Draft Appendix to GIPR
Roles and Responsibilities Agreement

1.1 Initial Cluster (Phase I) Study Timeline

Line	Initial (Phase I) Cluster Study	Typical Calendar Days	Timeline (Days)
1	ISO and PTOs develop initial generation groups for initial dispatch assumptions and cost allocation purposes (except for thermal overload mitigation)	7	1-7
2	PTOs develop draft base cases, each representing all generation in the queue cluster and deliver to ISO	21	1-21
3	PTO develops preferred and alternative if applicable, direct interconnection plans, including the need for an Interconnection Grid Substation (IGS).	25	22-46
4	PTO develops draft contingency lists	25	22-46
5	ISO reviews and approves Base Cases, Direct Interconnection Plans and merges them together, as needed. ISO updates summer peak base cases to reflect withdrawn projects from previous queue cluster study. PTOs update off-peak base cases. ISO reviews and approves contingency lists. PTO needs time to consider ISO proposed changes.	21	47-67
6	ISO provides Deliverability Study results identifying constrained facilities, using summer peak base cases & prepares results summary and may propose mitigation plans for PTO review.	21	68-88
7	At the ISO's direction, the PTO performs the off-peak Load Flow, and summer peak and off peak Post Transient and Stability analyses & identifies mitigation solutions, as appropriate, and submits draft study results to ISO for review and direction.	21	68-88
8	PTO develops mitigation plans for summer peak and off-peak or supplements ISO proposed mitigation plans for consideration, as appropriate, and submits to ISO for review and direction.	21	89-109
9	ISO retests Deliverability study results with proposed delivery upgrades and withdrawn projects from previous	14	110-123

	cluster study removed. PTO reviews and comments on retest results		
10	ISO develops shift factors for cost allocation purposes of all upgrades associated with mitigating thermal overloads	7	124-130
Short Circuit Duty (concurrent with the LF/PT/S)			
11	ISO to coordinate with other potentially affected facility owners[1]	n/a	n/a
12	ISO directs PTO to develop Base Case and run short circuit analysis	21	46-66
13	PTO to perform facilities review (Note: possibly for feedback into the powerflow and PTO mitigation plans)	28	67-94
14	PTO to prepare draft study results and submits to the ISO for review and direction	28	95-123
Facility cost estimates and schedules			
15	At the ISO direction, PTO(s) to prepare cost estimates and schedules for the direct assignment facilities and network upgrades identified in the ISIS power flow, short circuit duty, post transient, and stability studies.	20	124-143
Final Report			
16	At the ISO's direction, PTO(s) prepares draft report for impacts in their service territory.	7	144-150
17	ISO compiles all results into a draft report that covers grid impacts, as appropriate. ISO reviews integrated draft report and submits comments, recommendations and direction to the PTO	9	151-159
18	PTO incorporates ISO directions, conclusions and recommendations. If ISO conclusions and recommendations conflict with PTO conclusions then ISO and PTO must coordinate to resolve conflicts. Any remaining conflicts must be noted in the final report.	14	160-173
19	PTO submits final draft report to the ISO. The ISO will finalize the report and tender the ISO approved report to the IC's.		
Final Study Report			
20	ISO provides final approved report to ICs, PTO, and any applicable affected systems.	7	174-180

1.2 Standard Project Refinement and Facilities Study Process (Phase II) Study Timeline

Line	Standard Project Refinement and Facilities Study	Typical Calendar Days	Timeline (Days)

[1] In accordance with the WECC Short Circuit Duty Procedure

21	PTOs update base cases from Phase I study line 5 to remove projects that have withdrawn.	30	1-30
22	ISO reviews and approves base cases.		
23	ISO and PTOs update studies performed in Phase I lines 6-14 using base cases from line 22. Additional alternatives may be considered that address future generation development potential, meet load serving capability, and economic benefit objectives, and phased development and option value of transmission projects to address uncertainty	120	31-150
24	PTOs develop draft off-peak and summer peak operating year base cases as appropriate where each case includes all generation in Phase II study having the same operating date and deliver to ISO	30	151-180
25	ISO reviews and approves cases from line 24.		
26	At the ISO's direction, the PTOs perform operational studies using cases from line 25 to determine Network Upgrade requirements for each study year and identify any special operational requirements to connect projects in the year of study.	45	181-225
27	At the ISO's direction, the PTOs perform additional operational studies to identify the optimal approach for building out the overall plan of service on a segmented (i.e. building block) basis acknowledging that portions of the overall plan of service may be staged in segments over time.	30	226-255
Final Plan of Service Report			
28	At the ISO's direction, PTO(s) prepares draft plan of service report.	7	256-262
29	ISO reviews draft plan of service report and submits comments, recommendations and direction to the PTO	9	263-271
30	PTO incorporates ISO directions, conclusions and recommendations. If ISO conclusions and recommendations conflict with PTO conclusions then ISO and PTO must coordinate to resolve conflicts. Any remaining conflicts must be noted in the final report.	14	272-285
31	PTO submits final draft report to the ISO. The ISO will finalize the report.		
Facility Costs and Schedules			
32	At the ISO direction, PTO(s) to prepare detailed cost estimates and schedules for the direct assignment facilities and network upgrades identified in the overall plan of service and including individual segments.	75	256-330