

**FIRST QUARTERLY  
PROJECT TRACKING  
REPORT 2018**

January 2018

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## EXECUTIVE SUMMARY

SPP actively monitors and supports the progress of transmission expansion projects, emphasizing the importance of maintaining accountability for areas such as regional grid reliability standards, firm transmission commitments, and Tariff cost recovery.

SPP staff solicits quarterly feedback from the project owners to determine the progress of each approved transmission project. This quarterly report charts the progress of all SPP Transmission Expansion Plan (STEP) projects approved by the SPP Board of Directors (Board) or through a FERC filed service agreement under the SPP Open Access Transmission Tariff (OATT).

The reporting period is August 1, 2017 through October 31, 2017. Table 1 provides a summary of all projects in the current Project Tracking Portfolio (PTP), which includes all Network Upgrades in which construction activities are ongoing, or construction has completed but not all the close-out requirements have been fulfilled in accordance with Section 13 of Business Practice 7060. The PTP includes all active Network Upgrades including transmission lines, transformers, substations, and devices.

Table 1 below summarizes the PTP for this quarter. Figure 1 reflects the percentage cost of each upgrade type in the PTP. Figure 2 shows the percentage cost of each project status in the PTP.

Upgrade Type	No. of Upgrades	Estimated Cost	Miles of New	Miles of Rebuild	Miles of Voltage Conversion
Economic	23	\$74,829,382	1.9	0.0	28.8
High Priority	61	\$1,114,960,503	757.7	5.1	0.0
Regional Reliability	351	\$3,214,044,137	1598.4	423.6	457.1
Transmission Service	18	\$100,495,428	12.9	15.3	0.0
Zonal Reliability	8	\$138,128,100	28.0	26.9	0.0
<b>NTC Projects Subtotal</b>	<b>461</b>	<b>\$4,642,457,550</b>	<b>2399.0</b>	<b>470.9</b>	<b>485.9</b>
Generation Interconnection	84	\$256,476,756	0.0	0.0	0.0
Regional Reliability - Non OATT	1	\$7,107,090	0.0	0.0	0.0
TO - Sponsored	3	\$16,719,000	10.7	0.0	0.0
<b>Non-NTC Projects Subtotal</b>	<b>88</b>	<b>\$280,302,846</b>	<b>10.7</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>549</b>	<b>\$4,922,760,396</b>	<b>2409.7</b>	<b>470.9</b>	<b>485.9</b>

