

संदर्भ: NLDC/SO/NLDC/T-GNA/

दिनांक: 14th July 2023

सेवा में,

सचिव,
केन्द्रीय विद्युत विनियामक आयोग
3rd एवं 4th फ्लोर, चंद्रलोक बिल्डिंग
36, जनपथ, नयी दिल्ली, 110001

विषय: NLDC draft procedure on "Allocation of Transmission Corridor for Scheduling of General Network Access (GNA) and Temporary General Network Access (T-GNA)" – Reg.

महोदय/महोदया,

The Central Electricity Regulatory Commission notified the Connectivity and General Network Access to the inter-State Transmission System Regulations, 2022 on 7th June 2022. In accordance with the regulation 39.2 read along with regulation 36, NLDC has to submit a detailed procedure in respect of "**Allocation of Transmission Corridor for Scheduling of General Network Access (GNA) and Temporary General Network Access (T-GNA)**" for **approval** of the Hon'ble Commission.

In compliance to the above, the draft procedure was prepared and uploaded on Grid-India website for stakeholder comments. Stakeholder consultation details are provided below:

S. No.	Procedure	Uploaded on	Comments invited by	Stakeholder Consultation held on
1	Allocation of Transmission Corridor	10 th Nov 2022	Initial deadline – 30 th Nov 2022 Extended deadline – 9 th Dec 2022	1 st Dec 2022 – For all regions

The suggestions/feedback were received by stakeholders and the draft procedure was suitably revised after consideration of the suggestions/feedback.

The final draft procedure is attached herewith for kind approval of the Hon'ble Commission.

सधन्यवाद,

भवदीय,



(एस. सी. सक्सेना)

कार्यपालक-निदेशक-रा.भा.प्रे.के.

Encl: As above

Copy for kind information:

1. CMD, Grid-India
2. Director – Market Operation/System Operation, Grid-India
3. All RLDC Heads

Grid Controller of India Limited
(formerly Power System Operation Corporation Limited)
National Load Despatch Centre (NLDC)



Procedure
for
Allocation of Transmission Corridor for Scheduling of
General Network Access (GNA) and Temporary General
Network Access (T-GNA) Transactions

Prepared in Compliance

to

Central Electricity Regulatory Commission

Connectivity and GNA

Regulations, 2022

July 2023

Version History

Document Name:	Procedure for Allocation of Transmission Corridor for Scheduling of GNA and T-GNA Transactions		
Document Creation Date:	14 th July 2023		
Version History			
S. No.	Description of Change	Date of Change	Revision No.
1	Initial Document	14 th July 2023	0.0

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Allocation of Transmission Corridor under General Network Access (GNA) and Temporary General Network Access (T-GNA) to the Inter-State Transmission System

1. Background

- 1.1. This procedure is in accordance with *clause 39.2 of the Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State Transmission System) Regulations, 2022.*
- 1.2. The procedure lays down the guidelines for allocation of the transmission corridor for scheduling of GNA and T-GNA transactions as per the provisions stipulated in aforementioned GNA regulations and the Indian Electricity Grid Code (IEGC).

The procedure will supplement NLDC's *Procedure for Temporary General Network Access (T-GNA) to the inter-State Transmission system through National Open Access Registry (NOAR)* prepared in accordance with the aforementioned regulations.

2. Definitions

- 2.1. 'Applicant' means Distribution licensee directly connected to ISTS / Bulk consumer directly connected to ISTS / drawee entity connected to intrastate transmission system or to distribution system/ all generating stations, including based on a renewable source of energy with or without Energy Storage System including Renewable Hybrid Generating Station for meeting its auxiliary consumption or start-up power or for meeting its supply obligations in terms of clause (3) of Regulation 6 of the Power Market Regulations/Captive generating plant/ Standalone Energy Storage System/ Generating station based on a renewable source of energy with or without Energy Storage System including Renewable Hybrid Generating Station for drawal during non-generation hours as buyers. Trading Licensee on behalf of above buyers or engaged in cross border trade of electricity for injection into or drawal from the Indian grid. Power Exchange for collective or bilateral transactions on behalf of above buyers or on behalf of trading licensees engaged in cross border trade of electricity for injection into or drawal from the Indian grid.
- 2.2. 'Bid Area' is defined as the largest geographical area within which market participants are able to exchange energy without capacity allocation.
- 2.3. 'Control Area' means an electrical system bounded by interconnections (tie lines), metering and telemetry which controls its generation and/or load to maintain its interchange schedule with other control areas and contributes to regulation of frequency.

- 2.4.** 'Cross Border Transaction' means transactions involving import or export of electricity between India and any of the neighbouring countries and shall also include transactions across India involving neighbouring countries.
- 2.5.** 'Day' means a day starting at 00:00 hours and ending at 24:00 hours.
- 2.6.** Grid Controller of India Ltd. (Grid-India¹) means the wholly Government owned independent Company notified by Central Government under Section 26 and subsection (2) of Section 27 of the Electricity Act vide notification dated 19th December 2016. Grid-India is operating all the five RLDCs and the NLDC w.e.f. 1st October, 2010;

Words and expressions used in this procedure and not defined herein but defined in the Act or any other regulations specified by the Central Commission shall, unless the context otherwise requires, have the meanings assigned to them under the Act or other regulations specified by the Central Commission, as the case may be.

3. Declaration of Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM)

3.1 Transfer Capability

- a) "Credible contingency" means the likely to happen contingency, which would affect the Total Transfer Capability of the inter-control area transmission system.
- b) "Total Transfer Capability (TTC)" means the amount of electric power that can be transferred reliably over the inter-control area transmission system under a given set of operating conditions considering the effect of occurrence of the worst credible contingency.
- c) "Transmission Reliability Margin (TRM)" means the amount of margin earmarked in the total transfer capability to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions.
- d) "Available Transfer Capability (ATC)" means available power transfer capability across control areas or across regions or between ISTS and state network or between cross-border interconnections declared by the concerned load despatch centre for scheduling transactions in a specific direction with due consideration for the network security. Mathematically, ATC is the Total Transfer Capability less Transmission Reliability Margin.

¹ Previously known as Power System Operation Corporation Ltd. (POSOCO)

- e) TTC is dependent upon the network topology, point and quantum of injection /drawl and power flows in other paths of the interconnected network as well as prevailing voltage profile in the network during the assessment period.
- f) TTC is directional in nature and the transfer capability for import of power in a region or control area from another region or control area may be different from the transfer capability for export of power from that region or control area to the other region or control area.
- g) Total Transfer Capability is time variant and there could be different figures for different times of the day/month/season/year.
- h) Transfer Capability is mentioned in MW.

