
**Module on
Procedure for Data Collection**

National Load Despatch Centre

Power System Operation Corporation

Background

■ Algorithms/ Processes

- ❑ AC Load flow and transmission losses
- ❑ Slack bus determination- Average Participation method
- ❑ Participation factor of a node- Marginal Participation method
- ❑ Loss allocation factor of node- Marginal Participation method

■ Input

- ❑ Network data for modeling the power system
- ❑ Nodal injection / Nodal withdrawal for a scenario
- ❑ Yearly Transmission Charges to be apportioned

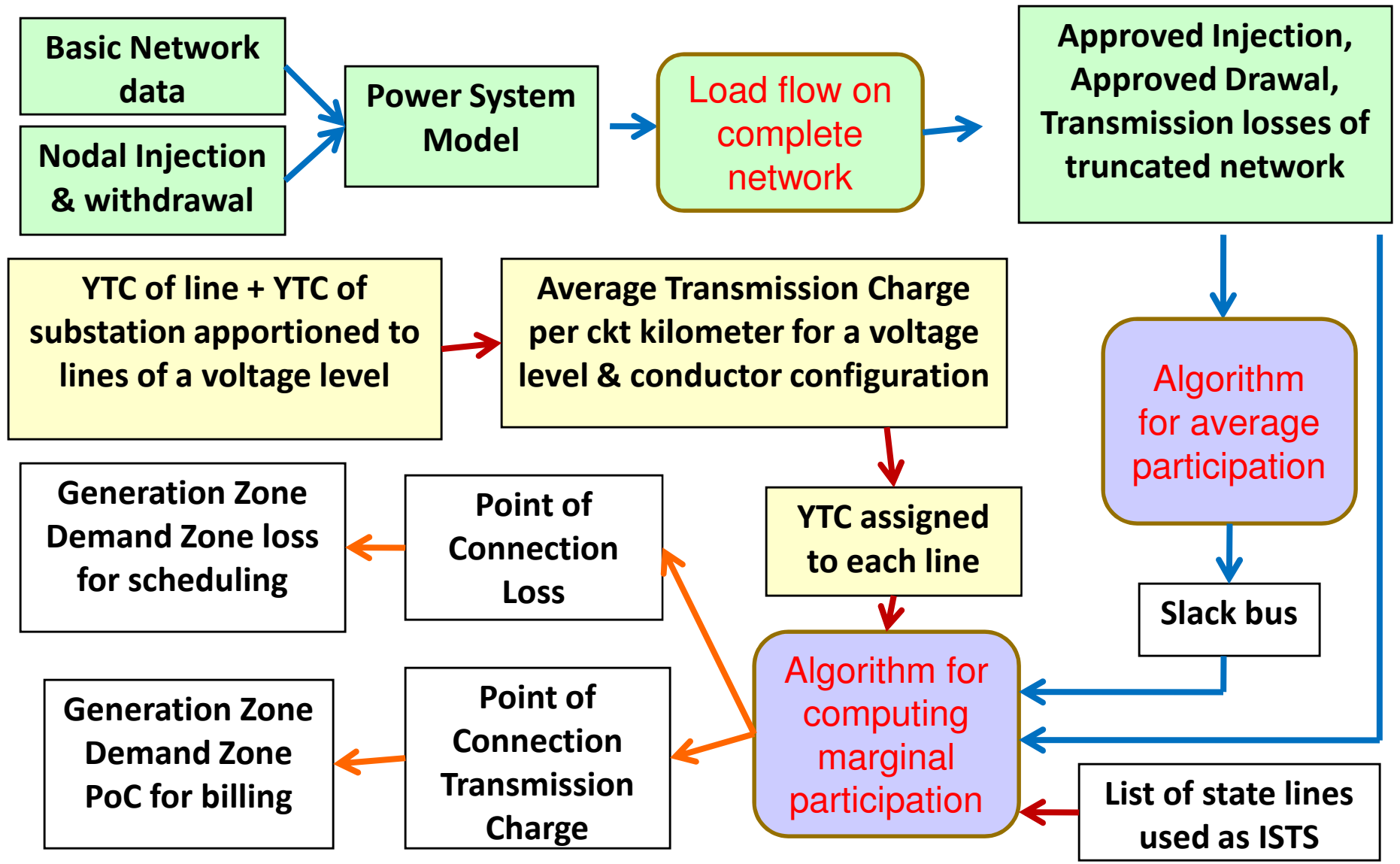
■ Output

- ❑ Point of Connection Charge- Demand Zone/ Generation Zone
 - ❑ Point of Connection Losses- Demand Zone/ Generation Zone
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Agency involved in Information exchange

