

**BEFORE THE STATE ASSESSMENT REVIEW BOARD
STATE OF ALASKA**

In the Matter of:)	
)	Appeal of Revenue Decision
THE TRANS-ALASKA PIPELINE SYSTEM)	No. 14-56-07
)	
Oil & Gas Property Tax (AS 43.56))	OAH No. 14-0555-TAX
<u>2014 Assessment Year</u>)	

CERTIFICATE OF DETERMINATION

I. Introduction

The State Assessment Review Board convened from May 12, 2014, through May 16, 2014, to hear and deliberate on the appeals of the 2014 assessment of the Trans-Alaska Pipeline System (TAPS).¹ The owners of TAPS and three affected municipalities appealed Revenue Decision 14-56-07, which assessed TAPS at \$5,747,845,810, as of January 1, 2014. The appeals were consolidated. The Owners argued that the value of TAPS in 2014 was no more than \$2.7 billion.² The Municipalities argued it was at least \$ 13.76 billion.³ The Board certifies that the value of TAPS on January 1, 2014 was \$10,213,226,100.

II. The property being assessed

A. Description of the property

TAPS is an 800-mile long, 48-inch diameter, crude-oil pipeline stretching from the oil fields of the North Slope to the port terminal in Valdez, Alaska. TAPS includes pump stations, buildings, materials, supplies, machinery, tanks, terminal facilities, and other related property. TAPS is the only conduit for the transportation of oil from America’s most productive petroleum region. Construction was completed in 1977. Upon completion, the predicted economic life of TAPS was approximately thirty years. Thirty-three years later, in 2010, the Alaska Superior Court held that the expected economic life of TAPS was still at least thirty-seven years in the future. The addition of new reserves, longer than expected field life, enhanced recovery techniques, and outstanding maintenance have all contributed to the long life of TAPS.

¹ Chair James I. Mosley, and members Mike Salazar and Bernard Washington heard the appeal. Administrative Law Judge Neil Slotnick from the Office of Administrative Hearings assisted the Chair. Under AS 44.64.020(6) and 44.64.030(b), the Office of Administrative Hearings provides administrative law judges to advise the Board at the request of the Commissioner of Revenue.

² TAPS Owners’ Appeal of Alaska Department of Revenue Decision No. 14-56-07 at 3.

³ Municipalities’ Appeal from Alaska Department of Revenue Decision No. 14-56-07 at 24.

TAPS is located in the Municipalities of the City of Valdez, the Fairbanks North Star Borough, the North Slope Borough, and in the Unorganized Borough of Alaska. TAPS also has taxable property in the Municipality of Anchorage, the Matanuska-Susitna Borough, the City of Cordova, and the City of Whittier.

B. Names and addresses of each owner of the TAPS

1. BP Pipelines (Alaska) Inc., PO Box 190848, Anchorage, AK 99519-0848
2. ConocoPhillips Transportation Alaska, Inc., PO Box 110360 Anchorage, AK 99510-0360
3. Exxon/Mobil Pipeline Company, PO Box 2220, Houston, TX 77252-2220
4. Unocal Pipeline Company, 4800 Fournace Place, Bellaire, TX 77401-2324⁴

C. Parties appealing

The parties to the appeal are the TAPS Owners and the following Municipalities: North Slope Borough, Fairbanks North Star Borough, and the City of Valdez.⁵

D. Consolidation and coordination of appeals

The Owners' and the Municipalities' appeals of Revenue Decision No. 14-56-07 were consolidated and the different Owners and the different Municipalities each coordinated the presentation of their cases.⁶

III. History of TAPS assessments

The valuation of TAPS has changed significantly over the years. In the years before 2001, the Division and the Owners negotiated an agreed valuation of the TAPS with little, if any, participation by the Municipalities or the Board. Beginning in 2001, however, both the Municipalities and the Owners participated in proceedings with the Division and the Board. Although the Division and the Board had earlier relied on other appraisal methodologies, by 2005,

⁴ According to the parties, Unocal Pipeline Co. is in the process of transferring its Ownership share to the three other Owners. Unocal is not a party to this appeal. TAPS Owners' Appeal at 3 n.4.

⁵ The Owners were represented by attorneys James M. Seedorf, F. Steven Mahoney, Jeff Davis, Michael R. Garatoni, and James Torgerson. Assistant Attorneys General Kenneth J. Diemer and Katherine Swanson represented the Alaska Department of Revenue, Tax Division. The Municipalities were represented by attorneys Robin O. Brena and Laura Gould for the Fairbanks North Star Borough; William M. Walker, Craig Richards, and Jon S. Wakeland for the City of Valdez; and Mauri Long and Jessica Dillon for the North Slope Borough.

⁶ See Pre-Hearing Order issued April 24, 2014.

both began to rely primarily on the appraisal methodology known as the cost method. To implement the cost method, the assessor has to calculate the “replacement cost new less depreciation” for the property being assessed. This calculation is frequently referred to by the acronym “RCNLD.”