**Table 1: Q1 2018 Portfolio Summary**

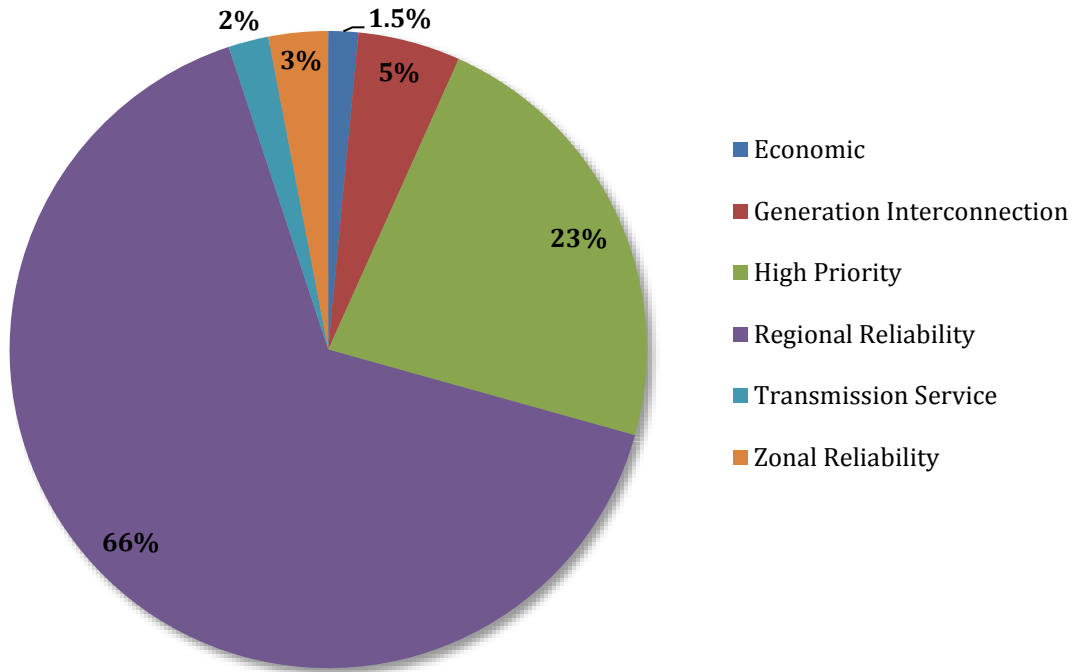


Figure 1: Percentage of Project Type on Cost Basis

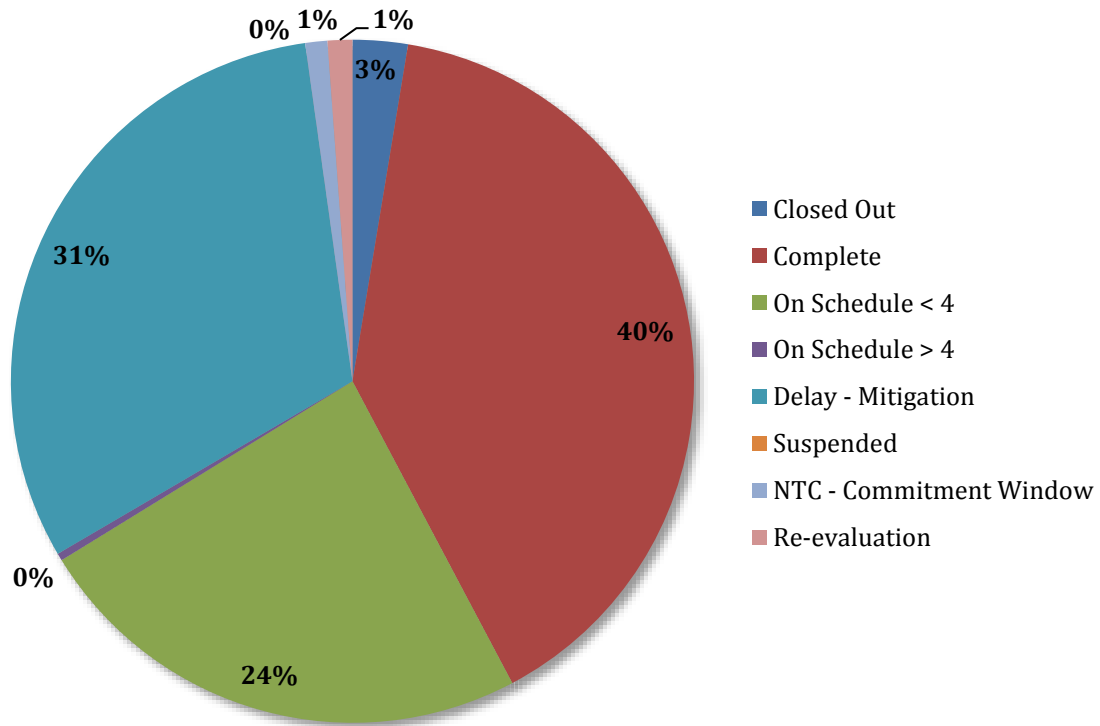


Figure 2: Percentage of Project Status on Cost Basis

## NTC PROJECT SUMMARY

In adherence to the OATT and Business Practice 7060, SPP issues Notifications to Construct (NTCs) to Designated Transmission Owners (DTOs) to begin work on Network Upgrades that have been approved or endorsed by the SPP Board to meet the construction needs of the STEP, OATT, or Regional Transmission Organization (RTO).

Figure 3 reflects project status within each source study, and Table 2 provides the supporting data. Figure 4 shows the amount of estimated cost by in-service year for all Network Upgrades that have been issued an NTC or Notifications to Construct with Conditions (NTC-C). **Note: Figures 3 and 4, and Table 2 provide data for all projects for which SPP has issued an NTC or NTC-C, regardless of completion date, and therefore include data from Network Upgrades no longer included in PTP.**

