

**FOURTH QUARTERLY  
PROJECT TRACKING  
REPORT 2018**

October 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.

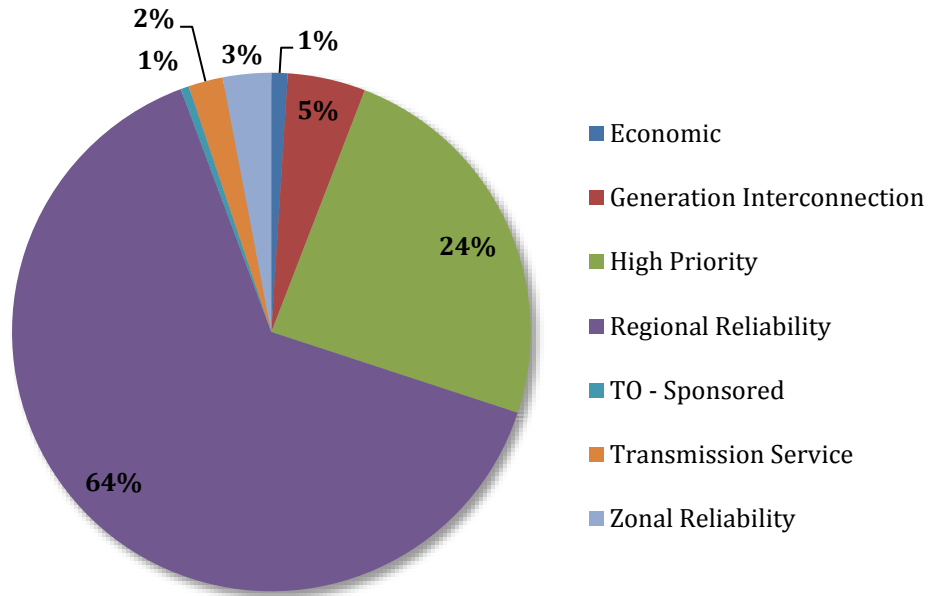
SPP staff solicits quarterly feedback from the project owners to determine the progress of each approved transmission project. This quarterly report charts the progress of all SPP Transmission Expansion Plan (STEP) projects approved by the SPP Board of Directors (Board) or through a FERC filed service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

The reporting period is May 1, 2018 through July 31, 2018. 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.

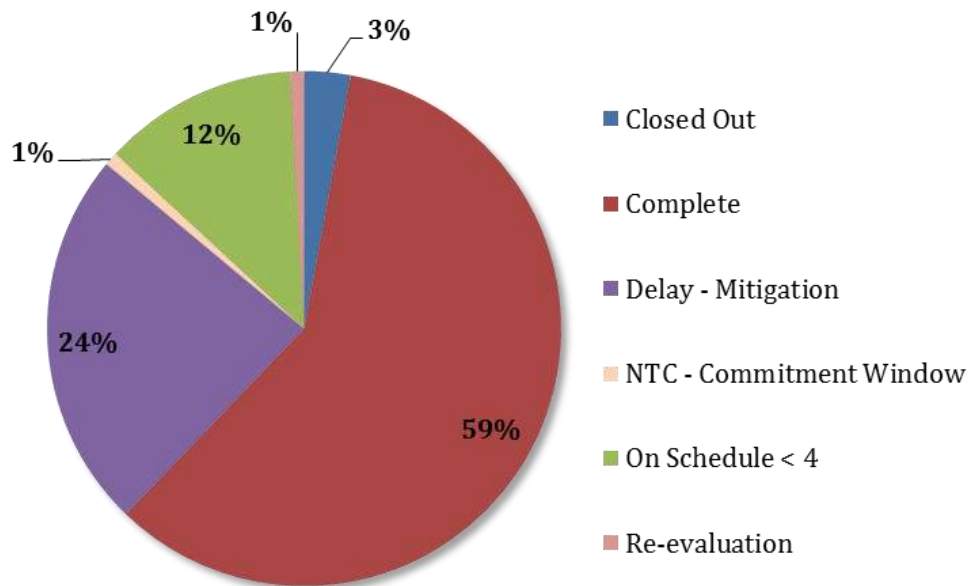
Table 1 summarizes the PTP for this quarter. Figure 1 reflects the percentage cost of each upgrade type in the PTP. Figure 2 shows the percentage cost of each project status in the PTP.

