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October 10, 2019

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VIA EMAIL

Ms. Victoria Rutson
Surface Transportation Board
Office of Environmental Analysis
395 E Street, SW
Washington, DC 20423-0001

Re: Finance Docket No. 36284 – Seven County Infrastructure Coalition – Uinta Basin Railway Project Proposal – Response to Information Request No. 2

Dear Ms. Rutson:

I am enclosing SCIC's response to the OEA's Information Request No. 2. If there are any questions regarding this response, please do not hesitate to contact me.

Sincerely,

Kathryn Kusske Floyd

encl.

cc: Danielle Gosselin
Joshua Wayland
Debi Rogers
Mike McKee
Eric Johnson
Kevin Keller

Seven County Infrastructure Coalition Response to
OEA's September 25, 2019 Information Request No. 2
FD 36284
October 10, 2019

OEA requests further explanation of the Seven County Infrastructure Coalition's estimate that rail traffic along the proposed rail line would be approximately 7 trains, loaded and empty, per day on average (3.5 in each direction), with approximately 110 cars per train. Please provide the information specified below:

OEA Request: Provide the estimated number of manifest trains, averaged per day and per year, and the approximate number and weight of cars and locomotives assumed for manifest trains, both maximum and on average.

Response:

The number of manifest trains operated by the Uinta Basin Railway (UBRY) is anticipated to be zero. Most UBRY freight is expected to move in unit trains. Instead of operating manifest trains separately, manifest carloads received from connecting carriers Union Pacific Railroad (UP) or BNSF Railway (BNSF) are expected to be added to UBRY unit trains. Manifest trains are not anticipated to be separately operated on the UBRY because the expected volume of manifest carloads is relatively low. Thus, the operation of dedicated manifest trains would likely be uneconomical.

Manifest carloads are expected to range, on average, from a lower estimate of 12 carloads per day (4,380 per year[1]) to an upper estimate of 18 carloads per day (6,233 per year).The total number of empty manifest rail cars per day and per year is expected to be identical in number to full carloads because most freight cars are designed and dedicated to specific commodities or are provided by shippers, or both, and thus are unsuitable for other commodities or are not available for other shippers to use. Thus, the number of empty manifest cars is also expected to range, on average, from 12 to 18 cars per day.

The maximum weight of loaded manifest cars is expected to be 143 tons.[2] When empty, the maximum weight of manifest cars is anticipated to be between 22 and 45 tons, depending upon the type of car. It is anticipated that common, dense

[1] Unless otherwise stated, it is assumed that operations would occur 365 days per year.
[2] Depending upon the density of the commodity, and the type of commodity, a "carload" may not reach the maximum allowed weight limit of the rail car. Many commodities such as machinery have dimensional, packaging, or shipping characteristics that prevent loading a rail car to its maximum weight capacity. Other commodities have density characteristics that would exceed the maximum weight capacity of the rail car if loaded to the full volume capacity of the rail car.

granular commodities normally shipped by rail such as fracking sand, cement, fertilizer, and animal feed will typically be loaded in 143-ton capacity rail cars and that gross car weight including lading will be at or near to 143 tons. Common liquid and non-granular bulk commodities such as hay, lumber, petroleum fuels, liquified petroleum gas, pipe, oilfield tubular steel products, bagged animal feed, and building products and industrial materials are expected to be loaded in 143-ton or 131.5-ton capacity rail cars, and gross car weights may vary broadly but not exceed 143 tons. Machinery, motor vehicles, and other manufactured products may have highly variable gross car weights but will not normally exceed 143 tons.

The estimated maximum weight of locomotives used by the UBRY will range from approximately 380,000 to 432,000 pounds, and will vary based on fuel loading at a given time and design of locomotives.[3] Information regarding the number of locomotives and rail cars per train is provided below.

OEA Request: Provide the estimated number of crude oil unit trains, averaged per day and per year.

Response:

Depending on market conditions, it is estimated that the number of loaded crude oil unit trains operated on the UBRY each day will range, on average, from 1.84 to 4.96 trains per day each way (672 to 1,809 trains per year). It is anticipated that each train will contain, on average, 110 tank cars, and each tank car will contain, on average, approximately 642 barrels of oil. Thus, 1.84 unit trains per day each way would have the capacity to ship a lower estimate of 130,000 barrels of oil on average each day, while 4.96 unit trains would have the capacity to ship a higher estimate of 350,000 barrels of oil on average each day.[4] Levels of oil production are subject to a number of independent variables and factors including, but not limited to, general domestic and global economic conditions, commodity pricing, and the strategic and capital investment decisions of oil producers and their customers. Based on the uncertainty regarding these variables and factors, it is not reasonably foreseeable that the UBRY will ship more than 350,000 barrels of oil per day. While the capacity of the rail line could potentially accommodate

[3] For reference, the EMD SD70ACe-T4, a currently cataloged heavy-haul locomotive, has a typical diesel fuel oil capacity of 4,800 gallons, or 33,326 pounds using a common diesel fuel blend.

