

Expectancy Life (% Good) Factors*

Tax Year 2023

10.0% Floor Depreciation**

8.0% Rate of Return

Year Installed	Age (yrs)	Service Life (yrs)																			
		2	3	4	5	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
2022	1	0.5192	0.6920	0.7781	0.8295	0.8295	0.8879	0.9060	0.9199	0.9310	0.9399	0.9473	0.9535	0.9587	0.9632	0.9670	0.9704	0.9733	0.9759	0.9781	0.9802
2021	2	0.1000	0.3593	0.5384	0.6455	0.6455	0.7669	0.8044	0.8334	0.8564	0.8750	0.8904	0.9032	0.9141	0.9234	0.9314	0.9384	0.9445	0.9498	0.9545	0.9587
2020	3	0.1000	0.1000	0.2796	0.4466	0.4466	0.6362	0.6948	0.7400	0.7759	0.8050	0.8289	0.8490	0.8659	0.8804	0.8929	0.9038	0.9133	0.9217	0.9291	0.9356
2019	4	0.1000	0.1000	0.1000	0.2319	0.2319	0.4950	0.5764	0.6392	0.6889	0.7293	0.7626	0.7904	0.8139	0.8340	0.8514	0.8665	0.8797	0.8913	0.9015	0.9106
2018	5	0.1000	0.1000	0.1000	0.1000	0.1000	0.3425	0.4485	0.5302	0.5950	0.6476	0.6909	0.7271	0.7577	0.7839	0.8065	0.8262	0.8433	0.8585	0.8718	0.8837
2017	6	0.1000	0.1000	0.1000	0.1000	0.1000	0.1778	0.3103	0.4125	0.4936	0.5593	0.6134	0.6587	0.6970	0.7298	0.7581	0.7826	0.8041	0.8230	0.8397	0.8545
2016	7	0.1000	0.1000	0.1000	0.1000	0.1000	0.1611	0.2855	0.3841	0.4640	0.5298	0.5849	0.6315	0.6714	0.7058	0.7356	0.7617	0.7847	0.8050	0.8230	
2015	8	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1482	0.2658	0.3610	0.4395	0.5052	0.5607	0.6083	0.6492	0.6848	0.7160	0.7434	0.7676	0.7891	
2014	9	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1380	0.2498	0.3420	0.4191	0.4843	0.5401	0.5882	0.6300	0.6666	0.6987	0.7271	0.7523	
2013	10	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1297	0.2366	0.3261	0.4018	0.4665	0.5223	0.5708	0.6132	0.6505	0.6834	0.7127	
2012	11	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1229	0.2256	0.3126	0.3870	0.4511	0.5068	0.5555	0.5984	0.6363	0.6699	
2011	12	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1171	0.2163	0.3011	0.3742	0.4377	0.4933	0.5421	0.5853	0.6236		
2010	13	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1123	0.2083	0.2912	0.3631	0.4260	0.4814	0.5303	0.5737			
2009	14	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1082	0.2015	0.2825	0.3534	0.4158	0.4709	0.5198				
2008	15	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1046	0.1955	0.2750	0.3449	0.4067	0.4615				
2007	16	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1015	0.1903	0.2683	0.3373	0.3986			
2006	17	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1857	0.2625	0.3307		
2005	18	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1816	0.2573		
2004	19	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1780		
2003	20	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
2002	21	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
2001	22	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
2000	23	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1999	24	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1998	25	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1997	26	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1996	27	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1995	28	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1994	29	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1993	30	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1992	31	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1991	32	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1990	33	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1989	34	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1988	35	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1987	36	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1986	37	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1985	38	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1984	39	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	
1983	40	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	

Expectancy Life Formula:

$$\% \text{ Good} = \frac{(1+R)^{\text{SL}} - (1+R)^{\text{Age}}}{(1+R)^{\text{SL}} - 1}$$