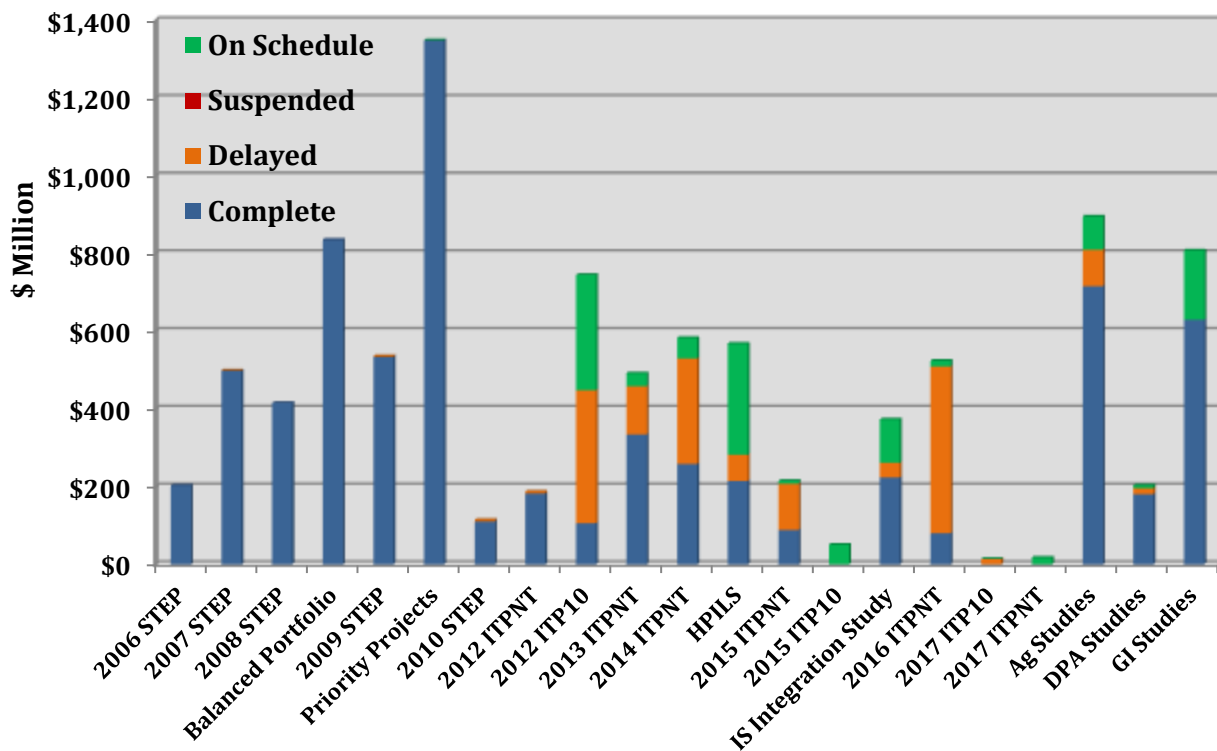


Figure 3: Project Status by NTC Source Study

Source Study	Complete	Delayed	Suspended	On Schedule	Total
2006 STEP	\$202,493,500	\$0	\$0	\$0	\$202,493,500
2007 STEP	\$498,368,218	\$393,563	\$0	\$0	\$498,761,781
2008 STEP	\$415,126,157	\$0	\$0	\$0	\$415,126,157
Balanced Portfolio	\$834,720,484	\$0	\$0	\$0	\$834,720,484
2009 STEP	\$533,469,214	\$1,441,050	\$0	\$0	\$534,910,264
Priority Projects	\$1,348,761,003	\$0	\$0	\$0	\$1,348,761,003
2010 STEP	\$109,968,782	\$4,041,273	\$0	\$0	\$114,010,055
2012 ITPNT	\$182,110,561	\$4,294,271	\$0	\$0	\$186,404,832
2012 ITP10	\$105,901,240	\$342,148,981	\$0	\$295,933,246	\$743,983,467
2013 ITPNT	\$333,999,035	\$130,387,317	\$0	\$33,289,587	\$497,675,939
2014 ITPNT	\$257,913,185	\$271,353,382	\$0	\$53,073,689	\$582,340,256
HPILS	\$214,658,160	\$157,726,337	\$0	\$285,465,421	\$657,849,918
2015 ITPNT	\$88,084,589	\$119,077,120	\$0	\$7,342,119	\$214,503,828
2015 ITP10	\$0	\$0	\$0	\$50,553,697	\$50,553,697
IS Integration Study	\$223,284,902	\$38,000,000	\$0	\$111,000,000	\$372,284,902
2016 ITPNT	\$79,924,328	\$428,831,040	\$0	\$14,675,075	\$523,430,443
2017 ITP10	\$0	\$13,975,764	\$0	\$0	\$13,975,764
2017 ITPNT	\$0	\$0	\$0	\$17,077,427	\$17,077,427
Ag Studies	\$715,580,900	\$100,245,986	\$0	\$85,871,775	\$901,698,661
DPA Studies	\$180,276,593	\$15,339,894	\$0	\$7,282,123	\$202,898,610
GI Studies	\$629,412,971	\$10,273,744	\$0	\$177,706,865	\$817,393,580
<b>Total</b>	<b>\$6,954,053,822</b>	<b>\$1,637,529,722</b>	<b>\$0</b>	<b>\$1,139,271,022</b>	<b>\$9,730,854,566</b>