2006 was a watershed year for TAPS valuation litigation. The Board’s 2006 decision was based on a cost study that estimated how much it would cost if TAPS were to be replaced. Both the Municipalities and the Owners appealed the Board’s decision to the Superior Court, and the resulting litigation lasted several years. In August 2009, the 2006 appeal finally went to trial, and the Superior Court conducted a five-week trial de novo. Both parties presented cost studies that were significantly more detailed than the cost study that had been previously presented to the Board.

Beginning in 2008, while the trial of the 2006 assessment was underway, these more detailed cost studies were presented to the Division and the Board. Relying on the new information, both the Division’s and the Board’s valuations began to increase. In May 2010, the Superior Court released its initial decision in the appeal of the Board’s 2006 valuation in time for the Board to incorporate many of the Court’s holdings in the Board’s certificate of determination. In February 2014, the Alaska Supreme Court affirmed the Superior Court’s decision regarding the 2006 valuation.⁷

Meanwhile, the parties had appealed the Board’s valuation decisions for 2007-09, and these tax years were consolidated for purposes of a trial. The trial in that consolidated appeal lasted 11 weeks.⁸ On December 30, 2011, the Superior Court issued its decision, finding that the value for 2007 was \$8.941 billion, 2008 was \$9.644 billion, and 2009 was \$9.249 billion.⁹

Since 2006, the assessment process has followed a fairly consistent trend. Each year, the Tax Division’s assessor releases the Notice of Assessment at the end of February. In making this preliminary assessment, the Division does not conduct its own cost study, but generally relies on

⁷ *BP Pipelines (Alaska), Inc. v. State, Dep’t of Rev.*, __P.3d __, Slip Opinion WL 685986 (Alaska Supreme Court, Feb. 19, 2014).

⁸ *Decision Following Trial De Novo*, (Alaska Superior Court No. 3AN-06-08446 CI (Dec. 30, 2011)) at 1 ¶ 3 (“2007-09 Decision.”)

⁹ *Id.* at 213 ¶ 599.

information provided by taxpayers and the Municipalities. If the parties object to the Notice of Assessment (which they always do), the Division provides the parties with an informal conference, and frequently makes small adjustments to the valuation. Historically, both parties would then appeal the resulting assessments to the Board.

Because the assessor, the Board, and the Courts have all adopted the cost approach for valuing TAPS, the hearings before the Board are generally a battle between two cost studies (although up until this year, the Owners also argued in the alternative that the Board should adopt the income approach to valuation). Also in play is the question of how the cost of the replacement TAPS should be depreciated to arrive at current value. In some years, the assessor has adapted one of the cost studies prepared by one of the parties. In 2013, the assessor blended two different cost studies, which the Board found was an improper appraisal methodology.

The Board's approach since it was first presented with a cost study has been to select the best evidence of replacement cost new. In some years, this means that the Board has had to work with a cost study that was flawed, but still represented the best evidence from which to make an estimate of replacement cost new. In evaluating a replacement cost study, the Board has preferred to treat the study as an integrated whole. The Board will make changes to an input included in the study if the Board finds clear error with the input, and the change can be made without affecting the perception of accuracy of the study. Because depreciation is a separate matter, the Board has historically carefully scrutinized the parties' proposed depreciation methodologies.

The assessments of TAPS since 2006 have been as follows:

Assessments of TAPS since 2006 (\$Billion)				
Year	Division	Board	Superior Court	Supreme Court
2006	\$3.641	\$4.31	\$9.977 (2010)	Affirmed (2014)
2007	4.578	4.589	8.941 (2011)	Pending
2008	7.166	6.154	9.644 (2011)	Pending
2009	7.715	9.046	9.249 (2011)	Pending
2010	9.203	9.639	Pending	
2011	7.933	8.672	Pending	
2012	8.25	Stayed	Pending	
2013	7.164	11.874	Pending	
2014	5.748	10.213		

IV. Court decisions

The Alaska Supreme Court’s 2014 decision affirmed the Superior Court’s 2006 decision, and put to rest many of the issues that have been contested in recent appeals. For example, the Court held that the Board is not required to use a fair market valuation standard, and it ruled in support of the Board’s use of only one methodology, RCNLD, to assess TAPS.¹⁰ In addition, the Supreme Court affirmed the Superior Court’s approval of the Board’s general approach to depreciation, including the definition and identification of “proven reserves” for purposes of calculating and applying depreciation.¹¹

Although many methodological issues have been resolved, some issues remain in flux, particularly where facts change from year to year or where the Court’s approval of a particular approach leaves room for the Board to exercise its expertise.¹²

¹⁰ *BP Pipelines*, Slip Opinion at 8-16.

¹¹ *Id.* at 18-35.

¹² In addition, the Superior Court’s approach for 2007-09 was in some cases different from the approach taken by the Superior Court, and affirmed by the Supreme Court, in the 2006 decision. That indicates that some issues are in

V. Proceedings

On April 23, 2014, the Board met with the parties for a prehearing conference to discuss hearing procedures and deadlines. On April 24, 2014, Chair Mosley issued a prehearing order in conformance with the discussion at the conference.

