South Carolina Regional Transmission Planning

Stakeholder Meeting

Web Conference

May 23, 2024 9:00 AM – 12:00 PM

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Purpose and Goals for Today's Meeting

- Review Economic Power Transfer Study Principles
- Identify Economic Power Transfer Sensitivities to be Studied

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Economic Transmission Planning
Power Transfer Sensitivities

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Economic Transmission Planning Principles

The purpose of Order 890's Economic Transmission Planning Principle is to:

- ensure that customers may request studies that evaluate potential upgrades or other investments that could reduce congestion or integrate new resources and loads on an aggregated or regional basis
- allow customers, not the transmission provider, to identify those portions of the transmission system where they have encountered transmission problems due to congestion or whether they believe upgrades and other investments may be necessary to reduce congestion and to integrate new resources

Economic Transmission Planning Principles

(continued)

- allow customers to request that the transmission provider study enhancements that could reduce such congestion or integrate new resources on an aggregated or regional basis without having to submit a specific request for service

This approach ensures that the economic studies required under this principle are focused on customer needs and concerns

Economic Transmission Planning Sensitivity Selection

- All requested sensitivities will be considered except sensitivities that specify specific generation resources
- Up to 5 sensitivities will be identified for study
- If more than 5 are requested, Stakeholder voting members will vote to select the top five
- Sensitivities that are not selected by the voting process as one of the 5 studied sensitivities will be studied only if the requestor(s) pays for the additional study efforts

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Economic Transmission Planning Sensitivity Selection

- SCRTP economic power transfer sensitivity studies will identify congestion and required improvements only inside the SCRTP footprint

Recent Economic Study Results Overview

- Recent studies in this forum have indicated that high levels of transfers will impact the SCRTP transmission systems
- As the level of transfers increase, the network upgrades needed to address overloaded facilities also increase

Economic Transmission Planning
Power Transfer Sensitivities

Sensitivities Selection

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Previous Economic Planning Studies

Year	Source	Sink	Study Year	Transfer
2017	Duke Energy Carolinas (DEC)	SCE&G	2021 Summer	300 MW
2017	Southern Company	SCE&G	2020 Summer	300 MW
2017	Southern Company	SCE&G	2021 Winter	300 MW
2018	Southern Company	Santee Cooper	2022 Summer	1000 MW
2018	Santee Cooper	Duke Energy Carolinas	2022 Summer	1000 MW
2018	Duke Energy Carolinas	Santee Cooper	2022 Summer	1000 MW
2019	SOCO	DESC	2020 Summer	500 MW
2019	DEC	SCPSA	2020 Summer	500 MW
2019	SOCO	SCPSA	2020 Summer	800 MW
2019	DEC	SCPSA	2023/24 Winter	500 MW
2019	SOCO	SCPSA	2023/24 Winter	1000 MW

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Previous Economic Planning Studies

Year	Source	Sink	Study Year	Transfer
2020	SOCO	SCPSA	2026/27 Winter	300 MW
2020	SOCO	SCPSA	2026/27 Winter	600 MW
2020	SOCO	SCPSA	2026/27 Winter	900 MW
2020	SOCO	SCPSA	2027 Summer	300 MW
2020	SOCO	SCPSA	2027 Summer	600 MW
2021	Duke Energy Carolinas	SCPSA	2028 Summer	750 MW
2021	Duke Energy Carolinas	SCPSA	2028/29 Winter	750 MW
2021	SOCO	SCPSA	2028 Summer	750 MW
2021	SOCO	SCPSA	2028/29 Winter	750 MW
2021	SOCO	SCPSA	2026/27 Winter	750 MW

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Previous Economic Planning Studies

Year	Source	Sink	Study Year	Transfer
2022	Duke Energy Carolinas	SCPSA	2026 Summer	200 MW
2022	Duke Energy Carolinas	SCPSA	2026/27 Winter	200 MW
2022	SOCO	SCPSA	2026/27 Winter	600 MW
2022	Duke Energy Carolinas	SCPSA	2031 Summer	200 MW
2022	Duke Energy Carolinas	SCPSA	2031/32 Winter	200 MW
2023	SOCO	DESC	2028/29 Winter	1300 MW
2023	SOCO	DESC	2028/29 Winter	950 MW
2023	MISO	DESC	2032/33 Winter	950 MW
2023	DEP	DESC	2032/33 Winter	950 MW
2023	PJM	DESC	2028/29 Winter	950 MW

