



**State of Alaska
Department of Revenue
Tax Division**

Oil & Gas Production Tax (AS 43.55)

**Computation of a Cost of Capital Allowance Under 15 AAC 55.196
Incorporating Depreciation and a Return on Invested Capital for
Marine Vessels and Improvements**

Edition 4.0
November 19, 2019



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Section 1: Overview

1.1 Purpose of Publication

The purpose of this publication is to provide the method for calculating a Cost of Capital Allowance for vessels transporting oil, or for LNG transportation facilities, that are owned or effectively owned by a taxpayer for the purpose of 15 AAC 55.196. The Cost of Capital Allowance incorporates both the depreciation cost and the return on capital for such vessels and facilities allowed as a cost of transportation under 15 AAC 55.193(b)(3)(B)-(C) and 15 AAC 55.193(b)(4)(B)(iii)-(iv).

1.2 Introduction

This publication, which includes the “2019 Cost of Capital (ROI) Model” Microsoft Excel Workbook (.xlsx) file (the “ROI Model”), allows a taxpayer to calculate the Cost of Capital Allowance for an oil transportation vessel or for an LNG transportation facility. The methodology employed in this publication provides for separately computing a cost of capital allowance for each individual vessel or facility, including improvements.

Calculation of a cost of capital allowance is performed using an input schedule and a series of calculation tables. The input schedule consists of information supplied by the taxpayer, entered into the yellow input fields. The calculation tables utilize the information in the input schedule to derive the allowance. The calculated allowance is provided in a results display on both the “Input 1 – Vessel” and “Cost of Capital Calculations” tabs.

The input schedule and calculation tables are detailed in the instructions.

1.3 Changes from Prior Editions

This Edition 4.0 provides a significantly different and updated calculation format for cost of capital allowances from prior versions of this publication. The most recent prior version of this publication was the Third Edition published on November 9, 2018. In contrast to prior versions of this publication, however, Edition 4.0 restructures the cost of capital calculation by eliminating calculations over multiple time periods in calculating the cost of capital allowance. As a result, the scope of input data is reduced and the calculations are simplified. Additionally, the weighted average cost of capital rate that was previously obtained from third-party sources has been replaced with a U.S. Treasury yield rate coupled with a set risk premium.



1.4 Organization of the ROI Model

The ROI Model is organized into five worksheets. The first three worksheets are input sheets, which require a taxpayer to input data into certain fields within the worksheet. Data entry fields are denoted by light yellow fields. The remaining two worksheets contain the calculation functions for the ROI Model, and should not be changed by a taxpayer.



The five worksheets that make up the ROI Model, as displayed in Microsoft Excel



Section 2: Input 1 – Vessel

The Worksheet “Input 1 – Vessel” contains 19 data entry fields that the taxpayer must fill in, divided into four different sections.

2.1 General Information

The General Information section of “Input 1 – Vessel” requires the taxpayer to enter basic information regarding the tax period in which the taxpayer is claiming a cost of capital allowance.

General	General Information	
	Field No. 1	Taxpayer.
	Field No. 2	Tax Year.
		ABC Co.
		2020

General Information Input Schedule (with example)

Input Field No. 1: “Taxpayer”

The taxpayer should enter its name into the “Taxpayer” field. This entry is not used in the calculations tab, but is used to identify the spreadsheet as part of the taxpayer’s tax data.

Input Field No. 2: “Tax Year”

The taxpayer should enter the Tax Year for which the cost of capital allowance is being calculated.



2.2 Financial Information

The Financial Information section of “Input 1 – Vessel” requires the taxpayer to enter certain information relating to financial and tax rates in effect during the Tax Year. These inputs are used in the calculation of the cost of capital for both the vessel/facility and improvement components of the allowance.

Fin. Info	Financial Information		
	Field No. 3	U.S. Federal Corporate Tax Rate:	21.0%
	Field No. 4	State of Alaska Corporate Tax Rate:	9.4%
	Field No. 5	Base Capital Rate:	3.00%

Financial Information Input Schedule (with example)

Input Field No. 3: “U.S. Federal Corporate Tax Rate”

The U.S. Federal Corporate Tax Rate is the highest U.S. Federal corporate income tax rate in effect as of January 1 of the Tax Year.

Input Field No. 4: “State of Alaska Corporate Tax Rate”

The State of Alaska Corporate Tax Rate is the highest State of Alaska corporate income tax rate in effect as of January 1 of the Tax Year.

Input Field No. 5: “Base Capital Rate”

The taxpayer should enter the applicable Base Capital Rate for the Tax Year in Input Field No. 5. The Base Capital Rate is used to determine the Cost of Capital Rate, which is calculated for each Tax Year based on a U.S Treasury yield rate, to which a risk premium is added.

The Base Capital Rate is the “Daily Treasury Yield Curve Rate” for the 20 Year Maturity Series, as reported by the U.S. Department of the Treasury (“Treasury”) for the first reported day of the Tax Year. Treasury does not report rates for weekends or holidays, and so the first day that Treasury reports yield rates may not be January 1.

If Treasury does not publish a Daily Treasury Yield Curve Rate for the 20 Year Maturity Series treasuries during a year, then the Base Capital Rate is the Daily Treasury Yield Curve Rate for the 30 Year Maturity Series treasuries on the first reported day of the Tax Year minus 0.1%. If Treasury does not publish a Daily Treasury Yield Curve Rate for the 20 Year or 30 Year Maturity Series treasuries during a year, then the Base Capital Rate is the Daily Treasury Yield Curve Rate for the 10 Year Maturity Series treasuries on the first reported day of the Tax Year plus 0.5%. If Treasury does not publish a Daily Treasury Yield Curve Rate for the 10 Year, 20 Year, or 30 Year Maturity Series treasuries during a year, then the Base Capital Rate is the Base Capital Rate for the preceding Tax Year.