3.2 Assessment and Declaration of Transfer Capability

- a) The import and export TTC, ATC and TRM shall be computed for all the bid areas/control areas/group of control or bid areas where a control or bid area can be a separate region, state, union territory (UT), part of region/state/UT or any combination of the same.
- b) The Central Transmission Utility of India Limited (CTUIL) shall assess and declare the import and export TTC, ATC, and TRM of the inter-regional links/corridors as well as of the individual control/bid areas within the region for the purpose of grant of General Network Access (GNA).
- c) The National Load Despatch Centre (NLDC), Regional Load Despatch Centres (RLDCs) and State Load Despatch Centres (SLDCs) shall refer to the quantum declared by CTUIL while assessing the import and export TTC, TRM and ATC for the purpose of grant of Temporary General Network Address (T-GNA), scheduling of GNA and T-GNA transactions.
- d) NLDC shall assess the import and export TTC, ATC and TRM of the inter-regional links/corridors in consultation with Regional Load Despatch Centres. The TTC, ATC, and TRM figures for the month along with the details of basis of calculations, including assumptions, if any, shall be published on the website of NLDC and concerned RLDCs at least for eleven (11) months in advance. The specific constraints indicated in the system study shall also be published on the website.
- e) SLDCs in consultation with RLDCs shall assess the import and export TTC, ATC, TRM of the individual control/bid areas within the region. RLDCs shall assess the import and export TTC, TRM and ATC for the group of control/bid areas within the region (if required). The computed TTC, TRM and ATC figures shall be published on the website of respective SLDCs and RLDCs, along with the details of basis of calculations, including assumptions, if any, at least for eleven

(11) months in advance. The specific constraints indicated in the system study shall also be published on the website.

- f) The consolidated bid area/control area/combination of control areas wise import and export TTC, TRM and ATC shall also be published on NLDC/Grid-India website.
- g) NLDC, RLDCs and SLDCs shall perform the TTC computation studies such that all anticipated operating conditions are covered. In the studies, the worst credible contingency shall be considered to ensure equipment loadings, voltage stability, and transient stability limits. The detailed procedure for computation of TTC is enclosed at **Annexure-I**.

Provided further that NLDC and/or concerned RLDCs and SLDCs in consultation with each other may revise the TTC, ATC and TRM of respective control areas due to change in system conditions, which includes change in network topology or change in anticipated active or reactive generation or load, on account of outage of one or more generators or transmission lines at any of the nodes in the study. Revised TTC, TRM and, ATC figures along with the reasons for revision shall be published on the websites of NLDC/GRID-INDIA, concerned RLDCs and SLDCs.

- h) The TTC, ATC and TRM may also be revised near to the operating horizon depending on the anticipated system conditions at that time.

4. Allocation of Transmission Corridor

- a) In order to determine whether the drawl schedules as requisitioned by the GNA/GNA_{RE}/T-GNA/ T-GNA_{RE} grantees can be allowed, RLDCs shall check the availability of the margin for each and every time block against the available inter-regional import/export transfer capability as well as intra-regional and bid/control area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area (s) / group of control or bid areas.
- b) For the purpose of transmission corridor allocation, all states and Union Territories shall be configured as bid-areas. Further, additional bid areas/group of bid areas may also be configured as and when the need arises.
- c) NLDC shall be responsible for configuration/reconfiguration of these bid area(s) based on the anticipated congestion and prevailing grid conditions. Power Exchanges shall keep the provision in their respective systems for configuration of bid areas as and when intimated by NLDC.

d) First, the GNA/GNA_{RE} grantees shall be eligible to schedule power within the GNA/GNA_{RE} granted to them subject to the available import and export transfer capability of the concerned bid area (s)/control area (s)/group of control or bid area (s). After allocation of the corridors to the GNA/GNA_{RE} grantees, concerned RLDC shall allow the drawl schedules as requisitioned by the T-GNA/T-GNA_{RE} grantees based on the available margin. The detailed procedure for the same is provided in subsequent section.

e) Responsibilities of CTUIL:

- i) The CTUIL shall be responsible for electronically intimating details of any new grant of GNA/GNA_{RE} to all the stakeholders (including NLDC) within 15 days of the approval.
- ii) In case of change in original quantum or date of operationalization of GNA/GNA_{RE}, same shall be intimated by CTUIL to all the stakeholders (including NLDC) at least 15 days in advance from the original date of operationalization of GNA/GNA_{RE}.
- iii) CTUIL shall also provide interface (Application Programming Interface – API based) for communicating approved GNA/GNA_{RE} quantum to NLDC.
- iv) CTUIL shall also inform the details of approved transfer of GNA/GNA_{RE} to all the stakeholders (including NLDC) among entities at least 15 days before the operationalization date of such GNA/GNA_{RE}.

4.1. Allocation of Transmission Corridor and Scheduling of Transactions under GNA/GNA_{RE}

- a) Respective SLDCs on behalf of the intra-state entities which are drawee GNA grantees shall furnish the details of the contracts/power purchase agreements (PPAs)/Letter of Award (LOA) etc. including the injection point at least 03 days prior to the day of scheduling (i.e. by 1100 hrs of 'S-3' day with 'S' being the day of scheduling) so as to configure these details in the scheduling system. The requisite information shall be provided in the Web based Energy Scheduling Software (WBES). However, for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts, the window shall remain open on the day of the operations also.
- b) Other drawee GNA grantees which are regional entities shall also furnish the details of the contracts/PPAs/LOAs/etc. including the injection point at least 03 days prior to the day of scheduling (i.e. by 1100 hrs of 'S-3' day). The requisite information shall be provided in the Web based Energy Scheduling Software (WBES). However, for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts, the window shall remain open on the day of the operations also.