Table 2: Project Status by NTC Source Study

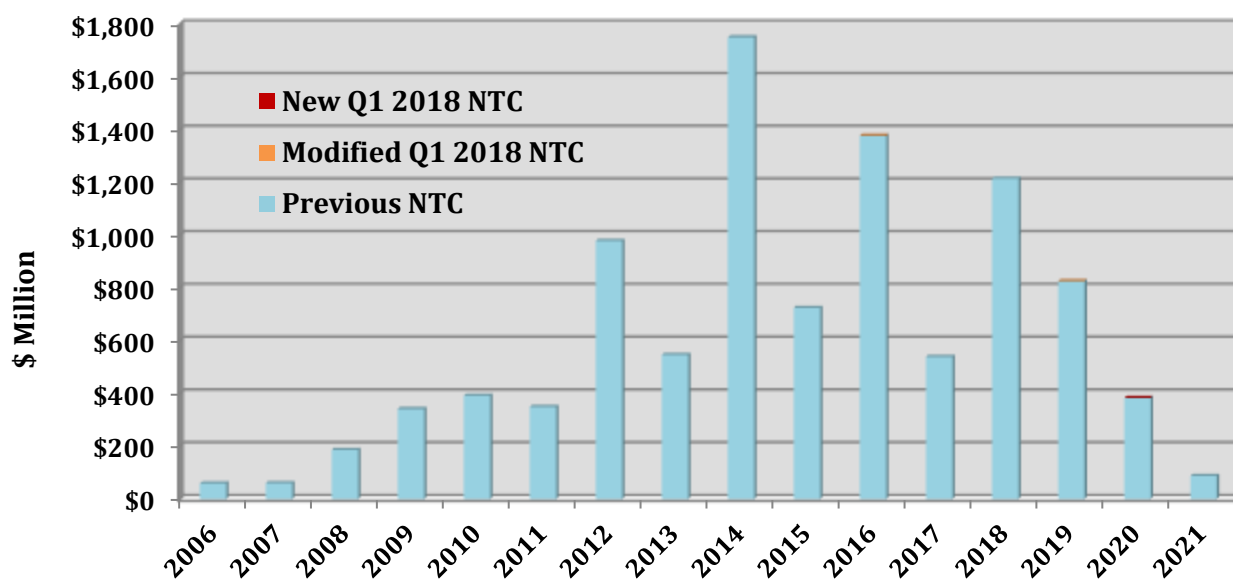


Figure 4: Estimated Cost for NTC Project per In-Service Year

### **NTC ISSUANCE**

Three new NTCs were issued in the reporting period totaling an estimated \$31.2 million.

One new NTCs were issued as a result of the Board’s approval of the 2017 Integrated Transmission Planning Near-Term Assessment (ITPNT). Total estimated cost of upgrades described in that NTCs are \$21.8 million.

One new NTC was issued as a result of Aggregate Study 2016-AG2-AFS-2. Total estimated costs for upgrades resulting from this NTC are \$9.2 million.

One NTC was issued resulting from Generation Interconnection study GEN-2015-016. Total estimated cost of the Network Upgrades are \$110 thousand.

NTC ID	Owner	NTC Issue Date	Upgrade Type	Source Study	No. of Upgrades	Estimated Cost of New Upgrades	Estimated Cost of Previously Approved Upgrades
200462	CPEC	8/2/2017	Regional Reliability	2017 ITPNT	2		\$21,780,000
200463	WR	8/16/2017	Generation Interconnection	GEN-2015-016	1	\$110,000	
200466	WR	9/21/2017	Regional Reliability	2016-AG2-AFS-2	4	\$9,260,540	
<b>Total</b>					<b>7</b>	<b>\$9,370,540</b>	<b>\$21,780,000</b>

**Table 3: NTC Issuance Summary**

### **NTC WITHDRAW**

One NTC was withdrawn for one Network Upgrade during the reporting period, totaling an estimated \$145.8 thousand. The NTC for this upgrade was issued out of Aggregate Study 2015-AG1-AFS-6 and is no longer needed.

Table 4 lists the NTC Withdraw activity during the reporting period. NTC ID values in **bold** font indicate NTC-Cs.

NTC ID	Owner	NTC Withdraw Date	Upgrade Type	Source Study	No. of Upgrades	Estimated Cost of Withdrawn Upgrades
<b>200464</b>	WR	9/21/2017	Transmission Service	SPP-2015-AG1-AFS-6	1	\$145,773
<b>Total</b>					<b>1</b>	<b>\$145,773</b>

**Table 4: NTC Withdraw Summary**

**COMPLETED PROJECTS**

Six Network Upgrades with NTCs were verified as completed during the reporting period, totaling an estimated \$39.4 million.