At the prehearing conference, the Board heard argument on two prehearing motions. The first, filed by the Municipalities of Valdez and Fairbanks, was to disqualify Board Member Washington from hearing the TAPS appeal. The Municipalities argued that Member Washington was unable to hear the TAPS case because he had served as an advocate in testifying before previous Boards in previous TAPS valuation hearings. The Board (with Member Washington not participating) denied the motion because the Municipalities had not shown that Member Washington was unable to fairly apply the laws that govern the valuation of TAPS.

The second motion was filed by the Division, asking the Board to issue a protective order so that the Board could review confidential reserves data. In the Division's view, this data would show that the Superior Court made a mistake in accepting some reserves that did not meet the definition of proven reserves. The Board rejected this motion, affirming its long-standing preference for conducting all of its proceedings in public. In the absence of strong support, the Board will not consider a motion for closing the proceedings. Here, the Division did not offer evidence in support of its motion—it merely argued that the Board had authority to close its proceedings. This was not sufficient justification for the Board to grant the motion.

VI. Is the assessment unequal, excessive, or improper?

As the Board explained in 2013, the Board will not apply its independent judgment to adjust the assessor's opinion unless the appellants meet their burden of showing the assessor's opinion is unequal, excessive, improper, or not in accordance with the standards set out in AS 43.56."¹³

At the outset, the Board affirms the assessor's decision to use the cost method to assess the value of TAPS. For the reasons expressed in previous Board opinions, and affirmed by the

flux or subject to the discretion and expertise of the decision maker.

¹³ 2013 Certificate of Determination at 15.

Superior Court and the Alaska Supreme Court, the Board finds the income and comparable sales methods inapplicable here.

A. The Assessment is not unequal

An assessment is unequal if the taxing authority treats one taxpayer differently than other similarly-situated taxpayers. No party to this appeal has asserted that the assessment is unequal. The Board finds that the assessment is not unequal.

B. The Assessment is not excessive

The Owners asserted that the assessment is excessive. The Owners relied on a replacement cost new study prepared by Stantec Consulting and presented two alternative approaches to depreciation to arrive at two possible RCNLDs. In addition, the Owners presented an integrated use-income study that valued the enterprise as a whole, and then determined the value of the two component parts of the enterprise—the production facilities and leases on the one hand, and TAPS on the other. By reconciling their different approaches, the Owners argued for an overall value of \$2.7 billion.¹⁴

The Stantec cost study determined that the direct costs for building a replacement 48-inch TAPS would be \$11.39 billion.¹⁵ In doing this study, Stantec employed well-qualified experts, many of whom testified at the hearing. The Owners' direct-costs estimate is clearly a high-quality work-product. The estimate, however, is new, and was not delivered to the Municipalities in time for a thorough vetting. Testimony at the hearing indicated that the Owners' estimate of direct costs is likely low.

In addition, the indirect costs included in the Owners' cost study do not appear to adequately estimate the costs associated with a project of this size, scope, and complexity. The Board considers it error to ignore or inaccurately estimate indirect costs, including Owners' oversight and management costs, contingency, and interest during construction. In addition, the Owners employed two different approaches to depreciation: first deducting for age-life, functional obsolescence, and external obsolescence, for a total value of \$3.2 billion; and second, using the

¹⁴ TAPS Owners' 2014 Pre-Hearing Brief at 29.

¹⁵ Owners Exhibit 2-1 at 31 (TAPS OWNERS 0002797).

units of production approach, for a total value of \$2.3 billion. Both of these results appear to substantially over-depreciate TAPS. The Owners then further reconciled their appraisal by their integrated use-income study. Although the use-income study might be a useful method of valuing assets for purposes of internal investment-opportunity decision-making, the Owners have not demonstrated that it is a valid appraisal methodology.¹⁶

In sum, the Owners have based their conclusion that the assessment was excessive on their overall appraisal of TAPS. Because the Owners' appraisal is not credible evidence of the value of TAPS, the Board concludes that the Owners have not met their burden of proof to show that the assessment was excessive.

C. The Assessment was improper and not in accordance with the standards of AS 43.56

The Board finds that the Municipalities have met their burden of proving that the assessment was improper and was not in accordance with the standards of AS 43.56. Here, the assessor had two current cost studies: both prepared by experts, and one of which is the most recent version of a cost study that had been thoroughly vetted by the parties and the Courts. The assessor did not use either study as a basis for valuation. Instead, the assessor trended forward a 2009 cost study.

In this situation, it was improper to compute current value by trending forward a 2009 value.¹⁷ More recent estimates of cost, based on actual quotes from vendors and research in the market, are preferable to trending forward old studies. Moreover, strong evidence showed that, in this case the parties' experts have used the intervening years to correct mistakes and improve the methodology used in the 2009 estimate.

