Comment ID	Framework Page #	Referenced Text	Commentary	Commentor	Theme	Follow-up comment (if any)	Needs to be addressed in Framework Document? (Yes / No)	If needed, comment addressed in Framework Document? (Yes / No)
1	11	**Regarding Resource Retirements:** assuming Northern Grid means this piece of text: "Assess the impact of renewable energy integration, potential retirements of conventional generation, and the need for transmission upgrades and increased transfer capability to accommodate these changes."	"NorthernGrid does support the accounting for and modeling of planned retirements in the ITCS as per submitted IRPs and/or state policies."	Northern Grid	Modeling and Metrics	No	No	No
2	28	**Regarding Resource Additions:** assuming this is what the commentary is referencing" In cases where interface transfers are interdependent on other interface transfers, analyses will be conducted to obtain a region of operation that shows the interdependency of one interface transfer capability on the other. This region of operation can be translated into a	NorthernGrid does not support the identification and translation of utility-specific IRPs into the base cases used for the ITCS and supports using resources placed in the ADS.	Northern Grid	Basecase/Extreme Scenarios	NERC intends to use the resource assumptions used for LTRA as a starting point and any adjustments to resource assumptions may be made with input from the regions and stakeholders.	No	N/A
3	9	**Regarding Topology Considerations:** not sure if this is what Northern Grid is referencing "The year of the study needs to be clearly defined before any work begins in order to identify the proposed projects and retirements consistent with the ISOs/RTOs interconnection queues, the expectation for future electric demand (e.g., building electrification, EV charging, and anticipated behind the meter solar installations), and the expected in-	"NorthernGrid supports the inclusion of Regional transmission projects that have been selected into RTPs or can provide reasonable demonstration that their project will be online in 2032 should be included in the ITCS."	Northern Grid	Clarifying Study Timing	No	No	No
4	7	**Transfer Capability Analysis 1b** - The requested study is a system planning study and is used to define transfer limits in multi-area system assessment studies, such as Loss-of-Load Expectation studies or other system adequacy studies. This is not an operational study, and operational practices and non-firm transfers will not be evaluated.	"The framework document is not 100% clear on what the requested study is or needs to be. Based on the above, it is a resource adequacy study and will investigate LOLE. However, most of the framework document talks about a powerflow investigation to define transfer limits. I understand that total transfer capability will be quantified which is normally the firm transfer limit plus a reliability margin. A portion of the reliability margin can sometimes be released as non-firm so in essence the study could be identifying some non-firm capability."	Manitoba Hydro	Transfer Capability Considerations	resource adequacy study, not doing probabilitics, we are looking at extremes. Also doing power flow to define existing transfer limits.	No	No
5	8	**Transfer Capability Analysis 1d** - Studying the simultaneous power transfers or point-to-point interfaces is something that will need to be resolved.	"To me this means studying each Planning Coordinator area individually, e.g., MISO, and studying simultaneous import from all neighboring planning coordinator regions. The bubble diagram on page 10 shows a good example for New York. I expect to see something similar for each region."	Manitoba Hydro	Transfer Capability Considerations	agree	Yes	No
6	8	**Transfer Capability Analysis 1e** - Studying RAS/SPS could be a major effort depending on how many transfers are being simulated.	"The regional entities or Planning Coordinators should have appropriate contingency files that include existing RAS schemes. Excluding existing RAS schemes would result in artificially low transfer capabilities. Studying new RAS schemes or other non-wires solutions to increase transfer capability would be a major effort. I would recommend sticking with transmission lines for increased capability unless there are known plans available."	Manitoba Hydro	Transfer Capability Considerations	agree, RAS is part of the input where needed.	Yes	No
7	8	**Transfer Capability Analysis 1f-** Transfer capability calculations are available from organizations across North America. These limits may be due to a number of factors such as thermal, voltage, dynamic stability limits. We will review these, realizing that there are a number of inconsistencies across organizations resulting from assumptions from software algorithms and methods.	"I'm not sure what inconsistencies are being noted. Each Planning Coordinator area can calculate interregional limits using their own methodology, which may result in different numbers. However, the most limiting transfer capability should be the number that is posted on OASIS for transmission service. The posted numbers for TTC on key interfaces between regions should be reviewed. Different Software programs should calculate the same capability (we've tested PSS/E vs Powertech and get similar results). I don't believe there should be concerns with the software algorithms."	Manitoba Hydro	Transfer Capability Considerations	agree	Yes	No
8	8	**Transfer Capability Analysis 1g-** Because all Assessment Areas are required to conduct their multi-area probabilistic adequacy studies, transfer capabilities (also referred to as tie benefits, tie transfers, planning transfer capability) are already calculated today.	"Probabilistic resource adequacy studies are not used to calculate transfer capability. They are used, for example, to confirm the magnitude of generation reserves needed to meet a target LOLE of 1 day in 10 years. The impact of increased import capability on the reserve margin can be quantified using this method and may be an easier method to determine the amount of transmission needed."	Manitoba Hydro	Transfer Capability Considerations	agree	Yes	No
9	8	**Transfer Capability Analysis 1h-**Areas will be defined based on existing transmission areas (NERC Assessment Areas) and generally represent the "ORDER 1000" regions + Texas Interconnection.	"Please show the North American map rather than the US only map. Canadian imports can then be more specific (e.g., Manitoba to MISO, Saskatchewan to SPP etc.)."	Manitoba Hydro	Inclusion of Canadian regulators/regions	agree	Yes	No
10	9	**Transfer Capability Analysis 1k** - The year of the study needs to be clearly defined before any work begins in order to identify the proposed projects and retirements consistent with the ISOs/RTOs interconnection queues…	"In order to get current interregional transfer capability an operating model is needed from the latest series of models from MOD-032. The regional model-building groups only produce models that reflect the 10-year planning horizon. It would be the easiest to pick a 10-year out model (although in I.iii. there is a hint that a 20 year model may be required). Developing a 20 year out model would be a major effort. If the concern is resource adequacy, a summer peak model is probably sufficient. The regional models typically reflect "business as usual" conditions. If more extreme events are needed, then sensitivity cases are required to be developed to reflect: - Higher load growth: extreme heat, high EV - Lower available energy/capacity: Low wind, low hydro, low solar More discussion is needed on this topic to keep the scope in check."	Manitoba Hydro	Clarifying Study Timing	agree, 10 year model	Yes	No

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			"Are there any initial ideas that can documented in the ITCS framework? The metrics could drive different analysis. Here are a couple of ideas: - Import capability/peak load in percent. The big WIRES bill suggested that this metric should be 30%. It will likely be useful to note where the Planning Coordinator areas currently sit. - Generation planning reserves (percent) – Useful to track where this level is and compare it with target levels from each area. LTRA would be a source for the target levels. Are we looking to restore generation planning reserves using non-firm assistance during extreme events? The ITCS Framework document looks a bit like and Integrated Resource Planning study but I'm sure that's not the intent. Resource Planners should be developing plans to meet the 50:50 future load forecast under several scenarios. The question I think FERC and NERC are asking is are the resource plans or outlooks sufficiently covering all risks? Should an LOLE study be performed to quantify risk under low probability high impact events? Increasing import capability into a region is one way to improve LOLE. - LOLE/EUE – If this is included then a probabilistic study is needed.	Manitoba Hydro	Transfer Capability Considerations		No	No
11	9		The scope of the ITCS Framework is not looking at high penetration levels of IBRs so			LOLE/EUE in percent- not conducting probabilistic, will be using deterministic adequacy under extreme conditions		
		Additions to Transfer Capability 2. Integration of Variable Energy Resources: With the growing integration of renewable energy sources such as wind and solar power, the reliability considerations become more nuanced. Expanding transfer capability alone may not address the intermittent nature and geographic dispersion of renewable resources. System operators need to carefully balance the variable generation	"Many large-scale regional studies (e.g., NARIS) are saying that transmission can help address the surpluses and deficits associated with variable generation. Larger Balancing Areas with increased transmission is a potential solution; however, it is probably better for this study to say that this is out of scope. The focus of the study, I believe, is more on ensuring a resilient system is available to respond to extreme events. Non-firm assistance from neighboring regions is one possible method to improve resilience."	Manitoba Hydro	Clarifying Study Scope		TBD	No
12	10	patterns with load requirements and consider alternative solutions like				recommendations of new internal generation is not part of the proposal based on the scope of the study		
		Additions to Transfer Capability 2. System Interdependencies: Increasing transfer capability between regions can create stronger interdependencies among various systems. While interregional coordination is essential, over-reliance on interconnections can amplify the potential for cascading failures and simultaneous disruptions across interconnected systems. Assessing and managing these interdependencies is crucial to maintain overall system resilience and reliability. The concept of expanding the AC	"This is a good point. Should Planning Coordinator islanding assessments (PRC-006) be reviewed? If import capability is increased, is the planning coordinator region more vulnerable or less vulnerable to underfrequency load shed? A DC tie may be less vulnerable to cascading but it also may be less flexible to providing additional assistance as compared to an ac line. This could be an interesting analysis but it may be secondary to resource adequacy."	Manitoba Hydro	clarifying study scope		TBD	No
13	11	system may not be a good one because of declining synchronous				agree. But not part of the scope.		