The risk premium that is added to the Base Capital Rate is 3.0% for an oil transportation vessel (for purposes of 15 AAC 55.193(b)(3)), or 3.2% for an LNG transportation facility (for purposes of 15 AAC 55.193(b)(4)(B)). The risk premium is added automatically in the Cost of Capital Calculations tab, and should not be added to the Base Capital Rate when entered in Input Field No. 5.



2.3 Vessel/Facility Information

The Vessel/Facility Information section of “Input 1 – Vessel” requires the taxpayer to enter information relating to the oil transportation vessel or LNG transportation facility for which a cost of capital allowance is being calculated. These inputs provide base data for the calculation of the vessel or facility allowance.

Vessel/Facility Information		
Vessel/Facility	Field No. 6	Vessel/Facility Name: M/T Tanker
	Field No. 7	Vessel/Facility Type? Oil Transportation Vessel
	Field No. 8	Service Start Date: 8/1/2004
	Field No. 9	Acquisition Cost: \$100,000,000
	Field No. 10	Total Service Life (in years): 24
	Field No. 11	Days in Allowable Service During Tax Year: 366
	Field No. 12	Number of Days in Tax Year: 366

Vessel/Facility Information Input Schedule (with example)

Input Field No. 6: “Vessel/Facility Name”

The taxpayer should enter the name of the vessel or facility for which an allowance is being calculated. This entry is not used in the calculations tab, but is used to identify the spreadsheet as part of the taxpayer’s tax data.

Input Field No. 7: “Vessel/Facility Type?”

The “Vessel/Facility Type?” entry requires the taxpayer to input whether the vessel for which the taxpayer is calculating a Cost of Capital Allowance is an Oil Transportation Vessel or an LNG Transportation Facility. The entry for Input Field No. 7 is a selection box with the entries “Oil Transportation Vessel” and “LNG Transportation Facility.” The taxpayer must select either “Oil Transportation Vessel” or “LNG Transportation Facility” in this field.

The taxpayer should select “Oil Transportation Vessel” if the taxpayer is calculating a Cost of Capital Allowance for the transportation of crude oil by a vessel owned or effectively owned by the taxpayer under 15 AAC 55.193(b)(3). The taxpayer should select “LNG Transportation Facility” if the taxpayer is calculating a Cost of Capital Allowance for the transportation of LNG by a facility owned or effectively owned by the taxpayer under 15 AAC 55.193(b)(4)(B).

Input Field No. 8: “Service Start Date”

The Service Start Date is the date on which the vessel or facility first entered into allowable service for the taxpayer. For an oil transportation vessel or an LNG transportation facility that is an LNG tanker, allowable service for determining the Service Start Year is determined pursuant to 15 AAC 55.196(e)(1). For an LNG transportation facility that is not an LNG tanker, allowable service begins the date that the LNG transportation facility is first used in the transportation of gas for LNG shipment.



Input Field No. 9: "Acquisition Cost"

The Acquisition Cost is the amount originally invested in an arm's length transaction in the vessel or facility at the time that the vessel or facility entered into allowable service, as capitalized by the vessel or facility's actual or effective owner in accordance with generally accepted accounting principles, net of any tax credits received by the taxpayer attributable to the construction, acquisition, or entry into service of the vessel or facility. Tax benefits realized by the taxpayer through the use of a Capital Construction Fund under 46 U.S.C. § 53501 *et seq.* are not tax credits, and are not deducted from the Acquisition Cost of a vessel.

Input Field No. 10: "Total Service Life (in years)"

The Total Service Life is the life of the vessel or facility in years. The Total Service Life is not suspended during any periods of lay-up, dry dock, while the vessel or facility is not in allowable service, or for any other reason.

Once determined when the vessel or facility is first placed in service by a taxpayer, the Total Service Life does not change until the vessel or facility is disposed of by the taxpayer. In the event that a vessel or facility is disposed of by a taxpayer and is subsequently reacquired by the same taxpayer: (1.) if the time between the taxpayer's disposal and reacquisition of the vessel or facility is 24 calendar months or less, or if the vessel or facility was disposed of in other than an arm's length transaction, the Total Service Life remains the same as when the vessel or facility was first placed in service by the taxpayer prior to disposal, or (2.) if the time between the taxpayer's disposal and reacquisition of the vessel or facility is more than 24 calendar months, and if the taxpayer initially disposed of the vessel or facility in an arm's length transaction, the Total Service Life at the time of reacquisition is determined pursuant to the rules set forth below for vessels or facilities in prior use at the time of reacquisition.

The Total Service Life is determined as follows:

New Vessels: For oil transportation vessels or LNG transportation facilities that are LNG tankers under 15 AAC 55.900(a)(4)(E), which enter into allowable service for the taxpayer for the first time within eight years of the beginning of their useful life as determined in accordance with generally accepted accounting principles, the Total Service Life is 24 years beginning on the Service Start Date.

Vessels in Prior Use: For oil transportation vessels or LNG transportation facilities that are LNG tankers under 15 AAC 55.900(a)(4)(E), which enter into allowable service for the taxpayer for the first time more than eight years following beginning of their useful life as determined in accordance with generally accepted accounting principles, the Total Service Life is the greater of (1.) the years of remaining life based on a 24-year useful life or (2.) the years of remaining life based on the estimated useful life of the vessel as determined in accordance with generally accepted accounting principles as of the date the taxpayer acquired the vessel or placed the vessel into allowable service for the first time, beginning on the Service Start Date.

