

---

## PART VI. RESULTS OF STUDY

## **PART VI. RESULTS OF STUDY**

### **QUALIFICATION OF RESULTS**

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage and for the change of the composition of property in service. The annual accrual rates were calculated in accordance with the straight line remaining life method of depreciation, using the average service life procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

The annual depreciation accrual rates are applicable specifically to the gas plant in service as of December 31, 2017. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2017, is reasonable for a period of up to three to five years.

### **DESCRIPTION OF STATISTICAL SUPPORT**

The service life and salvage estimates were based on judgment which incorporated statistical analyses of retirement data, discussions with management and consideration of estimates made for other gas utility companies. The results of the statistical analyses of service life are presented in the section beginning on page VII-2, within the supporting documents of this report.

For each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table(s) plotted on the chart. The survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the curve type designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. The titles of the chart indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The analyses of net salvage data are presented in the Part VIII titled, "Net Salvage Statistics". The tabulations present annual cost of removal and salvage data, three-year moving averages and the most recent five-year average. Data are shown in dollars and as percentages of original costs retired.

## **DESCRIPTION OF SUMMARY TABULATIONS**

A summary of the results of the study as applied to the original cost of gas plant at December 31, 2017, as originally filed in Docket No. 19-057-03, is presented on pages VI-9 and VI-10 of this report. Table 1 sets forth the estimated survivor curve and net salvage percent, original cost, book reserve and the calculated annual remaining life depreciation accrual amounts and rates based on the straight-line method and the average

service life procedure for each account. The results of the settlement stipulation are presented on pages VI-6 and VI-7.

## **DESCRIPTION OF DETAILED TABULATIONS**

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2017 are presented in account sequence starting on page IX-2 of the supporting documents. The tables indicate the estimated survivor curve and net salvage percent for the account and set forth, for each installation year, the original cost, the calculated accrued depreciation, the allocated book reserve, future accruals, the remaining life, and the calculated annual accrual amount.

**RESULTS PER SETTLEMENT STIPULATION  
DOCKET NO. 19-057-03**

QUESTAR GAS COMPANY dba DOMINION ENERGY UTAH

TABLE 1. ESTIMATED SURVIVOR CURVE, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT DECEMBER 31, 2017 (PER SETTLEMENT STIPULATION)