		Additions to Transfer Capability 2. Focus on Local Solutions: Reliability enhancement should also consider the effectiveness of local solutions. Addressing reliability challenges at the local level, such as implementing advanced grid technologies, demand-side management, voltage control, and local supply, may provide more cost-effective and targeted	"This is an important aspect, but it will make the study more complex. I would suggest that the study will provide a book end considering only interregional transfer capability. Expanded transfer capability of a given amount will solve certain problems that are identified and meet certain metrics. Determining other "non-wires" alternatives or local solutions would be recommended follow-up work, I believe."	Manitoba Hydro	Clarifying Study Scope		TBD	No
14	11	improvements compared to solely relying on expanded transfer capability.				agree		
		ERO will provide recommendations for generation and transmission needs to support system reliability under a variety of scenarios (from Phase II).	"Recommending generation gets into resource planning and possibly out of scope for NERC? The scope would be crisper if this study focused on transmission additions and recommended that local solutions such as generation additions or non-wires solutions could be followed up to get the most cost effective solution."	Manitoba Hydro	Clarifying Study Scope		TBD	No
15	12					agree		
		AJM wants to add this to the "what" section at the start of the framework, there'd now be 4 items in the list if this change was made. This would be item 2.	"Define a targeted transfer capability objective between each two regions (or groups of); before making recommendations on what transfer capability additions are needed or would be prudent, a transfer objective needs first to be defined. The prudency of the transfer capability to be added will consequently factor in the cost of enabling such interregional transfer capability from both Markets and Transmission capital investment perspective."	PJM	Clarifying Study Scope	The "what" section is based off of the requirements of the fiscal responsibility act of 2023. Therefore there are only three items in the document. NERC agrees that metrics need to be developed to determine prudent additions to transfer capability. That work will be done as part of Item #2 in the "what" section.	No	N/A
16	1							
		"A recommendation of prudent additions to total transfer capability between each pair of neighboring transmission planning regions that would demonstrably strengthen reliability within and among such	Commented : Is this determining some kind of year 0 desired level or a future year? Wouldn't this need to be defined?	PJM	Clarifying Study Timing		TBD	No
17	1	neighboring transmission planning regions."				current is 2024 and 2034 base cases		
		This objective focuses on identifying reliable options that increase the amount of electric power that can be transferred between neighboring areas in supporting grid reliability and resilience)	Commented : This is difficult to assess without identifying first what is the targeted "go-to" capability level. On what basis? Capacity sharing? Optimize renewables? Lower overall East/West emissions by specified target? Establish a starting point minimum transfer target? Etc....	PJM	Clarifying Study Scope		TBD	No
18	1					go to level is determined by part 2 by understanding the deficiencies		
		This objective focuses on identifying reliable options that increase the amount of electric power that can be transferred between neighboring areas in supporting grid reliability and resilience)	Commented : What do both of these (reliability and resilience) mean? All TPL? (Including cascading events from extreme contingencies? Something else?). I think there needs to be more clarity in what this may involve.	PJM	Clarifying Study Scope		TBD	No
19	1					reliability is by meeting all NERC standards, resilience- serving as much load as possible under extreme conditions		
		"Recommendations to meet and maintain total transfer capability together with such recommended prudent additions to total transfer capability between each pair of neighboring transmission planning regions."	Commented : what does "maintain" mean? A specific amount of transfer or is it some % of load vs available resources? Is goal to establish and maintain a minimum transfer capability? How far into the future? How many cases and how many scenarios?	PJM	Clarifying Study Scope	"Maintain" is interpreted to mean that at a high level, what actions need to be taken to maintain the current and prudent additions to transfer capability. The actions may include identification of resource deficiencies and transmission limitations.	No	N/A
20	1							

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		Recommend approaches to achieve and maintain an adequate level of trans	Commented : Approaches may need to differ depending on the determination as to where the flows might need to occur, whether across ISO/RTO boundaries, or non-ISO/RTO boundaries. Regardless of the type of boundary, common metrics must be employed at the boundary or conflicts might arise.	PJM	Transfer Capability Considerations		TBD	No
21	4					agree		
		Initiate the project, define objectives, and finalize the project plan. (This	Commented : This needs to be spelled out more clearly. Starting from “a basecase” is	PJM	Clarifying Study Scope		No	N/A
22	6	comment is highlighting "define objectives")	not sufficient.			Completed		
		Base Case and Scenario Development Phase (Months 3-8): Develop the steady state and dynamic models for the study; Create transmission system models with appropriate transfers, assess system constraints, and evaluate various scenarios to identify potential enhancements. This comment is in regards to "dynamic models"	Commented : This effort may not be required for this type of work. The key is to identify and define what will be the interregional transfer targets. Dynamic Studies are just one final test that is required the needed reinforcements are sufficient, i.e. post identification of objective, need and first cut bulk Tx reinforcements if required.	PJM	Basecase/Extreme Scenarios		No	N/A
23	6					Where NERC agrees that dynamic studies may not be needed for each scenario. However, based on the results from Part 1 and Part 2 of the analysis it may be prudent to perform some dynamic analysis before recommending prudent additions.		
		Develop the steady state and dynamic models for the study; Create transmission system models with appropriate transfers, assess system constraints, and evaluate various scenarios to identify potential	Commented: What are appropriate transfers?	PJM	Modeling and Metrics		No	N/A
24	6	enhancements.				"Appropriate transfers" means appropriate base assumptions for the models.		
		Develop the steady state and dynamic models for the study; Create transmission system models with appropriate transfers, assess system constraints, and evaluate various scenarios to identify potential	Commented: Need to define scenarios	PJM	Modeling and Metrics		No	N/A
25	6	enhancements.				"Scenarios" are defined in Part 2 of the analysis and will be shared with the stakeholders.		