New LNG Transportation Facilities Other than Tankers: For LNG transportation facilities, other than LNG tankers under 15 AAC 55.900(a)(4)(E), which enter into allowable service for the



taxpayer for the first time within ten years of the beginning of their useful life as determined in accordance with generally accepted accounting principles, the Total Service Life is 30 years beginning on the Service Start Date.

LNG Transportation Facilities in Prior Use: For LNG transportation facilities, other than LNG tankers under 15 AAC 55.900(a)(4)(E), which enter into allowable service for the taxpayer for the first time more than ten years following beginning of their useful life as determined in accordance with generally accepted accounting principles, the Total Service Life is the greater of (1.) the years of remaining life based on a 30-year useful life or (2.) the years of remaining life based on the estimated useful life of the facility as determined in accordance with generally accepted accounting principles as of the date the taxpayer acquired the facility or placed the facility into allowable service for the first time, beginning on the Service Start Date.

Input Field No. 11: "Days in Allowable Service During Tax Year"

Days in Allowable Service During Tax Year is the total number of days during the Tax Year that the vessel or facility was in allowable service as determined under 15 AAC 55.196(e)(1), in allowable lay up under 15 AAC 55.196(e)(3), or in allowable dry dock under 15 AAC 55.196(e)(4).

If a taxpayer leaves a vessel or facility in service after the end of its Total Service Life (in years) as entered in Input Field No. 10, the taxpayer should continue to enter the Days in Allowable Service During Tax Year for each subsequent year in Input Field No. 11. While the vessel or facility will not be eligible for a Cost of Capital Allowance based on the original acquisition cost, improvements to the vessel or facility may continue to generate a Cost of Capital Allowance beyond the end of the vessel or facility's Total Service Life (in years). The determination of any additional Cost of Capital Allowance derived from improvements to a vessel or facility depend, in part, on the time the vessel or facility spent in allowable service during the year.

Input Field No. 12: "Number of Days in Tax Year"

The Number of Days in Tax Year is the total number of days in the Tax Year for which a Cost of Capital Allowance is computed. For normal years the number of days will be 365, and for leap years the number of days will be 366.



2.4 Vessel/Facility Improvement Information

The Vessel/Facility Improvement Information section of “Input 1 – Vessel” requires the taxpayer to enter information relating to the improvements made to the oil transportation vessel or LNG transportation facility. These inputs provide base data for the calculation of a capital allowance for improvements made to a vessel or facility. The allowance for improvements is calculated separately from the allowance for the vessel or facility, with improvements amortized over a shorter time horizon.

Vessel/Facility Improvement Information		
Vessel/Facility Improvements	Tax Year	
	Field No. 13	2014
	Field No. 14	2015
	Field No. 15	2016
	Field No. 16	2017
	Field No. 17	2018
	Field No. 18	2019
	Field No. 19	2020
	Current Year	
	Capitalized Improvements	
		\$0.00
		\$4,200,000.00
		\$0.00
		\$550,000.00
		\$0.00
		\$0.00
		\$6,300,000.00
	Expensed Improvements	
	Field No. 20	Expensed Improvements in Current Tax Year
		\$2,000,000.00

Vessel/Facility Improvement Information Input Schedule (with example)

Input Fields No. 13-19: “Capitalized Improvements”

Capitalized Improvements are improvements to the vessel or facility that are capitalized by the vessel or facility’s actual or effective owner in accordance with generally accepted accounting principles, and which were not expensed in the year that they were incurred for the purposes of Input Field No. 23 or a predecessor election to expense improvements from prior editions of this publication. Capitalized Improvements are reported separately by year for the seven prior years, starting with the Tax Year. All expenditures for capitalized improvements in a calendar year shall be aggregated into one amount for the Tax Year.

Input Field No. 20: “Expensed Improvements in Current Tax Year”

Notwithstanding that certain improvements are required to be capitalized by the vessel or facility’s actual or effective owner in accordance with generally accepted accounting principles, pursuant to 15 AAC 55.196(a), a taxpayer may elect to expense, in the calendar year incurred, the first \$2,000,000 in improvements that would otherwise be capitalized in accordance with generally accepted accounting principles. The taxpayer may not expense more than \$2,000,000 in improvements in a Tax Year. If a number greater than \$2,000,000 is entered in Input Field No. 19, the ROI Model will limit a taxpayer’s expense claim to \$2,000,000 in calculating the Cost of Capital Allowance.

Improvements which are expensed in a Tax Year are may not be reported as Capitalized Improvements for the purposes of the Input Fields No. 12-18 in the current Tax Year or in any subsequent Tax Year.



Section 3: Input 2 – CCF

3.1 Capital Construction Fund (CCF) Information

The Capital Construction Fund (CCF) Inputs section requires the taxpayer to enter information relating to deposits to and withdrawals from a Capital Construction Fund maintained pursuant to 46 U.S.C. § 53501 *et seq.*, as well as information regarding the taxpayer's corporate alternative minimum tax status for years prior to 2018. The Capital Construction Fund (CCF) Information worksheet applies only to oil transportation vessels or LNG transportation facilities that are LNG tankers under 15 AAC 55.900(a)(4)(E).

