditures (Parts, Material, Equip.)	$35,474,000	$2,467,000	$0	$2,823,000	$5,290,000
Operating Materials & Maintenance Services	$61,651,000	$7,181,000	$0	$4,035,000	$11,216,000
Raw Materials (Coal, Limestone, & Lime)	$175,225,000	$155,994,000	$15,345,000	$0	$171,339,000
Freight (Union Pacific Railraod)	$5,434,000	$5,434,000	$0	$0	$5,434,000
Fly Ash Disposal	$1,597,000	$1,597,000	$0	$0	$1,597,000
Payroll	$23,934,000	$21,062,000	$239,000	$2,633,000	$23,934,000
Benefits	$12,874,000	$5,438,000	$62,000	$680,000	$6,180,000
Other Expenses	$908,000	$603,000	$0	$305,000	$908,000
Total Direct Economic Impacts	**$317,097,000**	**$199,776,000**	**$15,646,000**	**$10,476,000**	**$225,898,000**
Employees	310	273	3	34	310
Transitory Worker Spending					
Lodging		$177,000	$0	$0	$177,000
Food, Retail, and Entertainment		$325,000	$1,000	$2,000	$328,000
Total Transitory Worker Spending Impacts		**$502,000**	**$1,000**	**$2,000**	**$505,000**
Transitory Workers (FTE) Residing in Region		52	1	4	56
Transitory Workers (FTE) Residing Out of Region		169	0	0	169
Total Direct Economic Impacts	**$317,097,000**	**$200,278,000**	**$15,647,000**	**$10,478,000**	**$226,403,000**
Direct Fiscal Impacts					
Property Tax (Real & Personal)		$9,246,000	$0	$0	$9,246,000
Sales Tax on Craig Station Purchases		$343,000	$0	$215,000	$558,000
Sales Tax on Transitory Worker Retail Purchases*		$10,000	$0	$0	$10,000
Lodging Tax		$3,000	$0	$0	$3,000
Impact Fee		$61,000	$0	$0	$61,000
Total Fiscal Benefits		**$9,663,000**	**$0**	**$215,000**	**$9,878,000**
Total Direct Economic and Fiscal Impacts	**$317,097,000**	**$209,941,000**	**$15,647,000**	**$10,693,000**	**$236,281,000**

**Sales tax collections rounded to the nearest $1,000. Collections less than $500 each year entered as zero.*

- The largest spending component for ongoing operations is for raw materials. Coal, limestone and lime purchases total an estimated $175.2 million per year. The majority of raw materials is purchased within the region and totals an estimated $171.3 million, with approximately $68 million spent on coal from the nearby Trapper Mine, $102.3 million spent on coal from Colowyo Mine and $1.1 million spent on limestone from Moffat Limestone Inc. in Moffat County. The only raw material purchased outside of Colorado is approximately $3.9 million spent on lime purchases from Lhoist North America (formerly the Chemical Lime Company) located in Las Vegas, Nevada.
- The Colowyo Mine is located about 25 miles southwest of the Craig Station and delivers about 10,000 tons of coal daily by train to the power plant. The Union Pacific Railroad owns and operates the rail system between Colowyo Mine's coal loading point in Moffat County to the power plant. Freight expenses associated with the delivered coal to the Craig Station include loading, unloading, transportation fees, maintenance and supplies. These expenses total an estimated $5.4 million annually and are transacted entirely in Moffat County.
- Fly ash is a bi-product of burning finely ground coal in a boiler to produce electricity. The bi-product is removed from the power plant exhaust gases primarily by the plant's electrostatic precipitators, or baghouses, and secondarily by scrubber systems. Fly ash that does not meet saleable specifications, bottom ash, scrubber filter cake and concentrator wastes are disposed of in a landfill operated by Trapper Mine. The fly ash disposal costs total an estimated $1.6 million annually and are transacted entirely in Moffat County.
- Other expenses associated with the power plant include water costs and natural gas expenses. The Craig Station utilizes about 4.5 billion gallons of water annually, as water is an integral part of the power plant's

cooling processes. The water is supplied from the Yampa River, as well as the Elkhead Reservoir in Moffat County and the Stagecoach Reservoir in Routt County. After use at Craig Station, the water is then treated and sent to on-site evaporation ponds in order to protect the Yampa River. The power plant spends about $325,310 annually on water treatment and water rights from the Elkhead Reservoir and the Stagecoach Reservoir. In addition, Atmos Energy in Moffat County operates and maintains the natural gas metering system at the power plant. The power plant spends about $582,000 annually on natural gas expenses and the expenses are transacted entirely in Moffat County.

- ***The direct economic impact of Craig Station operations totals $225.9 million in the region.*** The economic impact of Craig Station's ongoing operations will occur annually, assuming similar business operating conditions.

Transitory Worker Spending

During scheduled major or minor outages, a significant number of skilled transitory and temporary workers are hired at Craig Station to perform complex generator replacements and specialized equipment upgrades. The transitory workers temporarily reside in the community in which they are working and generally send most of the money earned back to their home residence. Nonetheless, workers do generate economic impacts to the community in which they are working as they spend money locally on food, retail items, lodging and entertainment.

- This analysis assumes that the 310 permanent Craig Station employees are joined by an average of 225 transitory workers during scheduled major or minor outages. These workers are generally working at Craig Station an average of 35 days. Of the total number of transitory workers, about 25 percent (56 transitory workers) reside in the region. Of the remaining transitory workers, about 75 percent or 169 reside outside the region, potentially requiring overnight lodging.
- Assuming that about 90 percent of the transitory workers that reside outside the region, or 152 transitory workers, will require hotels and the average length of stay of 35 nights, transitory workers to the power plant occupy an average of 3,540 room nights each year. Based on the 2014 average hotel room rate in Craig of $50 per night for extended stay hotels, transitory workers spend about $177,000 for lodging at area hotels each year. In addition, it is assumed that the other 10 percent of the transitory workers that reside outside the region will travel to Craig Station daily.
- It is assumed that the transitory workers residing outside the region spend an average per diem allowance of $46.00 per day for federal fiscal years 2014 ($46) and 2015 ($46) set by the U.S. General Services Administration. The transitory workers residing in the region spend approximately one-third of the average per diem allowance of transitory workers residing outside the region, or $17.00 per day.
- Based on the average per diem allowance of $46.00 for transitory workers residing outside the region and $17.00 for transitory workers residing in the region, it is estimated that transitory workers generate $328,000 per year in food, retail items and entertainment revenue for regional businesses (Table 1).
- ***The direct economic impact of transitory worker spending is $505,000 in the region.*** The economic impact of transitory worker spending patterns will occur annually, assuming similar business conditions.
- ***Combining the direct local spending of annual business operations, including all business purchases, personnel expenses and transitory worker spending, the direct economic impact of the Craig Station totals about $226.4 million per year (Table 1).***

II. DIRECT POWER PLANT IMPACTS

Direct Fiscal Impacts

Based on 2014 tax rates and tax policies, ***the ongoing operations of the power plant generate $9.9 million in property tax, sales tax, lodging tax and impact fees for various taxing entities in the region.*** This value is not included in the direct local spending detailed in the previous section.