		Define Metrics for System Enhancements Phase (Months 8-10): Determine approach for quantifying increased transfer capability needed for reliability.	Commented : This is the most important part of the study. Identifying the needed Tx additions to enable it would be a much easier step. Hope this step is covered in sufficient detail later on in the SOW…	PJM	Modeling and Metrics		TBD	No
26	6					agree		
		Identify Transmission Capability Needs (Months 11-14): Analyze study findings, identify reliability challenges, and formulate recommendations on any prudent additions to transfer capability in the interest of reliability as	Commented : Without a basis in the current system planning approaches for each region, recommend that this be a specification of transfer quantities in general areas to allow regions to consider	PJM	Transfer Capability Considerations		TBD	No
27	6	well as measures to help achieve any such additions.	this appropriately.			part 2 defines the basis		
		For this phase, the ERO is required to study total transfer capability and calculate “current total transfer capability”, which is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of all transmission lines (or paths) between those areas under specified system conditions, or such definition as contained in Commission-approved	Commented : At which timeframe? With what assumptions in each region? Federal renewable targets modeled? Or just in effect state policies?	PJM	Clarifying Study Scope		No	N/A
28	8	Reliability Standards.				The assumptions are being developed and will be shared with the stakeholders shortly		
		This is not an operational study, and operational practices and non-firm transfers will not be evaluated.	Commented : These should be discussed. If there are operational restrictions in place, regardless of system capability, there may be an unreasonable expectation as to capability.	PJM	Clarifying Study Scope		TBD	No
29	8					agree. This will be adjusted in iteration 2		
		Studying RAS/SPS could be a major effort depending on how many transfers are being simulated.	Commented : Remedial action Schemes and Special Protection Schemes going to be reviewed? Shouldn't the recommendations get rid of them?	PJM	Clarifying Study Scope		No	N/A
30	9					The RAS assumptions will be used as inputs to the study where needed.		
		Transfer capability calculations are available from organizations across North America. These limits may be due to a number of factors such as thermal, voltage, dynamic stability limits. We will review these, realizing that there are a number of inconsistencies across organizations resulting	Commented : For the time frame of the study, these may not be necessary nor add much value. The major part is defining transfer targets and 1st cut at what bulk reinforcements may be required to enable them.	PJM	Transfer Capability Considerations		No	N/A
31	9	from assumptions from software algorithms and methods.				NERC agrees with the commentor. Existing studies may be referenced where appropriate or necessary, but NERC intends to calculate the transfer capability as part of the ITCS		
		The year of the study needs to be clearly defined before any work begins in order to identify the proposed projects and retirements consistent with the ISOs/RTOs interconnection queues, the expectation for future electric demand (e.g., building electrification, EV charging, and anticipated behind the meter solar installations), and the expected in-service dates of	Commented : This is good. However, it implies sole reliance on individual region “current forecast”, with that, the current interregional transfers would be adequate since each region plans for their own targeted transfers (reflecting of their internal resource and load mix/composition) today already.	PJM	Transfer Capability Considerations		No	N/A
32	10	transmission projects already under construction.				As part of scenario analysis in Part 2 of the assessment, NERC will study extreme weather events, which put the system at a greater stress level than which is typically used in planning studies.		
		Develop Extreme Weather Scenarios	Commented: This is good but quite general, needs more specifics	PJM	Basecase/Extreme Scenarios		No	N/A
33	10					As part of scenario analysis in Part 2 of the assessment, NERC will study extreme weather events, which put the system at a greater stress level than which is typically used in planning studies.		
34	10	Analyze Power Flow and Stability (comment highlighted stability)	Commented: Not needed for this type (or phase) of study	PJM	Clarifying Study Scope	See above row 24	No	N/A
		One of the most important and challenging part of this study will be to develop a consistent criteria to determine reliability benefit and transfer	Commented : The most important step should be to define “objective” transfer capability. This includes drivers and end-result picture definitions for each region and under each studied scenario “such as extreme weather”	PJM	Transfer Capability Considerations		TBD	No
35	11	capability needs.				this will be done in Part 2 of the study		
		These costs can be substantial and may not always be justified by the incremental improvements in reliability they offer.	Commented : Cannot also ignore "who pays" and "who benefit" question. Isn't this analyses high consequence low probability events (extreme weather)?	PJM	Basecase/Extreme Scenarios	NERC's focus is primarily on reliability and the ITCS will not look into cost benefit analysis. Additionally, the study is not intended to propose specific projects.	No	N/A
36	11							
		As the transfer capability increases and the AC system expands, the overall system becomes more complex.	Commented : Not true. This obviates the need/value of the study from the get-go. More transmission means more room which leads to more flexibility. Reduction in RAS would help to reduce complexity.	PJM	Transfer Capability Considerations	It depends. While expanding transmission system provides benefits, at the same time it can result in additional challenges which would need to be carefully considererd before recommending prudent additions.	TBD	No
37	11							

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		Should we consider interconnection queues as a way to gauge areas that would be “ready to 36 connect” resources where transfer upgrades could be necessary?	Commented : The meaning of this is unclear.	PJM	Transfer Capability Considerations	NERC may consider interconnection queues as a signal for where future resource additions may occur but will need to be carefully examine queues because they may include speculative generation.	Yes	Yes
38	12	While more transfer capability may exist between areas, resource planning must also account for and provide the resources when and where they are needed.	Commented : Recognition that PJM, and others, rely on Market signals to do this and is not a resource planner. This should be noted.	PJM	Transfer Capability Considerations	NERC agrees with the commentor. NERC intends to recommend prudent additions to transfer capability and recommendations to meet and maintain transfer capability recognizing that to ensure that the prudent additions and the actions needed to meet and maintain the transfer capability may need to be taken by a broad set of stakeholders.	No	N/A
39	13	ERO will provide recommendations for generation and transmission needs to support system reliability under a variety of scenarios (from Phase II). ERO will not make any specific recommendations for generation or transmission. We expect FERC to lead in developing specific statutory recommendations after our initial report is filed in December 2024. FERC should identify and propose recommended solutions to ensure minimum transfer capabilities are achieved.	Commented : Need to understand difference between a recommendation, a specific recommendation, and a statutory recommendation.	PJM	Transfer Capability Considerations		Yes	Yes
40	13	ERO will provide recommendations for generation and transmission needs to support system reliability under a variety of scenarios (from Phase II). ERO will not make any specific recommendations for generation or transmission. We expect FERC to lead in developing specific statutory recommendations after our initial report is filed in December 2024. FERC should identify and propose recommended solutions to ensure minimum transfer capabilities are achieved.	Commented : Is this the goal? Minimum transfer capabilities?	PJM	Transfer Capability Considerations	Language updated to clarify.	No	N/A
41	13	Regarding the first figure on page 14 of the document	Commented : The top right block appears to ignore Transfer capability “needs determination. This is if the study “top left box” starts with either one or more future scenarios will be analyzed under which the needed through flow/transfer requirements could be evaluated. “Resource Adequacy: should be after scenario development or before? I believe this should be checked first with each region as it must be factored in developing the scenarios in the first place. The transmission expansion analysis is straight forward. The process outlined misses the fact that the study must be iterative. i.e., the needed transmission expansion will lead to changing the economics of gen developments in each zone/area and also may be cost prohibitive requiring multiple iterations to stabilize/optimize the outcome/recommendation.	PJM	Transfer Capability Considerations	The goal is to calculate prudent additions to transfer capability to ensure reliability under normal and extreme weather scenarios based on metrics.	TBD	No
42	14					intent is to incorporate some components of ITCS into annual long term assessment process		
43	16	Regarding the figure on page 16	Commented : Study timeframe not defined until now..	PJM	Clarifying Study Timing	N/A	No	N/A
		Regarding the figure on page 20	Commented : This may never happen if the study starts with each region’s own forecast. Will any region have a forecast that reflects capacity deficiency? Just an example….	PJM	Clarifying Study Scope		No	N/A
44	20					There may be energy deficiencies under extreme weather conditions which will be studied.		
