

SIPS for enhanced Transfer capacity

SC C2 PS 1

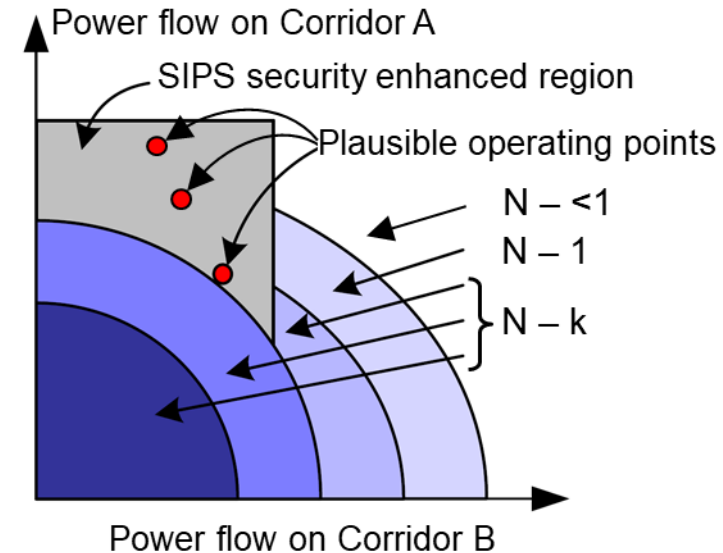
Q1.7: The security of supply is a critical requirement for system operation and the implementation of algorithms that attempt to prevent critical network conditions is usually implemented. Given that most of these systems compute worst case conditions, how can we guarantee that the energy market is not being hindered due to the priority given on security of supply?

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What is the value of SIPS?

SIPS - System Integrity Protection Schemes:

- Designed to add an additional layer of defence against large disturbances
- Increase security of operation, for N-1, N-k & N-<1
 - Enable operation outside general security criteria
 - Increase secure power transfer capacity
 - Decrease sensitivity to severe/ multiple contingencies
- Typical SIPS actions: load shedding, generation tripping, controlled network split, fast HVDC ramp
- SIPS solutions
 - are economically efficient means to increase resilience,
 - but are technically complex and involves additional risks



Managing the capacity problem with SIPS

- Implementation of SIPS solutions to provide transfer capacity outside conventional N-1 security region will enable increased trading and thus strengthening the security on a system wide level as well as providing sustainable grid development means.
- A larger use of SIPS integrated in “normal” operation would result in:
 - Making the system operator more accustomed to the type of system.
 - Increasing the maturity of SIPS into conventional solutions.
 - Enabling acceptance for more advanced / novel means of operating the grid.