Upgrade Type	No. of Upgrades	Estimated Cost	Miles of New	Miles of Rebuild	Miles of Voltage Conversion
Economic	18	\$46,251,736	0.7	0.0	28.8
Generation Interconnection	1	\$110,000	0.0	0.0	0.0
High Priority	61	\$1,100,610,110	755.8	5.1	0.0
Regional Reliability	367	\$2,795,444,177	1459.4	451.9	560.7
Transmission Service	14	\$97,489,997	12.9	14.0	0.0
Zonal Reliability	7	\$137,322,476	28.0	26.9	0.0
<b>NTC Projects Subtotal</b>	<b>468</b>	<b>\$4,177,228,496</b>	<b>2256.8</b>	<b>497.9</b>	<b>589.5</b>
Generation Interconnection	73	\$220,977,108	0.1	0.0	0.0
Regional Reliability	13	\$129,920,254	204.3	0.0	0.0
TO - Sponsored	4	\$23,815,402	10.7	0.0	0.0
<b>Non-NTC Projects Subtotal</b>	<b>90</b>	<b>\$374,712,764</b>	<b>215.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>558</b>	<b>\$4,551,941,260</b>	<b>2471.9</b>	<b>497.9</b>	<b>589.5</b>

**Table 1: Q4 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-Cs). **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.**