- c) Respective SLDCs on behalf of the intra-State entities which are drawee GNA/GNA_{RE} grantees, shall furnish time block-wise requisition for drawl to the concerned RLDC in accordance with the contracts by 0800 hrs of 'S-1' day, 'S' day being the day of scheduling. The requisition shall be punched in the Web based Energy Scheduling Software (WBES).
- d) Other drawee GNA/GNA_{RE} grantees which are regional entities shall also furnish the time block wise requisition for drawl to the concerned RLDC in accordance with the contracts by 0800 hrs of 'S-1' day. The requisition shall be punched in the Web based Energy Scheduling Software (WBES).
- e) RLDCs shall check if drawl schedules as requisitioned by the drawee GNA/GNA_{RE} grantees can be allowed based on the available transmission capability.
- f) RLDCs shall check the availability of the margin for each and every time block against the available inter-regional import/export transfer capability as well as the intra-regional and bid/control area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area / group of control areas.
- g) In case of any constraint in the transmission system, the available transmission corridor shall be allocated to the drawee GNA/GNA_{RE} grantees in proportion to their granted GNA/GNA_{RE} within the region or from outside the region, depending upon the transmission constraint, whether it is within the region or from outside the region, as the case may be. The same shall be intimated to the drawee GNA/GNA_{RE} grantees by 0815 hours.

Provided that the curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) in proportion to their granted GNA/GNA_{RE} within the region or from outside the region, as the case may be.

The generation from wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) shall be curtailed after curtailment of generation from other sources in proportion to their granted GNA/GNA_{RE}, within the region or from outside the region, as the case may be.

- h) Drawee GNA/GNA_{RE} grantees shall revise their requisition for drawl schedule based on the availability of transmission corridors for such grantee by 0830 hours on 'S-1' day.
- i) RLDC shall issue final drawl schedules and injection schedules for drawee and injecting GNA/GNA_{RE} grantees by 0900 hours on 'S-1' day.
- j) In case a generating station other than Renewable Energy Generating Station (REGS) intends to replace its schedule under GNA/GNA_{RE} grant by power supplied from REGS, it shall intimate the

quantum and source of such power by which it intends to replace the power already scheduled by 0915 hours of 'S-1' day.

- k) RLDCs shall incorporate the request from such generating station in the injection schedule of the REGS, the said generating station, and the drawal schedule of the buyer by 0930 hours of 'S-1' day based on available margin after scheduling of GNA/GNA_{RE} transactions.

4.2. Allocation of Transmission Corridor and Scheduling of Transactions under Advance T-GNA/T-GNA_{RE} Application Category

- a) After the day-ahead schedule is finalised for the GNA grantees, schedule for T-GNA/T-GNA_{RE} grantees under Advance category shall be finalised over the balance transmission margin.
- b) Respective SLDC on behalf of intra-State entities which are T-GNA/T-GNA_{RE} grantees shall furnish the details of the power purchase agreements (PPAs/LOAs/etc.) including the injection point at least 3 days prior to the day of scheduling (i.e. by 1100 hrs of 'S-3' day with 'S' being the day of scheduling) so as to configure these details in the scheduling system. The requisite information shall be provided in the Web based Energy Scheduling Software (WBES). However, for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts, the window shall remain open on the day of the operations also.

Provided that in case of advance T-GNA/T-GNARE application submitted on S-3 day and starting delivery on S day, respective SLDC on behalf of intra-State entities which are T-GNA/T-GNARE grantees shall furnish the details of the power purchase agreements (PPAs/LOAs/etc.) including the injection point by S-2 day.

- c) Other drawee T-GNA/T-GNA_{RE} grantees who are regional entities shall furnish the details of the power purchase agreements (PPAs/LOAs/etc.) including the injection point at least 3 days prior to the day of scheduling (i.e. by 1100 hrs of 'S-3' day with 'S' being the day of scheduling) so as to configure these details in the scheduling system. The requisite information shall be provided in the Web based Energy Scheduling Software (WBES). However, for Intra Day, Day Ahead Contingency (DAC), Term Ahead, Green Intra Day, Green Day Ahead Contingency (DAC) and Green Term Ahead contracts, the window shall remain open on the day of the operations also.
Provided that in case of advance T-GNA/ T-GNARE application submitted on S-3 day and starting delivery on S day, T-GNA/T-GNARE grantees who are regional entities shall furnish the details of the power purchase agreements (PPAs/LOAs/etc.) including the injection point by S-2 day.
- d) Respective SLDC on behalf of intra-State entities which are T-GNA/T-GNA_{RE} grantees, shall furnish time block-wise requisition for drawal, for the advance T-GNA applications to the concerned RLDC

in accordance with the contracts by 0915 hours of S-1 day in Web based Energy Scheduling Software (WBES).

- e) Other drawee T-GNA/T-GNA_{RE} grantees who are regional entities, shall furnish time block wise requisition for drawl to concerned RLDC in accordance with contracts by 0900 hours of 'S-1' day in Web based Energy Scheduling Software (WBES).
- f) The available margin for transactions under advance bilateral category shall be determined for each bid area /control area /group of control areas as:

Margin for scheduling of advance bilateral category of T-GNA/T-GNA_{RE} transactions:

- Import T-GNA/T-GNA_{RE} margin = import ATC – import schedule (GNA/GNA_{RE}) + 'A'% export schedule (GNA/GNA_{RE})
- Export T-GNA/T-GNA_{RE} margin = export ATC – export schedule (GNA/GNA_{RE}) + 'B'% import schedule (GNA/GNA_{RE})

Where, 'A' and 'B' are the percentage export/import in the opposite direction which shall be determined by NLDC from time to time based on RE variability and other system exigencies.

- g) RLDCs shall check if the drawl schedules as requisitioned by the drawee T-GNA/T-GNA_{RE} grantees can be allowed based on the available import/export transfer capability and the standing clearance issued by the NLDC/RLDC/SLDC.
- h) For this, the RLDCs shall check the availability of corridor for each and every time block of the next day against the available inter-regional import/export transfer capability as well as the intra-regional and bid area import/export transfer capability and the standing clearance issued by the NLDC/RLDC/SLDC for injecting and drawee entities. This process shall be carried out for all the bid area (s) / control area / group of control areas.
- i) In case the day-ahead scheduling request of T-GNA/T-GNA_{RE} grantees for full quantum of T-GNA/T-GNA_{RE} cannot be accommodated due to non-availability of sufficient transmission corridor, then the available transmission corridor shall be allocated for scheduling on pro-rata basis to the T-GNA/T-GNA_{RE} grantees in proportion to their granted T-GNA/T-GNA_{RE} quantum.

Provided that the curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) in proportion to their granted T-GNA/T-GNA_{RE} within the region or from outside the region, as the case may be.

The generation from wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) shall be curtailed after curtailment of generation from other sources in proportion to their granted T-GNA/T-GNA_{RE} within the region or from outside the region, as the case may be.

