



SCHEDULING AND DESPATCH CODE

Chapter 7

IEGC

**Grid Controller of India Limited (GRID-INDIA)
(formerly known as POSOCO)**

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Key changes:

Access and PPA
delinked

Freedom to
Beneficiaries to
schedule contract

Flexibility in
scheduling of
Advance T-GNA
transaction

Firmness to Buyer

Promoting RE:
Bundling of RE for
replacement of
power,
Decarbonization

RE schedule
revision due to
forecast error

SCUC: Plant to
provide tech min
support for
spinning reserves

SCUC: Reserve
quantum
earmarked

USD: Obligation to
supply its
beneficiaries by
Generator

Freedom to all
Generators to
participate under
SCED/SCUC.

Plant can meet
obligation through
SCED

Gain sharing: bundle
power and URS sell in
collective transaction.

Payment for black
start support

43.6. Control Area Jurisdiction of LDCs

If Generator COD on or before 01.10.2023

as existing before the date of coming into force of these regulations (some special case)

If Generator COD after 01.10.2023

SLDC jurisdiction:
connected to intra-State

RLDCs jurisdiction:
entities connected to the inter-State
only

Entities connected to both and intra-State :
Connectivity =>50% inter-state : RLDC
else SLDC

45.5. Prerequisite for Commencement of Scheduling

| Documents | Responsible entity to provide | Frequency of submission | Last date submit (D= day of scheduling) |
|---|--|--|---|
| Grant of Connectivity/ GNA/ T-GNA with Effective Date | Entitles who has taken Connectivity/GNA to their concerned RLDC | In case of any change | D-2 23:59 Hrs |
| Signed copies of valid contracts other than collective transactions | shall be submitted to concerned RLDCs where buyer and seller is located through WBES | one time activity for new contract or termination or modification of contract. | D-3 23:59 Hrs |
| The copy of contracts submitted can be linked with a unique ID by RLDC as a reference before scheduling. | RLDCs | For new contract | D-3 23:59 Hrs |
| Assessment of ATC | NLDC/RLDC/SLDC | 11 month ahead and its revision from time to time. | Gate closure time line for ATC revision: 2 Hrs before the implementation time. |

45.5(a)(vi) Copies of the valid contracts signed by the sellers and the buyers, for transactions other than collective transactions.

1. Seller to provide contract details at least **D-3 23:59 Hrs (D=day of scheduling)** to their concerned RLDCs.

2. One time activity.

- one time activity for new contract
- Contract termination information
- Modification of contract