Capital Construction Fund Inputs			
Capital Construction Fund (CCF) Information			
	Tax Year	CCF Deposits (Withdrawals)	AMT?
Field No. 21	1990	\$0.00	No
Field No. 22	1991	\$0.00	No
Field No. 23	1992	\$0.00	No
Field No. 24	1993	\$0.00	No
Field No. 25	1994	\$0.00	No
Field No. 26	1995	\$0.00	Yes
Field No. 27	1996	\$0.00	Yes
Field No. 28	1997	\$0.00	Yes
Field No. 29	1998	\$0.00	Yes
Field No. 30	1999	\$20,000,000.00	Yes
Field No. 31	2000	\$20,000,000.00	Yes
Field No. 32	2001	\$20,000,000.00	No
Field No. 33	2002	\$20,000,000.00	No
Field No. 34	2003	\$20,000,000.00	No
Field No. 35	2004	\$0.00	No
Field No. 36	2005	\$0.00	No
Field No. 37	2006	\$0.00	No
Field No. 38	2007	\$0.00	No
Field No. 39	2008	\$0.00	No
Field No. 40	2009	\$0.00	No
Field No. 41	2010	\$0.00	No
Field No. 42	2011	\$0.00	No
Field No. 43	2012	\$0.00	No
Field No. 44	2013	\$0.00	No
Field No. 45	2014	\$0.00	No
Field No. 46	2015	\$0.00	No
Field No. 47	2016	\$0.00	No
Field No. 48	2017	\$0.00	No
Field No. 49	2018	\$0.00	
Field No. 50	2019	\$0.00	
Field No. 51	2020	\$0.00	
Field No. 52	2021	\$0.00	
Field No. 53	2022	\$0.00	
Field No. 54	2023	\$0.00	
Field No. 55	2024	(\$100,000,000.00)	
Field No. 56	2025	\$0.00	
Field No. 57	2026	\$0.00	
Field No. 58	2027	\$0.00	
Field No. 59	2028	\$0.00	
Field No. 60	2029	\$0.00	
Field No. 61	2030	\$0.00	

Capital Construction Fund (CCF) Deposits Input Schedule (with example)



Input Field No. 21-61: "CCF Deposits (Withdrawals)"

CCF Deposit (Withdrawal) entry field is the amount, if any, that the taxpayer deposited into or withdrew from, or plans in the future to deposit into or withdraw from, a Capital Construction Fund ("CCF") for the indicated Tax Year. Withdrawals are entered as a negative number into the entry field. The entries must conform to the producer's capital construction fund agreement with the U.S. Maritime Administration.

If a producer has made contributions into a CCF account that has more than one vessel identified as a program objective, then the amount of the producer's CCF deposit is allocated between vessels. The amount allocated to a vessel is determined as if deposits to the account are made to correspond to the chronological order in which the producer's program objective vessels come into service, unless there is clear and convincing evidence to the contrary. Such evidence might include the producer's capital construction fund agreement with the U.S. Maritime Administration. The amount of the producer's capital construction fund earnings realized on the capital construction fund account and retained in the capital construction fund account is allocated to the vessel proportional to the amount of the deposit allocated to the vessel.

An expected capital construction fund withdrawal is the amount scheduled to be withdrawn under the producer's capital construction fund agreement with the U.S. Maritime Administration. If the agreement applies to multiple vessels, the amount is allocated among the vessels proportional to the total amounts paid to the person building or selling the vessels to the producer, unless there is clear and convincing evidence to the contrary. Such evidence might include the producer's capital construction fund agreement with the U.S. Maritime Administration.

Any capital construction fund withdrawal that is expected to occur after the last year of remaining life is treated as if it will occur in the last year of remaining life. Any expected capital construction fund withdrawal that has not occurred by the last year of remaining life is considered to occur in the last year of remaining life.

Input Field No. 21-61: "AMT?"

In addition to the "CCF Deposits (Withdrawals)" entries, Input Fields No. 20-60 also have a second entry field for the taxpayer's Corporate Alternative Minimum Tax status. The "AMT?" entry requires the taxpayer to input whether the taxpayer was subject to U.S. Corporate Alternative Minimum Tax during the indicated tax year. The "AMT?" entry for Input Fields No. 20-60 is a selection box with the entries "Yes" and "No." The taxpayer must select either "Yes" or "No" in this field.

"AMT?" entry boxes for years after 2017 will appear crossed out in red, due to the repeal of AMT effective January 1, 2018. The entries for these fields should remain set to "No."



Section 4: Input 3 – Cost of Capital Rates

4.1 Cost of Capital Rates

The cost of capital rates array in the worksheet “Input 3 – Cost of Capital Rates” lists the applicable cost of capital rates for 1985 through 2060. These entries are used as part of the calculation functions in the “CCF Calculations” and “Cost of Capital Calculations” worksheets.

Cost of Capital Rates	Cost of Capital Rates	
	Year	Cost of Capital Rate
	1985	11.00%
	1986	11.00%
	1987	11.00%
	1988	11.00%
	1989	11.00%
	1990	11.00%
	1991	10.18%
	1992	9.33%
	1993	8.20%
	1994	9.40%
	1995	8.93%
	1996	8.29%
	1997	8.30%
	1998	8.93%
	1999	8.17%
	2000	7.12%
	2001	8.75%
	2002	7.10%
	2003	7.64%
	2004	6.55%
	2005	6.18%
	2006	7.02%
	2007	7.32%
	2008	7.29%
	2009	8.79%
	2010	9.21%
	2011	6.37%
	2012	6.45%
	2013	5.78%
	2014	5.66%
	2015	5.30%
	2016	5.10%
	2017	5.60%
	2018	5.00%
	2019	4.80%
	2020	6.00%
	2021	6.00%
	2022	6.00%
	2023	6.00%
	2024	6.00%
	2025	6.00%
	2026	6.00%
	2027	6.00%
	2028	6.00%
	2029	6.00%
	2030	6.00%

Cost of Capital Rate array with entry field for Tax Year 2020

The Cost of Capital Rates for 1985 through 2019 are automatically entered in the ROI Model based on the Cost of Capital Rates applicable for each of the years as determined in the Third Edition of this publication.