		Capacity Expansion Analysis:	Commented : Capacity expansion process to develop ISO/RTO 20 year resource mixes should recognize ISO/RTO capacity constructs and policy requirements. For example, if the ISO/RTO capacity constructs require resources to be located within the ISO/RTO regions, that should be considered; similarly, if the ISO/RTO policy requirements have technology and locational requirements, such policies should be considered. Otherwise, the future resource mix and the transfer needs may not be realistic	PJM	Transfer Capability Considerations		TBD	No
45	28					The study will be leveraging current industries capacity plans		
		An engineering approach for determining Maximum Transfer Capability is determined by finding the point where an increase in power transfers causes a limit violation under pre or post-contingency conditions.	Commented : So this effort is to determine if each area's current Maximum capability meets a desired Minimum?	PJM	Transfer Capability Considerations	The legislation asks for calculation of current transfer capability. This is needed as a starting point to help determine prudent additions.	TBD	No
46	28							
		When: NERC must file with FERC within 18 months of enactment of the bill. Public comment period will occur when FERC publishes the study in the Federal Register. After submittal, FERC must provide a report to Congress within 12 months of closure of the public comment period with recommendations (if any) for statutory changes.	Please provide additional details on the Canadian Addendum report as outlined in the ITCS Advisory Group kickoff presentation dates October 31, 2023.	Natural Resources Canada	Inclusion of Canadian regulators/regions		Yes	Yes
47	1					NERC updated the framework document to reflect this change.		
		FERC Review (Month 18-30): Provide support to FERC, as needed. Possible reply comments.	Please include Canadian regulators	Natural Resources Canada	Inclusion of Canadian regulators/regions	NERC updated the framework document to reflect this change.	Yes	Yes
48	6							
		We expect FERC to lead in developing specific statutory recommendations after our initial report is filed in December 2024. FERC should identify and propose recommended solutions to ensure minimum transfer capabilities are achieved.	Please include Canadian regulators in these sentences. You could also include a statement to the effect that "We expect FERC and responsible Canadian regulators would identify and propose any solutions for international power lines."	Natural Resources Canada	Inclusion of Canadian regulators/regions		Yes	Yes
49	12					NERC updated the framework document to reflect this change.		

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		Studying the simultaneous power transfers or point-to-point interfaces is something that will need to be resolved.	Simultaneous power transfers across wide areas under various system conditions should be considered instead of point-to-point transfers. Point-to-point transfers assume that all neighboring generation and transmission assets are available and do not take into account coincident outages. Coincident outages of power system facilities are prevalent during extreme events and their impacts on the system cannot be ignored. Moreover, interregional transmission is most valuable during wide-area stress events which result in coincident outages, and addressing these coincident outage risks is a key potential value of interregional transmission facilities.	Department of Energy	Transfer Capability Considerations		TBD	No
50	8					yes, results from point to point transfer will be analyzed first. For prudent additions, simultaneous transfers may need to be considered.		
		Transfer capability calculations are available from organizations across North America. These limits may be due to a number of factors such as thermal, voltage, dynamic stability limits.	Thermal and voltage limitations should be considered at a minimum. Voltage limitations are often the binding constraint during system operations, which will not be captured if only thermal limitations are captured in the modeling analysis. While the addition of dynamic stability limits would enable a comprehensive look at all binding constraints, modeling dynamic stability limits for many transfers and across numerous scenarios can be computationally expensive and likely prohibitive given the expedited timeline of the study. Recommend calculation of dynamic stability limits on select scenarios only to characterize the difference between transfer capability analysis with and without this limit.	Department of Energy	Transfer Capability Considerations		No	N/A
51	8					NERC agrees with comment.		
		Areas will be defined based on existing transmission areas (NERC Assessment Areas) and generally represent the “ORDER 1000” regions + Texas Interconnection. Because of study requirements, adjustments to Order 1000 transmission planning regions may be needed. The ERO will rely on existing Regional frameworks and processes, and bolster them with additional 1) case develop and 2) study requirements and scenario	NERC is well positioned to supplement the various regional study requirements by providing with consistent and best-practice processes by taking a national perspective. Definitive data, scenarios, and cases should be approved by NERC for the transfer capability analysis and not left to each individual region to develop without oversight, thus ensuring consistency across all areas’ analyses. It is not clear what "case develop" refers to (likely a typo) or how that differs from "study requirements and scenario development."	Department of Energy	Clarifying Study Scope		TBD	No
52	8	development.				NERC is covering this in consultation with stakeholders.		
		The year of the study needs to be clearly defined before any work begins in order to identify the proposed projects and retirements consistent with the ISOs/RTOs interconnection queues, the expectation for future electric demand (e.g., building electrification, EV charging, and anticipated behind the meter solar installations), and the expected in-service dates of transmission projects already under construction.	For the characterization of current transfer capability, the power system as of 2022 should be used. Using the most recent historic data available removes uncertainty as to the baseline system. Using a future year would require the analysis team to make assumptions about generation and transmission changes. Should any of these assumptions—such as a large upgrade to existing transmission—not come to fruition, then the results of the baseline interregional transfer capabilities may be called into question, thereby undermining the study results and efforts of the team.	Department of Energy	Clarifying Study Timing		TBD	No
53	9					Major assumption will be added to project documentation. In addition to the future cases that will be developed, the team will look at the current system (2024). Data requests will be submitted in December 2023.		
		Develop Metrics and Criteria: A common set of metrics should be applied consistently across all areas and interconnections, with appropriate	Support consistent modeling requirements be applied across all regions, with flexibility applied as described.	Department of Energy	Modeling and Metrics		No	N/A
54	9	flexibility for physical regional differences.				NERC agrees with comment.		
		Create load and generation profiles for the regions under study. This involves understanding the expected power demand and supply patterns, considering factors such as seasonal variations, peak load periods, renewable energy generation, and the availability of reserve resources. The assessment will focus on extreme conditions. This does not need to “start from scratch” and we will leverage existing data and information. In some instances, load/generation forecast data may not be available (e.g., 20 years into the future for some areas of the system). In such situations appropriate datasets will need to be developed utilizing various tools such as capacity expansion modeling, production cost modeling, etc. Appropriate policy drivers may also need to be considered in order to determine impacts to load and resource development.	Modeling performed by the U.S. Government, national laboratories, and academia has shown that significant changes to both generation and load profiles are expected in the future. These changes are motivated by the evolving generation fleet, changing weather patterns (especially under the impacts of climate change), growing demand motivated by both the onshoring of high demand industries (e.g., data centers and manufacturing), and the electrification of demand resources as motivated by recently enacted laws. These changes cannot be ignored in future modeling analysis, but need not be considered if using a recent historic year (like 2022 as recommended above) for the analysis of existing, baseline transfer capability.	Department of Energy	Modeling and Metrics		TBD	No
55	9					agree		
		Certain extreme weather events and scenarios will need to be developed to ensure the appropriate stressed system conditions are simulated. Climate modeling will need to inform the extreme weather scenarios that should be studied (extreme cold, extreme heat, wildfires, droughts etc.). Further analysis will need to determine how such extreme events impact resources resource availability, resource output, etc., as well as transmission system availability and outages.	Climate change has already and will continue to dramatically impact weather patterns. It is prudent to include the impacts of climate on future stress events and in load and generation forecasting. Forecasting the specific impacts of climate onto regional weather patterns many years into the future is a complicated issue and may be computationally prohibitive, however. Much work has been done to understand how climate impacts can be generalized to weather patterns used in power system modeling, thereby lessening the complication of the problem. The national laboratories have many resources and datasets that can be shared with the project team so there is no need to “start from scratch” in developing these models.	Department of Energy	Basecase/Extreme Scenarios		TBD	No
56	9					agree		
		OUTCOMES: Goal is to have a U.S. (taking into account transfer risks from Canada) view similar to the following example (excluding internal transfer capability analysis), which represents regional system transfer limits	Recommend that a select number of within-region transfers be studied in addition to the interregional transfers, as illustrated. Within-region transfer limitations can additionally limit the interregional transfer and studying both provides a comprehensive analysis.	Department of Energy	Transfer Capability Considerations		TBD	No
57	10	[picture not reproduced].				agree, in progress.		