3. Scheduling under GNA

1. Details to be provided WBES.

2. Seller SLDC or Inter-state generator to give consent in scheduling software only.

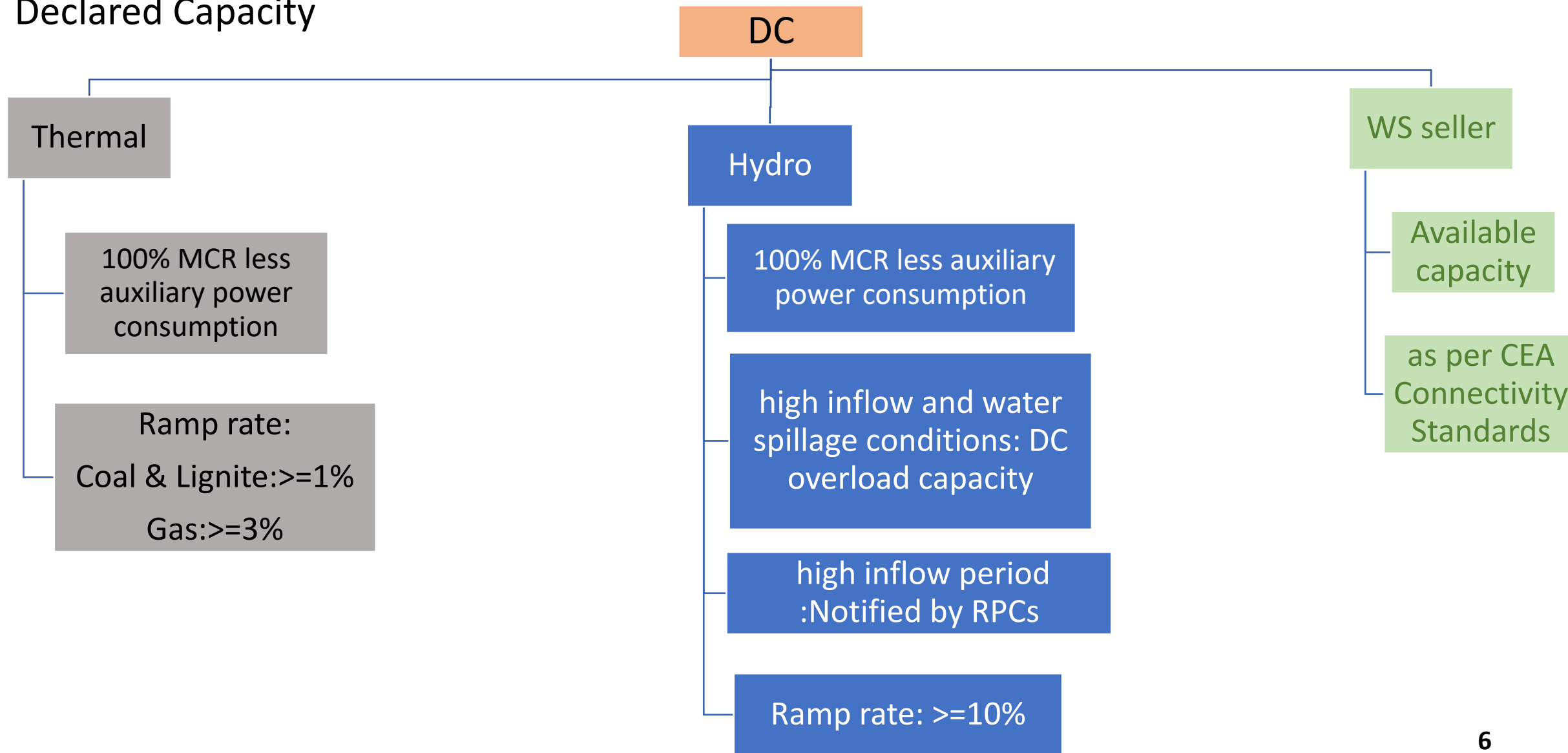
4. For Advance T-GNA where seller is not identified

1. Details to be provided in NOAR

| Has Requisition For Today | Approval Status | Comments | Approval Number | Trader | Seller | Buyer | From Date | To Date | Actions |
|---------------------------|------------------|--|-----------------|------------|-----------|------------|------------|------------|-----------------|
| YES (Rev : 0) | Approved By RLDC | 06-09-2023 11:41:09 : Contract created; 06-09-2023 11:45:09 : Updated; 06-09-2023 12:35:42 : approve; 06-09-2023 12:40:14 : ok | GNA_NR_01 | CHANDIGARH | BUDHIL | CHANDIGARH | 06-09-2023 | 06-09-2025 | [Edit] [Search] |
| YES (Rev : 0) | Approved By RLDC | 06-09-2023 11:58:42 : Contract created; 06-09-2023 12:22:18 : approved; 06-09-2023 12:24:59 : ok | GNA_NR_02 | CHANDIGARH | APTRANSCO | CHANDIGARH | 06-09-2023 | 07-09-2028 | [Edit] [Search] |

Declaration of Declared Capacity(DC) by Regional entity generating stations

- All The regional entity generating station other than the WS seller shall declare Exbus Declared Capacity



49.1.DC Declaration: Information submission

Coal/lignite/Gas based

- Blockwise On-bar DC
- Blockwise On-bar DC for all fuel types separately (Gas)
- Blockwise Off-bar DC
- Blockwise Ramp Up rate
- Blockwise Ramp Down rate
- Ramp rate :not less than Coal: 1%, Gas: 3%
- MWh Capability of Day
- MWh Capability(fuel-wise) of Day (Gas)
- Min. turndown level (MW & %)