Table 5 lists the Network Upgrades reported and confirmed as completed during the reporting period. Table 6 summarizes the completed projects over the previous year, including Network Upgrades not yet confirmed as completed. Figure 5 reflects the completed projects by upgrade type on a cost basis for the current year and the following year based on current projected in-service dates. Tables 7 and 8 summarize all Network Upgrades that include construction of transmission lines, both for the current year and the following year. **Note: Previous quarter's updated results are listed as the Transmission Owners may make adjustments to final costs and status of projects completed during the year.**

UID	Network Upgrade Name	Owner	NTC Source Study	Cost Estimate
50608	Bobcat Canyon 345/115 kV Transformer Ckt 1	NPPD	2014 ITPNT	\$5,928,480
50609	Bobcat Canyon - Scottsbluff 115 kV Ckt 1	NPPD	2014 ITPNT	\$23,700,242
50616	Bobcat Canyon 345 kV Terminal Upgrades	NPPD	2014 ITPNT	\$4,072,936
51474	Minco 345kV Substation GEN-2014-056 Addition (TOIF)	OGE	GI Studies	\$5,000
51509	Berthold - Southwest Minot 115 kV Ckt 1 Reconductor	BEPC	2016 ITPNT	\$2,876,720
71925	Tap Coyote-Medford Tap 138kV - GEN-2015-015 Addition (NU)	OGE	GI Studies	\$2,840,000
<b>Total</b>				<b>\$39,423,378</b>

**Table 5: Completed Network Upgrades as of Q4 2017**

Upgrade Type	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Total
Regional Reliability	9	16	13	11	49
Regional Reliability	\$98,767,760	\$112,710,788	\$42,899,461	\$157,568,378	\$411,946,387
Transmission Service	0	1	0	0	1
Transmission Service	\$0	\$228,364	\$0	\$0	\$228,364
Balanced Portfolio	0	0	0	0	0
Balanced Portfolio	\$0	\$0	\$0	\$0	\$0
High Priority	8	0	5	0	13
High Priority	\$523,778,049	\$0	\$36,074,471	\$0	\$559,852,520
Economic	0	0	0	0	0
Economic	\$0	\$0	\$0	\$0	\$0
Zonal Reliability	0	0	0	0	0
Zonal Reliability	\$0	\$0	\$0	\$0	\$0
Generation Interconnection	11	8	11	14	44
Generation Interconnection	\$28,039,697	\$14,242,460	\$38,872,518	\$39,126,045	\$120,280,720

**Table 6: Completed Project Summary as of Q4 2017**



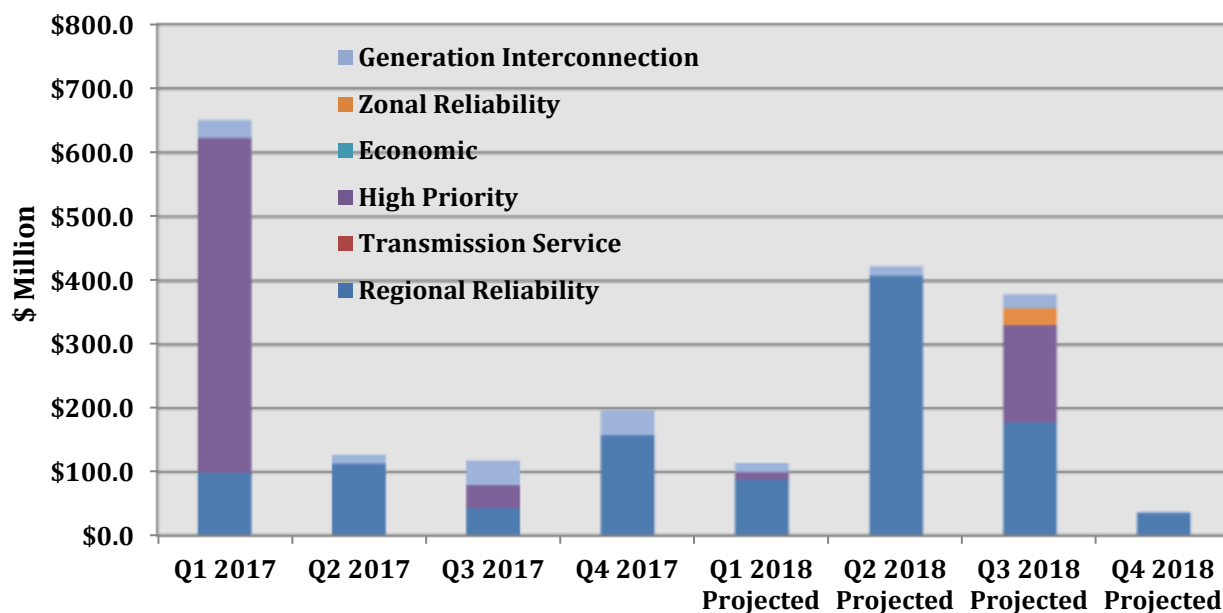


Figure 5: Completed Upgrades by Type per Quarter

Voltage Class	Number of Upgrades	New	Rebuild/Reconductor	Voltage Conversion	Estimated Cost
69	6	7.9	30.4	69.0	\$47,667,540
115	12	67.8	42.6	0.0	\$91,410,897
138	3	27.5	16.5	138.0	\$33,750,509
161	1	0.0	11.1	0.0	\$12,705,537
230	2	32.0	0.0	0.0	\$44,100,000
345	6	377.7	0.0	0.0	\$633,456,253
<b>Total</b>	<b>30</b>	<b>512.9</b>	<b>100.7</b>	<b>207.0</b>	<b>\$863,090,736</b>