Beginning in Tax Year 2020, the taxpayer must enter the “Base Capital Rate” for each tax year beginning in 2020 through the tax year for which the taxpayer is calculating a Cost of Capital Allowance. The “Base Capital Rate” is the same Base Capital Rate that was determined for Input Field No. 5 in the worksheet “Input 1- Vessel.”

The years for which the taxpayer must enter the Base Capital Rate will be shaded light yellow. For tax years after 2020, additional fields will automatically shade light yellow to indicate that a direct input is required.

2019	
2020	3.00%
2021	3.00%
2022	3.00%
2023	3.00%
2024	3.00%
2025	3.00%

In future tax years, additional fields are shaded light yellow



Future years Cost of Capital Rates are presumed to be the same as the current year, and the Base Capital Rate entries for future years reference the previous year. For each subsequent tax year, the entry fields for the “Base Capital Rate” will thus already contain a formula reference to the prior year’s entry. The taxpayer should replace the formula entry in the “Base Capital Rate” fields for each tax year through the tax year for which the taxpayer is calculating a Cost of Capital Allowance with the appropriate Base Capital Rate for the indicated year.



Section 5: CCF Calculations

The calculations used by the ROI Model to compute the financial impact of any Capital Construction Fund deposits or withdrawals associated with a vessel are found on the “CCF Calculations” worksheet. The calculations are contained in the cells shaded red, and should not be altered by the taxpayer. Any changes in the calculations in the CCF Calculations worksheet may result in an incorrect Cost of Capital Allowance being calculated that may be subject to correction during an audit. The formulas used for each calculation are displayed in the column for that calculation.

5.1 CCF Cash Flow Impacts

CCF Cash Flow Impacts							
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Tax Year	Effective Corporate Tax Rate	Cost of Capital Rate	CCF Deposit (Withdrawal)	CCF Tax Impact	Discount Factor to Service Start Year	Discount Factor Adjustment for AMT Deferral of CCF Tax Savings	Yearly Present Value Tax Benefits of CCF Deposits
=Input 2 - CCF1D5	=IF(ER0=2, 0.041111)	=VLOOKUP(ER Input 3 - Cost of Capital Rates!NC04:DE070, ?)	=Input 2 - CCF1E5	=E3*CS	=GRY*MD3	=IF(Input 2 - CCF1F5 = "Yes", CCF Calculations!H10, CCF Calculations!G9)	=IF(F0 = 0, (F3*H9)/(F3*GR))
1990	41.11%	11.00%	\$0.00	\$0.00	3.2586	3.2586	\$0.00
1991	41.11%	10.18%	\$0.00	\$0.00	2.9356	2.9356	\$0.00
1992	41.11%	9.33%	\$0.00	\$0.00	2.6644	2.6644	\$0.00
1993	41.11%	8.20%	\$0.00	\$0.00	2.4370	2.4370	\$0.00
1994	41.11%	9.40%	\$0.00	\$0.00	2.2523	2.2523	\$0.00
1995	41.11%	8.93%	\$0.00	\$0.00	2.0588	1.2768	\$0.00
1996	41.11%	8.29%	\$0.00	\$0.00	1.8900	1.2768	\$0.00
1997	41.11%	8.30%	\$0.00	\$0.00	1.7453	1.2768	\$0.00
1998	41.11%	8.93%	\$0.00	\$0.00	1.6115	1.2768	\$0.00
1999	41.11%	8.17%	\$20,000,000.00	\$8,222,000.00	1.4794	1.2768	\$10,497,750.20
2000	41.11%	7.12%	\$20,000,000.00	\$8,222,000.00	1.3677	1.2768	\$10,497,750.20
2001	41.11%	8.75%	\$20,000,000.00	\$8,222,000.00	1.2768	1.2768	\$10,497,750.20
2002	41.11%	7.10%	\$20,000,000.00	\$8,222,000.00	1.1741	1.1741	\$9,653,103.63
2003	41.11%	7.64%	\$20,000,000.00	\$8,222,000.00	1.0962	1.0962	\$9,013,168.65
2004	41.11%	6.55%	\$0.00	\$0.00	1.0184	1.0184	\$0.00
2005	41.11%	6.18%	\$0.00	\$0.00	0.9591	0.9591	\$0.00
2006	41.11%	7.02%	\$0.00	\$0.00	0.8962	0.8962	\$0.00
2007	41.11%	7.32%	\$0.00	\$0.00	0.8351	0.8351	\$0.00
2008	41.11%	7.29%	\$0.00	\$0.00	0.7784	0.7784	\$0.00
2009	41.11%	8.79%	\$0.00	\$0.00	0.7155	0.7155	\$0.00
2010	41.11%	9.21%	\$0.00	\$0.00	0.6551	0.6551	\$0.00
2011	41.11%	6.37%	\$0.00	\$0.00	0.6159	0.6159	\$0.00
2012	41.11%	6.45%	\$0.00	\$0.00	0.5786	0.5786	\$0.00
2013	41.11%	5.78%	\$0.00	\$0.00	0.5470	0.5470	\$0.00
2014	41.11%	5.68%	\$0.00	\$0.00	0.5177	0.5177	\$0.00
2015	41.11%	5.30%	\$0.00	\$0.00	0.4916	0.4916	\$0.00
2016	41.11%	5.10%	\$0.00	\$0.00	0.4678	0.4678	\$0.00
2017	41.11%	5.60%	\$0.00	\$0.00	0.4429	0.4429	\$0.00
2018	28.43%	5.00%	\$0.00	\$0.00	0.4219	0.4219	\$0.00
2019	28.43%	5.83%	\$0.00	\$0.00	0.3986	0.3986	\$0.00
2020	28.43%	6.00%	\$0.00	\$0.00	0.3761	0.3761	\$0.00
2021	28.43%	6.00%	\$0.00	\$0.00	0.3548	0.3548	\$0.00
2022	28.43%	6.00%	\$0.00	\$0.00	0.3347	0.3347	\$0.00
2023	28.43%	6.00%	\$0.00	\$0.00	0.3157	0.3157	\$0.00
2024	28.43%	6.00%	(\$100,000,000.00)	(\$28,426,000.00)	0.2979	0.2979	(\$8,467,236.81)
2025	28.43%	6.00%	\$0.00	\$0.00	0.2810	0.2810	\$0.00
2026	28.43%	6.00%	\$0.00	\$0.00	0.2651	0.2651	\$0.00
2027	28.43%	6.00%	\$0.00	\$0.00	0.2501	0.2501	\$0.00
2028	28.43%	6.00%	\$0.00	\$0.00	0.2359	0.2359	\$0.00
2029	28.43%	6.00%	\$0.00	\$0.00	0.2226	0.2226	\$0.00