Generator DC limited to 100 %
MCR less Aux. consumption

Hydro

- Blockwise Ex-bus capacity
- MWh Capability of Day
- Ex-bus peaking capability in MW & MWh
- Blockwise Ramp Up rate
- Blockwise Ramp Down rate
- Ramp rate :not less than 10%
- Unit-wise forbidden zone (MW & %)
- Min MW & duration for water release for irrigation, drinking, etc.
- Unit-wise Max along with probable combination of unit max for inadequate water

Hydro DC declaration up to 110 % during high inflow period.
high inflow period: notified by RPC.
No additional GNA required

Renewable energy generating station individually or represented by a lead generator or QCA

- aggregate available capacity of the pooled generation
- Aggregate schedule along with contract wise breakup for each time block.
- The source wise breakup of aggregate available capacity of the pooled generation

49.B. Entitlement of beneficiary/buyer

For Gen. having Govt.
allocated share

- Based on total DC (On-bar + Off-bar)

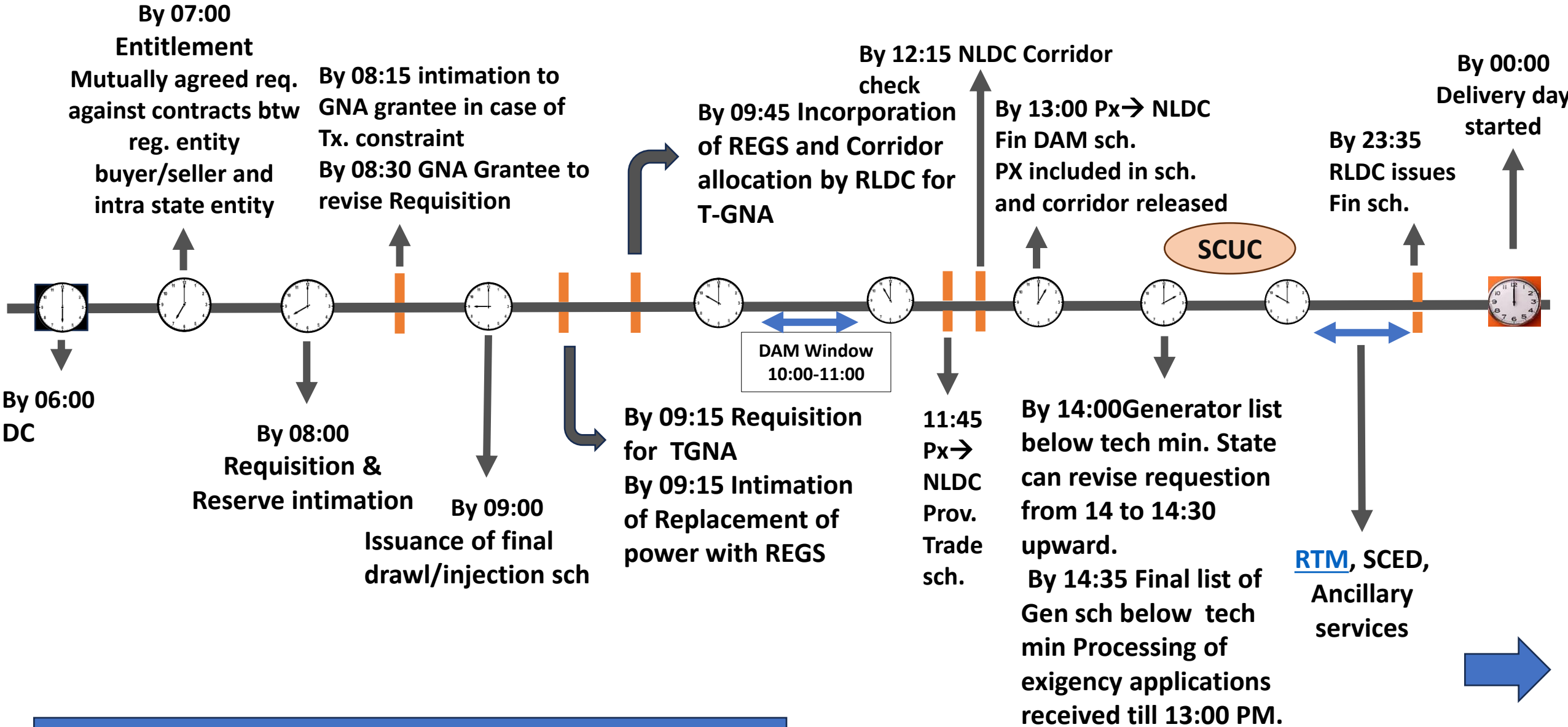
Other Gen.