In addition, in 2013 the Board declared that "it was a fundamental error" for the assessor to reject the Superior Court's affirmation of reserves without providing credible justification for that

¹⁶ The Board does not accept that the value of TAPS can be computed as a remainder after valuing other assets—whichever asset is the remainder is likely to be undervalued. Here, where the Board is presented with the accepted appraisal technique of calculating the RCNLD of the asset that is being valued, the Board will not rely on the alternative methodology proposed by the Owners.

¹⁷ The Board agrees that trending can be a valid appraisal technique, and can at times be the only methodology available. Reliance on a quality current cost study, however, will generally be a much better methodology than trending forward an old cost study that is known to contain errors.

rejection. In 2014, the Division's assessor again argued that the Court erred in its analysis of confidential reserves data. The Division requested that the Board close the proceedings, and examine the confidential data on which the Superior Court relied. Yet, because the Division did not present any expert testimony or other evidence of error on the subject of reserves, the Board saw no need to close the proceedings and re-examine the confidential data that was thoroughly reviewed by the Superior Court in its 11-week trial. Therefore, the Board again finds that it was improper appraisal methodology and not in accordance with the requirements of AS 43.56 for the assessor to rely on an estimate of proven reserves that was far less than the estimates previously approved by the Board and the Superior Court.

VII. The 2014 assessed value of TAPS

A. The modified direct costs in the 2014 Pro Plus study will be the basis of the 2014 RCN

Because the Board has rejected the Division's assessment, the first step for the Board is to identify a cost study that will be the basis of the 2014 RCNLD of TAPS. The Board has been presented with two quality cost studies that estimate the cost of building a 48-inch replacement TAPS at the time of the lien date. The two studies are relatively close in their estimate of direct costs: The Stantec study (sponsored by the Owners) estimated direct costs at \$11,390,000,000. The Pro Plus study (sponsored by the Municipalities) originally estimated direct costs at \$12,208,079,700. At hearing, however, the Municipalities acknowledged errors in the study that overstated costs by \$306 million. Therefore, the Municipalities' corrected estimate of direct costs was \$11,902,079,700.

The Board will start its analysis with the corrected Pro Plus study, which the Board will then further modify. The Pro Plus study is the most recent iteration of a study that has been thoroughly reviewed over the last several years by the Courts, the Owners, the Division, and the Board.

At the hearing, however, the Owners presented the testimony of engineer Gary Bock, who gave persuasive testimony that several of Pro Plus's estimated costs were high. The Municipalities' witness, Dan Hisey, acknowledged that three of the Owners' criticisms had some validity, and identified three issues that resulted in unnecessary costs of "about \$306 million." The Municipalities suggested that the Board reduce the Municipalities' estimate of direct costs by \$306

million. After consideration of the issue, the Board will reduce the Municipalities' direct costs by \$345.8 million.¹⁸

Reducing Pro Plus's estimated direct costs by \$345.8 million results in an estimate of direct costs of \$11,863,079,700. That amount will be the Board's starting point for estimating the total replacement cost new.

B. The modified indirect costs identified in the Pro Plus cost study will be added to the direct costs to estimate total replacement cost new

A project like TAPS will include many indirect costs, such as financing during construction, taxes, and contingency. The Board and the Courts have included indirect costs in the past in computing the replacement cost new. Although the Board generally accepts Pro Plus's estimate of indirect costs, several issues require further discussion, as explained below.

1. The Municipalities did not justify an increase in the construction management costs

The Pro Plus cost study included an indirect cost of project/construction management, engineering, and inspection. This cost item is determined as a percent of direct costs before several other indirect costs, such as owner costs, financing, and contingency, are calculated. Therefore, a small increase in the percentage applied to project/construction management cost will result in a considerably larger increase in the overall RCN.

In 2013, the Pro Plus cost study included a 7.5 percent allowance for project/construction management/engineering costs. The Board accepted this as a reasonable estimate.

¹⁸ The three mistakes that the Municipalities acknowledged were as follows:

1. River and road crossings. The Owners alleged \$475 million in error; the Municipalities acknowledged \$261 million.
2. Fuel gas line errors. The Owners alleged \$30 million in error; the Municipalities acknowledged \$2.8 million.
3. Double joint and pipe haul errors. The Owners found \$55 million in error; the Municipalities acknowledged \$42 million.

The Board will correct for the \$261 million acknowledged by the Municipalities and the \$30 million and \$55 million alleged by the Owners. Even if the \$30 million and \$55 million overstate the particular errors for which they are alleged, the Board believes that many of the Owners' other allegations of error appear to have some merit. The Board is confident that reducing the direct costs by \$345.8 million does not over-correct the Pro Plus estimate. The Board also recognizes, however, that any cost study estimate will not be perfect, and will likely have inaccuracies going in both directions—some estimates will be high, some low. This is true for both parties' estimates of direct and indirect costs.