Column 1: "Tax Year"

Column 1 returns the Tax Year from the respective lines for Input Fields No. 20-60.

Column 2: "Effective Corporate Tax Rate"

Column 2 returns the Effective Corporate Tax Rate, based on the U.S. Federal and State of Alaska corporate tax rates, for the respective tax years.

Column 3: "Cost of Capital Rate"

Column 3 returns the Cost of Capital Rate determined in worksheet Input 3 – Cost of Capital Rates for the respective tax years.

Column 4: "CCF Deposit (Withdrawal)"

Column 4 returns the CCF deposit or withdrawal amount entered by the Taxpayer in Input Fields No. 20-60.

Column 5: "CCF Tax Impact"

Column 5 calculates the tax impact of the taxpayer's CCF deposit or withdrawal for the particular tax year.

Column 6: "Discount Factor to Service Start Year"

Column 6 calculates the discount factor required to compute the net present value of the CCF tax impact as of the date the vessel enters into service.

Column 7: "Discount Factor Adjustment for AMT Deferral of CCF Tax Savings"

Column 7 adjusts the discount factor calculated in Column 6 to delay the tax impact of a CCF deposit for years in which a taxpayer pays the Corporate Alternative Minimum Tax.

Column 8: "Yearly Present Value Tax Benefits of CCF Deposits"

Column 8 calculates the present value of the tax impacts from CCF deposits and withdrawals, based on the discount factors calculated in Columns 6 and 7.

Sum of Present Value of CCF Benefits

2010	20.43%	6.00%	\$0.00	\$0.00	0.3761	0.3761	\$0.00
2020	28.43%	6.00%	\$0.00	\$0.00	0.3761	0.3761	\$0.00
2021	28.43%	6.00%	\$0.00	\$0.00	0.3548	0.3548	\$0.00
2022	28.43%	6.00%	\$0.00	\$0.00	0.3347	0.3347	\$0.00
2023	28.43%	6.00%	\$0.00	\$0.00	0.3157	0.3157	\$0.00
2024	28.43%	6.00%	(\$100,000,000.00)	(\$28,426,000.00)	0.2979	0.2979	(\$8,467,236.81)
2025	28.43%	6.00%	\$0.00	\$0.00	0.2810	0.2810	\$0.00
2026	28.43%	6.00%	\$0.00	\$0.00	0.2651	0.2651	\$0.00
2027	28.43%	6.00%	\$0.00	\$0.00	0.2501	0.2501	\$0.00
2028	28.43%	6.00%	\$0.00	\$0.00	0.2359	0.2359	\$0.00
2029	28.43%	6.00%	\$0.00	\$0.00	0.2226	0.2226	\$0.00
2030	28.43%	6.00%	\$0.00	\$0.00	0.2100	0.2100	\$0.00
Sum of Present Value CCF Tax Benefits							\$41,692,288

After calculating the present value of the CCF tax impacts for each year, the values are summed together at the end of the CCF calculations array.



Section 6: Cost of Capital Calculations

The final calculations used by the ROI Model to derive the Cost of Capital Allowance for a vessel or facility are found on the “Cost of Capital Calculations” worksheet. The calculations are contained in the cells shaded red, and should not be altered by the taxpayer. Any changes in the calculations in the Cost of Capital Calculations worksheet may result in an incorrect Cost of Capital Allowance being calculated that may be subject to correction during an audit. The formulas used for each calculation are displayed in the column for that calculation.