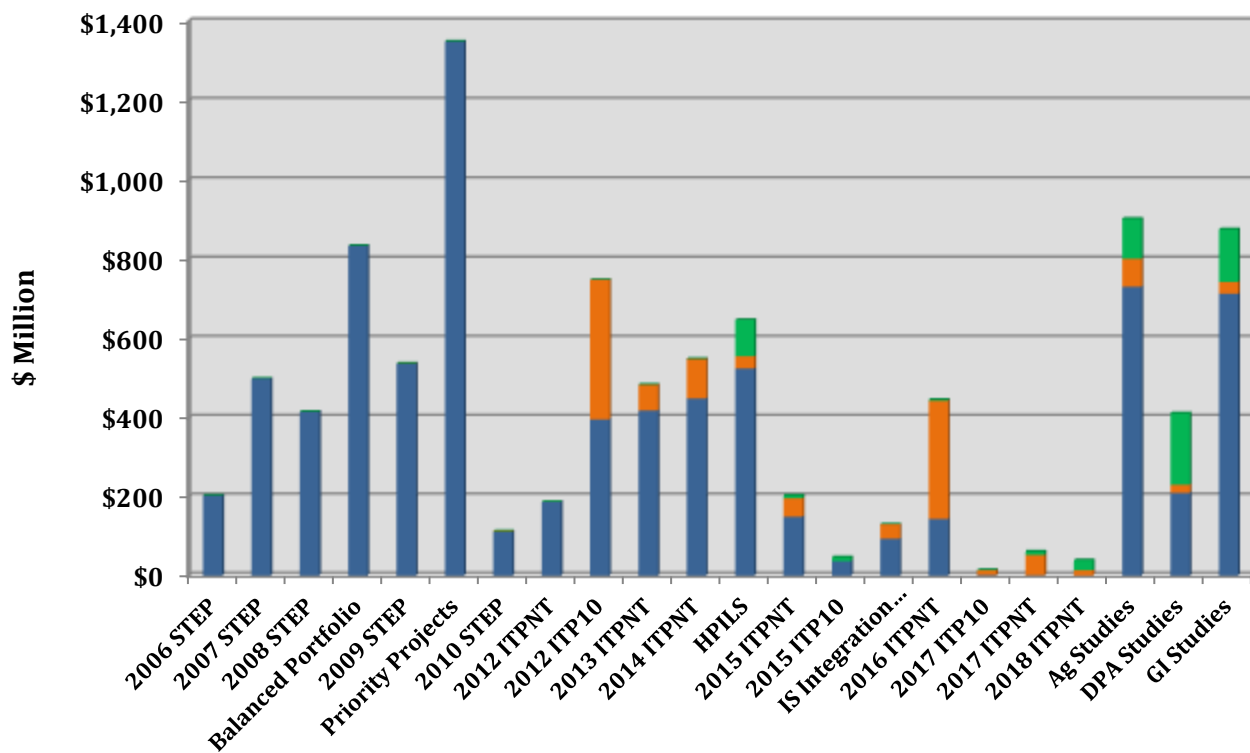


Figure 3: Project Status by NTC Source Study

Source Study	Complete	Delayed	Suspended	On Schedule	Total
2006 STEP	\$202,493,500	\$0	\$0	\$0	\$202,493,500
2007 STEP	\$498,942,857	\$0	\$0	\$0	\$498,942,857
2008 STEP	\$415,126,157	\$0	\$0	\$0	\$415,126,157
Balanced Portfolio	\$834,720,484	\$0	\$0	\$0	\$834,720,484
2009 STEP	\$536,483,170	\$700,000	\$0	\$0	\$537,183,170
Priority Projects	\$1,349,223,655	\$0	\$0	\$0	\$1,349,223,655
2010 STEP	\$109,968,782	\$2,087,292	\$0	\$0	\$112,056,074
2012 ITPNT	\$186,404,832	\$0	\$0	\$0	\$186,404,832
2012 ITP10	\$395,522,426	\$353,555,881	\$0	\$0	\$749,078,307
2013 ITPNT	\$418,008,576	\$65,534,744	\$0	\$0	\$483,543,320
2014 ITPNT	\$448,217,337	\$100,700,170	\$0	\$0	\$548,917,507
HPILS	\$524,611,456	\$30,716,736	\$0	\$92,412,137	\$647,740,329
2015 ITPNT	\$148,660,717	\$46,804,769	\$0	\$7,482,485	\$202,947,970
2015 ITP10	\$35,702,455	\$0	\$0	\$10,193,697	\$45,896,152
IS Integration Study	\$93,137,445	\$36,309,972	\$0	\$0	\$129,447,417
2016 ITPNT	\$142,750,812	\$299,982,022	\$0	\$2,802,653	\$445,535,486
2017 ITP10	\$853,465	\$12,520,816	\$0	\$305,000	\$13,679,281
2017 ITPNT	\$578,944	\$50,881,525	\$0	\$9,241,209	\$60,701,678
2018 ITPNT	\$0	\$13,042,310	\$0	\$25,374,757	\$38,417,067
Ag Studies	\$731,843,090	\$70,403,462	\$0	\$100,786,990	\$903,033,542
DPA Studies	\$208,832,228	\$21,147,448	\$0	\$181,238,856	\$411,218,531
GI Studies	\$713,966,376	\$29,736,870	\$0	\$132,952,878	\$876,656,124
<b>Total</b>	<b>\$7,996,048,760</b>	<b>\$1,134,124,016</b>	<b>\$0</b>	<b>\$562,790,661</b>	<b>\$9,692,963,438</b>

Table 2: Project Status by NTC Source Study

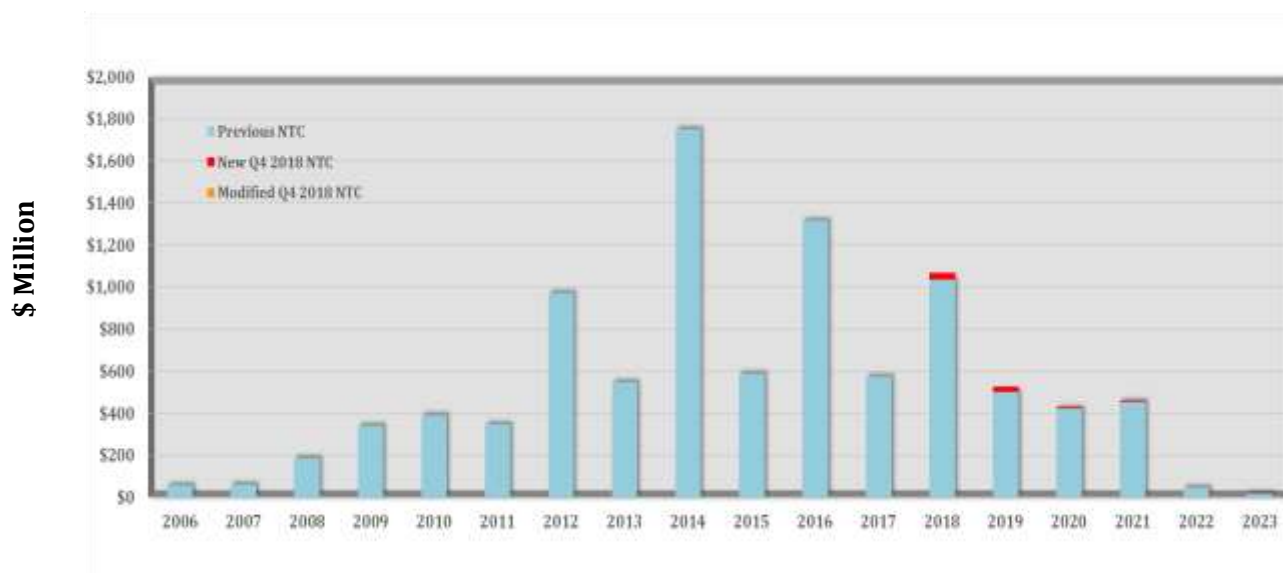


Figure 4: Estimated Cost for NTC Project per In-Service Year

**NTC ISSUANCE**

One new NTC-C was issued as a result of Attachment AQ study DPA-2017-December-815. Total estimated costs of the upgrades listed are \$31.1 million. On June 12, 2018, SPP received WFEC's NTC-C Project Estimates ("CPE") for the Network Upgrades specified in the NTC-C No. 210485. SPP has reviewed the CPEs and determined that the requirements of Condition No. 1 of the NTC-C have been met. NTC 210489 was issued as a result.