The tax revenue includes sales and use taxes on purchases associated with the taxable portion of the power plant's operations, the real and personal property tax revenue paid to all taxing entities in Moffat County from the taxable portion of the power plant's property, and the impact fee paid by the Platte River Power Authority for the power plant. In addition, the fiscal benefit includes sales tax and lodging taxes paid by the transitory workers.

- The assessed value of the property is multiplied by the mill levy, expressed as the dollars of tax per $1,000 of assessed value. Property taxes are assessed based on the location of the power plant. The power plant is located in the unincorporated area of Moffat County, so property tax revenue is calculated based on the county mill levy plus mill levies for the school district and the special districts serving the property. Craig Station is located in tax district #7, in which the mill levy totals 65.156, as detailed in Table 2.

Table 2: Property Tax Districts Serving Craig Station

Tax District	Mill Levy
Moffat County	24.787
Moffat County School District	31.684
MC Affiliated Junior College District	3.114
Colorado River Water Conservation District	0.254
Craig Rural Fire Protection District	3.497
Upper Yampa Water Conservancy District	1.820
Total Tax District #7	**65.156**

- Five electric utilities share the ownership of Craig Station Units 1 and 2. These five utilities (PacifiCorp, Platte River Power Authority, Xcel Energy, Salt River Project and Tri-State) constitute the Yampa Project. Tri-State owns 24 percent of Units 1 and 2, 100 percent of Unit 3 and pays the majority of property taxes at Craig Station. Platte River Power Authority is classified as a separate governmental entity and political subdivision of the State of Colorado and is exempt from paying property taxes in the State of Colorado. By agreement, Platte River Power Authority pays an impact fee for all properties in Moffat County instead. Craig Station is the only property that Platte River Power Authority operates in Moffat County. The remaining three electric utilities pay the remaining 76 percent of the property taxes for Units 1 and 2.
- Total property tax revenue in Moffat County generated from the power plant is approximately $9.2 million per year, as indicated in Table 1.
- The purchase of non-exempt tangible personal property in Colorado is subject to state and local sales and use tax. When the buyer takes possession of the item at the seller's location, all sales tax imposed in that jurisdiction must be collected by the seller. On the other hand, when an item is delivered by the seller to the buyer's location, only the sales tax applying to the jurisdiction in which both the seller and buyer are located is collected. For purchases where the seller does not collect the local sales tax of the buyer's home jurisdiction, use tax may be due to the buyer's jurisdiction. Purchases of capital equipment and other operational materials generate sales and use tax for the region. As the operating agent for the Craig Station, Tri-State pays sales and use tax on behalf of the other four non-exempt electric utilities.
- Based on current sales tax rates, ongoing operations of the power plant generate $558,000 million in sales tax revenue annually. The majority of taxable purchases for the power plant are made in Moffat and Routt

counties. Based on the current sales tax rates of two percent in Moffat County and one percent in Routt County, power plant purchases generate $343,000 annually for Moffat County and $215,000 annually for Routt County (Table 1).

- Colorado requires that state use tax be paid on all non-exempt, tangible personal property that is sold, leased or delivered in the state for storage, consumption or use in the state. The use tax is not imposed on sales that are subject to sales tax. Since the power plant is located in Moffat County, this is the only county that would generate use tax revenue from power plant purchases. However, Moffat County does not impose a use tax and therefore the only use tax that is applicable is that which is paid directly to the State of Colorado. Based on the current use tax rate of 2.9 percent in Colorado, power plant purchases generate an estimated $661,000 annually paid directly to the State of Colorado. As this report is focused on the impacts within the three counties only, the tax revenue paid to the state is not included in this analysis.
- Transitory worker spending on lodging and non-lodging expenditures also generates sales tax revenue. Since the transitory workers will temporarily reside in Moffat County, it is assumed that the transitory workers will generate sales tax revenue in this county. Based on the current sales tax rate of two percent in Moffat County, sales tax revenue from transitory worker spending totals $10,000 each year.
- In addition to the two percent tax on retail sales in Moffat County, the county also collects a 1.9 percent lodging tax. Based on the Moffat County lodging tax rate, about $3,000 in lodging tax revenue is generated for the region per year.
- The Platte River Power Authority is one of the five owners of Craig Station Units 1 and 2. As previously mentioned, Platte River Power Authority is a political subdivision of the State of Colorado and is exempt from paying property taxes in the State of Colorado. However, Platte River Power Authority is required to make a payment in lieu of taxes to cover all Platte River properties in Moffat County. Since Craig Station is Platte River Power Authority's only property in the county, this impact fee applies directly to the Craig Station. As a result, Platte River Power Authority pays an annual impact fee of about $61,100 that is distributed to the Moffat County taxing districts serving Craig Station (Moffat County, Moffat County School District, Colorado Northwestern Community College and Craig Rural Fire Protection District).
- ***The ongoing operations of the power plant generate $9.9 million in property tax, sales tax, lodging tax and impact fee revenue annually for the various taxing entities in the region.***

III. INDIRECT & INDUCED IMPACTS

As described in the Introduction, the multiplier impacts are discussed in terms of "indirect" and "induced" impacts. When the power plant purchases supplies from a local vendor, that local vendor in turn provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees, and so on, providing the indirect impact of the power plant.

Table 3: Total Economic Impacts of Typical Annual Operations of Craig Generating Facility - Regional Summary
($ in millions)

	Direct Impact	Multiplier	Indirect & Induced Impact	Total Impact
Craig Station				
Value of Output	$317.1	1.5469	$173.4	$490.5
Earnings	$36.8	1.6257	$23.0	$59.8
Employment	310	2.5288	474	784
Transitory Worker Spending				
Value of Output	$0.3	1.4890	$0.1	$0.4
Earnings	$0.1	1.3612	$0.0	$0.1
Employment	3	1.4226	1	4
Total Economic Impacts				
Value of Output	$317.4		$173.5	$490.9
Earnings	$36.9		$23.0	$59.9
Employment	313		443	756

Calculation Notes: Direct x Multiplier = Total Impact

Total Impact - Direct Impact = Indirect & Induced Impact

Source: Development Research Partners, based on multipliers for the region consisting of Moffat, Rio Blanco, and Routt Counties from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2002 U.S. Benchmark I-O Data, and 2010 Regional Data.

On a separate but similar spending track, when an employee associated with the power plant spends their paycheck at local businesses, these local businesses provide payroll to their employees, make purchases from other vendors and so on, creating the induced impact of the power plant. In this manner, the initial dollars spent by the power plant on either purchases or payroll are circulated throughout the economy a number of times. The number of times that the initial dollar is circulated throughout the economy is estimated using economic multipliers. The RIMS II multipliers used in this analysis combine both the indirect and induced impacts; the two tracks of impacts are not separated.

These multipliers are geographic and industry specific and are used to estimate the total benefits of a project according to three measures of economic impacts: regional output, payroll or earnings and employment. The following sections describe the total direct and indirect impacts from the ongoing operations of the power plant including the transitory worker spending impacts. In addition, more detailed discussions of local supplier and employee spending impacts are provided.