- j) There shall be no refund in transmission charges in case the advance T-GNA/T-GNA_{RE} applications were applied more than the standing clearances issued by the SLDC/RLDC for the injecting entity. However, if SLDC/RLDC has revised the standing clearances due to transmission constraints or in view of grid security, transmission charges for the quantum not scheduled shall be refunded to the T-GNA/T-GNA_{RE} grantee.
- k) RLDC shall issue final drawl schedules for T-GNA/T-GNA_{RE} grantees by 0945 hours of 'D-1' day.
- l) In case, any T-GNA/T-GNA_{RE} grantee does not schedule power up to its T-GNA/T-GNA_{RE} quantum at the time of making the scheduling request, the unutilised quantum of T-GNA/T-GNA_{RE} shall be released in the following sequence for:
 - i. Collective transactions under day ahead market
 - ii. Bilateral transactions under exigency T-GNA/T-GNA_{RE} applications received till 1300 hours of S-1
 - iii. Bilateral transactions under exigency T-GNA/T-GNA_{RE} applications received after 1300 hours of S-1
 - iv. Schedule revision by GNA grantees
 - v. Collective transactions under real time market

Inter-se, the exigency applications after 1300 and revisions request under GNA/GNA_{RE} received after 1400 hours shall be scheduled on first cum first serve basis as per available transmission margin.

4.3. Allocation of Transmission Corridor and Scheduling of Collective Transactions

- a) After allocation of the transmission corridor to the GNA/GNA_{RE} grantees and T-GNA/T-GNA_{RE} grantees under Advance category, the balance transmission margin shall be released for collective transactions under Integrated Day Ahead Market (IDAM). The available margin for IDAM transactions shall be determined for each bid area /control area /group of control areas as:

Margin for IDAM category of transactions:

- Import IDAM margin = import ATC – scheduled import (GNA/GNA_{RE} + advance T-GNA/T-GNA_{RE}) + 'M'% scheduled export (GNA/GNA_{RE}+T-GNA/T-GNA_{RE})

- Export IDAM margin = export ATC – scheduled export (GNA/GNA_{RE} + advance T-GNA/T-GNA_{RE}) + 'N'% scheduled import (GNA/GNA_{RE} + T-GNA/T-GNA_{RE})

Where, 'M' and 'N' are the percentage export/import in the opposite direction which shall be determined by NLDC from time to time based on RE variability and other system exigencies.

- b) Power Exchanges shall fetch the required standing clearance data from NOAR portal by 1000 hours. Further, power exchange(s) shall ensure that the scheduling request for each registered participant is within the limit for each time block as specified by the respective SLDC/RLDC/NLDC, as the case may be in the standing clearance.
- c) Power exchange(s) shall furnish the interchange flow on the various bid area/ control area / group of control areas along with the information of total drawl and injection for each region by 1145 hours.
- d) Based on the information furnished by Power Exchange(s) and the available margin, NLDC shall check for congestion through NOAR. If there is no congestion, NLDC shall send a NIL congestion report to the Power Exchanges, so that the applications can be accepted and scheduled subsequently. However, in case of congestion, NLDC shall inform the Power Exchange(s) by 1215 hours through NOAR regarding the period of congestion and the available scheduling limit on each bid area/ control area/ group of control areas, in the respective power exchange.
- e) In case of congestion in any of the bid area/ control area / group of control areas, the allocation of available corridor margin among the power exchanges shall be in the ratio of the initial trade volume in MW submitted by the respective power exchanges for the particular time block in the congested corridors.

Provided that within integrated day ahead market, high price day ahead market transaction shall be curtailed first followed by day ahead market transactions and then green day ahead market transactions.

- f) For uncongested corridor, the margin shall be the requisition in MW plus residual quantum (in that particular uncongested corridor left over after the total requisition from all power exchange in that time block) in proportional to the IDAM provisional volume for the respective exchanges.
- g) The Power Exchange(s) shall ensure that scheduling request for IDAM transaction is within the limits for each bid area/ control area / group of control areas and for each time block as intimated by NLDC through NOAR.

- h) The Power Exchange(s) shall submit the final trade schedules to NLDC for regional entities and to SLDC for intra-State entities by 1300 hrs of 'S-1' day.
- i) Power exchange(s) shall club together all buyers within a state in one group and all sellers within a state in another group for the purpose of scheduling by RLDCs.

4.4. Allocation of Transmission Corridor and Scheduling of Exigency Bilateral Transactions

- a) After finalisation of the collective transactions under IDAM, Exigency applications for grant of T-GNA/T-GNA_{RE} received till 1300 hrs of 'S-1' day, shall be processed.
- b) The available margin for transactions under exigency category shall be determined for each bid area /control area /group of control areas as:

Margin for Scheduling of Exigency Bilateral Transactions:

- Import T-GNA/T-GNA_{RE} margin = import ATC – net scheduled (GNA/GNA_{RE} + T-GNA/T-GNA_{RE})
- Export T-GNA/T-GNA_{RE} margin = export ATC – net scheduled (GNA/GNA_{RE} + T-GNA/T-GNA_{RE})
- c) An application for grant of exigency T-GNA/T-GNA_{RE} for a bilateral transaction through NOAR may be submitted on (D) day for grant of T-GNA/T-GNA_{RE} with scheduling for (D) day or (D+1) day or (D+2) day, with a minimum start time of 7 (seven) or 8 (eight) time blocks, as the case may be from the time of application of the T-GNA application.
- d) Separate exigency application for each day for grant of T-GNA/T-GNA_{RE} shall be submitted for any time block(s) between 0000 hours to 2400 hours of the day of scheduling through NOAR.
- e) RLDCs shall process applications received till 1300 hours of the day immediately preceding the day of scheduling through NOAR on first-come-first-served basis by 1400 hours of the day immediately preceding the day of scheduling.
- f) Applications received after 1300 hours of the day immediately preceding the day of scheduling or on the day of scheduling shall be processed within 4 (four) time blocks from the time of receipt of application in NOAR on first-come-first-served basis.
- g) For each and every time block of a particular day, the requests shall initially be checked against the available inter-regional import/export transfer capability followed by intra-regional and bid

area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area / group of control areas.

- h) Based on the above, nodal RLDC shall therefore approve / reject / partially approve the transactions as the case may be.
- i) In the event T-GNA as applied for, cannot be granted for full quantum and full period as sought in the application, in view of constraints in transmission system, the entire application shall be rejected.

However, in case the applicant has given consent in its application through NOAR that T-GNA/T-GNA_{RE} for part quantum or part period or both may be granted to it, T-GNA/T-GNA_{RE} for such part quantum and part period or both shall be granted as per available transmission margin.