Table 3 lists the NTCs issued during the reporting period. NTC IDs in **bold** font indicate NTC-Cs.

NTC ID	Transmission Owner	NTC Issue Date	Upgrade Type	Source Study	No. of Upgrades	Estimated Cost of New Upgrades	Estimated Cost of Previously Approved Upgrades
<b>210485</b>	WFEC	5/18/2018	Regional Reliability	DPA-2017-December-815	5	\$31,100,000	\$0
210489	WFEC	7/9/2018	Regional Reliability	DPA-2017-December-815	5	\$31,100,000	\$0
<b>Total</b>					<b>10</b>	<b>\$62,200,000</b>	<b>\$0</b>

**Table 3: NTC Issuance Summary**

**NTC WITHDRAWAL**

NTCs were withdrawn for two Network Upgrades during the reporting period, with costs totaling an estimated \$550 thousand. Upgrades withdrawn in NTC 210488 were previously issued as a result of SPP Aggregate Study 2014-AG1-AFS-6. These upgrades were evaluated by SPP staff and determined to no longer be needed.

Table 4 lists the NTC Withdraw activity during the reporting period.

NTC ID	Transmission Owner	NTC Withdraw Date	Upgrade Type	Source Study	No. of Upgrades	Estimated Cost of Withdrawn Upgrades
210488	GRDA	6/28/2018	Regional Reliability	SPP-2014-AG1-AFS-6	1	\$550,000
<b>Total</b>					<b>1</b>	<b>\$550,000</b>

**Table 4: NTC Withdraw Summary**

**COMPLETED UPGRADES**

Fourteen Network Upgrades with NTCs were verified as completed during the reporting period, totaling an estimated \$328.5 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 quarters' updated results are listed as the Transmission Owners may make adjustments to final cost and status of projects completed during the year.**

UID	Network Upgrade Name	Owner	NTC Source Study	Cost Estimate
10646	Evenside - Northwest Henderson 69 kV Ckt 1	AEP	2013 ITPNT	\$11,980,465
11142	Sub 917 - Sub 918 69 kV Ckt 1	OPPD	2013 ITPNT	\$475,340
50210	ONEILL 115KV	NPPD	2009 STEP	\$1,772,846
50441	Neligh 345/115 kV Substation	NPPD	2014 ITPNT	\$10,381,296
50532	Geary County 345/115 kV Substation	WR	2014 ITPNT	\$22,470,822
50564	Market St. - South Portales 115 kV Ckt 1	SPS	2013 ITPNT	\$5,400,000
50605	Geary County 345 kV	WR	2014 ITPNT	\$16,290,638
50612	Viola 345 kV Terminal Equipment	WR	2013 ITPNT	\$2,718,649
50748	S906 - S924 69 kV Ckt 1 Rebuild	OPPD	2014 ITPNT	\$1,360,327
50749	S924 - S912 69 kV Ckt 1 Terminal Upgrades	OPPD	2014 ITPNT	\$69,679
50760	North Loup - Ord 115 kV Ckt 1	NPPD	2014 ITPNT	\$516,009
50794	Curry County Interchange 115 kV	SPS	2014 ITPNT	\$2,965,311
50805	SW Station - Warwick Tap 138 kV Ckt 1	OGE	HPILS	\$12,767,120
50806	Linwood - SW Station 138 kV Ckt 1	OGE	HPILS	\$9,899,440
50807	Knipe - SW Station 138 kV Ckt 1	OGE	HPILS	\$9,128,020
50819	China Draw - North Loving 345 kV Ckt 1	SPS	HPILS	\$19,396,705
50820	Kiowa - North Loving 345 kV Ckt 1	SPS	HPILS	\$23,082,520
50849	China Draw 345/115 kV Ckt 1 Transformer	SPS	HPILS	\$5,234,609
50850	China Draw 345 kV Ckt 1 Terminal Upgrades	SPS	HPILS	\$5,469,757
50854	North Loving 345 kV Terminal Upgrades	SPS	HPILS	\$5,345,796
50954	Ochoa - Ponderosa Tap 115 kV Ckt 1 Rebuild	SPS	Ag Studies	\$4,200,000
50991	Anthony - Bluff City 138 kV Ckt 1	MKEC	2016 ITPNT	\$14,472,753
50992	Tuco 230/115 kV Ckt 1 Transformer	SPS	2017 ITPNT	\$200,000
50993	Bluff City - Caldwell 138 kV Ckt 1	MKEC	2016 ITPNT	\$10,401,473
50994	Caldwell - Mayfield 138 kV Ckt 1	MKEC	2016 ITPNT	\$7,311,543
50995	Mayfield - Milan 138 kV Ckt 1	MKEC	2016 ITPNT	\$5,658,800
51151	Iatan 345 kV Voltage Conversion	KCPL	2015 ITP10	\$1,886,472
51200	Bassett 115 kV Substation	NPPD	2015 ITPNT	\$5,163,000
51207	Linwood - South Shreveport 138 kV Ckt 1 Rebuild	AEP	2016 ITPNT	\$5,919,107
51235	Stevens Co. 345 kV Substation	SPS	2015 ITPNT	\$13,600,000
51240	Walkemeyer - Stevens Co. 115 kV Ckt 1	SEPC	2015 ITPNT	\$1,673,590
51241	Walkemeyer 115 kV Terminal Upgrades	SEPC	2015 ITPNT	\$7,246,297
51277	Bassett 115 kV Cap Bank	NPPD	2015 ITPNT	\$902,000
51283	Iatan - Stranger Creek 345 kV Ckt 1 Voltage Conversion (GMO)	GMO	2015 ITP10	\$7,685,983
51284	Iatan - Stranger Creek 345 kV Ckt 1 Voltage Conversion (WR)	WR	2015 ITP10	\$23,000,000
51326	Walkemeyer Tap 345 kV Substation (SEPC)	SEPC	2015 ITPNT	\$3,686,933