The economic impacts described in the following sections are conservative estimates of the power plant's multiplier impacts. The multiplier impacts estimated in the following sections are based on ongoing operations of the power plant. However, the multiplier impacts extend beyond the local suppliers and employees in the region and generate larger impacts to the state than are quantified in this study.

Power Plant Impacts

Ongoing Operations

The ongoing operations of the power plant have multiplicative impacts on the regional economy. Based on the RIMS II multipliers by the U.S. Bureau of Economic Analysis for the power generation and supply industry in the region, the total economic impacts of the Craig Station are estimated as follows:

- **Value of Output:** The impact analysis assumes that the value of the power plant's total gross output is equal to its known annual expenditures of $317.1 million. Based on industry relationships revealed through the RIMS II multipliers, the presence of the power plant and its employees in the region supports $173.4 million in additional output in all industries throughout the region. This includes the value of the output supported by the local spending by the power plant's employees (the induced impact) and the power plant's local supplier companies and their employees (the indirect impact). Therefore, ***the total direct and indirect impact of the***

ongoing operations of the power plant is $490.5 million in regional total output ($317.1 million direct output + $173.4 million indirect and induced output), as shown in Table 3.

- **Employment:** The power plant directly employs 310 workers annually to produce its $317.1 million in direct output. Based on the RIMS II multipliers, the production of the $173.4 million in indirect and induced output in all industries throughout the region requires about 474 employees. Therefore, ***the ongoing operations of the power plant support the employment of 784 workers annually*** (310 direct employees + 474 indirect employees), as shown in Table 3.
- **Earnings:** The 310 direct power plant employees earn approximately $36.8 million in wages, salaries and benefits each year. Based on the industry relationships revealed through the RIMS II multipliers, the 474 indirect employees that produce the $173.4 million in indirect and induced output have associated earnings of about $23 million. As a result, ***the 784 direct and indirect employees have estimated annual earnings of $59.8 million*** ($36.8 million direct earnings + $23 million indirect earnings), as shown in Table 3. All earnings values are included in the value of output; earnings are not in addition to the value of output.
- The power plant impacts occur annually assuming similar business operations and tax structures.

Transitory Worker Impacts

The ongoing operations of the power plant require transitory or temporary workers during scheduled major or minor outages. Many of these workers spend money in the community on food, retail items, lodging and entertainment. Based on the RIMS II multipliers for the retail trade and accommodations industries in the region, the total economic impacts of the Craig Station are estimated as follows.

- The $505,000 in direct transitory worker spending in the region on food, lodging, entertainment and other purchases supports the employment of three workers earning $100,000 annually. These values are derived from the value of the retailers profit margin of $300,000 as opposed to the total spending of $505,000, as the difference represents the cost of goods sold, dollars that generally exit the region as retailers pay for their inventory.
- Based on industry relationships revealed through the RIMS II multipliers, the net value of the retail and lodging output of $300,000 supports $100,000 in additional output in all industries throughout the region. The production of this output requires one additional worker earning $36,000 annually.
- The direct and indirect impacts of the transitory worker spending total $400,000 in the region annually, including $100,000 in local payroll for three direct and one indirect workers (Table 3).

Local Supplier Impacts

As revealed in Table 1, the power plant spends $225.9 million locally each year for goods and services (including labor) used as inputs into its production of the $317.1 million in direct output. It is this local spending that creates the spin-off effects of the power plant, ultimately supporting the region-wide production of $173.4 million in indirect output from all industries produced by 474 indirect employees with earnings of $23 million. This section describes the relationships between the power plant and several key local suppliers in the region.

The power plant's major suppliers in the region include the Trapper and Colowyo Mines, Moffat Limestone Inc., the Elkhead and Stagecoach Reservoirs, Union Pacific Railroad and Atmos Energy. A number of local suppliers include three local welding service providers (Arc Welding Specialists, Inc., DC Power Industrial, Inc. and Power

Source Services, Inc.), Applied Industrial Technologies, Duran and Pearce Contractors and Petro West Distributing.

- Craig Station currently receives 100 percent of its coal supply from local coal mines. The Trapper Mine is located about one mile south of the plant in Moffat County and sends 100 percent of its coal to the power plant, supplying 50 percent of the plant's total coal supply. The Colowyo Mine supplies 50 percent of the power plant's coal and is located approximately 25 miles southwest of the power plant. Both the Trapper and Colowyo Mines are surface mines and produce a combined 4.6 million tons of coal per year.
- Trapper Mine is owned by Tri-State and other members of the Yampa Project and transports coal to the power plant via 100-ton haul trucks from the mine site. The power plant is currently the sole purchaser of coal extracted from the Trapper Mine, which employs 183 workers.
- The Colowyo Mine is owned and operated by Western-Fuels Colorado, a subsidiary of Tri-State. The mine straddles Moffat and neighboring Rio Blanco counties. At this time, almost the entire South Taylor Pit is located in Rio Blanco County where the majority of the mining is taking place. The mining is expected to shift to the Collom Pit in the next several years, which is located entirely in Moffat County. Colowyo Mine also currently sends 100 percent of its coal to Craig Station. Union Pacific Railroad transports the coal daily from the Colowyo Mine to the power plant.
- The power plant purchases approximately $170.3 million in coal annually from both the Trapper and Colowyo Mines. Based on the RIMS II multipliers for the coal mining industry, the $170.3 million in coal output in the region generates direct payroll of $41 million for 403 employees at both mines. These values are included in the indirect impacts of the power plant detailed in Table 3. Of the 403 workers employed by the Trapper Mine (183 workers) and Colowyo Mine (220 workers), the power plant currently supports 100 percent of these employees.
- Moffat Limestone Inc., located in Moffat County, supplies the power plant with limestone that is transported by truck to the Craig Station. The power plant purchases approximately $1.1 million in limestone annually from Moffat Limestone Inc. The power plant utilizes a wet limestone scrubber system that removes 90 percent of sulfur dioxide produced for Units 1 and 2, while a dry lime system is used for Unit 3. Moffat Limestone Inc. employs about eight workers and is located in Moffat County.
- Based on the RIMS II multipliers for the stone mining and quarrying industry, the $1.1 million in limestone supports the employment of eight workers earning a total of about $275,000. These values are included in the indirect impacts of the power plant detailed in Table 3.
- One of the primary bi-products of the Craig Station is fly ash and it is removed from the power plant exhaust gases primarily by the plant's electrostatic precipitators, or baghouses, and secondarily by scrubber systems. Fly ash that does not meet saleable specifications, bottom ash, scrubber filter cake and concentrator wastes are hauled by locally-owned trucking companies and disposed in a landfill operated by Trapper Mine. The fly ash disposal expense totals an estimated $1.6 million annually. Based on the RIMS II multipliers for the truck transportation industry, the $1.6 million in annual fly ash expenses supports the employment of 12 workers earning a total of $500,000. These values are included in the indirect impacts of the power plant detailed in Table 3.
- Union Pacific Railroad transports coal from the Colowyo Mine to the Craig Station daily. The Union Pacific Railroad owns and operates the rail system between Colowyo Mine's coal loading point in Moffat County to the power plant. Freight expenses associated with the delivered coal to the Craig Station include loading,

unloading, transportation fees, maintenance and supplies totaling an estimated $5.4 million annually. Based on the RIMS II multipliers for the rail transportation industry, the $5.4 million in annual freight expenses supports the employment of 13 workers earning a total of about $1.1 million. These values are included in the indirect impacts of the power plant detailed in Table 3.