DEPRECIABLE GROUP (1)	PROBABLE RETIREMENT YEAR (2)	SURVIVOR CURVE (3)	NET SALVAGE PCT. (4)	ORIGINAL COST AT 12/31/2017 (5)	BOOK RESERVE AT 12/31/2017 (6)	FUTURE ACCRUALS (7)	ANNUAL ACCRUAL AMOUNT (8)	COMPOSITE REMAINING LIFE (9)	ANNUAL ACCRUAL RATE (10)
<b>DEPRECIABLE GAS PLANT</b>									
<b>DISTRIBUTION PLANT</b>									
374.21		75 - R3	0	5,658,915	706,012	4,952,903	70,995	69.8	1.25
375		40 - R1	(10)	16,505,532	334,726	17,821,359	591,344	30.1	3.58
376		70 - R2	(39)	1,596,898,536	363,170,855	1,856,518,111	30,816,950	60.2	1.93
377		33 - R4	(20)	14,446,634	64,857	17,271,104	616,163	28.0	4.27
378		38 - S0	(33)	108,881,182	23,100,198	121,711,774	3,792,114	32.1	3.48
380		58 - R3	(85)	413,430,548	239,035,397	525,811,118	12,589,512	41.8	3.05
381.01		31 - R3	(5)	122,565,176	48,312,646	80,360,789	3,806,597	21.1	3.11
381.11		15 - L2	0	114,708	88,018	26,690	6,444	4.1	5.62
381.21		15 - S4	0	81,807,796	25,963,376	55,844,420	5,432,610	10.3	6.64
382		46 - R3	(5)	137,965,772	46,958,486	97,905,574	2,847,396	34.4	2.06
383		31 - R3	(1)	11,424,936	8,643,119	2,896,066	269,266	10.8	2.36
384		52 - R1.5	(5)	3,223,420	1,229,776	2,154,815	59,607	36.2	1.85
387		12 - S2	0	2,122,428	420,476	1,701,952	256,779	6.6	12.10
<b>TOTAL DISTRIBUTION PLANT</b>				<b>2,515,045,584</b>	<b>758,027,943</b>	<b>2,784,996,675</b>	<b>61,155,777</b>		<b>2.43</b>
<b>GENERAL PLANT</b>									
390.01		100 - R1	a	2,581,371	416,938	2,164,433	63,019	34.3	2.44
		80 - R1	a	44,815,471	20,682,502	24,132,969	737,426	32.7	1.65
		100 - R1	a	2,411,734	1,186,246	1,225,488	42,658	28.7	1.77
		100 - R1	a	939,221	364,868	574,353	18,773	30.6	2.00
		100 - R1	a	4,986,331	2,198,457	2,787,874	96,826	28.8	1.94
		100 - R1	a	1,096,241	475,501	620,740	20,336	30.5	1.86
		100 - R1	a	1,093,144	327,205	765,939	32,531	23.5	2.98
		100 - R1	a	682,417	524,602	157,815	10,489	15.0	1.54
		100 - R1	a	2,203,587	948,359	1,255,228	88,473	14.2	4.01
		100 - R1	a	6,201,456	688,087	5,513,369	131,026	42.1	2.11
		100 - R1	a	3,769,109	116,044	3,653,065	81,656	44.7	2.17
		100 - R1	a	9,866,687	374,833	9,491,854	212,251	44.7	2.15
		100 - R1	a	1,474,516	104,528	1,369,988	33,155	41.3	2.25
		40 - R1	0	14,454,920	4,133,462	10,321,458	316,947	32.6	2.19
				96,576,206	32,541,632	64,034,573	1,885,566		1.95
<b>TOTAL STRUCTURES AND IMPROVEMENTS</b>									
390.41		18 - S1.5	(5)	172,296	47,393	133,518	12,049	11.1	6.99
391.01		20 - SQ	0	6,123,943	2,758,685	3,365,258	545,669	6.2	8.91
391.02		7 - SQ	0	1,280,364	1,162,644	117,720	22,502	5.2	1.76
		7 - SQ	0	32,106	32,106	-	-	0.0	-
				1,312,470	1,194,749	117,720	22,502		
391.03		4 - SQ	0	5,036,439	4,179,097	857,341	269,180	3.2	5.34
		4 - SQ	0	112,628	112,628	-	-	0.0	-
				5,149,067	4,291,725	857,341	269,180		
391.04		10 - SQ	0	40,013,231	20,286,496	19,726,735	3,170,606	6.2	7.92
392.01		11 - L2.5	12	52,562,337	24,242,179	22,012,678	3,288,899	6.7	6.26
392.02		11 - L2.5	4	278,787	267,635	-	-	0.0	-
393		20 - SQ	0	56,813	19,826	36,987	2,840	13.0	5.00
		20 - SQ	0	585	585	-	-	0.0	-
				57,398	20,411	36,987	2,840		
<b>TOTAL ACCOUNT 393</b>									

QUESTAR GAS COMPANY dba DOMINION ENERGY UTAH

TABLE 1. ESTIMATED SURVIVOR CURVE, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT DECEMBER 31, 2017 (PER SETTLEMENT STIPULATION)