- Shall indicate entitlement of Beneficiares in accordance with contracts along with DC

Resolution

- 2 decimal places

49.SCHEDULING TIMELINE



Requisitions under GNA - WBES

Requisitions under TGNA - NOAR

46.4.SCUC Timeline

14:00 hrs

- NLDC to publish **tentative list of generating stations** likely to be scheduled below min. turndown level.

14:30 hrs

- Beneficiaries of these stations shall be **permitted to revise requisition** till this time
- **No further reduction of drawal schedule** after this time except when sch. of this gen. is above min. turndown level. Final list is prepared on which SCUC is run.

15:00 hrs

- **SCUC results declared.** Selected gen. provided min. turndown level schedule
- **Downward revision shall be blocked** for SCUC generators
 - Reserves earmarked and blocked from sale/requisition

Beneficiaries cannot recall

URS Power reserved by NLDC in SCUC Generators

SCUC Support summary

- SCUC support will ensure the below from 1500 hrs of D-1
 - Schedule generator up to technical minimum (55%*Normative IC)
 - Reserves earmarked and blocked from sale/requisition
 - Downward revision restricted up to TM
 - Upward revision allowed upto DConbar-reserves earmarked
- SCUC units would be intimated twice daily to come on bar - @1000 hrs & @1500 hrs
 - 1000 hrs list is for advance intimation based on 1500 hrs of D-2 data
 - 1500 hrs list would be based on D-1 data, and would factor the 1000 hrs list
- Day-ahead multi-period SCUC/SCED will provide look-ahead schedules for the next day

Unit Shut Down (USD)

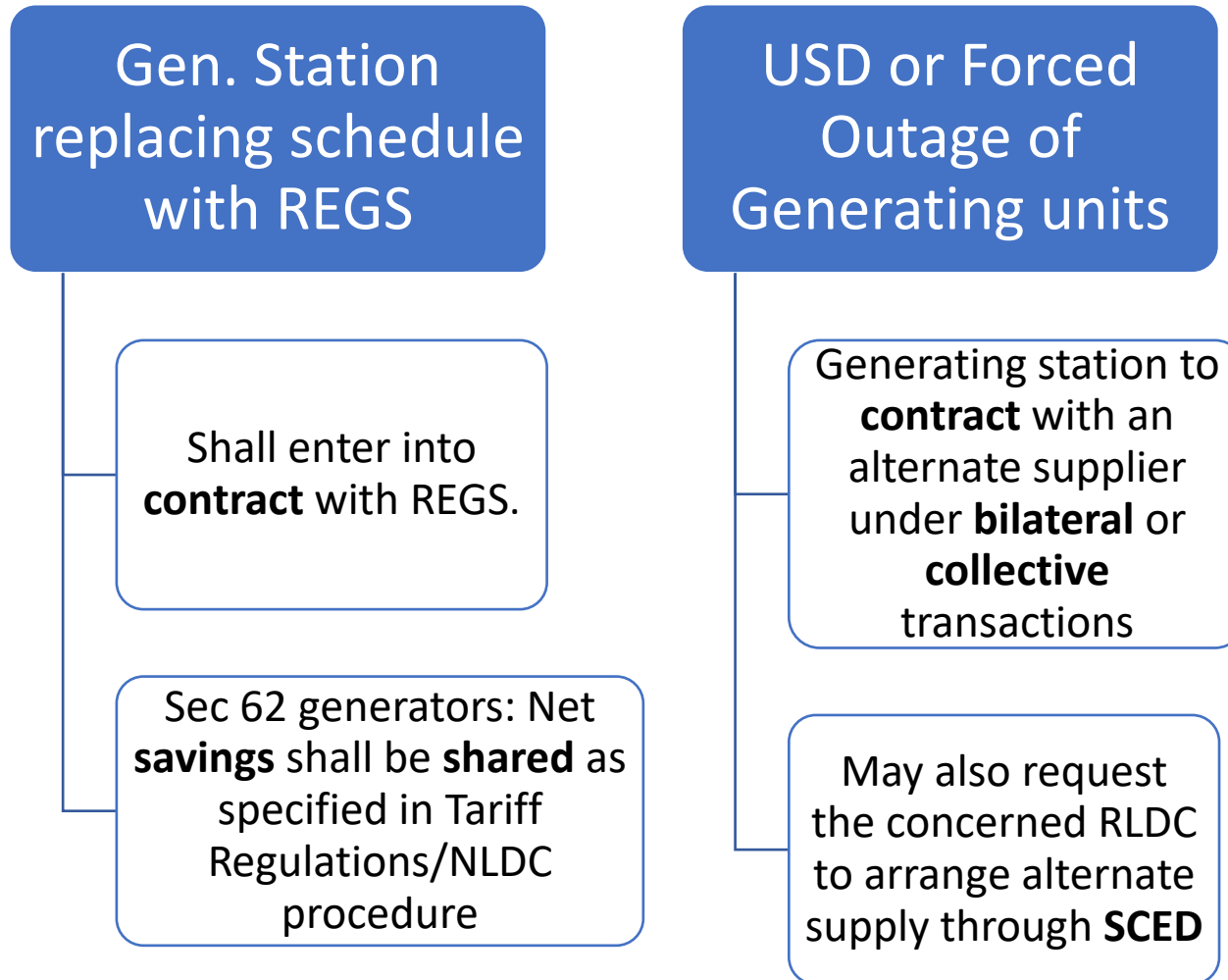
- T-GNA exigency buy-sell
- RTM buy-sell