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		Recommendations on prudent additions to transfer capabilities	One consideration not discussed in this section is the year which will be studied to determine future prudent additions. Recent power system analysis performed by the Grid Deployment Office suggests that interregional transfer capacity needs begin to change substantially between years 2035 and 2040. Given the uncertainty in power system evolution past twenty years, analysis past 2040 may be too far in the future for consideration here. By contrast, analysis before 2035 will certainly be too soon. Fifteen years into the future may be a reasonable middle ground, while also aligning well with the development timeline of large-scale transmission facilities.	Department of Energy	Transfer Capability Considerations		TBD	No
58	10					NERC will be looking into 2034-2035		
		With the growing integration of renewable energy sources such as wind and solar power, the reliability considerations become more nuanced. Expanding transfer capability alone may not address the intermittent nature and geographic dispersion of renewable variable generation patterns with load requirements and consider alternative solutions like energy storage, demand response, and grid modernization to ensure a reliable and resilient system.	Suggest modifying the language in this passage to be consistently "intermittent" and/or "variable" and not "renewable" energy. The operational complexity of integrating these generation facilities is due to their variability / intermittency and not on whether the fuel source is renewable or non-renewable.	Department of Energy	Transfer Capability Considerations		Yes	Yes
59	10					NERC adjusted language.		
		The study will require: Current and projected electricity demand patterns, existing and projected resource mix and extreme generation and demand outage scenarios in the regions involved.	Future demand patterns should include the impacts of electrification of end-user resources, above what is commonly assumed by many utility load forecasts. Recently enacted laws have provided substantial financial incentives for the adoptions of such technologies, but a change in consumer behavior to these new laws has not been fully integrated into many industry load forecasts. Similarly, changes in utility demand side management practices should be considered for inclusion. The Department has performed analysis which suggests a large increase in the adoption of electrification which can be provided to modeling staff to help quantify reasonable estimates of future electrification. Projected future resource mixes will need to have some knowledge of where those new resources will be installed to accurately measure the power flow impacts on the transmission system. Both generation interconnection queues and capacity expansion modeling performed at the national laboratories can provide insight into where future generation resources are likely to be installed. The generation queues provide insight into priority areas of future development on the existing transmission system while capacity expansion models provide insight into cost effective areas of generation that may be far from the existing system. Both can be used to make reasonable assumptions about future generation changes. Historic generation outage data can be correlated to environmental and ambient conditions, most importantly temperature. As temperature extremes are likely to become more dramatic given climate change, adjusting historic generation outages to account for future weather changes is necessary for reliability studies.	Department of Energy	Transfer Capability Considerations		TBD	No
60	11					This will require detailed review of the information available. NERC will review assumptions and certain adjustments may be made as appropriate.		
		Therefore, one consideration is to commit to a process that studies interregional transfer capability and energy adequacy, periodically, to continuously evaluate changes to the BPS and evaluate reliability and transfer capability is increased, as well as evaluate any transfer capability that is eroding by changes in resource plans.	Periodic evaluations of both transfer capability and energy adequacy is prudent and needed to ensure that the system maintains reliability into the future. Recommending both generation resource and transmission additions necessary to maintain system reliability is warranted. Additional transfer capability additions can include local system upgrades, including alternative transmission solutions, which may increase interregional transfer capability.	Department of Energy	Transfer Capability Considerations		TBD	No
61	12					The study will not look into the "how" to increase transfer capability. However, at a high level recommendations to meet and maintain transfer capability will be provided.		
		Part 1: Extreme Scenario Cast and Assumptions Development	The Department is glad to see the National Labs listed here as a resource. The national laboratories have extensive experience with weather data modeling and the impacts of extreme events on the power system. Data and expertise can be shared to aid the modeling team in the development of their scenarios. One extreme condition missing from the proposed list that Department research has found to be impactful on system reliability is water drought. Water drought paired with heat waves has been found to have large impacts on the western power grid in particular. Other extreme events of note which may be worth considering are flooding due to increasingly wet hurricanes / tropical storms and sea level rise.	Department of Energy	Basecase/Extreme Scenarios		TBD	No
62	15					Good note. Will look into the scenarios to account for this condition.		
		Part 1: Capacity Expansion Analysis / Energy Analysis	The Department is glad to see the National Labs listed here as a resource. The national laboratories have extensive experience with capacity expansion modeling. Data and expertise can be shared to aid the modeling team.	Department of Energy	Modeling and Metrics		TBD	No
63	16					Noted. Thank you.		
		"Current total transfer capability, between each pair of neighboring transmi	There are a few key components that might be useful to have further discussions on. Among all the REs and within RE like WECC RE we have load, weather, and time differential that need to be captured in ITC analysis. For example, WECC capability to EROCT needs to be modelled in a way that during the stress time in ERCOT how WECC historical data shows the generation and load levels at that time that ERCOT needs assistance. Our base cases preparation & generation patterns & generation mix becomes critical factors in this analysis.	Bonneville Power Administration	Modeling and Metrics		TBD	No
64	1					agree		
		Regarding defining prudent additions	Do we need to define this further? What is considered a prudent addition? And do we need to factor in the economics & timing & permitting of such additions? Maybe few examples will be helpful	Bonneville Power Administration	clarifying study scope	Prudent additions are for reliability benefits. Maintain all the reliability standards and supply as much load as you can.	TBD	No
65	1							

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66	1	"Recommendations to meet and maintain total transfer capability together with such recommended prudent additions to total transfer capability between each pair of neighboring transmission planning regions." (This objective entails evaluating proposing policies and measures to achieve and sustain the identified transfer capability and any recommended enhancements).	Should we discuss to set the right parameters or establish boundaries for such?	Bonneville Power Administration	clarifying study scope	objective of the study is to give parameters to evaluate plans (which may be impacted by proposed policies)	TBD	No
67	1	'What' Section	There are a few key components that might be useful to have further discussions on. Among all the REs and within RE like WECC RE we have load, weather, and time differential that need to be captured in ITC analysis. For example, WECC capability to EROCT needs to be modelled in a way that during the stress time in ERCOT how WECC historical data shows the generation and load levels at that time that ERCOT needs assistance. Our base cases preparation & generation patterns & generation mix becomes critical factors in this analysis.	Bonneville Power Administration	Transfer Capability Considerations	NERC agrees with the commentor and the hourly energy analysis will be performed. The ITCS document was changed to clarify this.	Yes	Yes
68	1	"Prudent Additions"	(Do we need to define this further? What is considered a prudent addition? And do we need to factor in the economics & timing & permitting of such additions? Maybe few examples will be helpful)	Bonneville Power Administration	Clarifying Study Scope	Metrics will be defined for the recommendation of prudent additions.	Yes	Yes
69	1	"Evaluating proposing policies and measures"	(Should we discuss to set the right parameters or establish boundaries for such?)	Bonneville Power Administration	Modeling and Metrics	An approach will be developed to make recommendations to meet and maintain transfer capability and will be discussed with stakeholders.	Yes	Yes