6.1 Vessel/Facility Cost of Capital

Vessel/Facility Cost of Capital									
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10
Tax Year	End of Credited Life	Portion of Year in Credited Service	Effective Corporate Tax Rate	Cost of Capital Rate	Service Life in Years	Annuity Factor	Adjusted Original Investment	Levelized Required After-Tax Cash Flow	Required Pre-Tax Cash Flow (Vessel/Facility)
=Input 1 - Vessel/E5	=DATE(YEAR(Input 1 - Vessel/E13)+Input 1 - Vessel/E15,MONTH(Input 1 - Vessel/E13),DAY(Input 1 - Vessel/E13))	=IF((YEAR(Input 1 - Vessel/E13)+Input 1 - Vessel/E15)<Input 1 - Vessel/E15,MIN(Input 1 - Vessel/E15,(DATE(Input 1 - Vessel/E13)+Input 1 - Vessel/E15)-YEAR(Input 1 - Vessel/E13)),0,Input 1 - Vessel/E15)	=Input 1 - Vessel/E57+Input 1 - Vessel/E58+Input 1 - Vessel/E57	=IF(Input 1 - Vessel/E12="Oil Transportation Vessel",Input 1 - Vessel/E9+0.03,IF(Input 1 - Vessel/E12="LNG Transportation Facility",Input 1 - Vessel/E9+0.032,ERROR))	=Input 1 - Vessel/E15	=((1 - (1/(1+Input 1 - Vessel/E9)^Input 1 - Vessel/E15)))/Input 1 - Vessel/E9)	=Input 1 - Vessel/E14-CCF Calculations/50	=((Input 1 - Vessel/E9)^Input 1 - Vessel/E15)/Input 1 - Vessel/E9	=((Input 1 - Vessel/E9)^Input 1 - Vessel/E15)/Input 1 - Vessel/E9
2020	8/1/2028	100%	26.4%	6.00%	20	12.92138	\$58,367,714	\$4,512,496	\$5,339,776.06

The Vessel/Facility Cost of Capital calculations section contains the calculations for that part of the Cost of Capital Allowance derived from the initial acquisition cost of the vessel or facility.

Column 1: “Tax Year”

Column 1 returns the Tax Year entered by the taxpayer in Input Field No. 2.

Column 2: “End of Credited Life”

Column 2 calculates the End of Credited Life for the vessel or facility, which is the date on which the vessel or facility reaches the end of its Total Service Life as entered in Input Field No. 10.

Column 3: “Portion of Year in Credited Service”

Column 3 calculates the portion of the year that the vessel or facility is in credited service. Prior to the vessel or facility reaching its End of Credited Life, The Portion of Year in Credited Service will equal the % Time in Allowable Service entered by the taxpayer in Input Field No. 11. However, during the year in which the vessel or facility reaches its End of Credited Life, Column 3 will return the lower of the % Time in Allowable Service or the percentage of the year before the vessel or facility reaches its End of Credited Life. In years after the vessel or facility has reached its End of Credited Life, Column 3 will return 0%, as the vessel or facility is no longer eligible for a Cost of Capital Allowance based on its original acquisition cost.

Column 4: “Effective Corporate Tax Rate”

Column 4 calculates the Effective Corporate Tax Rate, based on the U.S. Federal and State of Alaska corporate tax rates entered in Input Fields No. 3 & 4.



Column 5: "Cost of Capital Rate"

Column 5 calculates the Cost of Capital Rate, based on the Base Capital Rate entered by the taxpayer in Input Field No. 5. The Cost of Capital Rate includes a 3.0% risk premium for oil transportation vessels, and a 3.2% risk premium for LNG transportation facilities.

Column 6: "Service Life in Years"

Column 6 returns the Total Service Life (in years) entered by the taxpayer in Input Field No. 10.

Column 7: "Annuity Factor"

Column 7 calculates the Annuity Factor necessary to produce an after-tax payment stream sufficient to return the original capital investment in the vessel or facility along with a return on investment based on the Cost of Capital rate over a time horizon measured by the Service Life in Years of the vessel or facility.

Column 8: "Adjusted Original Investment"

Column 8 calculates the Adjusted Original Investment based on the Acquisition Cost entered by the taxpayer in Input Field No. 9 and the sum of the present value tax benefits derived from any CCF financing, as calculated in the CCF Calculations worksheet.

Column 9: "Levelized Required After Tax Cash Flow"

Column 9 calculates the after-tax cash flow sufficient to return the original capital investment in the vessel or facility along with a return on investment, based on a function of the Adjusted Original Investment in Column 8 and the Annuity Factor calculated in Column 7.

Column 10: "Required Pre-Tax Cash Flow (Vessel/Facility)"

Column 10 calculates the pre-tax cash flow necessary to produce the after-tax cash flow identified in Column 9, taking into account the Effective Corporate Tax Rate and the deductibility of depreciation for tax purposes.



6.2 Vessel/Facility Improvements Cost of Capital

Vessel/Facility Improvements Cost of Capital									
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10
Tax Year	End of Credited Life	Portion of Year in Credited Service	Effective Corporate Tax Rate	Cost of Capital Rate	Service Life in Years	Annuity Factor	Original Investment	Levelized Required After-Tax Cash Flow	Required Pre-Tax Cash Flow (Improvements)
=Input 1 - Vessel ID 19	=D67E1(816-1+G18)/12,31)	=Input 1 - Vessel SE516	=Input 1 - Vessel SE57+(7-Vessel SE58)*1 - Vessel SE59+1 - Vessel SE67)	=IF(Input 1 - Vessel SE12="Oil Transportation Vessel", Input 1 - Vessel SE9+0.03/(1+P18)^0.5); IF(Input 1 - Vessel SE12="LNG Transportation Facility", Input 1 - Vessel SE9+0.032/(ERROR))	=7	=1/(1+(P18)/(G18)/P18)/(1+P18)^0.5)	=Input 1 - Vessel SE19	=((18*P18)^0.18	=((18*G18)^0.18)+((116-((18*G18)^0.18))/47-E18))
2014	12/31/2020	100%	28.4%	6.00%	7	5.74741	\$0	\$0	\$0.00
2015	12/31/2021	100%	28.4%	6.00%	7	5.74741	\$4,200,000	\$736,764	\$782,698.93
2016	12/31/2022	100%	28.4%	6.00%	7	5.74741	\$0	\$0	\$0.00
2017	12/31/2023	100%	28.4%	6.00%	7	5.74741	\$550,000	\$95,695	\$102,496.03
2018	12/31/2024	100%	28.4%	6.00%	7	5.74741	\$0	\$0	\$0.00
2019	12/31/2025	100%	28.4%	6.00%	7	5.74741	\$0	\$0	\$0.00
2020	12/31/2026	100%	28.4%	6.00%	7	5.74741	\$6,300,000	\$1,096,145	\$1,174,045.40
Expensed Improvements in Tax Year									\$2,000,000.00
Sum of Improvement Cash Flows									\$4,659,238.36