- The ongoing operations of the power plant also benefit local suppliers in the region.
  - The Craig Station utilizes water annually from the Yampa River, as well as the Elkhead Reservoir in Moffat County and the Stagecoach Reservoir in Routt County. After use at Craig Station, the water is then treated and sent to on-site evaporation ponds in order to protect the Yampa River. The power plant spends about $325,000 annually on water treatment and water rights from the Elkhead Reservoir and the Stagecoach Reservoir. In addition, Atmos Energy in Moffat County operates and maintains the natural gas metering system at the power plant. The power plant spends about $582,000 annually on natural gas expenses.
  - Additional suppliers include the three local companies that provide the Craig Station with welding services and help to maintain the power plant's infrastructure. Craig Station spends approximately $5.3 on welding services from these three local suppliers. Other important products to the ongoing operations of the power plant include maintenance parts provided by Applied Industrial Technologies, excavation services supplied by Duran and Pearce Contractors and diesel and unleaded fuel supplied by Petro West Distributing.
  - The annual total of other local spending by the Craig Station supports the employment of about 28 people earning a total of about $2.7 million. These values are included in the indirect impacts of the power plant detailed in Table 3.

Local Employee Spending Impacts

Employees at Craig Station receive paychecks that are then used to purchase goods and services to support their households. Employee spending creates sales tax revenue for the local government and generates sales revenue for local goods and services vendors. This represents the first round of the induced impact of Craig Station's ongoing operations. Please note that these impacts are not in addition to the indirect and induced impacts noted above, but are presented as an example of how the multiplier impacts begin to work their way through the economic system.

- While employees will spend some dollars close to their work site, the majority of an individual's spending generally is conducted closer to their place of residence. Since 100 percent of the total 310 employees at Craig Station both live and work in the tri-county region, local employee spending patterns have a strong impact in the region.
- As indicated in Table 4, earnings by Craig Station's employees who both live and work in the tri-county region total $23.9 million, not including benefits

Table 4: First-Round Annual Induced Employee Spending Impact in Local Government

	Total	Moffat County	Rio Blanco County	Routt County	Regional Total
Economic Impact					
Total Off-Site Employees	310	273	3	34	**310**
Annual Earnings of Off-Site Employees	$23,934,000	$21,062,000	$239,000	$2,633,000	**$23,934,000**
Market Value of Off-Site Employee Housing	$110,768,000	$97,283,000	$1,135,000	$12,350,000	**$110,768,000**
Taxable Retail Sales	**$8,440,000**	**$4,283,000**	**$25,000**	**$576,000**	**$4,884,000**
Sales Tax		$86,000	$1,000	$6,000	**$93,000**
Residential Property Tax		$192,000	$1,000	$17,000	**$210,000**
Total Fiscal Benefit		**$278,000**	**$2,000**	**$23,000**	**$303,000**

and other non-wage compensation. Craig Station's employee earnings can be spent on a number of things including savings, investments, taxes and goods and services. Based on an analysis of the Consumer Expenditure Survey from the Bureau of Labor Statistics, individual spending on taxable goods and services represented between 27.4 percent in Routt County to 36.3 percent in Moffat County of total income in 2013. Changing spending habits and changes in tax structure may influence this value over time.

- Spending on taxable goods and services by local Craig Station employees is expected to total $8.4 million per year. Not all of this spending will be transacted with tri-county businesses. Based on a retail leakage analysis for the tri-county region from the Colorado Department of Revenue sales data, the tri-county region will capture about 58 percent of the taxable purchases. The total direct economic impact of taxable spending from the local Craig Station employees in the tri-county region is estimated to be $4.9 million per year.
- In addition, employees at Craig Station will support about $110.8 million in housing, assuming that employees spend about one-third of their income on housing.
- Focusing on the spending by the local employees in the tri-county region, Craig Station employees generate $303,000 in sales and property tax revenue annually for the three counties. This revenue includes retail sales tax revenue on purchases made in the tri-county region as well as property tax revenue for housing located throughout the region. This value does not include sales or property tax revenue to any of the other taxing jurisdictions in the tri-county region, such as the municipalities, school districts or other special districts.

IV. SUMMARY

Economic Impacts

The Craig Station directly produces $317.1 million in output. This output is produced by 310 workers earning $36.8 million in earnings and benefits. The presence of the power plant and its employees support $173.4 million in additional output in all industries throughout the region. The production of the $173.4 million in additional output in all industries throughout the region requires about 474 workers, referred to as the indirect workers. These workers have associated earnings of approximately $23 million.

The power plant hires an average of 225 transitory workers during scheduled major or minor outages. These workers spend approximately $505,000 in the region each year. Transitory worker spending supports an additional four employees earning a total of $100,000.

Combined, ***the ongoing operations of the Craig Station and transitory worker spending generate direct and indirect output valued at $490.9 million produced by 756 workers earning a total of $59.9 million in earnings.***

Fiscal Impacts

The Craig Station contributes $9.9 million annually to the local governments in the region, including:

- Real and personal property tax revenue of approximately $9.2 million per year.
- Sales tax revenue of $558,000 annually based on typical business purchases.
- Sales tax revenue of $10,000 annually based on transitory worker spending in the region.
- Lodging tax revenue of $3,000 annually based on transitory worker lodging.
- An annual impact fee of $61,000 paid by the Platte River Power Authority for the power plant.

Craig Station

Total Annual Direct and Indirect Value of Output

$317.4 million direct + $173.5 million indirect = **$490.9 million**

Total Annual Direct and Indirect Employment

313 direct + 443 indirect = **756 workers**

Total Annual Direct and Indirect Earnings

$36.9 million direct + $23 million indirect = **$59.9 million**

Total Annual Tax Revenue

$9.9 million

Total Transitory Worker Employment

225 workers

V. REGIONAL PROFILE

Data Summary

Craig Station and its related coal mining operations are large employers in the tri-county region. This section provides economic and demographic data for the tri-county region to provide context regarding their importance.