- j) T-GNA/T-GNA_{RE} granted under exigency application category shall be considered as schedule, which cannot be revised, except in case of forced outage of a unit of a generating station or ESS, transmission constraint and in view of grid security.
- k) RLDC shall check the availability of corridor for each and every time block of the next day against the available inter-regional import/export transfer capability as well as the intra-regional and bid area import/export transfer capability. This process shall be carried out for all the bid area (s) / control area / group of control areas. Accordingly, the scheduling request shall be accorded in the RLDC scheduling application.

4.5. Allocation of Transmission Corridor and Scheduling of Real Time Collective Transaction

- a) All the entities participating in the real-time energy market may place their bids and offers on the Power Exchange(s) in 'T' time block for purchase or sale of power in 'T+5/T+6' time block.
- b) Before the bidding session, in T-1 time block (T = Bid time block, T+5/T+6 = Delivery Time Block), Power Exchanges shall fetch the required standing clearance details from the NOAR portal.
- c) After the end of Real Time Market (RTM) bidding session (T block), power exchange(s) shall furnish the interchange flow on the various bid area/ control area / group of control areas along with the information of total drawl and injection for each region in T+1 time block.
- d) NLDC shall verify through NOAR the combined trade volume submitted by the power exchange(s) against the available margin for all bid area/ control area / group of control areas in T+1 time block. The available margin for real time market collective category of transactions shall be determined for each bid area /control area /group of control areas as:

For real time market collective category of transactions:

- Import RTM margin = import ATC – net scheduled import (GNA/GNA_{RE} + T-GNA/T-GNA_{RE})
 - Export RTM margin = export ATC – net scheduled export (GNA/GNA_{RE} + T-GNA/T-GNA_{RE})
- e) If the combined trade of the power exchange(s) is within the available transmission margin limits, then the initial request submitted by power exchange(s) shall be confirmed by NLDC to the power exchange(s) through NOAR in T+1 time block.
- f) In case the combined trade volume submitted by the power exchange(s) exceeds the available transmission margin limit for any of the bid area/ control area / group of control areas, the allocation of available corridor margin for a particular time block among the power exchanges shall be in the ratio of the initial trade volume submitted by the respective power exchanges for the particular RTM session for all corridors.
- g) Accordingly, the above shall be communicated to the power exchanges through NOAR in T+1 time block. The power exchanges shall thereafter submit the final scheduling request through NOAR, in conformity with the available corridor margin as provided by NLDC in T+1 time block. In case of no congestion, the provisional scheduling request shall be considered as final scheduling request.
- h) For a particular RTM session, if the cleared volume by a particular power exchange (s) is (are) more than the margin provided by NLDC through NOAR, then NLDC shall consider the trade quantum of all bid area/ control area / group of bid or control areas for the particular power exchange(s) to be zero and send an exception report to the corresponding power exchange(s) through NOAR in T+2 time block.
- i) Under extreme circumstances, including but not limited to failure of communication and/or any such other reason e.g. data transfer failure, if the final cleared trades are not received by NLDC for scheduling through RLDCs or if the information regarding transmission margin is not received by power exchanges(s) then, the schedules for such RTM session(s) shall be made zero (0) and power exchange(s) shall settle accordingly.
- j) Information regarding zero (0) schedules in a particular RTM session shall be communicated by NLDC to the power exchange(s) in T+2 time block.
- k) Power exchange(s) shall club together all buyers within a state in one group and all sellers within a state in another group for the purpose of scheduling by RLDCs.

4.6. Scheduling of Cross Border transactions

- a) Scheduling of cross border T-GNA transactions shall be done in accordance with the Procedure for approval and facilitating Import/Export (Cross Border) of Electricity) by the Designated Authority (DA), Cross Border Trade of Electricity Regulations, 2019 and amendments thereof and Central Electricity Regulatory Commission (Connectivity and General Network Access to the inter-State transmission System) Regulations, 2022 and amendments thereof.
- b) All import/ and export of electricity through cross border electricity transactions shall take place after approval of the Designated Authority (DA), as applicable.
- c) Approval of the Designated Authority will not be necessary where the import/ export is taking place under the Inter Government-to-Government Agreement signed by India and neighbouring country for specific project(s). However, such Indian Entity, as applicable, would need to apply for transmission access as per applicable CERC Regulations either directly or through licensed traders in India, as the case may be.
- d) Indian entity(ies) trading the power of domestic origin, in Day Ahead Market (DAM) in power exchanges shall not require any approval from Designated Authority. However, if an Indian entity intends to trade in other than DAM of Power Exchange, where establishment of one-to-one transaction is possible, then the Indian entity shall require approval from Designated Authority.
- e) Trading licensee on behalf of cross border buyer(s) in terms of the CERC Cross Border Trade of Electricity Regulations for injection into or drawal from the Indian grid may apply for T-GNA. In case there is direct Power Purchase Agreement (PPA) between an Indian seller and cross border entity, the Settlement Nodal Agency (SNA) shall apply on behalf of the cross-border entity.
- f) The approval under T-GNA bilateral transaction and scheduling thereof, shall be at par with the grant of T-GNA and scheduling procedure of an Indian entity.

5. Revision of Schedules under GNA/GNA_{RE} and T-GNA/T-GNA_{RE}

5.1. Real time congestion management and curtailment thereof:

- a) When to maintain the grid security in the opinion of NLDC/RLDC/SLDC because of interstate/intrastate transmission constraint other than outage of dedicated transmission lines owned and operated by the generating station itself, it becomes necessary to curtail the power flow on a transmission corridor, the transactions already scheduled shall be curtailed in the manner which in the opinion of NLDC/RLDC/SLDC as the case may be, would relieve transmission constraints and/ or enhance grid security.

- b) NLDC/RLDC/SLDC shall initiate the process of curtailment of transactions for all such bid area/ control area/ group of control areas and the same shall become effective from 7th or 8th time block for any revision in schedule made in odd or even time blocks respectively, counting the time block in which the schedule revision made by the RLDC as the first-time block.
- c) The actual generation of sellers shall be treated as scheduled generation from 1st till 6th or 7th time block as the case may be. The schedule of buyers will be revised, in proportion, based on the actual generation of the seller.

Provided that the transmission charges for the quantum not scheduled shall be refunded to the T-GNA/T-GNARE grantee.