The Vessel/Facility Improvements Cost of Capital calculations section contains the calculations for that part of the Cost of Capital Allowance derived from the initial acquisition cost of the vessel or facility.

Column 1: "Tax Year"

Column 1 returns the Tax Year associated with the different improvement amounts entered by the taxpayer in Input Fields No. 12 - 18.

Column 2: "End of Credited Life"

Column 2 calculates the End of Credited Life for the improvements made to a vessel or facility for the listed Tax Year, which is the date on which the improvements reach their end of Service Life in Years, as calculated in Column 6. For improvements, the End of Credited Life is December 31 of the year in which the improvements reach their End of Service Life.

Column 3: "Portion of Year in Credited Service"

Column 3 returns the portion of the year that the vessel or facility is in credited service, as entered by the taxpayer in Input Field No. 11. Improvements may remain in service past the End of Credited Life for the vessel or facility itself, so long as the vessel or facility remains in service. Thus, a taxpayer may still derive a Cost of Capital Allowance for improvements, even if the taxpayer is no longer eligible to receive a Cost of Capital Allowance based on the original acquisition cost of the vessel or facility.

Column 4: "Effective Corporate Tax Rate"

Column 4 calculates the Effective Corporate Tax Rate, based on the U.S. Federal and State of Alaska corporate tax rates entered in Input Fields No. 3 & 4.

Column 5: "Cost of Capital Rate"

Column 5 calculates the Cost of Capital Rate, based on the Base Capital Rate entered by the taxpayer in Input Field No. 5. The Cost of Capital Rate includes a 3.0% risk premium for oil transportation vessels, and a 3.2% risk premium for LNG transportation facilities.



Column 6: "Service Life in Years"

Column 6 calculates the Service Life in Years for improvements to a vessel or facility. The Service Life of improvements is seven years.

Column 7: "Annuity Factor"

Column 7 calculates the Annuity Factor necessary to produce an after-tax payment stream sufficient to return the original capital investment in the vessel or facility along with a return on investment based on the Cost of Capital rate over a time horizon measured by the Service Life in Years of the improvements.

Column 8: "Original Investment"

Column 8 returns the cost of the Capitalized Improvements entered by the taxpayer in Input Fields No. 12 - 18.

Column 9: "Levelized Required After Tax Cash Flow"

Column 9 calculates the after-tax cash flow sufficient to return the original capital investment in the improvements to the vessel or facility along with a return on investment, based on a function of the Original Investment in Column 8 and the Annuity Factor calculated in Column 7.

Column 10: "Required Pre-Tax Cash Flow (Improvements)"

Column 10 calculates the pre-tax cash flow necessary to produce the after-tax cash flow identified in Column 9, taking into account the Effective Corporate Tax Rate and the deductibility of depreciation for tax purposes.

Expensed Improvements in Tax Year

Below the calculation of the annual Required Pre-Tax Cash Flow (Improvements) for each Tax Year of improvements is a results box for Expensed Improvements in Tax Year. This result returns the amount of the Expensed Improvements in Current Tax Year entered by the taxpayer in Input Field No. 19.

Sum of Improvement Cash Flows

Below the Expensed Improvements results box is the Sum of Improvement Cash Flows results box. This result sums the totals from Column 10 across each Tax Year, as well as the Expensed Improvements in Tax Year. The total is the Cost of Capital Allowance derived from capitalized improvements to the vessel or facility.



6.3 Results Calculations

Result
<u>Cost of Capital Allowance</u> Tax Year: 2020 =K9+K26
\$9,399,014.42

The Result calculation field above is displayed on the Cost of Capital Calculations worksheet. This Result Field calculates the total Cost of Capital Allowance that a taxpayer may claim under 15 AAC 55.196 for the Tax Year. The total Cost of Capital Allowance is calculated by totaling the Required Pre-Tax Cash Flow (Vessel/Facility) calculated in Column 10 of the Vessel/Facility Cost of Capital calculations section with the Sum of Improvement Cash Flow total at the bottom of the Vessel/Facility Improvements Cost of Capital calculations section.

Result
<u>Cost of Capital Allowance</u> Tax Year: 2020
\$9,399,014.42

The Result field above is displayed in the “Input 1 – Vessel” worksheet. This Result field returns the Cost of Capital Allowance calculated in the Result field in the Cost of Capital Calculations worksheet. This result field is displayed on the Input worksheet for the convenience of the taxpayer. These results should be the same value.

The Excel spreadsheet that accompanies the publication of the material adopted by reference in 15 AAC 55.196(d) may be found at

<http://tax.alaska.gov/programs/programs/index.aspx?60650>