70	2	**Risk and Reliability Analysis:**	"for delivery power" added to the last sentence of this section	Bonneville Power Administration	Clarifying Study Scope	Changed to "for power delivery"	Yes	Yes
71	2	**Collaboration and Coordination:**	"and sustainability" added to the last sentence of this section	Bonneville Power Administration	clarifying study scope	Sustainability is not in scope as an objective of the study.	No	N/A
72	2	**Strategic Planning:**	"resource additions" added before resource allocation	Bonneville Power Administration	clarifying study scope	Change incorporated	Yes	Yes
73	3	Conduct a comprehensive study of existing interregional transfer capability across the United States (between each transmission planning region) to assess currently available transfer capability between neighboring areas and the future need for additional transfer capacity to ensure reliability under various system conditions including extreme weather.	Conduct a comprehensive study of existing interregional transfer capability across the United States (between each transmission planning region within and outside of Regional Entities) to assess currently available transfer capability between neighboring areas and the future need for additional transfer capacity to ensure reliability under various system conditions including extreme weather and natural disasters.	Bonneville Power Administration	clarifying study scope	NERC is not studying tornadoes and earthquakes as part of ITCS.	No	N/A
74	3	**Conduct comprehensive analysis and modeling of interregional transfer capability:** Perform detailed analysis and modeling of the transmission systems to assess the current and potential transfer capability between neighboring areas. Assumptions will need to be internally consistent and consider scenarios and conditions that impact long-distance power transfers. The study will also consider factors such as generation mix, load growth projections, various high-risk scenarios, and emerging environmental policy in the study.	**Conduct comprehensive analysis and modeling of interregional transfer capability:** Perform detailed analysis and modeling of the transmission systems to assess the current and potential transfer capability between neighboring areas. Assumptions will need to be internally consistent and consider scenarios and conditions that impact long-distance power transfers. The study will also consider factors such as generation mix, load growth projections, various high-risk scenarios, load & weather diversity & time difference among planning regions, and emerging environmental policy in the study.	Bonneville Power Administration	Transfer Capability Considerations	Hourly resource and load profiles will be developed and studied to determine prudent additions to transfer capability.	No	N/A
75	3	**Identify potential reliability challenges and propose solutions to enhance interregional transfer capability:** Identify existing transfer capability between transmission planning areas, potential reliability challenges associated with interregional transfers and recommendations to address them.	**Identify potential reliability challenges and propose solutions to enhance interregional transfer capability:** Identify existing transfer capability between transmission planning areas, potential reliability and technical challenges associated with interregional transfers and recommendations to address them.	Bonneville Power Administration	clarifying study scope	N/A	No	N/A
76	9	**Develop Load and Generation Profiles**	(What criteria are we planning to use to develop resource portfolios? And how do we measure that resource adequacy requirements in the plan are met?)	Bonneville Power Administration	Modeling and Metrics	NERC is not developing the resource portfolios. Will be leveraging the planned industry portfolios	TBD	No
77	10	**Cost and Efficiency:** Expanding transfer capability often requires significant investments in infrastructure, including new transmission lines and associated equipment. These costs can be substantial and may not always be justified by the incremental improvements in reliability they offer.	**Cost and Efficiency:** Expanding transfer capability often requires significant investments in infrastructure, including new transmission lines and associated equipment. These costs can be substantial and may not always be justified by the incremental improvements in reliability they offer. In addition, cost allocation will be another challenge that is outside of the scope and purpose of this report.	Bonneville Power Administration	clarifying study scope	N/A	No	N/A
78	11	**Focus on Local Solutions**	**Focus on Local Solutions and essential reliability services:**	Bonneville Power Administration	clarifying study scope	N/A	No	N/A
79	11	Assess the impact of renewable energy integration, potential retirements of conventional generation, and the need for transmission upgrades and increased transfer capability to accommodate these changes.	Assess the impact of renewable energy integration, potential retirements of conventional fossil fuel generation, and the need for transmission upgrades and increased transfer capability to accommodate these changes.	Bonneville Power Administration	clarifying study scope	N/A	No	N/A
80	11	Consider the variability and uncertainty of renewable generation and its effect on transfer capability requirements, particularly during extreme weather. Storage should also be considered.	Agreed as we consider that we need to also determine what method we will be evaluating the storage. Traditional ELCC or ?	Bonneville Power Administration	Modeling and Metrics	NERC intends to study storage based on the expected output for the base case snapshots and hourly profiles for energy analysis.	No	N/A
81	1	The purpose of this project is to conduct a study on the reliable transfer of electric power between neighboring "transmission planning regions". Specifically, the project focuses on:	Definition should be Order 1000 regions; Control Area is no longer used (BAA)	Southern Company	Clarifying Study Scope	FERC Order 1000 regions will be used as a starting point and will be divided into sub-regions as needed.	No	N/A
82	1	A study of total transfer capability between transmission planning regions.[1] In accomplishing this work, the study should include:	Recommend either a footnote to the NERC Glossary of Terms or include the definition of Total Transfer Capability in the document	Southern Company	Clarifying Study Scope	Footnote already in place.	No	N/A
83	3	Conduct a comprehensive study of existing interregional transfer capability across the United States (between each transmission planning region) to assess currently **available transfer capability** between neighboring areas and the future need for additional transfer capacity to ensure reliability under various system conditions including extreme weather.	Recommend reference to NERC Glossary of Terms or include actual definition for ATC in the document	Southern Company	clarifying study scope	The ITCS is not calculating Available Transfer Capability. It is calculating Total Transfer Capability.	No	N/A

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		Engage a special stakeholder Advisory Group composed of representation from all planning areas to gather inputs and ensure a comprehensive study:	What role will the Advisory Group have with respect to the final report and the recommendations?	Southern Company	clarifying study scope		TBD	No
84	3	Form a stakeholder Advisory Group consisting of representatives from all planning areas to provide insights, expertise, and inputs to the study, study scope, and study results				Advisory Group will review, provide expertise and c		
		Finalized Study Framework: Describes the overall framework and governan	Recommend that the actual detailed Study Scope be a deliverable that has been reviewed by and input provided from the Advisory Group	Southern Company	clarifying study scope		TBD	No
85	6					agree		
		This is not an operational study, and operational practices and non-firm	Can you provide more detail on what this means? Are Operating Guides considered an "operational practice"?	Southern Company	Clarifying Study Scope		Yes	yes
86	7	transfers will not be evaluated .				Framework document has been updated.		
		Areas will be defined based on existing transmission areas (NERC Assessment Areas) and generally represent the “ORDER 1000” regions + Texas Interconnection. Because of study requirements, adjustments to	If something other than Order 1000 Planning Regions are used, recommend adding a Figure to show exactly what is being considered	Southern Company	clarifying study scope		TBD	No
87	8	Order 1000 transmission planning regions may be needed.				Will do that as part of development of project docu		
88	9	(e.g., TPL-001-4).	TPL-001-5	Southern Company	Other	Noted.	yes	yes
		Prior to conducting analysis, the project will require the review of existing transmission studies , including DOE off-shore wind and national corridor	Is there a full list of what studies will be reviewed and how they will be incorporated into this effort?	Southern Company	Clarifying Study Scope	Any relevant studies will be reviewed, and if used as inputs in the analysis, they will be shared with stakeholders.	no	No
89	11	findings.						
		Figure 5: ITCS Project Plan – Gannt Chart	It would be helpful to include in the timeline where the Advisory Group will plug in or when inputs from the AG are expected.	Southern Company	Clarifying Study Timing		TBD	No
90	13					Noted. Thank you.		