DEPRECIABLE GROUP (1)	PROBABLE RETIREMENT YEAR (2)	SURVIVOR CURVE (3)	NET SALVAGE PCT. (4)	ORIGINAL COST AT 12/31/2017 (5)	BOOK RESERVE AT 12/31/2017 (6)	FUTURE ACCRUALS (7)	ANNUAL ACCRUAL AMOUNT (8)	COMPOSITE REMAINING LIFE (9)	ANNUAL ACCRUAL RATE (10)
394.1 TOOLS SHOP AND GARAGE EQUIP. - SMALL TOOLS FULLY AMORTIZED <sup>b</sup>		10 - SQ	0	13,141,297	5,389,480	7,751,818	1,333,714	5.8	10.15
TOTAL ACCOUNT 394.1		10 - SQ	0	65,602	65,602	7,751,818	1,333,714	0.0	-
394.2 TOOLS SHOP AND GARAGE EQUIP. - SHOP EQUIP		20 - SQ	0	1,165,795	536,382	629,414	147,656	4.3	12.67
394.4 TOOLS SHOP AND GARAGE EQUIP. - CNG EQUIP		15 - SQ	0	17,324,943	7,845,235	9,479,708	1,016,541	9.3	5.87
FULLY AMORTIZED <sup>b</sup>		15 - SQ	0	75,532	75,532	-	-	0.0	-
TOTAL ACCOUNT 394.4				17,400,475	7,920,767	9,479,708	1,016,541		
395 LABORATORY EQUIPMENT		15 - SQ	0	7,048	5,403	1,645	470	3.5	6.67
FULLY AMORTIZED <sup>b</sup>		15 - SQ	0	54,070	54,070	-	-	0.0	-
TOTAL ACCOUNT 395				61,118	59,473	1,645	470		
396 POWER OPERATED EQUIPMENT		13 - L3	15	12,102,897	7,274,877	3,012,585	382,181	7.9	3.16
397.1 COMMUNICATION EQUIPMENT - MOBILE RADIO		5 - SQ	0	112,761	84,839	27,922	18,935	1.5	16.79
FULLY AMORTIZED <sup>b</sup>		5 - SQ	0	674,151	674,151	-	-	0.0	-
TOTAL ACCOUNT 397.1				786,912	758,990	27,922	18,935		
397.3 COMMUNICATION EQUIPMENT - BASE STATIONS		10 - SQ	0	12,757,080	3,728,588	9,028,491	2,942,331	3.1	23.06
FULLY AMORTIZED <sup>b</sup>		10 - SQ	0	281,555	281,555	-	-	0.0	-
TOTAL ACCOUNT 397.3				13,038,634	4,010,143	9,028,491	2,942,331		
397.5 COMMUNICATION EQUIPMENT - OTHER		10 - SQ	0	1,447,175	982,894	464,280	136,288	3.4	9.42
398 MISCELLANEOUS EQUIPMENT		15 - SQ	0	283,661	91,280	192,381	23,055	8.3	8.13
FULLY AMORTIZED <sup>b</sup>		15 - SQ	0	42,687	42,687	-	-	0.0	-
TOTAL ACCOUNT 398				326,348	133,967	192,381	23,055		
<b>TOTAL GENERAL PLANT</b>				<b>261,781,988</b>	<b>112,783,481</b>	<b>140,873,054</b>	<b>15,198,482</b>		<b>5.81</b>
<b>TOTAL DEPRECIABLE GAS PLANT STUDIED</b>				<b>2,776,827,573</b>	<b>870,811,424</b>	<b>2,925,869,729</b>	<b>76,354,259</b>		<b>2.75</b>
<b>GAS PLANT NOT STUDIED</b>									
PRODUCTION PLANT				79,968,136					
302 FRANCHISES AND CONSENTS				69,626					
360 LAND AND LAND RIGHTS				992,000					
374.11 LAND				14,812,775					
388 ASSET RETIREMENT COSTS, DISTRIBUTION				74,194,866					
389 LAND AND LAND RIGHTS				3,787,538					
399 OTHER TANGIBLE PROPERTY				52,300					
<b>TOTAL NOT STUDIED</b>				<b>173,877,241</b>					
<b>TOTAL GAS PLANT</b>				<b>2,950,704,814</b>					

a Life Span Procedure used. The Interim Survivor Curve is listed.  
b Values beyond the amortization period are considered fully amortized and are no longer depreciated.