In 2014, Pro Plus increased the percentage for project management to 9.44 percent, based on 7.5 percent for pipeline project management and 15 percent for facilities project management. Pro Plus's report explains that the higher percent would typically be applied to pump stations and facilities like the Valdez Marine Terminal.¹⁹

The Board finds that the Municipalities have not adequately proved or supported the increase in project management from 7.5 percent to 9.44 percent. Although the Board agrees that project management and engineering costs should be included, the Municipalities have not shown that these costs will be substantially higher for facilities. Accordingly, the Board will apply the project management costs at a fixed 7.5 percent for the entire project.

2. The cost of financing during construction should be based on cost of debt

In 2013, both the assessor and the Municipalities asked the Board to measure the cost of financing by the combined cost of debt and equity. The Board recognized that the cost of financing construction of TAPS would include an imputed cost for equity that an owner would contribute to the project. The Board did not agree, however, to use a weighted average cost of capital to estimate the costs of financing a replacement TAPS. The Board noted that the cost of equity and proportion of equity that would be required in a replacement TAPS is unknown. The Board elected to use 100 percent debt financing as a reasonable method for estimating the cost of financing during construction of a replacement TAPS. For 2013, the Board determined that 4.63 percent would be the Owners' cost of debt.

In 2014, the assessor, like the Board, adopted a 100 percent debt financing methodology, and determined that the cost of debt should be imputed at 6 percent. The Municipalities recognized that the Board has rejected use of a weighted average cost of capital, and suggested that the Board calculate the cost of financing by using the Owners' own requested tariff return of 7.61 percent. In the Municipalities' view, this represented a simple way to determine a combined cost of debt and equity. The Owners maintained that 100 percent debt financing at a rate of 5.37 percent would be appropriate.

The 100 percent debt financing methodology has been accepted by the Courts, provides a

¹⁹ MUN14-000136.

straightforward methodology for estimating the cost of financing, and has not been shown to be an improper methodology for appraisal. In addition, assuming 100 percent debt financing avoids having to speculate on unknowns. Therefore, consistent with its decision in 2013, the Board will use the 100 percent debt financing methodology in 2014. Both the Owners' and the Municipalities' experts determined that 5.37 percent would be an appropriate cost of debt for the Owners on the lien date. The Board adopts 5.37 percent as an appropriate cost of financing during construction.

3. The 33 percent contingency in Pro Plus's study is reasonable

Estimating contingency has been a contentious issue in these proceedings in the past, and the Board acknowledges that its decisions have not been consistent on this issue. In the 2013 decision, the Board discussed contingency at some length. The Board found that the Superior Court's use of 25 percent contingency for the Pro Plus studies for 2007 through 2009 was "merely the lowest percentage in an acceptable range that could have reasonably been applied to those costs."²⁰ The Board acknowledged the validity of the *Monte Carlo* approach to finding a "P-50" number, which indicates the 50 percent level of confidence at which it is equally likely the project will cost more or less than the estimated cost. The Board reviewed evidence of historical cost over-runs on projects, and found that the 35 percent contingency factor in the 2013 Pro Plus cost study was within the range that would be expected for a TAPS RCN estimate.

For the 2014 Pro Plus cost study, Dr. Cronshaw calculated that the P-50 number was 33 percent. The Board considers this to be a reasonable estimate.

The Board recognizes that a contingency estimate is specific to a cost study, and that when a cost study is significantly changed, a new contingency must be calculated. Here, the Board has modified Pro Plus's cost study by reducing Pro Plus's percent allocated to project management, which might slightly increase the estimate of risk for that element in Dr. Cronshaw's *Monte Carlo* study. Yet, as Mr. Hisey testified, the Pro Plus team has researched and refined its estimate since 2013, including correcting the error in the estimate of cost to procure the vertical support members, and he identified a long list of improvements to this year's estimate. This testimony

²⁰ See 2007-09 Decision at 110-21, ¶¶ 336-361.

gives the Board assurance that a two percent reduction in contingency from 2013's 35 percent to this year's 33 percent is appropriate.

Summing up all of the associated costs results in a total RCN to be depreciated of \$21,406,464,576. Next, depreciation must be applied to that amount to determine the RCNLD.

C. Depreciation

1. Modified age-life depreciation is an appropriate methodology for depreciating TAPS

To determine today's value of TAPS requires that the cost of replacing the asset be depreciated to reflect the full and true value of the actual asset. Alaska Statute 43.56.060(e)(2) instructs the Division and the Board to assess TAPS at its "full and true value" with "due regard to the economic value of the property based on the estimated life of the proven reserves of gas or unrefined oil then technically, economically, and legally deliverable into the transportation facility."²¹ The Department of Revenue's regulations provide that "the full and true value of pipeline property in operation is its economic value based upon the estimated life of proven reserves of the gas or oil then technically, economically and legally deliverable."²²

Since 2006, TAPS has been depreciated by a straight-line modified age-life depreciation methodology. This methodology gives due regard to the economic value of TAPS based on proven reserves, which means that it is consistent with the governing regulation and statute. This methodology has been affirmed by this Board and the Courts.²³ Under this methodology, the replacement cost new is multiplied by the effective age of TAPS divided by its expected total age at the end of life.