		Detailed Study Steps: Part 1	In Part 1, where will the consultant collect data from? Are there expectations from MMWG or MOD-032 data submitters to provide information? Again, it will be important for the Advisory Group to have input into the actual scope document.	Southern Company	clarifying study scope	will provide that clarity on where the input is being collected and scope to be provided to advisory group. The analysis in Part-I will be performed using MOD-032 cases.	TBD	No
91	14							
		Detailed Study Steps: Part 1	In Part 1, is it defined somewhere who the "data providers" are? This could be a critical part of the entire process and it seems that 2-3 weeks is a tight schedule.	Southern Company	Clarifying Study Scope		TBD	No
92	17					Will plan for sufficient time to provide feedback		
		Detailed Study Steps: Part 2	If this study is for Interregional, why is there a reference to TO-TO? What value you does this bring to the study. This seems like a questionable use of time for what was requested by the legislation.	Southern Company	clarifying study scope	Intent is to study transfer capability between neighboring transmission planning regions. Document will be updated to remove any confusion.	yes	No
93	19							
		Detailed Study Steps: Part 2	Need a description of what "Simplified" means in this case.	Southern Company	clarifying study scope	The intent is not to perform an in depth stability analysis for the entirety of various risks, however, some of the risks will be evaluated at the increased transfer levels.	no	No
94	25							
		Detailed Study Steps: Part 3	Need to add Advisory Group to this section since this is the culmination of the process.	Southern Company	Clarifying Study Scope		TBD	No
95	26					Noted.		
		Further, the ITCS will consider developing a metric and method that will aid transmission planners to determine the incremental increase in interregional transfer capability needed to address reliability concerns between neighboring areas (e.g., essential reliability services, energy sufficiency). Some of the recent concerns include widespread, long-term impacts from an extreme event (such as extreme weather or wildfires that threaten electric system reliability) or uncertainties resulting from a	Again - the fundamental issues are entangled with the availability of energy, in general, during extreme weather. Changing resource mix is a closely related problem whereby carbon policy is forcing the industry to try to solve the fundamental issues with transmission. Resource adequacy can’t be overcome with transmission only. Such a solution would be sub-optimal.	Entergy	Basecase/Extreme Scenarios	The intent is not to perform resource adequacy analysis, however, in order to address energy shortfalls, it's pertinent to have energy available in neighboring regions. The intent is also to evaluate when a particular area is experiencing shortfalls, whether there will be sufficient energy available in the neighboring regions to utilize the increased transfer capability.	no	No
96	2	changing resource mix .						
		Further, the ITCS will consider developing a metric and method that will aid transmission planners to determine the incremental increase in interregional transfer capability needed to address reliability concerns between neighboring areas (e.g., essential reliability services, energy sufficiency). Some of the recent concerns include widespread, long-term impacts from an extreme event (such as extreme weather or wildfires that threaten electric system reliability) or uncertainties resulting from a	The methodology to define capability could substantially hinder this and spill over into resource planning issues. Many of the weather events are best simulated with extreme load served by remote generation. I do not think we can decouple the resource planning issues.	Entergy	Basecase/Extreme Scenarios		TBD	No
97	2	changing resource mix .				agree		
		enhance the reliability of neighboring areas impacted by reliability risks	Will this devolve into a cost allocation stalemate?	Entergy	Other		no	No
98	2	such as extreme weather.				NERC is not intending to address cost allocation.		
		The study will also consider factors such as generation mix, load growth projections, various high-risk scenarios, and **emerging environmental**	What would this include? Why would we include environmental policies that may or may not become policy?	Entergy	clarifying study scope		yes	yes
99	3	**policy** in the study.				This has been updated.		
		Base Case and Scenario Development Phase (Months 3-8): Develop the **steady state and dynamic models** for the study; Create transmission system models with appropriate transfers, assess system constraints, and evaluate various scenarios to identify potential enhancements.	Assumptions leading to increases in IBR will be critical to study results.	Entergy	Modeling and Metrics		TBD	No
100	5					agree		
		Transfer capability calculations are available from organizations across North America. These limits may be due to a number of factors such as thermal, voltage, dynamic stability limits. **We will review these, realizing that there are a number of inconsistencies across organizations resulting from assumptions from software algorithms and methods.**	I think this will be important and could be a source of value. Optimizing the risk profile as an industry instead of a collection of companies or RCs might improve overall risk. Would policy changes include a uniform set of emergency operating guidelines?	Entergy	Transfer Capability Considerations		yes	yes
101	8					The language was adjusted for clarity.		
		Develop Extreme Weather Scenarios: Certain extreme weather events and scenarios will need to be developed to ensure the appropriate **stressed system conditions are simulated .**	These need to be as realistic as possible. The study group should avoid simplifying assumptions like resorting to gen to gen transfers to simulate higher loads and generation loss.	Entergy	Basecase/Extreme Scenarios	Noted. The purpose of transfer analysis is to determine the transfer capability of the transmission system. The resource and energy shortfalls will be determined in Part-II.	TBD	No
102	9							

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103	10	Additionally, incorporating new generation into the power system models that are not already planned will be troublesome .	If new generation is needed, ignoring the opportunity to wisely place these generators to improve BES reliability would lead to sub-optimal and likely higher cost options.	Entergy	Transfer Capability Considerations	recommendations will include prudent additions, without recommending the exact generation resources to be built	TBD	No
104	11	Should we consider interconnection queues as a way to gauge areas that wc	Queues today are bloated with speculative projects. The data should not be overly relied upon. There should some temperance of that data to avoid the potential that transmission to improve reliability be driven by these resources and subsidizing interconnection costs unfairly.	Entergy	Transfer Capability Considerations	Agree with the commenter.	TBD	No
105	25	Detailed Study Steps: Part 2	I appreciate the complexities of stability analyses, but I would caution against simplifying the stability analysis to meet deadlines. Stability limits are likely to increasingly become the true BES limits in the near future.	Entergy	Clarifying Study Scope	The intent is not to perform an in depth stability analysis for the entirety of various risks, however, some of the risks will be evaluated at the increased transfer levels.	no	No
106	11	Should we consider interconnection queues as a way to gauge areas that would be “ready to connect” resources where transfer upgrades could be necessary?	Queues today are bloated with speculative projects. The data should not be overly relied upon. There should some temperance of that data to avoid the potential that transmission to improve reliability be driven by these resources and subsidizing interconnection costs unfairly.	Entergy	Transfer Capability Considerations	NERC agrees that the interconnection queues may have speculative generation which may need to be taken into account.	no	No
107	1	“A recommendation of prudent additions to total transfer capability between each pair of neighboring transmission planning regions that would demonstrably strengthen reliability within and among such neighboring transmission planning regions.” (This objective focuses on identifying reliable options that increase the amount of electric power that can be transferred between neighboring areas to support grid reliability and resilience);	I am assuming this is to identify an amount of transfer capability needed and not specific projects. Perhaps this should be more clearly stated.	FirstEnergy	Clarifying Study Scope	Agree, the intent is not to recommend projects.	yes	no
108	1	“Recommendations to meet and maintain total transfer capability together with such recommended prudent additions to total transfer capability between each pair of neighboring transmission planning regions.” (This objective entails evaluating proposing policies and measures to achieve and sustain the identified transfer capability and any recommended enhancements).	Since the total transfer capability needed will change over time, I am assuming this is more of a process to be defined. I think this should be more clearly stated.	FirstEnergy	clarifying study scope	NERC intends to perform the analysis on an ongoing basis. This has been stated as a project objective under the "Project Goals and Objectives" section.	no	No