Subject	City of Craig	Moffat County	Rio Blanco County	Routt County	Colorado
Demographics					
Population (2012)	9,301	13,547	6,728	23,385	5,042,853
Median Household Income (2012)	$49,058	$51,008	$58,393	$65,041	$58,244
Average Household Income (2012)	$58,923	$60,733	$69,023	$83,254	$77,900
Percent of Population in Poverty (2012)	14.8%	12.0%	13.6%	7.5%	12.9%
Percent of Children Qualified for Free or Reduced Lunch (2013)	N/A	43.4%	29.4%	22.3%	41.9%
Educational Attainment					
Percent of 25+ Population (2012)					
Less than 9th Grade	2.4%	3.3%	3.1%	0.6%	4.2%
9th to 12th Grade, No Diploma	8.8%	8.6%	4.2%	2.6%	5.8%
High School Degree *(includes equivalency)*	37.2%	36.5%	35.5%	17.8%	22.4%
Some College	26.2%	28.9%	26.0%	25.2%	22.8%
Associate's Degree	9.2%	8.3%	8.9%	8.0%	8.1%
Bachelor's Degree	10.5%	8.7%	15.0%	30.6%	23.4%
Graduate or Professional Degree	5.8%	5.6%	7.3%	15.2%	13.2%
High School or Higher	88.8%	88.0%	92.8%	96.8%	89.9%
Bachelor's or Higher-Level Degree	16.3%	14.4%	22.3%	45.8%	36.7%
Employment					
Nonfarm Employment (2013)	N/A	4,957	3,195	13,921	2,335,786
Private Employment	N/A	3,844	2,064	12,191	1,952,149
Government Employment	N/A	1,113	1,131	1,730	383,637
Unemployment Rate (2013)	N/A	6.2%	5.4%	5.8%	6.8%
Average Annual Wage (2013)	N/A	$43,541	$49,869	$42,515	$50,861
Housing					
Median Home Value (2012)	$175,000	$184,800	$212,000	$407,700	$236,800
Median Monthly Rent (2012)	$730	$738	$709	$1,201	$915
Tax Revenue					
Sales and Use Tax Revenues (2013)	$3,437,700	$2,815,674	$2,681,753	$5,263,670	$2,248,198,000
Property Tax Revenue (2013)	$1,597,706	$10,055,456	$12,311,079	$17,439,795	N/A

Population

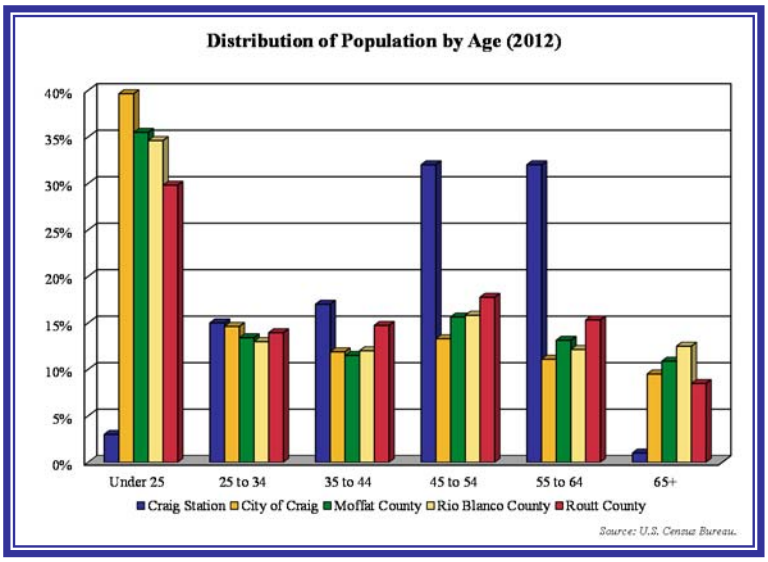
The city of Craig represents 68.7 percent of Moffat County's population and 21.3 percent of the combined population of the tri-county region. The population of the tri-county region totals 43,660 individuals, or 0.9 percent of Colorado's total population. All three counties have a slightly larger male population, while the state's population is evenly divided between males and females. The tri-county region has a male population of 52.3 percent and a female population of 47.7 percent. About 85 percent of the Craig Station employees are male, which is 33 percent higher than the surrounding male population.

Population Totals by Sex (2012)

	Male	Male Portion of Population	Female	Female Portion of Population	Total
Craig Station	264	85%	47	15%	310
City of Craig	4,757	51%	4,544	49%	9,301
Moffat County	7,017	52%	6,530	48%	13,547
Rio Blanco County	3,480	52%	3,248	48%	6,728
Routt County	12,354	53%	11,031	47%	23,385
Colorado	2,529,614	50%	2,513,239	50%	5,042,853

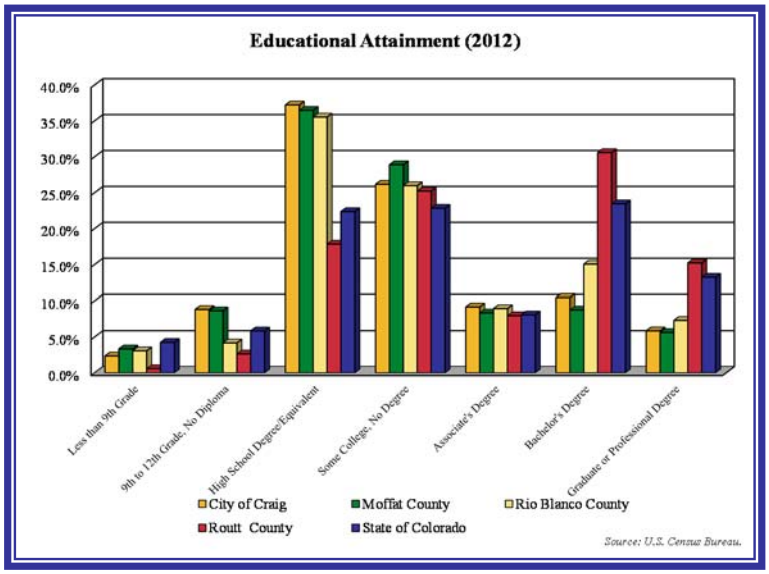
Source: U.S. Census Bureau.

A significant portion of the population in Craig is under the age of 25, representing 39.6 percent of the city's total population. The tri-county region also has a younger population, with nearly a third of each county's population under 25 years of age. About 76.7 percent of the population under 25 in Moffat County resides in Craig. Compared with the tri-county region, Craig Station's workforce has a distinctly different age distribution. Of the 310 Craig Station employees, 64 percent are between 45 and 64 years of age, while only 24.4 percent of Craig's population is in the same age group. Moffat, Rio Blanco and Routt counties all have a 45 to 64 year old population that is less than 34 percent of their total populations. Assuming a standard retirement age of 65, nearly a third of the Craig Station workforce will retire over the next nine years.



Educational Attainment

Nearly 89 percent of Craig's population aged 25 years and older earned a high school degree or higher, 1.1 percentage points lower than the Colorado level of 89.9 percent. The share of the population age 25 and older that earned a high school degree or higher was higher in Rio Blanco County (92.8 percent) and Routt County (96.8 percent) compared with the statewide average, while the share that earned a high school degree or higher was slightly lower in Moffat County (88 percent). One hundred percent of the Craig Station employees earned a high school degree or higher.