UID	Network Upgrade Name	Owner	NTC Source Study	Cost Estimate
51327	Stevens Co. 345/115 kV Transformer	SEPC	2015 ITPNT	\$8,305,939
51332	Ingalls 115 kV Cap Bank	SEPC	DPA Studies	\$5,527,627
51394	Viola 138 kV Line Tap (MKEC)	MKEC	2016 ITPNT	\$3,836,068
51395	Viola 138 kV Line Tap (WR)	WR	2016 ITPNT	\$2,162,471
51409	Potash Junction 230 kV Terminal Upgrade	SPS	Ag Studies	\$63,251
51448	Elk City 138 kV Move Load	AEP	2016 ITPNT	\$2,904,911
51454	Duncan - Tosco 69 kV Ckt 1 Rebuild	AEP	2016 ITPNT	\$5,974,766
51473	TUCO Interchange 345/230kV CKT 1 Replacement	SPS	GI Studies	\$3,347,036
51549	Terry Co. - Wolfforth 115 kV Terminal Upgrades	SPS	2016 ITPNT	\$1,461,643
51613	Tap Centerville-Marmaton 161kV GEN-2015-016 Addition (TOIF)	KCPL	GI Studies	\$581,433
51614	Tap Centerville-Marmaton 161kV GEN-2015-016 Addition (NU)	KCPL	GI Studies	\$7,978,000
51615	Tap Centerville-Marmaton 161kV GEN-2015-016 Addition (WERE)	WR	GI Studies	\$110,000
51826	Hancock - Muskogee 161 kV Ckt 1 Terminal Upgrades	OGE	Ag Studies	\$37,638
72013	Park Community 138 kV Substation	WFEC	DPA Studies	\$2,000,000
72029	Kingfisher SW - Park Community 138 kV Ckt 1 New Line	WFEC	DPA Studies	\$4,500,000
<b>Total</b>				<b>\$328,524,083</b>

**Table 5: Network Upgrades Completed During Reporting Period**

Upgrade Type	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Total
Regional Reliability	7	21	21	37	<b>86</b>
Regional Reliability	\$59,625,259	\$220,475,488	\$339,689,320	\$172,408,933	<b>\$792,199,000</b>
Transmission Service	0	1	0	3	<b>4</b>
Transmission Service	\$0	\$25,635,637	\$0	\$200,000	<b>\$25,835,637</b>
High Priority	0	2	9	15	<b>26</b>
High Priority	\$0	\$23,827,238	\$112,436,131	\$139,229,416	<b>\$275,492,785</b>
Economic	0	0	3	3	<b>6</b>
Economic	\$0	\$0	\$853,465	\$32,572,455	<b>\$33,425,920</b>
Zonal Reliability	0	1	0	0	<b>1</b>
Zonal Reliability	\$0	\$16,110,343	\$0	\$0	<b>\$16,110,343</b>
Generation Interconnection	10	3	9	4	<b>26</b>
Generation Interconnection	\$23,760,680	\$4,631,257	\$25,693,954	\$12,016,469	<b>\$66,102,360</b>

