



3RSC-2023 Phase 2 Study Report Addendum

Xcel Energy
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1.0 Introduction

The purpose of this addendum is to add one additional Contingent Facility to section 10.0 of the 3RSC-2023 Phase 2 Study Report, issued on July 25, 2025.

2.0 Contingent Facilities

Contingent Facilities are any unbuilt Interconnection Facilities and Network Upgrades upon which the costs, timing, and study findings of the 3RSC-2023 are dependent, and if delayed or not built, could cause a need for re-studies of the Interconnection Service or a reassessment of the Interconnection Facilities and/or Network Upgrades and/or costs and timing.

An unbuilt Network Upgrade, namely the loop-in of the second circuit from Comanche-Midway 230 kV at Mirasol (“Mirasol loop-in”), was modeled in all of the cases but was inadvertently not identified in the study as an unbuilt facility, and therefore it incorrectly was not evaluated for Contingent Facility status. That error is being corrected through this addendum.

3.0 Evaluation of Contingent Facilities

Sensitivity 1 was performed with generators connecting at Mirasol dispatched as per the Variable Energy Resource Dispatch Assumptions (VERDA). Comparing the final results between the original studied cases and Sensitivity 1, three extra overloads are observed in the Sensitivity 1 case set. They are listed in Table 1 below. Note both overloads would characterize the “looping of the second Comanche to Midway circuit into Mirasol” as a Contingent Facility for 3RSC-2023-1 and 3RSC-2023-2 units due to their DFAX contributions to the overloads.

Table 1. Sensitivity 1 Study Results

Ref. No.	Monitored Facility	Contingency Name	Areas	Rate Base (MVA)	Benchmark Case Loading (%)	Study Case Loading (%)	Loading Difference (%)	3RSC_23_1 DFAX	3RSC_23_2 DFAX	3RSC_23_3 DFAX
1	70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	P21From: 70122 COMANCHE 230 700139 GI_2020_10 230 1 1	70	478	112.80	178.06	65.26	1.00000	1.00000	0.00000
2	70122 COMANCHE 230 700139 GI_2020_10 230 1 1	P21From: 70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	478	111.67	172.86	61.19	1.00000	1.00000	0.00000
3	700139 GI_2020_10 230 70652 MIRASOL 230 1 1	70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	478	50.64	112.31	61.67	1.00000	1.00000	0.00000

Sensitivity 2 was performed with generators connecting at Mirasol dispatched at 100%. Comparing the final results between the original studied cases and Sensitivity 2, thirteen extra overloads are observed in the Sensitivity 2 case set. They are listed in Table 2 below. Note all overloads would characterize the “looping of the second Comanche to Midway circuit into Mirasol” as a Contingent Facility for 3RSC-2023-1 and 3RSC-2023-2 units due to their DFAX contributions to the overloads. Overloads Ref. Nos. 5, 6, 7, 10 and 11 would characterize the “looping of the second Comanche to Midway circuit into Mirasol” as a Contingent Facility for 3RSC-2023-3.

Table 2. Sensitivity 2 Study Results

Ref. No.	Monitored Facility	Contingency Name	Areas	Rate Base (MVA)	Benchmark Case Loading (%)	Study Case Loading (%)	Loading Difference (%)	3RSC_23_1 DFAX	3RSC_23_2 DFAX	3RSC_23_3 DFAX
1	70122 COMANCHE 230 700139 GI_2020_10 230 1 1	70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	478	165.23	227.64	62.41	1	1	0
2	70653 TUNDRA 345 70654 COMANCHE 345 2 1	LoTC_147	70	1183	99.65	112.11	12.46	0.48997	0.48997	-0.1665
3	70653 TUNDRA 345 70654 COMANCHE 345 1 1	LoTC_315	70	1195	98.65	110.99	12.34	0.48997	0.48997	-0.1665
4	70236 HYDEPARK 115 70339 PUEBPLNT 115 1 1	P21From: 70004 GREENHRN 115 70352 READER 115 1 1	70	159	94.51	101.88	7.37	0.03528	0.03528	0.02813
5	70601 DANIEL_PK 345 70653 TUNDRA 345 1 1	LoTC_314	70	1183	93.67	101.49	7.82	0.17042	0.17042	0.10843
6	70601 DANIEL_PK 345 70653 TUNDRA 345 2 1	LoTC_163	70	1183	93.67	101.49	7.82	0.17042	0.17042	0.10843
7	77642 PONCHA_W 115 70394 SMELTER 115 1 1	P21From: 73551 W CANON 230 79054 PONCHABR 230 1 1	70	119.5	93.11	101.1	7.99	0.07024	0.07024	0.05743
8	70122 COMANCHE 230 70654 COMANCHE 345 T4 1	70122 COMANCHE 230 70654 COMANCHE 345 T3 1	70	560	92.05	117.56	25.51	0.52845	0.52845	-0.17958
9	70122 COMANCHE 230 70654 COMANCHE 345 T3 1	70122 COMANCHE 230 70654 COMANCHE 345 T4 1	70	560	92.05	117.56	25.51	0.52845	0.52845	-0.17958
10	70061 BOONE 230 700015 PJ_2024_15 230 1 1	P21To: 70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	319	91.27	101.4	10.13	0.08294	0.08294	0.03619
11	70286 MIDWAY_PS 230 700015 PJ_2024_15 230 1 1	P21To: 70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	319	91.26	101.4	10.14	0.08294	0.08294	0.03619
12	700139 GI_2020_10 230 70652 MIRASOL 230 1 1	70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	70	478	59.63	121.97	62.34	1	1	0
13	70286 MIDWAY_PS 230 70652 MIRASOL 230 2 1	P21To:700139 GI_2020_10 230 70652 MIRASOL 230 1 1	70	478	61.10	125.73	64.63	1	1	0

4.0 Conclusions

In conclusion, the evaluation in section 3.0 of this report indicated that the Mirasol loop in is a Contingent Facility for all three generation interconnection requests of 3RSC-2023 cluster, in addition to those already identified in the Phase 2 study report.