More than 16 percent of Craig's population had a bachelor's degree or higher, compared with 14.4 percent in Moffat County and 22.3 percent in Rio Blanco County. Routt County had the highest concentration of the population with a bachelor's degree or higher among the tri-county region with 45.8 percent and was roughly 9 percentage points above the statewide average of 36.7 percent. The education attainment level of the Craig Station employees is similar to that of Moffat County, as 14 percent of the employees earned a bachelor's degree or higher.

Shares of Population Age 25 and Older by Highest Level of Educational Attainment (2012)

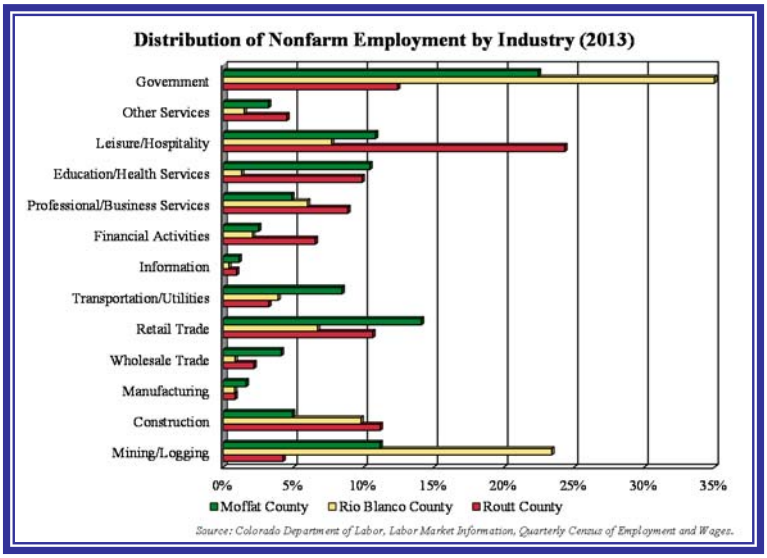
	City of Craig	Moffat County	Rio Blanco County	Routt County	Colorado
Less than 9th Grade	2.4%	3.3%	3.1%	0.6%	4.2%
9th to 12th Grade, No Diploma	8.8%	8.6%	4.2%	2.6%	5.8%
High School Graduate (includes equivalency)	37.2%	36.5%	35.5%	17.8%	22.4%
Some College	26.2%	28.9%	26.0%	25.2%	22.8%
Associate's Degree	9.2%	8.3%	8.9%	8.0%	8.1%
Bachelor's Degree	10.5%	8.7%	15.0%	30.6%	23.4%
Graduate or Professional Degree	5.8%	5.6%	7.3%	15.2%	13.2%
High school or Higher	88.8%	88.0%	92.8%	96.8%	89.9%
Bachelor's or Higher-Level Degree	16.3%	14.4%	22.3%	45.8%	36.7%

Source: U.S. Census Bureau, 2012 American Community Survey.

Industry Base

Moffat County has an employment base of nearly 5,000 workers and about 475 business establishments. The government supersector employs 22 percent of the county's total employment, with over 1,100 workers. The retail trade (14 percent), leisure and hospitality (11 percent), mining and logging (11 percent) and education and health services (10 percent) supersectors also represent a large portion of the area's employment base. The transportation, warehousing and utilities supersector employs 420 people, representing 8 percent of Moffat

County's employment. Craig Station employs 73.8 percent of the total employment in the transportation, warehousing and utilities supersector.



Rio Blanco County and Routt County have different employment distributions compared with Moffat County. Rio Blanco County has an employment base of nearly 3,200 and about 280 business establishments. The county's employment is also largely supported by the government supersector at 35 percent of total employment, which is 13 percentage points higher than Moffat County. Rio Blanco County also has strong mining and logging employment, employing 23 percent of the area's total workers. The remaining 11 supersectors each represent less than 10 percent of the area's total employment. Routt County has an employment base of nearly 14,000 workers and almost 1,700 business establishments. The leisure and hospitality supersector employs the largest portion of the county's workers at 24 percent, reflecting the influence of Steamboat Ski Resort.

Income

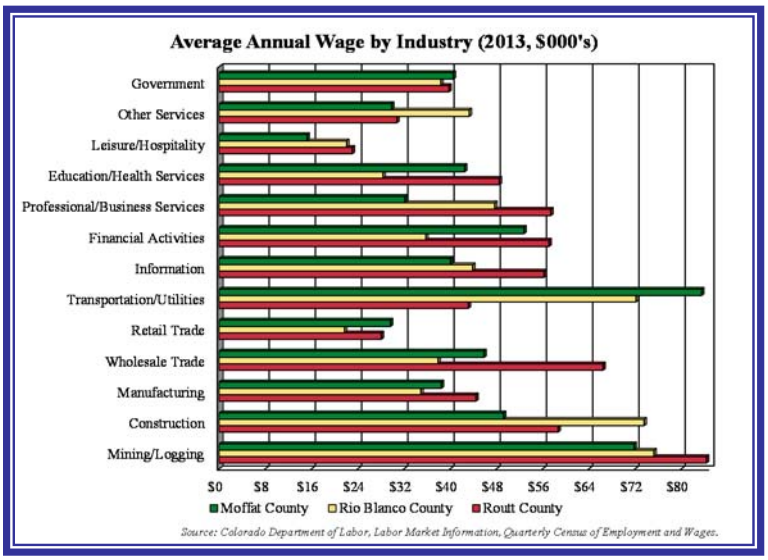
The city of Craig's median household income in 2012 ($49,100) was nearly $9,200 lower than the Colorado median household income of $58,200. Moffat County was also below the state median, while Rio Blanco and Routt counties' median household incomes were higher than Colorado. The mean household income for Craig in 2012 ($58,900) was almost $19,000 lower than the state average. The mean household income in Craig was below all three of the counties' average household incomes.

Median and Mean Household Income (2012)

	Median	% of CO	Mean	% of CO
City of Craig	$49,058	84%	$58,923	76%
Moffat County	$51,008	88%	$60,733	78%
Rio Blanco County	$58,393	100%	$69,023	89%
Routt County	$65,041	112%	$83,254	107%
Colorado	$58,244	100%	$77,900	100%

Source: U.S. Census Bureau, 2012 American Community Survey.

Industry employment in the tri-county region is highly concentrated in the government sector, but government employees in the tri-county region earn less than the private sector. In Moffat County where 22 percent of the working population is a government employee, the average annual wage is $40,500. Rio Blanco County government employees earn $38,400 annually and Routt County government employees earn $39,800 annually. The highest paid workers in Moffat County are found in the transportation, warehousing and utilities sector, where employees earn an average of $83,500 annually. The high salary in this supersector reflects the importance of the Craig Station, where workers earn an average of $77,200 annually. Rio Blanco and Routt counties pay mining and logging employees the highest average annual wage at $75,300 and $84,300, respectively.



In Colorado, nearly 13 percent of the population lives in poverty. The tri-county region has similar poverty rates to the state levels. Craig has an impoverished population of 14.8 percent, while Moffat County has an impoverished population of 12 percent. Rio Blanco County reported 13.6 percent of its population is impoverished, while only 7.5 percent of Routt County lives in poverty.