[4] R.L. Banks & Associates, Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network at 17 (Aug. 9, 2018) (projecting a "higher forecast" production level of 350,000 barrels per day for the period 2022 through 2044). While this study assumed that 40,000 barrels of the 350,000 barrel total production level would be transported to the Salt Lake City by truck, we have assumed for purposes of this response that all 350,000 barrels would be transported by rail. It is not anticipated that development of the UBRY will divert truck to rail for purposes of serving Salt Lake City refiners.

increased production, when and if that would happen is unknown and speculative at this time.

It is anticipated that number of empty crude oil unit trains operated on the UBRY each day will generally equal the number of loaded crude oil unit trains. Thus, when loaded and empty trains are combined, it is estimated that an average of 3.68 to 9.92 total crude oil unit trains will be operated on the UBRY each day.

Depending on market conditions, the average number of loaded fracking sand unit trains operated by the UBRY is expected to range from 0 to 0.3 trains per day and 0 to 110 trains per year. The number of empty fracking sand unit trains is expected to be the same (0 to 0.3 trains per day and 0 to 110 trains per year).

OEA Request: For crude oil unit trains, provide the assumed number and weight of cars per train, crude oil capacity (in barrels), and number of locomotives assumed for each train, both maximum and on average.

Response:

Crude oil unit trains are expected to have, on average, 110 rail cars per train regardless of whether the train is loaded or empty.[5] The typical weight of loaded crude oil rail cars operating over the UBRY is expected to be 143 tons, or 286,000 pounds, per car. The typical weight of empty crude oil rail cars operating over the UBRY is expected to be 42.15 tons.

It is expected that 29,000 gallon coiled and insulated tank cars will be utilized on the UBRY. The estimated capacity of these tank cars is 625 barrels, if carrying black waxy crude, and 650 barrels, if carrying yellow waxy crude. The ratio of black waxy crude to yellow waxy crude that will be shipped via the UBRY may vary depending on market conditions. At present, the ratio of yellow waxy crude to black waxy crude produced in the Uinta Basin is approximately 2:1. Assuming this ratio continues, each tank car in crude oil unit trains operated on the UBRY is anticipated to have the capacity to carry, on average, 642 barrels of oil.

Each unit train operated over the UBRY is expected to utilize eight locomotives.[6] While it is expected that only three of the eight locomotives would be required for empty trains to achieve desired operational results, empty trains are expected to have eight locomotives per train due to the need to balance locomotives between the end points of the railroad.

[5] Note that manifest cars are anticipated to be added to unit trains. Thus, the total length of some unit trains may be greater than the basis of the cars dedicated to the particular commodity of the unit train.

[6] Because the ruling grades and change in elevation are similar between the three alternative routes, the number of locomotives required is expected to be the same regardless of which route is used.

OEA Request: If it is assumed that "helper" locomotives would be used on the proposed rail line, provide the estimated number of helper locomotives that would be used on a train, the type of train (manifest or oil), and where along the proposed rail line they would be used, with references to mileposts.

Response:

The use of "helper" locomotives is not anticipated on the UBRY. Trains are expected to operate with eight 4,300 to 4,400-horsepower locomotives without addition or subtraction en route between the railroad's proposed interchange with the national railroad network at Kyune, and the loading terminal(s) proposed at South Myton Bench and Leland Bench. It is expected that a 110-car loaded train will require 30,000 horsepower, or seven 4,300-horsepower locomotives, to overcome gravity and rolling resistance. It is anticipated that an eighth locomotive will be added to reduce the risk of train stalling should a locomotive experience mechanical failure.

OEA Request: Indicate whether the estimated average number of crude oil trains per day assumes that crude oil currently trucked to Salt Lake City refiners would continue to move by truck or whether it would be transported as part of the 3.5 loaded trains per day estimate.