The effective age of TAPS is younger than its actual age because some of the investment in TAPS has resulted in a modernized asset. The Superior Court, in 2007-09, determined that TAPS was effectively one year younger than its real age.²⁴ Using that number, the effective age of TAPS on January 1, 2014 is 35.5 years.

²¹ AS 43.56.060(e)(2).

²² 15 AAC 56.110(c).

²³ *E.g.*, 2007-09 Decision at 131 ¶ 391; *BP Pipelines*, Slip Op. at 19.

²⁴ 2007-09 Decision at 177.

An important factor in this appeal is that the use of modified age-life depreciation is intended to account for all three forms of depreciation—physical, functional, and external. In the Board’s view, physical depreciation of TAPS is almost nonexistent. Given the depletion of reserves, and the excess operating costs of some of the remaining legacy equipment over what could be achieved with a replacement TAPS, however, applying modified age-life depreciation is appropriate to account for functional and external obsolescence.

The issues raised in this hearing regarding depreciation are as follows:

- What is the best estimate of remaining proven reserves with which to calculate TAPS’ remaining life?
- Should a deduction in addition to age-life depreciation be made for costs due to the functional obsolescence of TAPS, and, if so, what evidence supports making that deduction?
- Should a scaling deduction in addition to age-life depreciation be made for superadequacy, and, if so, what is the appropriate denominator and numerator to use for scaling?

These three issues are briefly discussed below. In general, the Board will follow its 2013 decision, with the exception that in 2014 the Board will separately calculate the scaling adjustment for the Valdez Marine Terminal using a different denominator.

2. The estimate of the proven reserves should be based on the proven reserves in Mr. Platt’s study

The remaining life of TAPS depends on when the technically, economically, and legally deliverable hydrocarbons will no longer utilize TAPS. To calculate the remaining life of TAPS, the assessor must estimate the amount of proven reserves and the expected throughput of oil.

In 2013, the Board rejected the Owners’ and the Divisions’ estimates of proven reserves because they were “significantly lower than the estimate accepted by the Superior Court, with no explanation for why over 2.5 billion barrels are no longer proven reserves.”²⁵ The Board accepted

²⁵ 2013 Certificate at 26.

the Municipalities' estimate of 2013 proven reserves because the Municipalities' expert, Mr. Platt, estimated remaining reserves at a number that did not leave substantial producible and proven reserves unaccounted for. In addition, Mr. Platt employed a pool-based methodology, which the Board viewed as preferable to other forecasting methodologies for long-term forecasting. For these same reasons, the Board in 2014 accepts Mr. Platt's estimate of 5.8 billion barrels of proven reserves on the North Slope.²⁶

Once the recoverable reserves have been determined, two questions remain to determine end-of-life. First, at what flow rate will TAPS be shut down? Second, when will production reach that flow rate? In 2013, the question of the flow rate at which TAPS will cease operation was hotly contested. In contrast, in 2014, although neither the Owners nor the Municipalities would endorse 100,000 barrels per day as the correct final flow rate, neither argued strongly against the use of that rate for purposes of the 2014 valuation. Given that 100,000 barrels per day was endorsed by the Superior Court in 2007-09 as a proper figure to use for end-of-life calculations, and accepted by the Board in 2013, the Board will continue to use this number in 2014.

With regard to the rate of production of the oil reserves, the Board in 2013, and the Superior Court in 2007-09, thoroughly discussed why Mr. Platt's pool-based forecasting methodology is preferable to the Division's well-by-well methodology or the Owners' cut-cum methodology. Accordingly, for 2014, the Board accepts Mr. Platt's estimate of when production will reach the lower limit of 100,000 barrels per day, which is 2061.

Given that under the most current forecast as of January 1, 2014, TAPS will cease being a feasible method of transporting North Slope crude oil in 2061, and that TAPS' effective age was 35.5 years old on the lien date, TAPS had 48 years remaining, for a total life of 83.5 years. Percent depreciated, under the modified age-life method, is 35.5 divided by 83.5, or 42.5 percent. This means that the TAPS is 57.5 percent good.

This total accounts for significant external/economic obsolescence due to declining throughput. It also accounts for a significant depreciation due to physical age, even though the current deterioration and physical depreciation is far less than its age. By definition, the age-life

²⁶ MUN14-005196.

depreciation methodology also accounts for functional obsolescence due to technological changes.

3. Is there a need to deduct additional depreciation for physical deterioration?

With regard to physical depreciation, the Board is confident that all forms of physical depreciation are included in the 42.5 percent deduction from the RCN for age-life depreciation. TAPS is very well maintained, and the expectation is that it will be well maintained into the future. As of January 1, 2014, the Board recognizes that Alyeska has expended funds to not just maintain TAPS, but to also improve it as need arises. An example of as-need-arises improvements is the engine and power change-outs that were done to meet emission standards. These types of expenses are described and addressed in the following paragraphs.