Across the state, thousands of students receive free or reduced-price school meals through the National School Lunch and Breakfast Programs. During the 2013-14 school year, 41.9 percent of all Colorado students preschool through 12th grade qualified for free or reduced-priced lunch. Student who are eligible for free lunch are defined as public school children whose family income is less than 130 percent of the federal poverty level and students eligible for reduced price lunch are defined as children whose parents income is less than 185 percent of the federal poverty level. Throughout the tri-county region, the percentage of students who qualify for free or reduced-price lunch vary greatly. Moffat County had an eligible student population of 43.4 percent, compared with 29.4 in Rio Blanco County and 22.3 percent in Routt County.

Residential Real Estate

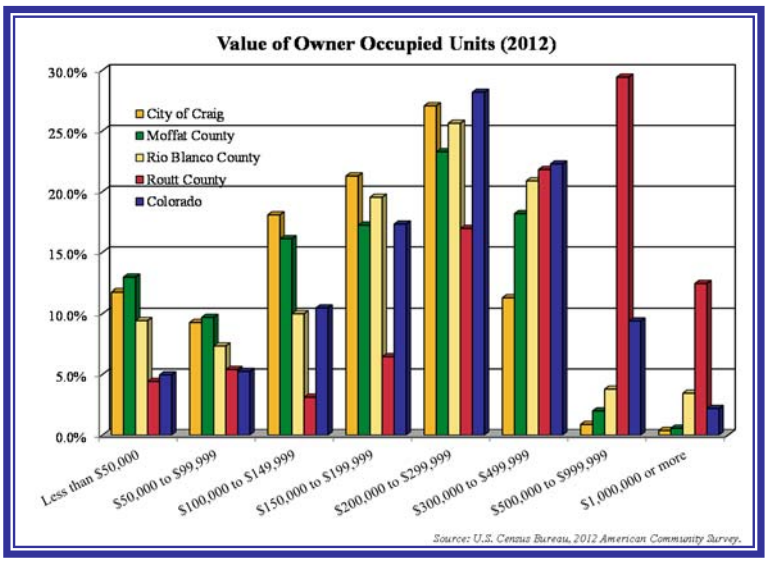
Single-family detached units represent 63 percent of Colorado's existing homes. Moffat (66 percent) and Rio Blanco (71 percent) counties have slightly higher portions of single-family detached units and Routt County has a slightly smaller proportion (52 percent). Moffat and Rio Blanco counties have significantly smaller multi-family housing markets than the state level, posting levels that were 13 percentage points and 9 percentage points lower, respectively. The proportion of Routt County's multi-family market was 3 percentage points higher than the state level. Moffat County has a

Existing Homes by Property Type (2012)

	City of Craig	Moffat County	Rio Blanco County	Routt County	Colorado
Single-family Detached	63%	66%	71%	52%	63%
Single-family Attached	8%	6%	8%	19%	12%
Multi-family	12%	8%	12%	24%	21%
Mobile Homes	16%	20%	9%	5%	4%

Source: U.S. Census Bureau, 2012 American Community Survey.

large mobile home market, representing 20 percent of the total residential real estate market, which is 16 percentage points higher than the state level of 4 percent.



Craig, Moffat County and Rio Blanco County have the highest concentration of home values in the $200,000 to $299,999 range, which is consistent with the state distribution. Routt County's home values are concentrated in the $500,000 to $999,999 range, reflecting the ski resort influence in home values. The median home value in Routt County of $407,700 is significantly higher than the median values found in Moffat County ($184,800) and Rio Blanco County ($212,000). Based on the average annual earnings of Craig Station employees, the typical worker can afford a home priced at about $357,000.

Tax Revenue

Craig Station contributes significantly to the tri-county region's sales and use tax and property tax revenue. The property tax revenue paid by Craig Station to Moffat County, as well as the property tax revenue generated from the residential property associated with the Craig Station employees, contributed nearly 37 percent of the total property tax revenue collected by Moffat County. Due to the power plant's location outside the city of Craig, Moffat County receives the largest portion of property taxes. Rio Blanco and Routt counties receive a small amount of residential property tax revenue.

2013 Craig Station Fiscal Contribution to Tri-County Region

	Moffat County	Rio Blanco County	Routt County
Sales & Use Tax Revenue	**$2,815,674**	**$2,681,753**	**$5,263,670**
Craig Station Operations	$343,000	$0	$215,000
Transitory Workers	$13,000	$0	$0
Employee Spending	$86,000	$1,000	$6,000
Total Craig Station	$442,000	$1,000	$221,000
Percent of County	15.7%	0.0%	4.2%
Property Tax Revenue	**$10,055,456**	**$12,311,079**	**$17,439,795**
Craig Station Operations	$3,517,414	$0	$0
Employee Spending	$192,000	$1,000	$17,000
Total Craig Station	$3,709,414	$1,000	$17,000
Percent of County	36.9%	0.0%	0.1%

Source: Individual county budgets for Moffat, Rio Blanco, and Routt Counties.

Similarly, the sales and use tax revenue paid to Moffat County by Craig Station, Craig Station's transitory workers, and employee spending contributed significantly to the county's total sales and use tax revenue collection. Craig Station and its workers contributed 15.7 percent of the total sales and use tax revenue collected by Moffat County. The power plant and its associated workers also contribute a small portion of sales and use tax revenue to Rio Blanco County and about 4.2 percent of Routt County's collections.

VI. KEY SUPPLIER ANALYSIS: TRAPPER & COLOWYO COAL MINES IMPACTS

The Economic and Fiscal Impacts of the Trapper and Colowyo Coal Mines

Craig Station currently receives 100 percent of its coal supply from two local coal mines. The output from the coal mines feeds directly into the Craig Station, such that the Craig Station multiplier impacts include the coal mine operations. However, the coal mines support a supply chain that differs from the Craig Station in some respects. Therefore, this Addendum provides an estimate of the economic and fiscal impacts of the coal mines as stand-alone business operations. As the operations of the coal mines and Craig Station are linked via a customer-supplier relationship, the multiplier effects of the coal mine are not discrete from the multiplier effects of the Craig Station; the values cannot be added together.

- The Trapper Mine is located about one mile south of Craig Station in Moffat County and currently sends 100 percent of its coal to the power plant, supplying 50 percent of the plant's total coal supply. The Trapper Mine is owned by Tri-State and other members of the Yampa Project and transports coal to the power plant via 100-ton haul trucks from the mine site. Craig Station is currently the sole purchaser of coal extracted from the Trapper Mine, which employs 183 workers.
- The Colowyo Mine is located approximately 25 miles southwest of Craig Station and employs 220 workers. The Colowyo Mine also currently sends 100 percent of its coal to the power plant, supplying the other half of the plant's coal needs. The Colowyo Mine is owned and operated by Western-Fuels Colorado, a subsidiary of Tri-State. The mine straddles Moffat and Rio Blanco counties. At this time, almost the entire South Taylor Pit is located in Rio Blanco County where the majority of the mining is taking place. The mining is expected to shift to the Collom Pit in the next several years, which is located entirely in Moffat County. Union Pacific Railroad transports the coal daily from the Colowyo Mine to the power plant.