- **Implementing Agency (IA)**
 - **Designated ISTS customers (DICs)**
 - **ISTS Transmission licensees**
 - **Load Despatch Centres**
 - **Regional Power Committee (RPC)**
 - **Central Transmission Utility (CTU)**
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Information flow chart



Mathematical Model of Power System

■ Network topology data

- Voltage level
- 132 kV and above
- 110 kV where generators are connected

■ Application Period

- Season
 - Time of the day
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Network topology

- **Node- Substation or switchyard of a generator**
 - **AC Transmission lines**
 - Connecting nodes, voltage level, Conductor configuration
 - Length, MVA rating, Shunt & Series Compensation
 - **HVDC lines**
 - Inverter/Converter nodes and voltage level
 - Converter Xmer details, Thyristor bridge details
 - **Transformers**
 - Connecting nodes and voltage level
 - Reactance, MVA rating, Number of Taps, Tap Steps
 - **Generators**
 - Connecting node, Reactance, Capability
 - **Shunt devices- Reactors, Capacitor, SVC**
 - Connecting Node, Reactance
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Application Period

■ Representative Cases

- ❑ Seasons
- ❑ Time of the day

■ Block of months

- ❑ April to June
- ❑ July to September
- ❑ October to November
- ❑ December to February
- ❑ March

■ Time of the day (specified ex ante by IA)

- ❑ Peak hours- 8 hours
 - ❑ Other than peak- 16 hours
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Nodal injection/ withdrawal for a scenario

■ Nodal generation (forecast)

- ❑ Estimated long-term and medium term contracts
- ❑ Approved Injection
- ❑ Approved additional Medium term injection

■ Nodal load (forecast)

- ❑ Estimated long-term and medium term contracts
 - ❑ Approved withdrawal
 - ❑ Approved additional Medium term withdrawal
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Yearly Transmission Charge- by ISTS licensees

■ **Asset**

- ❑ Dedicated transmission lines constructed, owned and operated
- ❑ Substations

■ **YTC of Substation to transmission lines**

- ❑ Apportion to associated transmission line
- ❑ 1/3rd to LV
- ❑ 2/3rd to HV

■ **Average Yearly Transmission Charge per circuit kilometer**

- ❑ Each Voltage level and line configuration
 - ❑ 400 kV Twin Moose
 - ❑ 400 kV Quad Moose, 400 kV Quad Bersimis
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How to Give Information to IA ?

- **Identify a person(s) who will coordinate with Implementing Agency**

 - **Communicate the details of Identified Person to the Designated Officer of IA.**
 - Name
 - Designation
 - Company Name
 - Office Address
 - Contact Number : Official (Landline)
Mobile Number
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Implementation-1

- **Procedure for Obtaining Data**

- Prepared by IA in compliance with Regulation 7(1)(f)

- **Sets out the modalities for collection of data by Implementing Agency (IA) for Computation of PoC Charges and Losses.**

- **NLDC : Implementing Agency for the first two years.**

Implementation-2

- **Formats would be available on the website of IA and all RLDCs**
 - www.nldc.in
 - www.nldcindia.in

 - **Submission of data shall be only in electronic spreadsheet formats (MS Excel).**

 - **For all communication purposes**
 - emailid of IA : implementingagency@powergridindia.com

 - **Written communication confirming submission of data by e-mail.**
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Timeline for Submission of Data (1)

1st Year of Implementation

(As per Implementation Plan agreed in Implementation Committee)

■ **Basic Network Data**

□ 2nd Week of September

■ **List of ISTS Lines and its Commercial Data**

□ 2nd Week of October

■ **Forecast Injection/Withdrawal**

□ 4th Week of November

Timeline for Submission of Data (2)

Subsequent Years

(As per the Regulations)

- **Date and Data (Technical & Commercial) of newly commissioned Transmission Asset**
 - 4th Week of November

 - **List of ISTS Lines and its Commercial Data**
 - 4th Week of November

 - **Forecast Injection/Withdrawal**
 - 4th Week of November
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THANK YOU