4. Is there a need to deduct additional depreciation for functional obsolescence?

Functional obsolescence applies to an element internal to the property that leads to excess operating costs, does not provide an economic return, or is obsolete because of new technology. To the extent that TAPS has functional obsolescence that is incurable, or for which the cure may occur in the future, that obsolescence is captured by the deduction for age-life depreciation, and no further deduction is necessary.

In 2013, the Board advised that “[a]n additional deduction may be allowed for the cost to remediate functional obsolescence that is curable and for which the cure is fully identified, the cost to cure is known, and the cure is scheduled to take place or already underway.”²⁷ A similar description of the allowance for functional obsolescence was affirmed by the Superior Court.²⁸ In 2014, the Division identified \$81.1 million, which the Division stated TAPS “currently is expending” to cure functionally obsolete issues.²⁹ This amount will be allowed as an additional functional obsolescence deduction in 2014.

²⁷ 2013 Certificate at 29.

²⁸ 2007-09 Decision at 180.

²⁹ ICD at 21. The Municipalities are correct that the support for the assertion that these funds are being expended is not strong, but given the Division’s clear assertion that the money is currently being expended for these projects, the Board will allow a deduction for them. Based on the Owners’ witnesses’ assertion that the electrification project resulted in cost savings and was required to comply with environmental requirements, the Board rejects the Municipalities’ argument that the electrification project was imprudent. Finally, the Board cannot make an additional deduction for the costs of low-flow projects that the Owners asserted were currently being expended because the Board is unable to identify a dollar amount and supporting evidence of the capital improvements.

5. Is there a need to deduct additional depreciation for external (economic) obsolescence?

In 2013, the Board deducted additional depreciation for external obsolescence by applying a scaling factor to the replacement cost new of TAPS. The Board rejected the scaling factor denominator used by the Superior Court (design capacity) and instead used the mechanical capacity of the replacement TAPS, not augmented by the use of drag-reducing agents—760,000 barrels per day. The Board did not differentiate between the pipeline, the pump stations, and the Valdez Marine Terminal.

The Supreme Court affirmed that use of scaling was not improper.³⁰ The Board will scale the replacement TAPS to account for the superadequacy that could be possible with a 48-inch Pipeline.³¹ The Board recognizes that scaling TAPS is prudent because, in a perfect world a 48-inch line might not be the ultimate choice over the next 48 years as throughput of production declines.³²

In determining the denominator of the scaling factor, the Board will use the mechanical capacity of the replacement TAPS, not augmented by the use of drag-reducing agents. This is because, to the extent that there is any super-adequacy, it is in the actual capacity of TAPS itself, not in any extra capacity that could be created by external efforts that involve increased operating expenses. The Board finds that the maximum nominal mechanical capacity of the replacement TAPS is 760,000 barrels per day.³³ This is the mechanical capacity that the Board used for its 2013 calculations.

As in 2013, the Board will continue to scale the pipeline and the pump stations as a unit, based on the nominal mechanical capacity of 760,000 barrels per day. The nominal capacity is the

³⁰ *BP Pipelines*, Slip Op. at 35.

³¹ In 2013, the Board asked whether it was double counting to both deduct age-life depreciation and to scale for superadequacy. The Supreme Court affirmed the Superior Court's finding that, in 2006, taking both deductions was not double counting. The Board understands that even though age-life depreciation includes external obsolescence, the two deductions might not be double counting, particularly when flow rates have substantially declined but a long life with low flow is still predicted. The scaling depreciation is used to alter the straight line by an amount that adjusts value downward due to the lack of sufficient product to keep TAPS operating at nominal capacity. At the end of life, the age-life methodology depreciates 100 percent of the asset without scaling. At some point, age-life may account for all of the superadequacy.

³²

³³ MUN14-005299.

normal operating limit that would be considered a maximum without special circumstances and additional expenses. Operating at the nominal rate also means that the pipeline would be operating at 100 percent of its capacity. At 100 percent of capacity there would be no scaling. Therefore, there is no design criteria justification or need to scale the replacement pipeline or the pump stations for a higher capacity than the nominal design basis of the RCN and the current throughput capacity of TAPS, which is 760,000 barrels per day.

The Valdez Marine Terminal (VMT), however, is different. The delivery capability of the VMT is largely a function of operational logistics. Although the Board understands that the Pro Plus RCN has a “nominal capacity” at the VMT of 1.1 million barrels per day, the Board is not convinced that the hypothetical redesign is not capable of delivering the same 1.42 million barrels that the existing VMT can deliver.³⁴ Therefore, consistent with the Superior Court, the Board will scale the VMT using 1.42 million as the denominator.