## RESULTS AS ORIGINALLY FILED



QUESTAR GAS COMPANY dba DOMINION ENERGY UTAH  
**TABLE 1. ESTIMATED SURVIVOR CURVE, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND  
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT DECEMBER 31, 2017**

DEPRECIABLE GROUP (1)	PROBABLE RETIREMENT YEAR (2)	SURVIVOR CURVE (3)	NET SALVAGE PCT. (4)	ORIGINAL COST AT 12/31/2017 (5)	BOOK RESERVE AT 12/31/2017 (6)	FUTURE ACCRUALS (7)	ANNUAL ACCRUAL AMOUNT (8)	COMPOSITE REMAINING LIFE (9)	ANNUAL ACCRUAL RATE (10)	
<b>DEPRECIABLE GAS PLANT</b>										
<b>DISTRIBUTION PLANT</b>										
374.21			0	5,658,915	706,012	4,952,903	70,995	69.8	1.25	
375		75 - R3	(10)	16,505,532	334,726	17,821,359	591,344	30.1	3.58	
376		40 - R1	(47)	1,596,898,536	363,170,855	1,984,269,994	35,273,056	56.3	2.21	
377		67 - R2.5	(20)	14,446,634	64,857	17,271,104	616,163	28.0	4.27	
378		33 - R4	(33)	108,881,182	23,100,198	121,711,774	3,792,114	32.1	3.48	
380		38 - S0	(100)	413,430,548	239,035,397	587,825,700	14,316,940	41.1	3.46	
381.01		58 - R3	(5)	122,565,176	48,312,646	80,380,789	3,806,597	21.1	3.11	
381.11		31 - R3	(5)	114,708	88,018	26,690	6,444	4.1	5.62	
381.21		15 - L2	0	81,807,796	25,963,376	55,844,420	6,734,619	8.3	8.23	
382		13 - S3	(5)	137,965,772	46,958,486	97,905,574	2,847,396	34.4	2.06	
383		46 - R3	(5)	11,424,936	8,643,119	3,353,064	337,990	9.9	2.96	
384		31 - R3	(5)	3,223,420	1,229,776	2,154,815	59,607	36.2	1.85	
387		52 - R1.5	(5)	2,122,428	420,476	1,701,952	256,779	6.6	12.10	
387		12 - S2	0							
				<b>2,515,045,584</b>	<b>758,027,943</b>	<b>2,975,220,138</b>	<b>68,710,044</b>		<b>2.73</b>	
<b>GENERAL PLANT</b>										
390.01		100 - R1	a	2,581,371	416,938	2,164,433	63,019	34.3	2.44	
		80 - R1	a	44,815,471	20,682,502	24,132,969	737,426	32.7	1.65	
		6-2054	0	2,411,734	1,186,246	1,225,488	42,658	28.7	1.77	
		6-2048	a	939,221	364,868	574,353	18,773	30.6	2.00	
		6-2050	a	4,986,331	2,198,457	2,787,874	96,826	28.8	1.94	
		6-2048	a	1,093,144	475,501	620,740	20,336	30.5	1.86	
		6-2042	a	682,417	327,205	765,939	32,531	23.5	2.98	
		6-2033	a	2,203,587	524,602	1,578,151	40,489	15.0	1.54	
		6-2032	a	6,201,456	948,359	1,255,228	88,473	14.2	4.01	
		6-2063	a	3,769,109	688,087	5,513,369	131,026	42.1	2.11	
		6-2066	a	9,866,687	116,044	3,653,065	81,656	44.7	2.17	
		6-2066	a	1,474,516	374,833	9,491,854	212,251	44.7	2.15	
		6-2062	a	14,454,920	104,528	1,369,988	33,155	41.3	2.25	
		40 - R1	0	96,576,206	4,133,462	10,321,458	316,947	32.6	2.19	
					32,541,632	64,034,573	1,885,566		1.95	
390.41		18 - S1.5	(5)	172,296	47,393	133,518	12,049	11.1	6.99	
391.01		20 - SQ	0	6,123,943	2,758,685	3,365,258	545,669	6.2	8.91	
391.02		7 - SQ	0	1,280,364	1,162,644	117,720	22,502	5.2	1.76	
		7 - SQ	0	32,106	32,106	-	-	0.0	-	
				1,312,470	1,194,749	117,720	22,502			
391.03		4 - SQ	0	5,036,439	4,179,087	857,341	269,180	3.2	5.34	
		4 - SQ	0	112,628	112,628	-	-	0.0	-	
				5,149,067	4,291,725	857,341	269,180			
391.04		10 - SQ	0	40,013,231	20,286,496	19,726,735	3,170,606	6.2	7.92	
392.01		11 - L2.5	12	52,562,337	24,242,179	22,012,678	3,288,899	6.7	6.26	
392.02		11 - L2.5	4	278,787	267,635	-	-	0.0	-	
393		20 - SQ	0	56,813	19,826	36,987	2,840	13.0	5.00	
		20 - SQ	0	585	585	-	-	0.0	-	
				57,398	20,411	36,987	2,840			
394.1		10 - SQ	0	13,141,297	5,389,480	7,751,818	1,333,714	5.8	10.15	
		10 - SQ	0	65,602	65,602	-	-	0.0	-	
				13,206,900	5,455,082	7,751,818	1,333,714			