Response:

The estimated average number of crude oil trains per day assumes that rail transportation will not displace truck transportation for purposes of shipping crude oil to Salt Lake City refiners. Based on recent analysis, rail shipment from the Uinta Basin to Salt Lake City refiners is not economically viable for several reasons including (1) the lack of infrastructure to receive and unload crude oil unit trains in the vicinity of the Salt Lake City-area refineries and then transport that oil via pipeline to the refineries and additional costs associated with constructing and operating such infrastructure; (2) the operating and capital cost of transloading oil from truck to rail within the Uinta Basin, which is not required for the existing all-truck haul; and (3) the relatively short haul by a connecting carrier (either UP or BNSF) to the Salt Lake City area, which reduces the economies of rail transportation. Thus, it is not anticipated that crude oil will be shipped by rail from the Uinta Basin to Salt Lake City refiners.

OEA Request: Provide any assumptions made regarding the number of new oil and gas wells that would be drilled to provide production sufficient to supply the anticipated number (trains/day, plus trucking, if applicable) of crude oil transport.

Response:

Oil production in the Uinta Basin is expected to continue transitioning from a historic pattern of vertical wells with a single completion per well and each well on a single well pad, to vertical wells with multiple laterals per well ("horizontal wells") at various depths and in various directions radiating from the vertical well. This transition is expected to result in multiple completions per well and multiple wells on a single well pad. Laterals are typically completed sequentially, i.e., after the oil from the first lateral completed for a given well is extracted, the second lateral is completed and its oil resource extracted, and so forth. "Completion" consists of the activity of hydraulically fracturing the lateral.

- To produce 130,000 barrels of oil per day, it is anticipated that 130 new lateral completions will be required initially, and 26 new lateral completions will be required per year to sustain that production level to account for the gradual decline in production of the initial 130 lateral completions.
- To produce 350,000 barrels of oil per day, it is anticipated that 350 new lateral completions will be required initially and 70 new lateral completions will be required per year to sustain that production level to account for the gradual decline in production of the initial 350 lateral completions.

At present, new oil well completions in the Uinta Basin are initially producing between 500 and 3,000 barrels per day, with an average of 500 barrels per day for wells producing from the Green River Formation, and 1,000 barrels per day for wells producing from the Wasatch Formation.

As of October 2019, five oil rigs were drilling oil wells in Uintah and Duchesne Counties, sustaining a production of approximately 90,000 barrels of oil per day. Accordingly, each rig is sustaining approximately 18,000 barrels per day of production. Of the approximately 90,000 barrels of oil produced each day, approximately 70,000 to 80,000 barrels of oil are trucked to refineries in the Salt Lake City area each day. The balance of the oil produced in Uintah and Duchesne Counties is trucked to rail transload facilities outside of the Uinta Basin and then transported by rail to refineries or export terminals in areas other than Salt Lake City. Assuming oil rig productivity neither declines nor improves, a total of 11.66 oil rigs would be required to produce 130,000 barrels of oil per day in addition to the maximum of 80,000 barrels per day that can be consumed by Salt Lake City refineries. Assuming oil rig productivity neither declines nor improves, a total of 23.66 oil rigs would be required to produce 350,000 barrels per day in addition to the maximum of 80,000 barrels per day that can be consumed by Salt Lake City refineries. Regardless of whether the UBRY is developed, it is anticipated that new oil production in the Uinta Basin will be driven by market factors and will continue to be transported by truck.

No assumptions have been made about the number of gas wells that could be drilled in the future. While natural gas has historically been produced in the Uinta Basin, it is not expected that natural gas, in either its gas or liquid form, will be shipped via the UBRY. Natural gas produced in the Uinta Basin is currently being transported by pipeline on a regional basis; this practice is expected to continue regardless of the UBRY project.

OEA Request: Indicate if it was assumed that most new oil and gas wells would be drilled in Duchesne and Uintah counties, given that is where most of the current oil and gas production occurs.

Response:

It is assumed that all crude oil shipped on the UBRY will come from known oil resources and reserves in Duchesne and Uintah counties. At present, there are no other known significant sources of crude oil that would be economically available for railway transportation, as opposed to pipeline or truck transportation, in the area of the UBRY. No gas (e.g., liquified natural gas) is expected be shipped on the UBRY, regardless of location of production.

OEA Request: Provide assumptions used in estimating the number of manifest trains, including assumptions about the quantity of fracking sand, well pipe and equipment, and other goods that would be needed for new wells and the production of crude at the assumed/forecast level. Also provide assumptions about the number of carloads, averaged per day and per year, of such commodities that would be transported to the Uinta Basin on the proposed rail line.

Response:

As stated previously, no manifest trains are expected to be operated on the UBRY. Thus, no such assumptions have been made.