In calculating the numerator of the scaling factor for 2014, the Board will rely on the 2014 average throughput prediction submitted by the Owners’ expert Shaun Hoolahan: 532,000 barrels per day.³⁵ The Division’s expert, Frank Molli, did not testify, and it is not clear whether the Division is still relying on the forecast number for calendar year 2014 that it included in its ICD.³⁶ Although Mr. Hoolahan’s forecast is higher than the forecast used by the assessor in the ICD, it is consistent with current known production rates for 2014 (which are currently higher than the Hoolahan average throughput, but will decline in summer due to warm temperatures and maintenance activities) and reflects an appropriately sized decline from 2013 production.

Using the formula for scaling (approved by the Board and the Courts), the total scaling deduction for external obsolescence is \$2,255,282,754.

³⁴ The Municipalities used 1.1 for the nominal capacity of the VMT. Their cost study indicated that a maximum load rate of 100,000 barrels per hour was incorporated in the design RCN for each berth. The Board believes the 1.42 million per day is well within the RCN capability and may understate the capacity. The RCN nominal design basis indicates that the VMT load out rate will be 140,000 barrels per hour using both berths. The 140,000 per hour translates to 3.36 million barrels per day, which is more than double the 1.42 the Board decided to use as the denominator. *See* MUN14-000130.

³⁵ TAPS Owners Ex. 11-2 at 88 (600866).

³⁶ *See, e.g.,* Alaska Dep’t of Rev. Spring 2014 *Revenue Sources Book* at 12 Table C-1 (showing an increase in production forecast from the Fall forecast).

VIII. Final assessment

The final assessment for 2013, and the methodology for the computation, is described in the following table:

Cost/Deduction	Amount/Percentage	Source/Comment
RCN DIRECT COSTS	\$11,862,276,575	Muni Number less 345,806,125 for fuel gas lines, double joint, and river & road crossing errors
PROJ MGT COSTS	\$889,670,743	USED 7.5%
OWNER COSTS	\$1,186,227,658	Used 10% as per Muni
TOTAL RCN	\$13,938,174,976	SUM
LAND & ROW	\$181,120,000	DOR is lower due to possessory interest one year less
TOTAL W / ROW	\$14,119,294,976	SUM
CONTINGENCY	33%	Muni
WITH CONTINGENCY	\$18,778,662,318	FORMULA
AD VALOREM	\$922,028,900	CALCULATED SEE INTEREST TAB
INTEREST	\$1,946,662,958	CALCULATED SEE INTEREST TAB
SUB-TOTAL	\$21,647,354,176	SUM
MINUS ADJ ROW	\$240,889,600	CALCULATED
RCN FOR DEPR	\$21,406,464,576	CALCULATED
AGE-LIFE DEPR	42.5%	CALCULATED SEE AGE LIFE TAB
\$ DEPR	(\$9,097,747,445)	CALCULATED based on 35.5 year effective life due to superior maintenance.
% GOOD	57.5%	CALCULATED SEE AGE LIFE TAB
DEPR RCN	\$12,308,717,131	SUM
SCALING ADJ FOR PL	14.83%	CALCULATED
SCALING FOR VMT	35.72%	Calculated adjustment for VMT SCALING
PIPELINE	\$10,249,222,581	83.268 percent is pipelines etal
VMT	\$2,059,248,376	16.73 percent of TAPS is VMT
SCALING ADJ \$	(\$2,255,282,754)	CALCULATED PL times scaling for pl and VMT portion scaled for VMT
SUB-TOTAL	\$10,053,434,377	SUM
ADDITIONAL F.O.	(\$81,097,861)	DOR ICD ACCOUNTING FOR SR ETAL
SUB-TOTAL	\$9,972,336,516	SUM
ADD BACK ROW	\$240,889,600	ROW VALUE
TOTAL VALUE	\$10,213,226,100	CALCULATED

IX. Board comments

The parties, the Superior Court, and the Board have at various times indicated that the system appears broken, citing year after year of litigation before the Division, the Board, the

Superior Court, and then the Supreme Court. Based on this year's hearing, however, the system appears to be righting itself.

The Board is encouraged that this year both the Municipalities and the Owners prepared quality cost studies that resulted in converging estimates of direct costs. The Board would like to express its appreciation to the parties for the effort and expense they have undertaken to provide this level of information. It is hoped that both parties will find a way to work together in the future toward agreement on the direct costs for replacing TAPS. It is also the hope of this Board that the methodology being used to calculate the taxable value is sufficiently explained so that future assessments will be done using this methodology. The Owners are commended for their ongoing efforts to ensure the TAPS continues to be operated and well maintained during the next fifty years.

X. Conclusion

Pursuant to AS 43.56.130(g), I, on behalf of, and as Chair of, the State Assessment Review Board, certify to the Department of Revenue, State of Alaska, that the Board has determined that the value of TAPS on January 1, 2014 was \$10,213,226,100.

Judicial review of this decision may be obtained by filing an appeal in the Alaska Superior Court in accordance with Alaska Rule of Appellate Procedure 602(a)(2) within 30 days after the date of this decision.

DATED this 23rd day of May, 2014.

Signed

James I. Mosley, Chair
State Assessment Review Board

[This document has been modified to conform to the technical standards for publication.]