109	2	Further, the ITCS will consider developing a metric and method that will aid transmission planners to determine the incremental increase in interregional transfer capability needed to address reliability concerns in neighboring areas	Shouldn't transmission planners be concerned with their own areas instead of their neighbors? I recommend adding "in their own and" before the phrase "in neighboring areas."	FirstEnergy	clarifying study scope	Noted, language has been adjusted.	yes	yes
110	11	Should we consider interconnection queues as a way to gauge areas that would be "ready to connect" resources where transfer upgrades could be necessary	Yes, we should	FirstEnergy	Transfer Capability Considerations	Noted, we will consider the interconnection queues with the caution that some queues may include speculative generation.	no	No
111	13	**Figure 5: ITCS Project Plan – Gannt Chart**	I recommend pulling this chart onto its own landscape page to make it more legible	FirstEnergy	other	Done	yes	yes
112	16	Part 1: Capacity Expansion Analysis/Energy Analysis	Will the energy analysis consist of an 8760 summary or be limited to the hours expected for peak conditions	FirstEnergy	Transfer Capability Considerations	The intent is to perform hourly analysis for extreme weather conditions.	no	No
113	2	The study evaluates the existing import and export transfer capability and identifies prudent increases in total transfer capability to enhance the reliability of neighboring areas impacted by reliability risks such as extreme weather.	There is an assumption that current transfers are not sufficient, studies would determine that.	Florida Power & Light	Transfer Capability Considerations	That is correct. Prudent additions will be recommended based on analysis.	no	No
114	3	Conduct a comprehensive study of existing interregional transfer capability across the United States (between each transmission planning region) to assess currently available transfer capability between neighboring areas and the future need for additional transfer capacity to ensure reliability under system conditions including extreme weather.	(the potential future need), studies need to be run to determine if there is a need for all interfaces	Florida Power & Light	Transfer Capability Considerations	That is correct. Prudent additions will be recommended based on analysis.	no	No
115	3	Provide reliable and data-driven recommendations for “prudent” additions to the amount of electric power that can be moved or transferred between neighboring transmission planning .	Again assumes additions are needed, need to perform studies to determine	Florida Power & Light	Transfer Capability Considerations	That is correct. Prudent additions will be recommended based on analysis.	no	No
116	3	Recommend approaches to achieve and maintain an adequate level transfer capability.	To achieve if it not already there	Florida Power & Light	Transfer Capability Considerations	Agree.	no	No
117	5	**Define Metrics for System Enhancements Phase (Months 8-10):** Determine approach for quantifying increased transfer capability needed for.	Assumes the outcome of the study will demonstrate a deficiency in transfers	Florida Power & Light	Transfer Capability Considerations	Agree	no	No
118	9	Create load and generation profiles for the regions under study. This involves understanding the expected power demand and supply patterns, considering factors such as seasonal variations , peak load periods, renewable energy generation, and the availability of reserve resources.	AAR seasons?	Florida Power & Light	Transfer Capability Considerations	AAR ratings may be adjusted as appropriate.	no	No
119	9	This involves analyzing the existing transmission infrastructure, including line ratings, facility ratings , thermal limits, voltage stability, and any congestion measures in place.	Are AAR going to be taken into account, implementation of FERC Order 881 is July 2025, the cases would have to be developed utilizing AARs. There is a risk for not having appropriate facility ratings	Florida Power & Light	Transfer Capability Considerations	AAR ratings may be adjusted as appropriate.	no	No
120	1	“Current total transfer capability , between each pair of neighboring transmission planning regions.” (This objective aims to determine the current maximum potential capacity for electric power transfer between neighboring regions)	Unclear how the study distinguishes between committed and uncommitted capability, i.e., if the capability is committed to deliver energy from a power purchase agreement then the capability is already being used.	SaskPower	Transfer Capability Considerations	The study calculates total transfer capability, which is current transfers (provided by data submitter) plus incremental transfer capability.	no	no

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				SaskPower	Clarifying Study Scope			
121	4	This group will help provide ERO and stakeholders on the study scope, approach, results, and recommendations.	Sentence does not indicate what is being provided.			Requesting stakeholders to provide input on study approach, scope, results, and recommendations.	yes	yes
		This involves analyzing the existing transmission infrastructure, including line ratings, facility ratings , thermal limits, voltage stability, and any		SaskPower	Transfer Capability Considerations			
122	9	congestion management measures in place.	Listing both ratings seems redundant.			Agree, change will be made.	yes	no
				SaskPower	Transfer Capability Considerations			
123	10	**OUTCOMES:** Goal is to have a U.S. (taking into account transfer risks from Canada) view similar to the following example (excluding internal transfer capability analysis), which represents regional system transfer limits:	Unclear what a transfer risk from Canada is.			Language updated to clarify.	yes	yes
		One of the most important and challenging part of this study will be to		SaskPower	Transfer Capability Considerations			
124	10	develop a consistent criteria to determine reliability benefit and transfer capability needs.	Unsure how NERC would determine a $ benefit.			Study will not propose any projects. Therefore, cost benefit analysis will not be covered	no	no
				SaskPower	Clarifying Study Scope			
125	11	Assess the impact of renewable energy integration, potential retirements of conventional generation, and the need for transmission upgrades and increased transfer capability to accommodate these changes.	Scope seems beyond stated study purpose- reliable transfer of electric power between neighboring "transmission planning regions"			Language to be modified. Purpose of the study is to also recommend prudent additions to transfer capability between neighboring regions. Part of the prudency analysis is to assess the impact of new resource integration and retirements to make a determination.	yes	no
				SaskPower	Clarifying Study Scope			
126	12	This includes assessing the potential benefits of leveraging surplus generation in one region to meet the demand in another region identifying the need for new transmission infrastructure or upgrades, and considering any regulatory or policy barriers that may impact the feasibility of transfers.	Scope seems beyond stated study purpose- reliable transfer of electric power between neighboring "transmission planning regions"			Purpose of the study is to also recommend prudent additions to transfer capability between neighboring regions. Part of the prudency analysis is to assess the impact of new resource integration and retirements to make a determination.	no	no
		Recommendations to “meet and maintain total transfer capability” must		SaskPower	Clarifying Study Scope			
127	12	consider the generation and transmission assets needed to implement an effective strategy that will rely on increased interregional transfer capability.	Scope seems beyond intent of the study.			To maintain a certain level of transfer capability, resources must be available. NERC won't recommend certain resource portfolios, but will highlight where the study will find deficiencies.	no	no
		OUTCOMES: ERO will provide recommendations for generation and		SaskPower	Clarifying Study Scope			
128	12	transmission needs to support system reliability under a variety of scenarios (from Phase II). ERO will not make any specific recommendations for generation or transmission.	Scope seems beyond intent of the study.			To maintain a certain level of transfer capability, resources must be available. NERC won't recommend certain resource portfolios, but will highlight where the study will find deficiencies.	no	no
		Critical Dependencies	unclear what the comment is asking, probably best to look at the comment within the doc	SaskPower	Transfer Capability Considerations			
129	19		itself.			Language has been adjusted.	yes	yes
		Description: The ERO Project Team will perform additional transfer	(NTD: unclear what types of resource deficiencies are being addressed.) and meeting criteria	SaskPower	Transfer Capability Considerations	The resource deficiencies will be identified as part		
130	24	capability analyses with the identified transfer capability additions in place to demonstrate their efficacy in resolving resource deficiencies . ITCS Advisory group will provide feedback on analysis and results.	(previously determined)			of the energy analysis, which will be performed in Part 2 of the study. Framework document has been adjusted accordingly.	yes	yes