Table 7: Line Upgrade Summary for Previous 12 Months

Voltage Class	Number of Upgrades	New	Rebuild/Reconductor	Voltage Conversion	Estimated Cost
69	9	3.9	40.0	69.0	\$64,345,742
115	20	149.7	29.9	13.0	\$151,493,161
138	11	110.0	2.4	0.0	\$102,067,394
161	1	17.0	0.0	0.0	\$29,069,150
230	2	18.8	0.0	0.0	\$31,270,623
345	12	329.5	0.0	28.8	\$408,278,114
<b>Total</b>	<b>55</b>	<b>628.9</b>	<b>72.3</b>	<b>110.8</b>	<b>\$786,524,183</b>

Table 8: Line Upgrade Projections for Next 12 Months

### PROJECT STATUS SUMMARY

SPP assigns a project status to all Network Upgrades based on the projected in-service dates provided by the DTOs relative to the Need Date determined for the project. Project status definitions are provided below:

- **Complete:** Construction complete and in-service
- **Closed Out:** Construction complete and in-service; all close-out requirements fulfilled
- **On Schedule < 4:** On Schedule within 4-year horizon
- **On Schedule > 4:** On Schedule beyond 4-year horizon
- **Delayed:** Projected In-Service Date beyond Need Date; interim mitigation provided or project may change but time permits the implementation of project
- **Within NTC Commitment Window:** NTC/NTC-C issued, still within the 90-day written commitment to construct window and no commitment received
- **Within NTC-C Project Estimate Window:** Within the NTC-C Project Estimate (CPE) window
- **Within RFP Response Window:** RFP issued for the project
- **Re-evaluation:** Project active; pending re-evaluation
- **Suspended:** Project suspended; pending re-evaluation

Figure 6 reflects a summary of project status by upgrade type on a cost basis.