Economic Impacts Defined

Economic impact analysis is the analytical approach used to assess the measurable direct and indirect benefits resulting from a project over a specific period. Only those benefits that can be measured or quantified are included. Intangible benefits, such as enhancement of community character or diversification of the job base, are not included.

The direct economic impacts, or business-to-business or consumer-to-business activity, have multiplicative effects on the region. Therefore, multiplier analysis is used to trace the impacts on businesses, organizations and individuals affected by the project as the impacts work their way through the economy. Multiplier analysis recognizes the interdependence of various sectors of the economy as activities in one sector spill over into other sectors, stimulating business activity.

The multiplicative effects are discussed in terms of "indirect" and "induced" impacts (often collectively referred to as simply indirect impacts). When a company purchases supplies from a local vendor, that local vendor in turn provides payroll to its employees and makes purchases from other vendors. These other vendors in turn provide payroll to their employees, and so on, providing the indirect impact of the company. On a separate but similar spending track, when employees associated with the company spend their paychecks at local businesses, these local businesses provide payroll to their employees, make purchases from other vendors and so on, creating the induced impact of the company. In other words, the initial dollars spent by the company on either purchases or payroll are circulated throughout the economy a number of times.

The number of times that the initial dollars are circulated throughout the economy are estimated using economic multipliers. The indirect and induced jobs and income flows generated by the direct spending patterns are estimated using the Regional Input-Output Modeling System II (RIMS II) multipliers developed by the U.S.

VI. KEY SUPPLIER ANALYSIS: TRAPPER & COLOWYO COAL MINES IMPACTS

Department of Commerce, Bureau of Economic Analysis. This analysis uses the industry-specific RIMS II multipliers for a tri-county region consisting of Moffat, Rio Blanco and Routt counties.

There are three types of economic impacts discussed. First, the direct and indirect impact of the company on the gross output of the region is estimated. This is the total value of the output produced by local firms and residents resulting from the value of the output produced by the company directly. Gross output includes the value of both intermediate goods and final products, so this is a larger value than gross domestic product (GDP) for the region. Second, the total direct and indirect employment needed in the region to produce this level of output is determined. These employees may be full-time or part-time, local or non-local workers. It should be noted that the indirect employment supported might represent fractions of jobs, added to reflect whole positions. Third, the analysis includes an estimate for the typical direct and indirect earnings associated with this level of production.

Economic Impacts

- The combined employment at the two mines is 403 workers, with 183 employees at the Trapper Mine and 220 at the Colowyo Mine. Based on relationships revealed through the RIMS II multipliers for the coal mining industry, these employees are estimated to have annual earnings of $41 million.
- The value of output provided by the two mines is equal to the value of the coal purchased by Craig Station, as it is assumed that 100 percent of the coal produced at both mines is shipped to the power plant. Therefore, the value of output produced by the employees is $170.3 million.
- The presence of the coal mines and their employees in the tri-county region will likely support $104.3 million in additional output in all industries throughout the region. This includes the value of local spending by the coal mines' employees (the induced impact) and of the local supplier companies and their employees (the indirect impact).
- The production of the $104.3 million in additional output in all industries throughout the region requires about 696 workers, referred to as the indirect workers. These workers will have associated earnings of about $28.5 million (the indirect earnings), or an average salary of about $41,000.
- Therefore, the total direct and indirect impacts of the Trapper Mine and the Colowyo Mine in the tri-county region includes $274.6 million in total output ($170.3 million direct output + $104.3 million indirect and induced output) and 1,099 employees (403 direct employees + 696 indirect employees) earning a total of $69.5 million annually ($41 million direct earnings + $28.5 million indirect earnings).
- These impacts are likely to occur annually, assuming similar business conditions.

Trapper Mine and Colowyo Mine Economic Impacts

	Direct Impact	Multiplier	Indirect + Induced Impact	Total Impact
Total Output ($M)	$170.3	1.6124	$104.3	$274.6
Earnings ($M)	$41.0	1.6972	$28.5	$69.5
Employment	403	2.7282	696	1,099

Source: Development Research Partners, based on multipliers for Moffat, Rio Blanco and Routt counties from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), 2002 U.S. Benchmark I-O Data and 2010 Regional Data.

VI. KEY SUPPLIER ANALYSIS: TRAPPER & COLOWYO COAL MINES IMPACTS

Fiscal Impacts Defined

Fiscal impact analysis estimates the direct public revenues and public costs resulting from a project over a specific time period. A project may generate a broad array of public revenues ranging from sales tax, use tax, property tax, franchise fees, licenses and permits and other charges for services. In turn, the local government provides a variety of public services such as police protection, public works, community social and recreational programs and community development services, to name a few.

This addendum includes a limited fiscal impact analysis, including property tax revenue and various industry specific taxes and fees that may potentially come back to the tri-county region.

Fiscal Impacts

Federal and State Royalties: The U.S. Department of the Interior collects federal royalties on every ton of coal that is mined on federal lands. Approximately half of these royalty revenues are returned to the states. Federal mineral royalties are deposited in the Colorado Mineral Leasing Fund, which distributes money to local communities affected by energy development, schools and the Water Conservation Board. Likewise, state royalties are collected on every ton of coal that is mined on state lands, with a portion of this revenue potentially returned to the region in which the coal was mined. The Trapper and Colowyo Mines paid $14.4 million in federal and state royalties in 2013. The amount of revenue returning to the tri-county region cannot be determined.

Severance Tax: Severance taxes are excise taxes on natural resources "severed" from the earth, based on the quantity or value of the resource removed or produced. The Trapper and Colowyo Mines paid $1.4 million in Colorado severance tax in 2013. The amount of revenue returning to the tri-county region cannot be determined.

Reclamation Fee: All operators of coal mines pay the U.S. Department of the Interior a reclamation fee per ton of coal produced. Approximately half of these royalty revenues are returned to the states. The Trapper and Colowyo Mines paid $1.1 million in federal and state royalties in 2013. The amount of revenue returning to the tri-county region cannot be determined.

Property Tax: The value of real property classified as natural resources and producing mines is calculated as a percentage of the income obtained from selling the product. The Trapper and Colowyo Mines paid $2.9 million in property tax to all taxing entities in the tri-county region in 2013. This revenue is used directly by the respective taxing entities to provide governmental services in the region.

2013 Taxes and Fees Paid

	Colowyo	Trapper	TOTAL
Federal Royalties	$9,219,000	$5,055,000	$14,274,000
State Royalties	$81,000	$0	$81,000
Severance Tax	$804,000	$632,000	$1,436,000
Federal Reclamation Fee	$601,000	$542,000	$1,143,000
Total Industry Specific Taxes & Fees	**$10,705,000**	**$6,229,000**	**$16,934,000**
Moffat County	$1,162,000	$1,531,000	$2,693,000
Rio Blanco County	$204,000	$0	$204,000
Total Property Tax	**$1,366,000**	**$1,531,000**	**$2,897,000**

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