, where R =

SL =

Rate of Return (decimal) = Real Rate + Risk Premium

Age =

Service Life (yrs)

Age (yrs)

Expectancy Life Factor for any particular year is the inverse of allowed percentage depreciation, converted to decimal form. For example, using a 0.80 expectancy life factor (80% Good) is equivalent to allowance of 20% depreciation. Age-life methods of depreciation are based on the principle of remaining useful life of a property and use calculations related to the accrual of funds necessary to replace the non-salvageable portion of the property over a stated period of time assuming a typical rate of return. The fund balance at any point in time represents the cumulative depreciation the subject property has experienced. A greater assumed rate of return implies less depreciation is taking place, because less accrual of funds is needed over that stated time period to build the replacement cost of the assets. These methods relate to the concept of value as measured by the present worth of the future returns from a property's continued use. This concept is appraisal-oriented versus accounting methods used primarily for IRS cost allocation (tax write-off) purposes. For a complete discussion of valuation depreciation, please reference "Engineering Valuation and Depreciation" by Marston, Winfrey and Hempstead.

*This is a generic table of factors applicable to any tax year, whereas figures in "Year Installed" and "Age" columns are relative to current tax year. Different categories of property may have different assumed floor depreciation rates and rates of return.

Expectancy Life (% Good) Factors*

Tax Year 2023

10.0% Floor Depreciation*

8.0% Rate of Return



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Taxpayer,

Per your request, attached is a table that shows the depreciation percent good factors (Expectancy Life Factors) that Pritchard & Abbott, Inc., will be using for tax year **2023**, for properties having various service lives. These Expectancy Life Factors address only the *physical deterioration* component of depreciation. Other components of depreciation (functional and/or economic obsolescence), to the extent they can be identified and quantified, are addressed through analysis of various property-specific characteristics. One such example would be Utilization or Inutility (throughput relative to capacity) that can act as a mass-appraisal proxy in place of more rigorous methods that look to rate of return or "income shortfall" metrics.

- The attached Expectancy Life table is generic regarding tax year and age. To use this table, look up the expectancy life factor (percent good) corresponding to the **age** of the equipment **in years** or via the specific installation year. The age is shown in ascending order in the 2nd column. Then find the column for the service life of the equipment and that will give the %good factor for this equipment. Longer assumed service lives result in higher percent good factors (i.e., less depreciation), age being equal. For any percent good factor in this table that falls below a floor you believe is appropriate, just use your preferred floor factor instead.
 - Example: Equipment that's 10 years old as of the appraisal date with an assumed service life of 20 years has a percent good factor of 0.6834 (68.34%), equal to 31.66% accumulated depreciation. If the same type of equipment is 19 years old, the percent good factor is 0.10 (10%), equal to the 10% floor. If you don't want to use anything less than a 12% floor (just as an example), then use 0.1200 factor instead of 0.10.
- These percent good factors are based on an assumed 8% rate of return in the expectancy life formula. This rate of return is one that's expected over the depreciable life of the property and doesn't represent any particular property's actual rate of return for any particular year.

Pritchard & Abbott, Inc., does not publish or otherwise provide a schedule of RCN values or service lives corresponding to specific categories or types of property. We generally develop our own RCN schedules and service life guides for use with the specialized industrial and/or oilfield personal property equipment and facilities that we appraise, which may or may not correspond with the schedules used by the appraisal district locally for general business personal property appraisal. We do trend past historical or original costs when appropriate to convert them to current vintage using index data from a variety of sources such as Marshall & Swift, Handy-Whitman, Chemical Engineering Magazine, Oil and Gas Journal, etc. We do not combine trend factors with depreciation factors to form "composite" factors of any kind. We may combine several depreciation factors (say, for all forms of obsolescence) to form a composite "service" factor on selected reports.