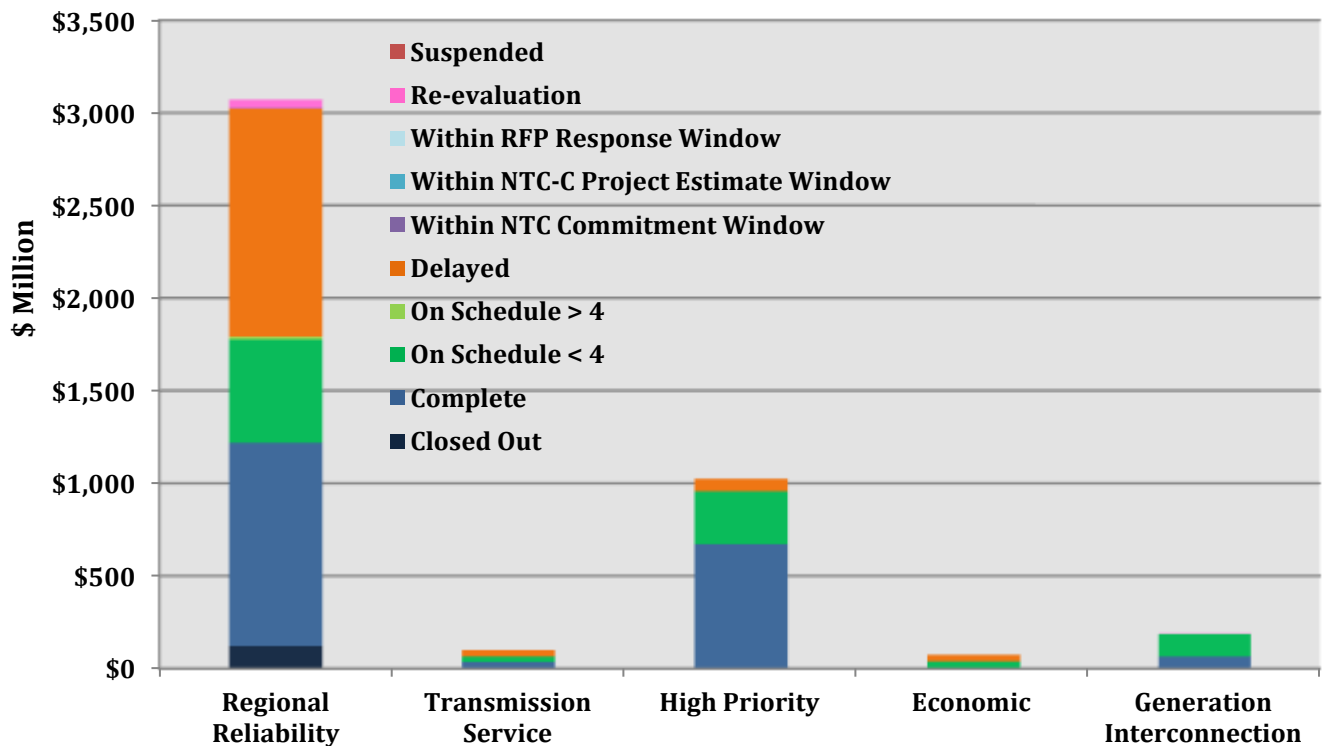


Figure 6: Project Status Summary on a Cost Basis

## OUT-OF-BANDWIDTH PROJECTS

In adherence to the Business Practice 7060, SPP reports projects that have updated cost values that exceed their established baseline values based upon a  $\pm 20\%$  bandwidth. Variances are determined by total project cost.

Seven projects with a cost estimate greater than \$5 million were identified as having exceeded the  $\pm 20\%$  bandwidth requirement during the reporting period.

Table 9 provides summary information and Table 10 lists cost detail for out-of-bandwidth projects for Q4 2017.

PID	Project Name	Owner	NTC Source Study	Upgrade Type	In-Service Date
30596	Multi - Broken Bow Wind - Ord 115 kV Ckt 1	NPPD	2014 ITPNT	Regional Reliability	6/1/2018
30637	Multi - Hobbs - Kiowa 345 kV Ckt 1	SPS	HPILS	High Priority	4/30/2018
30817	Line - Canyon West - Dawn - Panda - Deaf Smith 115 kV Ckt 1 Rebuild	SPS	2016 ITPNT	Regional Reliability	12/15/2018
1001	Line - Randall - South Georgia and Osage Station 115 kV Line Re-termination	SPS	Ag Studies	Regional Reliability	4/19/2017
30694	Multi - Ponderosa - Ponderosa Tap 115 kV	SPS	HPILS	High Priority	6/1/2017
30988	Sub - Eddy Co. 230 kV Bus Tie	SPS	Ag Studies	Transmission Service	11/30/2019
31127	Line - Knoll - Post Rock 230 kV New Line Ckt 2	MIDW	2017 ITP10	Economic	6/1/2019

**Table 9: Out-of-Bandwidth Project Summary**

PID	Baseline Cost Estimate	Baseline Cost Estimate Year	Baseline Cost Estimate with Escalation	Latest Estimate or Final Cost	Variance	Variance %
30596	\$34,593,371	2014	\$37,253,277	\$28,534,673	(\$8,718,604)	-23.40%
30637	\$71,058,482	2014	\$76,522,213	\$58,767,041	(\$17,755,172)	-23.20%
30817	\$19,159,617	2016	\$19,638,607	\$12,787,234	(\$6,851,373)	-34.89%
1001	\$10,316,217	2016	\$10,574,122	\$13,179,208	\$2,605,086	24.64%
30694	\$13,201,633	2014	\$14,216,715	\$10,222,364	(\$3,994,351)	-28.10%
30988	\$10,425,309	2016	\$10,685,942	\$15,929,021	\$5,243,079	49.07%
31127	\$3,872,285	2017	\$3,872,285	\$5,400,044	\$1,527,759	39.45%

**Table 10: Out-of-Bandwidth Project Cost Detail**

## RESPONSIVENESS REPORT

Table 11 and Figures 7 and 8 provide insight into the responsiveness of DTOs constructing Network Upgrades within SPP in the Quarterly Project Tracking Report for Q3 2017. **Note: Network Upgrades with statuses of “Suspended”, “Re-evaluation”, “Within NTC Commitment Window”, “Within NTC-C Project Estimate Window”, and “Within RFP Response Window” were excluded from this analysis.**

Project Owner	Number of Upgrades	Number of Upgrades Reviewed	Reviewed %	In-Service Date Changes	ISD Change %	Cost Changes	Cost Change %
AEP	61	61	100%	2	3%	1	2%
BEPC	24	8	33%	0	0%	0	0%
GMO	2	2	100%	1	50%	0	0%
GRDA	10	1	10%	1	10%	0	0%
ITCGP	7	2	29%	2	29%	2	29%
KCPL	8	8	100%	1	13%	0	0%
LES	0	0	0%	0	0%	0	0%
MIDW	11	11	100%	0	0%	3	27%
MKEC	7	7	100%	1	14%	7	100%
NPPD	38	20	53%	3	8%	3	8%
OGE	47	5	11%	4	9%	0	0%
OPPD	14	14	100%	0	0%	0	0%
SPS	185	183	99%	35	19%	49	26%
TSMO	7	7	100%	0	0%	1	14%
WFEC	29	1	3%	0	0%	8	28%
WR	38	37	97%	4	11%	6	16%
<b>Total</b>	<b>501</b>	<b>379</b>	<b>76%</b>	<b>55</b>	<b>11%</b>	<b>87</b>	<b>17%</b>