- d) When because of transmission constraint in the neighbouring countries it becomes necessary to curtail power flow on a bid area/ control area/ block of control areas/ transmission corridor, concerned NLDC of the country shall intimate the transactions to be curtailed to NLDC, India. Subsequently, curtailment shall become effective from 7th or 8th time block for any revision in schedule made in odd or even time blocks respectively, counting the time block in which the schedule revision made by the NLDC/RLDC as the first-time block.
- e) The transactions already scheduled may be curtailed by the Regional Load Despatch Centre as per the following sequence:
- i. Schedule under T-GNA/T-GNA_{RE} shall be curtailed first followed by schedule under GNA.
 - ii. Within schedule under T-GNA, bilateral transactions shall be curtailed first followed by collective transactions under integrated day ahead market followed by collective transactions under real time market.
 - iii. Within integrated day ahead market, high price day ahead market transaction shall be curtailed first followed by day ahead market transactions and then green day ahead market transactions.
 - iv. Within bilateral transactions under T-GNA, curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage), pro rata based on their T-GNA/T-GNA_{RE} quantum.
 - v. The generation from wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) shall be curtailed pro rata based on T-GNA, after curtailment of generation from other sources, within T-GNA.
 - vi. Within bilateral transactions under T-GNA/T-GNA_{RE}, curtailment shall be on pro rata basis based on advance and exigency T-GNA/T-GNA_{RE} quantum.

- vii. Within transactions under GNA, curtailment shall be done first from generation sources other than wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage), on pro rata basis based on their GNA quantum.
- viii. The generation from wind, solar, wind-solar hybrid and run of the river hydro plants with up to three hours pondage (in case of excess water leading to spillage) shall be curtailed pro rata based on their GNA quantum, after curtailment of generation from other sources, within GNA.
- ix. The priority of restoration of transactions shall be in the reverse order of that of curtailment as specified in points (i.) to (viii.)
- x. NLDC shall publish, from time to time on its website, the operational limits of parameters for maintenance of grid security for the information and compliance of users of the grid. The curtailment of schedule shall be carried out only in case violation of the operational limits.

5.2. Revision of Schedules under GNA

- a) GNA grantees (SLDCs on behalf of intra-state entities, regional entity generating stations, regional entity ESSs, beneficiaries, buyers or cross-border entities) may revise their schedules under GNA in accordance to their respective contracts.
- b) The request for revision of scheduled transaction for 'S day, shall be allowed to be made in any time block starting 1400 hrs on 'S-1' day.
- c) Any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.
- d) While finalizing the drawl and despatch schedules, if any congestion is foreseen in any of the bid area/ control area / group of bid or control areas or in case of technical constraints of a generating station, the concerned RLDC shall moderate the schedules as required, under intimation to the concerned regional entities.
- e) **Revision in case of Forecasting Error:**

In case of requirement of revision of schedule due to forecasting error, a wind or solar or hybrid of wind-solar resources seller or Run of the River generating station may revise only its

GNA/GNA_{RE} schedule. Any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.

5.3. Revision of Schedules under T-GNA/T-GNA_{RE}

Scheduled transactions under T-GNA once scheduled can't be revised other than in case of forced outage of a unit of a generating station or ESS, transmission constraint and in view of grid security.

a) Revision due to forced outage of a generator:

- i. Scheduled T-GNA/T-GNA_{RE} transactions shall be revised in case of forced outage of a unit of a generating station.
- ii. The schedule of beneficiaries, sellers, and buyers of power from this generating unit shall be revised on pro-rata basis for all bilateral transactions not in case of collective transaction. The original schedule shall become effective from the estimated time of restoration of the unit.
- iii. In the event of forced outage of a generating station or unit thereof, the generating company owning the generating station or unit shall have an option to fulfil its supply obligation to the beneficiaries which made requisition from such generating station or unit thereof,
 - a) By entering into contract(s) covered under Power Market Regulations
 - b) By arranging supply from any other generating station or unit thereof owned by such generating company subject to honouring of rights of the original beneficiaries of the said generating station or unit thereof from which the supply is arranged.
- iv. The generator shall submit a declaration in the NOAR providing details of the forced outage or generation reduction prior to bidding in the power exchange as per format A.
- v. The generating station or ESS (as injecting entity) or trading licensee or any other agency selling power from a generating station or unit(s) thereof or ESS may revise its estimated restoration time once in a day.
- vi. Any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.

vii. For revision of schedule due to forced outage of a unit (s) of a generating station, no transmission charges shall be refunded by the nodal RLDC to the applicant. However, the buyer can schedule power from alternate source of power within the already approved T-GNA quantum.

b) **Revision in case of Grid disturbance of category GD-5**

- i. GD-5 is defined in CEA Grid Standards Regulations, 2010 as a disturbance when *“forty percent or more of the antecedent generation or load in a regional grid is lost”*.
- ii. In case of any disturbance of GD-5 category, scheduled generation of all the affected regional entity generating stations supplying power under bilateral (both GNA/GNA_{RE} and T-GNA/T-GNA_{RE}) and collective transactions shall be deemed to have been revised to be equal to their actual generation for all the time blocks affected by the grid disturbance.
- iii. In case the beneficiaries or buyers of such regional entity generating station are also affected by such grid disturbance, the scheduled drawls of such beneficiaries or buyers shall be deemed to have been revised to corresponding actual generation schedule of regional entity generating stations. In such case, the schedule of the beneficiaries or buyers shall be prepared by RLDC on prorata basis.
- iv. The regional entity generating station shall pay back the energy charges into the Deviation and Ancillary Service Pool Account corresponding to the energy quantum for which the corresponding schedule of the beneficiaries or buyers have not been revised for bilateral transactions (both GNA/GNA_{RE} and T-GNA/T-GNA_{RE}) and the schedule of the entire collective transactions.
- v. In case the schedule of both generating station and corresponding beneficiaries or buyers are revised, the T-GNA/T-GNA_{RE} transmission charges corresponding to the power not scheduled shall be refunded to the T-GNA/T-GNA_{RE} grantee by the nodal RLDC by 15 day of next month.
- vi. In case the beneficiaries or buyers of such regional entity generating station are not affected by such grid disturbance and they continue to draw power, the scheduled drawls of such beneficiaries or buyers shall not be revised and no transmission charges for T-GNA/T-GNA_{RE} scheduled shall be refunded.
- vii. The declaration of grid disturbance shall be done by the concerned RLDC at the earliest. A notice to this effect shall be posted at its website by the RLDC of the region in which the grid disturbance has occurred which shall be considered as declaration of the grid disturbance by RLDC. All regional entities shall take note of the grid disturbance and take appropriate action at their end.

- viii. The generation and drawl schedules revised by the RLDC shall become effective from 7th block or 8th time block depending on the block in which the schedule has been revised as first block.