QUESTAR GAS COMPANY dba DOMINION ENERGY UTAH

TABLE 1. ESTIMATED SURVIVOR CURVE, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT DECEMBER 31, 2017

DEPRECIABLE GROUP (1)	PROBABLE RETIREMENT YEAR (2)	SURVIVOR CURVE (3)	NET SALVAGE PCT. (4)	ORIGINAL COST AT 12/31/2017 (5)	BOOK RESERVE AT 12/31/2017 (6)	FUTURE ACCRUALS (7)	ANNUAL ACCRUAL AMOUNT (8)	COMPOSITE REMAINING LIFE (9)	ANNUAL ACCRUAL RATE (10)
394.2		20 - SQ	0	1,165,795	536,382	629,414	147,656	4.3	12.67
394.4		15 - SQ	0	17,324,943	7,845,235	9,479,708	1,016,541	9.3	5.87
		15 - SQ	0	75,532	75,532	-	-	0.0	-
				<u>17,400,475</u>	<u>7,920,767</u>	<u>9,479,708</u>	<u>1,016,541</u>		
395		15 - SQ	0	7,048	5,403	1,645	470	3.5	6.67
		15 - SQ	0	54,070	54,070	-	-	0.0	-
				<u>61,118</u>	<u>59,473</u>	<u>1,645</u>	<u>470</u>		
396		13 - L3	15	12,102,897	7,274,877	3,012,585	382,181	7.9	3.16
397.1		5 - SQ	0	112,761	84,839	27,922	18,935	1.5	16.79
		5 - SQ	0	674,151	674,151	-	-	0.0	-
				<u>786,912</u>	<u>758,990</u>	<u>27,922</u>	<u>18,935</u>		
397.3		10 - SQ	0	12,757,080	3,728,588	9,028,491	2,942,331	3.1	23.06
		10 - SQ	0	281,555	281,555	-	-	0.0	-
				<u>13,038,634</u>	<u>4,010,143</u>	<u>9,028,491</u>	<u>2,942,331</u>		
397.5		10 - SQ	0	1,447,175	982,894	464,280	136,288	3.4	9.42
398		15 - SQ	0	283,661	91,280	192,381	23,055	8.3	8.13
		15 - SQ	0	42,687	42,687	-	-	0.0	-
				<u>326,348</u>	<u>133,967</u>	<u>192,381</u>	<u>23,055</u>		
<b>TOTAL GENERAL PLANT</b>				<b>261,781,988</b>	<b>112,783,481</b>	<b>140,873,054</b>	<b>15,198,482</b>		<b>5.81</b>
<b>TOTAL DEPRECIABLE GAS PLANT STUDIED</b>				<b>2,776,827,573</b>	<b>870,811,424</b>	<b>3,116,093,192</b>	<b>83,908,526</b>		<b>3.02</b>
<b>GAS PLANT NOT STUDIED</b>									
				79,968,136					
				69,626					
				982,000					
				14,812,775					
				74,194,866					
				3,787,538					
				52,300					
<b>TOTAL NOT STUDIED</b>				<b>173,877,241</b>					
<b>TOTAL GAS PLANT</b>				<b>2,950,704,814</b>					

a Life Span Procedure used. The Interim Survivor Curve is listed.

b Vintages beyond the amortization period are considered fully amortized and are no longer depreciated.