**Table 11: Responsiveness Summary by Project Owner**

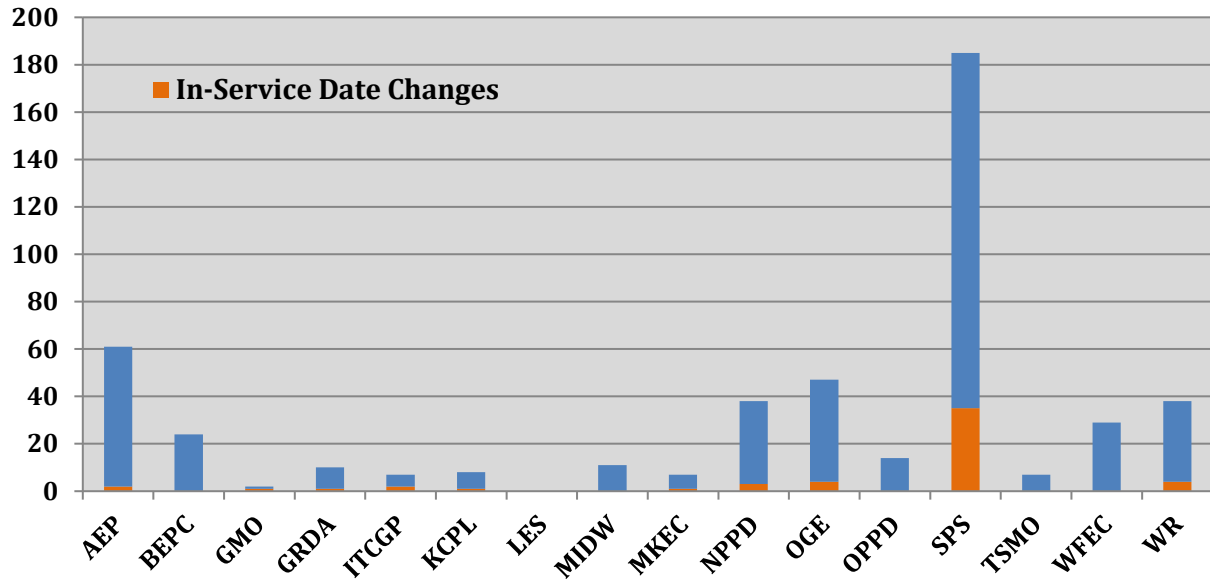


Figure 7: In-Service Date Changes by Project Owner

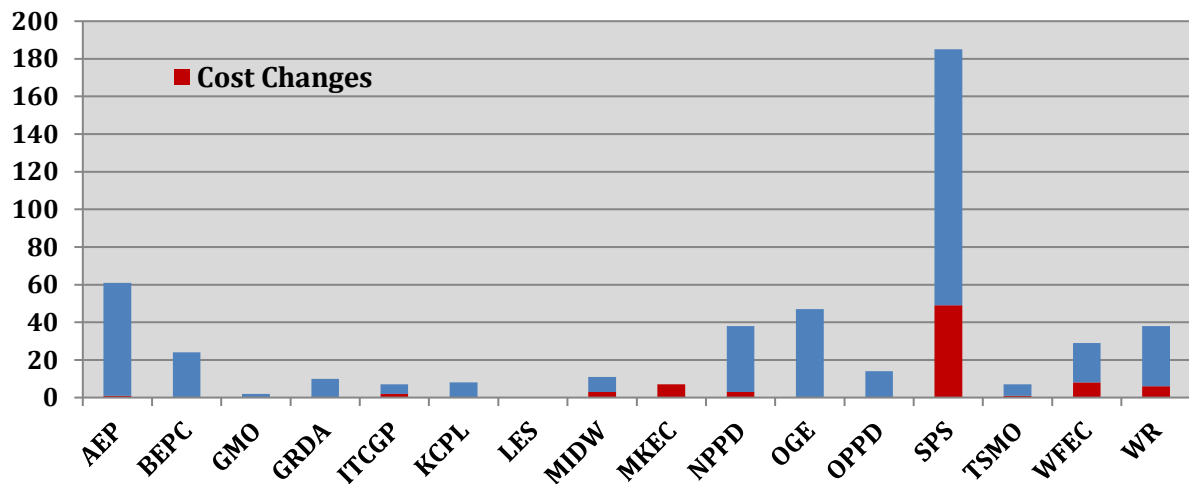


Figure 8: Cost Changes by Project Owner

## APPENDIX 1

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*{See accompanying list of active Applicable Projects}*