6. Handling of default

In case of default in payment of application fee, transmission charges, interest or any other charges or fees specified under the regulations by CERC, the nodal RLDC, at its discretion may not schedule the transaction or may cancel the scheduling of already scheduled transaction.

The default entity shall not be able to apply for new applications through NOAR in future until such time the default is cured.

7. Revision of Procedure

As and when required, the procedure shall be reviewed and revised by NLDC with the approval of the Commission.

Declaration by generator for purchase of power from power exchange (to be filled in NOAR and to be submitted at the Power Exchange)

I, (Name of the Person) do hereby declare that the unit no (s)..... of Name of Generating Station is/are under forced outage / partial outage w.e.f.Time and Date.....

The details of forced outage are as follows:

- 1. Name of Generating Station:
- 2. Unit No (s) and capacity in MW:
- 3. Date & Time of Tripping:
- 4. Reason for forced outage:
- 5. Expected Date & Time of Revival:

The above details are true and correct to the best of my knowledge and beliefs, as per provision clause of Indian Electricity Grid Code including its provisos. The unit(s) from which the T-GNA application had been made, has goes under forced outage. In case any information given above proves to be false or incorrect, I shall be responsible for the consequences.

Name:.....
Designation:.....
Mobile number:

Date:

Annexure- I: Procedure for Assessment of Transfer Capability

1. Background

- 1.1 This procedure is issued to supplement NLDC's *"Procedure for Allocation of Transmission Corridor under General Network Access (GNA) and Temporary General Network Access (T-GNA) to the Inter-State Transmission System."*
- 1.2 This procedure will be implemented with effect from the date of approval by the Commission.

2. Transfer Capability

- 2.1. "Total Transfer Capability (TTC)" means the amount of electric power that can be transferred reliably over the inter-control area transmission system under a given set of operating conditions considering the effect of occurrence of the worst credible contingency.
- 2.2. "Transmission Reliability Margin (TRM)" means the amount of margin earmarked in the total transfer capability to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions.
- 2.3. "Available Transfer Capability (ATC)" means available power transfer capability across control areas or across regions or between ISTS and state network or between cross-border interconnections declared by the concerned load despatch centre for scheduling transactions in a specific direction with due consideration for the network security. Mathematically, ATC is the Total Transfer Capability less Transmission Reliability Margin.
- 2.4. TTC is dependent upon the network topology, point and quantum of injection /drawl and power flows in other paths of the interconnected network as well as prevailing voltage profile in the network during the assessment period.
- 2.5. TTC is directional in nature and the transfer capability for import of power in a region or control area from another region or control area may be different from the transfer capability for export of power from that region or control area to the other region or control area.
- 2.6. Total Transfer Capability is time variant and there could be different figures for different times of the day/month/season/year.
- 2.7. Transfer Capability is mentioned in MW.

3. Methodology for assessment of TTC, TRM and ATC

3.1. The import and export Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM) shall be computed for all the bid areas/control areas/group of control or bid areas where a control or bid area can be a separate region, state, union territory (UT), part of region/state/UT or any combination of the same.

3.2. The TTC, ATC and TRM shall be assessed with the help of simulation studies such that all anticipated operating conditions in a particular month are covered. For this, the TTC computation studies may be carried out for at least following four time periods (i.e. considering load-generation balance of four cardinal points on the monthly load curve) of a typical day of the month.

- Solar Peak Period
- Non-Solar Peak Period
- Non-Solar Off-peak Period
- Morning Peak Demand Period

If required, further granular resolution i.e. hourly, sub-hourly (15 min.) may also be considered for TTC assessment and declaration.

3.3. The TTC assessment simulation studies may require setting up of a power system model and obtaining a power flow solution. The construction of an accurate base case simulation model is of utmost importance for accurate assessment of TTC. The modelling and input data guidelines to be followed for TTC assessment are as under:

3.4. Modelling of Power System Elements

3.4.1. EHV transmission network shall be normally modeled down to at least 220 kV level with exceptions for generating units connected at lower voltage level and for North Eastern Region, where the network shall be modeled down to at least 132 kV level.

3.4.2. Normally, all the conventional generating units greater than 50 MW and connected at 110 kV and above shall be modeled. Smaller generating units (particularly hydro) may be lumped for study purposes.

3.4.3. For Renewable Energy (solar, wind, solar-wind hybrid) Battery Energy Storage plants, equivalent modelling at a voltage level not less than 33 kV shall be considered.

3.4.4. Load shall be generally lumped at 220 kV or 132 kV, as the case may be. Actual system data wherever available shall be used for power system modeling. In cases, where data is

not available, standard data as given in the CEA Manual on Transmission Planning Criteria shall be considered.

- 3.4.5. The requirements at clauses 3.4.1 to 3.4.4 are for use of data by RLDCs and NLDC. The SLDCs may consider lower voltage level and smaller units, if required.
- 3.4.6. Separate base cases for computing the export and import capability corresponding to at least four load - generation scenarios (as specified in point 3.2 above) for the time frame for which transfer capability is to be assessed shall be used in the simulation studies.

3.5. Input Data for Base Case Preparation

- 3.5.1 **Network Topology:** Shall be as per network data obtained from CTU and STUs. If the updated network details are not received from respective agencies, network details as available with NLDC/RLDCs/SLDCs shall be used for TTC computation studies.

New transmission elements shall be considered only after the date of commissioning of that asset and duly considering their reliability during initial period.

3.5.2 **Unit Commitment and Generation Dispatch:**

The unit commitment (on-bar units) and source-wise dispatch in the base case shall be considered as per the output of the **Short-Term Resource Adequacy/Production Cost Modelling Studies** carried out by states/ RLDCs/NLDC.

In the absence of such data, following may be considered for source-wise dispatch:

- a) **Solar and Wind Dispatch:** The solar and wind generation dispatch shall be considered based on the historical dispatch factors available with SLDCs/RLDCs/NLDC corresponding to each study scenario. For newer plants, either the profile data available as specified in CEA's Manual on Transmission Planning Criteria or historical dispatch of nearby existing plants may be considered.
- b) **Nuclear Dispatch:** Shall be considered as per the past trend of Plant Load Factor available with Central Electricity Authority (CEA) or SLDCs/RLDCs/NLDC while suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs).
- c) **Hydro Dispatch:** Shall be considered as per the past trend available at SLDCs/ RLDCs/NLDC. The current inflow pattern shall also be suitably considered in the studies.