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Transmission Planning Base Cases
2023 MMWG and SERC Series

2024 Spring Light Load
2024 Summer Peak
2024/25 Winter Peak
2025 Spring Light Load
2025 Summer Peak
2025/26 Winter Peak

2028 Spring Minimum Load
2028 Summer Peak
2028 Summer Shoulder
2028/29 Winter Peak
2033 Summer Peak
2033/34 Winter Peak

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Economic Transmission Planning Sensitivity Selection

Economic Sensitivity #1: 2400 MW Transfer from SOCO&DUK to SC	
Source Area:	SOCO & DUK
Sink Area:	SC
Transfer (MW):	2,400 MW (1200MW SOCO, 1200MW DUK)
Study Year:	203334
Study Conditions:	Winter
Other Information:	Gen to Gen transfer Cross retirement
Benefits of Study and Other Comments:	Determine feasibility and cost of complete retirement of coal generation in SC BA accomplished by importing necessary replacement capacity.

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Economic Transmission Planning Sensitivity Selection

Economic Sensitivity #2: MW Transfer from to	
Source Area:	
Sink Area:	
Transfer (MW):	
Study Year:	
Study Conditions:	
Other Information:	Gen to Gen transfer
Benefits of Study and Other Comments:	To study the transfer limitations for the market to facilitate generation retirement, with specific interests in the limitation and costs associated with imports to the Low Country region of South Carolina and SCRTP load pockets.

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Economic Transmission Planning Sensitivity Selection

Economic Sensitivity #3: MW Transfer from to	
Source Area:	
Sink Area:	
Transfer (MW):	
Study Year:	
Study Conditions:	
Other Information:	Gen to Gen transfer
Benefits of Study and Other Comments:	To study the transfer capability and costs associated with enabling interregional transfers into the SCRTP system from neighboring regions based on imports from to SCRTP

Economic Transmission Planning Sensitivity Selection

Economic Sensitivity #4: MW Transfer from to	
Source Area:	
Sink Area:	
Transfer (MW):	
Study Year:	
Study Conditions:	
Other Information:	Gen to Gen transfer
Benefits of Study and Other Comments:	To study the transfer capability and costs associated with enabling future offshore wind in North Carolina to be imported into the SCRTP system

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Economic Transmission Planning Sensitivity Selection

Economic Sensitivity #5: MW Transfer from to	
Source Area:	
Sink Area:	
Transfer (MW):	
Study Year:	
Study Conditions:	
Other Information:	Gen to Gen transfer
Benefits of Study and Other Comments:	To study the transfer capability and costs associated with enabling greater economic interchanges between SCRTP and

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2024 Economic Planning Proposed Scenarios

#	Source	Sink	Amount (MW)	Year	Study Conditions	Requestor
1	SOCO & DUK	SC	2400	203334	Winter	Santee Cooper PM
2	SOCO & DUK	SC	2400	2033	Summer	Southern Renewables
3	SOCO & DUK	SC	2400	202829	Winter	Southern Renewables
4	SOCO & DUK	SC	2400	2028	Summer	Southern Renewables
5	SOCO	DESC	300	2025	Summer	DESC
6						
7						
8						

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2024 Economic Planning Scenarios

Selected by Stakeholders During the May 23, 2024 Meeting

#	Source	Sink	Amount (MW)	Year	Study Conditions
1	SOCO/DUK	SC	1200/1200	2033S	Retire Cross
2	SOCO/DUK	SC	1200/1200	2033/34W	Retire Cross
3	SOCO/DUK	SC	1200/1200	2028S	Reduce Sys Gen
4	SOCO/DUK	SC	1200/1200	2028/29W	Reduce Sys Gen
5	SOCO	DESC	300	2025S	Reduce Sys Gen

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Next SCRTP Meeting

- Review and discuss the initial results of the Economic Transfer Studies
- SCRTP Email Distribution List will be notified of meeting announcement
- Register online

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