**Table 6: Completed Project Summary as of Q3 2018**

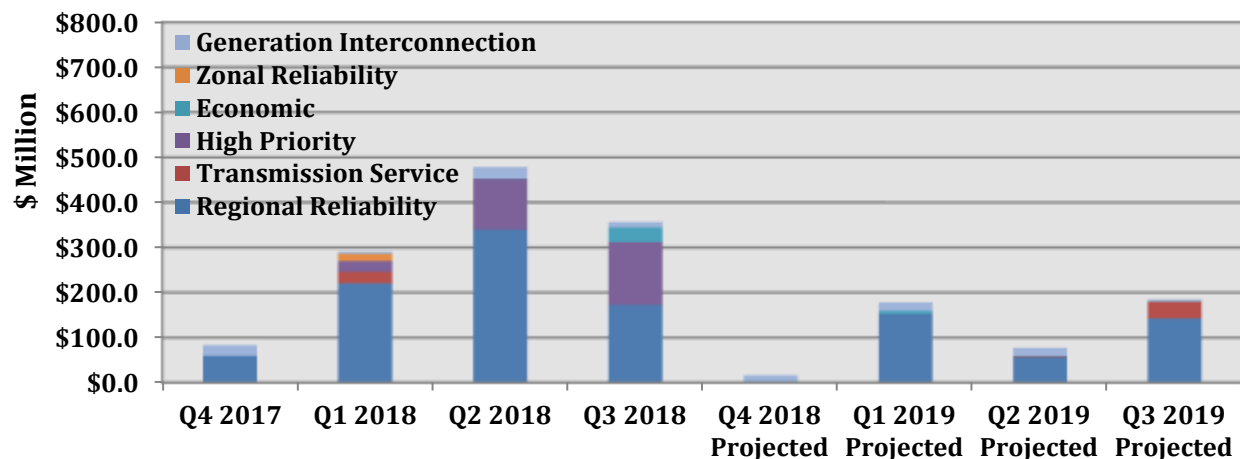


Figure 5: Completed Upgrades by Type per Quarter

Voltage Class	Number of Upgrades	New Line	Rebuild/Reconductor	Voltage Conversion	Estimated Cost
69	6	0.0	29.2	0.0	\$44,236,569
115	16	151.4	56.4	13.0	\$139,710,980
138	2	27.3	0.0	0.0	\$23,880,946
161	0	0.0	0.0	0.0	\$0
230	2	18.8	0.0	0.0	\$30,670,623
345	8	352.0	0.0	0.0	\$368,248,187
<b>Total</b>	<b>34</b>	<b>549.5</b>	<b>85.6</b>	<b>13.0</b>	<b>\$606,747,304</b>

Table 7: Line Upgrade Summary for Previous 12 Months

Voltage Class	Number of Upgrades	New Line	Rebuild/Reconductor	Voltage Conversion	Estimated Cost
69	7	18.6	15.2	69.0	\$43,713,787
115	13	44.4	16.0	10.3	\$68,806,682
138	12	130.8	7.5	0.0	\$127,376,220
161	1	19.4	0.0	0.0	\$20,690,401
230	1	0.7	0.0	0.0	\$2,157,736
345	6	39.2	0.0	28.8	\$84,652,630
<b>Total</b>	<b>40</b>	<b>253.1</b>	<b>38.7</b>	<b>108.2</b>	<b>\$347,397,456</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 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:** Request For Proposal 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 cost basis.