- d) **Gas Dispatch:** Shall be considered as per the past trend of Plant Load Factor available with Central Electricity Authority (CEA) or SLDCs/RLDCs/NLDC while suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs).
- e) **Coal Fired Thermal Dispatch:** The regional/control area/bid area wise thermal dispatch may be arrived at by deducting the anticipated generation from other sources the total anticipated generation requirement. While deciding the distribution of thermal generation, the merit order dispatch of thermal generators shall be considered.

Further, the generation shall be considered as per the anticipated ex- bus generation of the thermal generating units arrived after deducting a normative auxiliary consumption as per the norms specified by Central Commission and suitably factoring in the maintenance schedule finalized by Regional Power Committees (RPCs).

- f) **Nodal MW Demand:** Shall be considered as per the node-wise load forecast provided by SLDCs. Each SLDC shall submit node-wise morning peak, evening peak, solar peak and night off-peak estimated demand in MW and MVA on a monthly and quarterly basis for 110 kV and above voltage level nodes. Independent load forecasts by RLDCs/NLDC shall be considered in case of absence of SLDC data.
- g) **Nodal MVAR demand:** As per the anticipated power factor provided by SLDCs. In the absence of data from SLDCs, the load power factor shall be taken as specified in the latest CEA's Manual on Transmission Planning Criteria. This, however, shall be verified, post facto, with actual data, and if different, shall be revised for accurate assessment in the future.
- h) **Reactive power capability of generating units:** Shall be considered as per the actual/demonstrated generator capability curve or as per the assumptions recommended in the latest CEA's Manual on Transmission Planning Criteria.
- i) In case, the data from any of the sources mentioned above is unavailable or in case of additional data requirement, reasonable assumptions shall be made.

3.5.3 The Total Transfer Capability between two areas shall be assessed by increasing the load in the importing area and increasing the generation in the exporting area or vice versa till the constraints are hit for a credible N-1 contingency.

The credible N-1 contingencies shall be as specified in the latest CEA Manual on Transmission Planning Criteria.

In the studies, the worst credible contingency shall be considered to ensure the following limits:

- Equipment Loading (Thermal Limit)
- Voltage Stability
- Transient Stability

3.5.4 During assessment of Total Transfer Capability, it shall be ensured that the permissible Normal and Emergency limits for transmission elements as well as the Reliability Criteria specified for N-1 and N-1-1 contingencies in the latest CEA Manual on Transmission Planning Criteria are satisfied.

3.5.5 The Transmission Reliability Margin (TRM) shall be kept in the total transfer capability to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in the system conditions. Computation of TRM for a region or control area or group of control areas may be based on the consideration of the following:

- a) Two percent (2%) of the total anticipated peak demand met in MW of the control/bid area/group of control or bid areas (to account for forecasting uncertainties)
- b) Size of largest generating unit in the control or bid area/group of control or bid areas

4. Procedure for declaration of TTC, TRM, ATC and Anticipated Constraints

4.1 The State Load Despatch Centres (SLDCs), in consultation with Regional Load Dispatch Centres (RLDCs) shall assess the import and export TTC, ATC, TRM of the individual control/bid areas within the region. RLDCs shall assess the import and export TTC, TRM and ATC for the group of control/bid areas within the region (if required). The computed TTC, TRM and ATC figures shall be published on the website of respective SLDCs and RLDCs, along with the details of basis of calculations, including assumptions, if any, at least for eleven (11) months in advance. The specific constraints indicated in the system study shall also be published on the website.

4.2 The National Load Despatch Centre (NLDC) shall assess the import and export Total Transfer Capability (TTC), Available Transfer Capability (ATC) and Transmission Reliability Margin (TRM) of the inter-regional links/corridors in consultation with Regional Load Despatch Centres. The TTC, ATC, and TRM figures for the month along with the details of basis of calculations, including assumptions, if any, shall be published on the website of NLDC and concerned RLDCs at least eleven (11) months in advance. The specific constraints indicated by the study shall also be published on the website.

4.3 The National Load Despatch Centre (NLDC), Regional Load Despatch Centres (RLDCs) and State Load Despatch Centre (SLDCs) shall refer to the quantum declared by CTUIL while assessing the TTC, TRM and ATC for the purpose of scheduling of GNA and grant/scheduling of T-GNA transactions.

Sample format for declaration of TTC/TRM/ATC is enclosed as **Format-I**.

4.4 The consolidated bid area/control area/combination of control areas/inter-region wise TTC, TRM and ATC shall also be published on NLDC/Grid-India website.

4.5 NLDC and/or concerned RLDCs/SLDCs in consultation with each other may revise the import and export TTC, ATC and TRM of respective control areas due to change in system conditions, which includes change in network topology or change in anticipated active or reactive generation or load, on account of outage or otherwise, of one or more generators or transmission lines, at any of the nodes in the study. Revised TTC, TRM and, ATC shall be published on website of NLDC, concerned RLDCs and SLDCs and shall clearly state the reasons of revision thereof.

The TTC, ATC and TRM may also be revised near to the operating horizon depending on the anticipated system conditions at that time.

4.6 SLDCs / RLDCs / and NLDC shall designate Main and Alternate officers as *"Reliability co-ordinator(s) for TTC Computation and Declaration"*.

5. Revision of Procedure

As and when required, the procedure shall be reviewed and revised by Grid-India/NLDC with prior approval of the Commission.

National / _____ Regional/ _____ State Load Dispatch Centre

TOTAL TRANSFER CAPABILITY FOR MMM, YYYY

Issue Date:

Issue Time:

Revision No.

Corridor/ Control Area	Date	Time Period	Time Blocks	Total Transfer Capability (TTC) (MW)	Reliability Margin (RM) (MW)	Available Transfer Capability (ATC) (MW)	Approved GNA (MW)	Margin for T- GNA (MW)	Changes in TTC w.r.t last revision	Remarks
		Period- 1								
		Period- 2								
		Period- 3								
		Period- 4								

Assumptions:

A. Load and Generation (MW)

Region / Control Area	Scenarios			
	Solar Peak	Non-Solar Peak	Non-solar Off-Peak	Morning Peak

B. HVDC Settings

Name of the HVDC Link	Direction of Operation	Power Order (MW)

C. Constraints

Corridor / Control Area	Limiting Constraints for TTC

D. Revision History

Revision Number	Date of Revision	Reason for Revision	Corridors Involved

E. Miscellaneous

Note: The format is not explicit and may be changed suitably based on the requirement to accommodate all the necessary data with approval of the commission.