Regards,

Karen Khan

Karen E. Khan, PE
Director of Industrial and Utility Appraisals

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SERVICE FACTORS USING THROUGHPUT AS PROXY FOR ECONOMIC OBSOLESCENCE
PRITCHARD & ABBOTT, INC.

Throughput	Formula 4*	Formula 5**
100%	100.0%	100.0%
99%	99.7%	99.5%
98%	99.4%	98.9%
97%	99.1%	98.4%
96%	98.8%	97.8%
95%	98.5%	97.3%
94%	98.2%	96.7%
93%	97.9%	96.2%
92%	97.6%	95.6%
91%	97.2%	95.0%
90%	96.9%	94.5%
89%	96.6%	93.9%
88%	96.3%	93.4%
87%	96.0%	92.8%
86%	95.7%	92.2%
85%	95.4%	91.6%
84%	95.0%	91.1%
83%	94.7%	90.5%
82%	94.4%	89.9%
81%	94.1%	89.3%
80%	93.7%	88.7%
79%	93.4%	88.1%
78%	93.1%	87.5%
77%	92.7%	86.9%
76%	92.4%	86.3%
75%	92.1%	85.7%
74%	91.7%	85.1%
73%	91.4%	84.5%
72%	91.1%	83.9%
71%	90.7%	83.3%
70%	90.4%	82.7%
69%	90.0%	82.0%
68%	89.7%	81.4%
67%	89.3%	80.8%
66%	89.0%	80.1%
65%	88.6%	79.5%
64%	88.3%	78.9%
63%	87.9%	78.2%
62%	87.5%	77.6%
61%	87.2%	76.9%
60%	86.8%	76.2%
59%	86.4%	75.6%
58%	86.1%	74.9%
57%	85.7%	74.2%
56%	85.3%	73.6%
55%	84.9%	72.9%
54%	84.5%	72.2%
53%	84.2%	71.5%
52%	83.8%	70.8%
51%	83.4%	70.1%
50%	83.0%	69.4%

*Default formula for all properties.

**Modification for non-unit appraised pipelines.

SERVICE FACTORS USING THROUGHPUT AS PROXY FOR ECONOMIC OBSOLESCENCE
PRITCHARD & ABBOTT, INC.

Throughput	Formula 4*	Formula 5**
49%	82.6%	68.7%
48%	82.2%	67.9%
47%	81.8%	67.2%
46%	81.4%	66.5%
45%	81.0%	65.7%
44%	80.6%	65.0%
43%	80.1%	64.2%
42%	79.7%	63.5%
41%	79.3%	62.7%
40%	78.9%	61.9%
39%	78.4%	61.2%
38%	78.0%	60.4%
37%	77.5%	59.6%
36%	77.1%	58.8%
35%	76.6%	57.9%
34%	76.2%	57.1%
33%	75.7%	56.3%
32%	75.2%	55.4%
31%	74.8%	54.6%
30%	74.3%	53.7%
29%	73.8%	52.8%
28%	73.3%	51.9%
27%	72.8%	51.0%
26%	72.3%	50.1%
25%	71.8%	49.2%
24%	71.2%	48.2%
23%	70.7%	47.3%
22%	70.2%	46.3%
21%	69.6%	45.3%
20%	69.0%	44.3%
19%	68.5%	43.2%
18%	67.9%	42.2%
17%	67.3%	41.1%
16%	66.7%	40.0%
15%	66.0%	38.8%
14%	65.4%	37.7%
13%	64.7%	36.5%
12%	64.0%	35.2%
11%	63.3%	33.9%
10%	62.6%	32.6%
9%	61.8%	31.2%
8%	61.0%	29.8%
7%	60.1%	28.3%
6%	59.2%	26.6%
5%	58.3%	24.9%
4%	57.2%	23.0%
3%	56.1%	21.0%
2%	54.8%	18.6%
1%	53.2%	15.7%
0%	50.0%	10.0%

*Default formula for all properties.

**Modification for non-unit appraised pipelines.