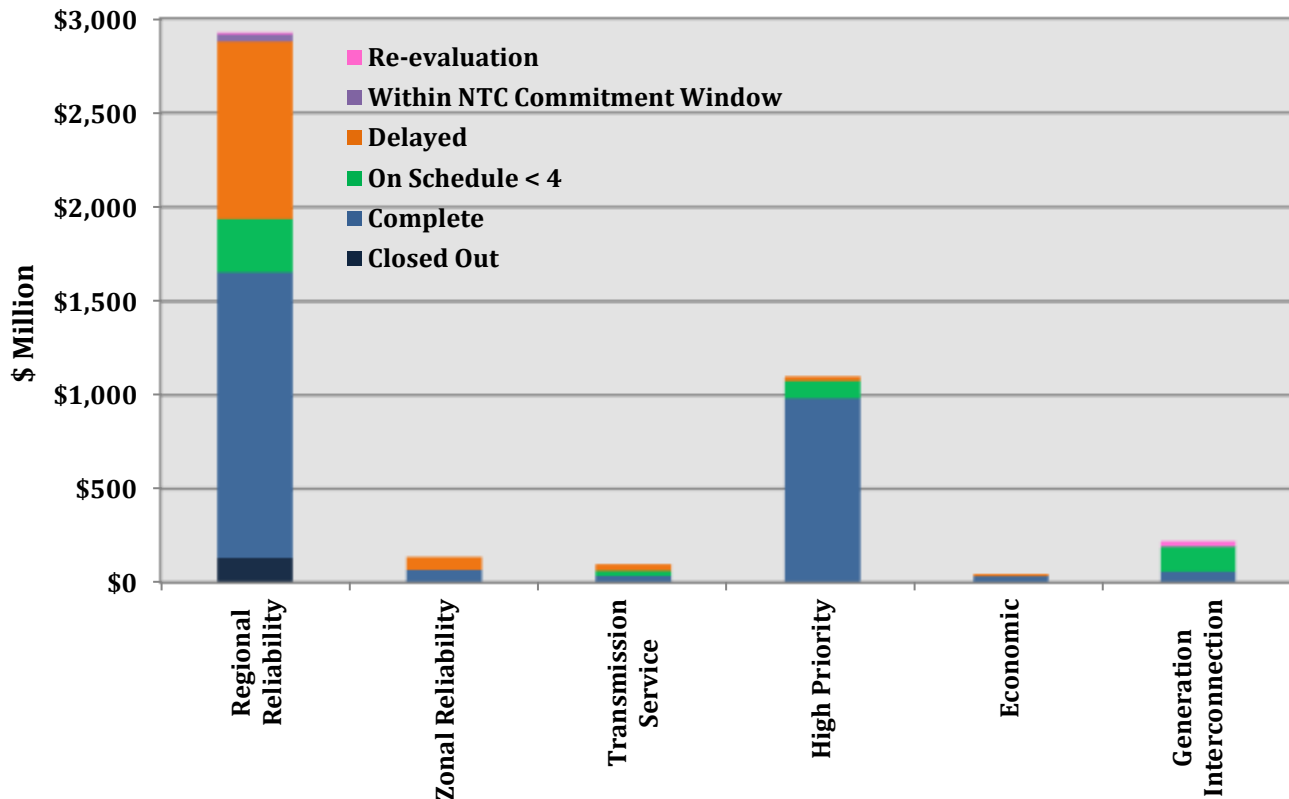


Figure 6: Project Status Summary on Cost Basis

## 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.

The following 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 2018.

PID	Project Name	Owner	NTC Source Study	Upgrade Type	In-Service Date
30558	XFR - Neosho 138/69 kV Ckt 1	WR	2014 ITPNT	Regional Reliability	4/25/2016

**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 %
30576	\$12,984,094	2018	\$13,378,474	\$7,959,327	(\$5,419,147)	(40.51%)

**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. **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 %
AECC	1	0	0%	0	0%	0	0%
AEP	59	58	98%	0	0%	4	7%
BEPC	24	0	0%	2	8%	0	0%
CBPC	1	1	100%	0	0%	1	100%
CPEC	2	2	100%	0	0%	0	0%
CUS	2	0	0%	0	0%	0	0%
EDE	3	0	0%	0	0%	0	0%
EREC	3	1	33%	0	0%	0	0%
GHP	1	0	0%	0	0%	0	0%
GMO	2	1	50%	1	50%	0	0%
GRDA	7	2	29%	0	0%	2	29%
ITCGP	4	0	0%	0	0%	0	0%
KCPL	8	6	75%	4	50%	0	0%
KPP	1	0	0%	1	100%	0	0%
LES	1	0	0%	0	0%	0	0%
MIDW	11	11	100%	0	0%	3	27%
MKEC	7	7	100%	7	100%	7	100%
NIPCO	2	0	0%	0	0%	0	0%
NPPD	47	26	55%	7	15%	2	4%
OGE	60	13	22%	8	13%	5	8%
OPPD	14	14	100%	1	7%	3	21%
SEPC	11	11	100%	6	55%	6	55%
SPS	185	177	96%	34	18%	17	9%
TEXLA	1	0	0%	0	0%	0	0%
TSMO	2	2	100%	0	0%	0	0%
WAPA	5	3	60%	1	20%	2	40%
WFEC	63	22	35%	4	6%	14	22%
WR	36	28	78%	6	17%	3	8%
<b>Total</b>	<b>562</b>	<b>385</b>	<b>69%</b>	<b>82</b>	<b>15%</b>	<b>69</b>	<b>12%</b>

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

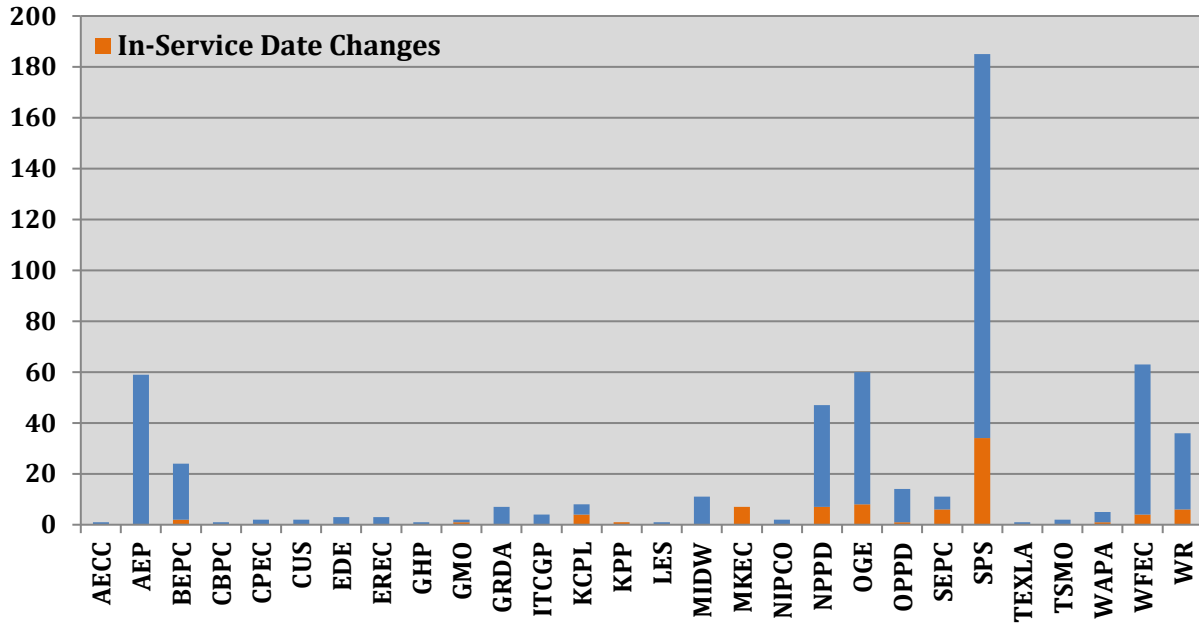


Figure 7: In-Service Date Changes by Project Owner

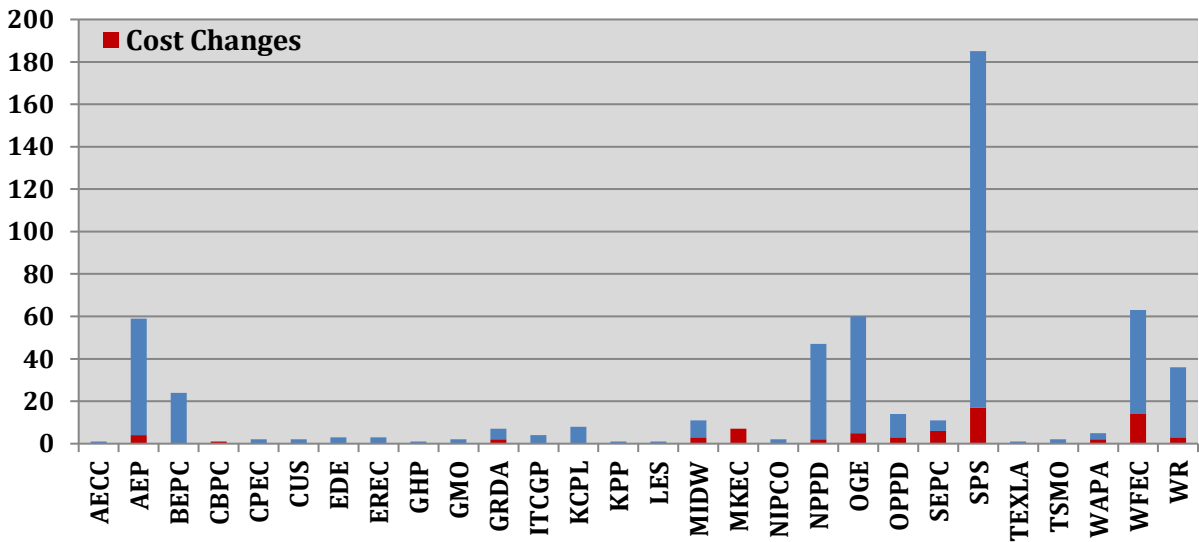


Figure 8: Cost Changes by Project Owner

## APPENDIX 1

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*{See accompanying list of active Applicable Projects}*