- Units not brought on bar under SCUC
 - Operate at a level below the minimum turn down level or
 - Go under Unit Shut Down (USD)
- In case a generating station opts to go under unit shut down (USD) --- “arrange supply”
 - Obligation to supply its beneficiaries who had made requisition before 1530* hrs
 - by entering into a contract(s); or by arranging supply from any other generating station or unit thereof owned by such generating company; or
 - **rely on SCED** for arranging the schedule 30 minutes before dispatch
- The power scheduled from alternate supplier shall be reduced from the schedule of the generating station.
- In case of emergency conditions, for reasons of grid security, units under USD may be directed by NLDC/RLDCs to come on bar.
- Reserve quantum earmarked in units brought on bar under SCUC shall be used only by NLDC
 - Shall not be available for requisition by beneficiaries or sale by generating station

Security Constrained Economic Despatch (SCED)

- SCED shall run after RTM, 30 minutes before the actual dispatch period
 - Block by block SCED run every 15 minutes
 - After gate closure and RTM energy market clearing
 - SCUC-Up and SCUC-Down shall be evaluated/re-adjusted for every generator
 - ❖ Factoring the up revision by the beneficiaries, and
 - ❖ Any market sale transactions by the generator
- Generators to declare the energy charge, or the SCED Compensation Charge
- The objective function and the constraints for SCED similar to pilot project
- USD plants to submit standing consent to NLDC before gate closure for arranging supply
 - $P_{max} = \text{Schedule}$.
 - $P_{min} = 0$
- NLDC shall accommodate USD under SCED subject to
 - Availability of reserves
 - Only If the energy charge or SCED Compensation Charge, is higher than that of the marginal generating station of SCED
 - To encourage generator to use market avenues, interlock to be designed in WBES
- No guarantee that SCED can provide the incremental schedule

48. Generating station scheduling from Alternate Sources of Power



- Transacted quantum shall be **reduced** from schedule of generating station
- Effective from **7th/8th TB**
- Generating station **exempt** from **transmission charges and losses** for power purchased from alternate sources
- For **other than Sec 62 Gen.**, Power supply from REGS to buyers follows the contract terms or **mutual consent, including sharing net savings.**

Revision of schedules on day of operation

By RLDC

- For grid security(ISTS)
- Bottleneck in evacuation (ISTS)
- GD-5

Buyers

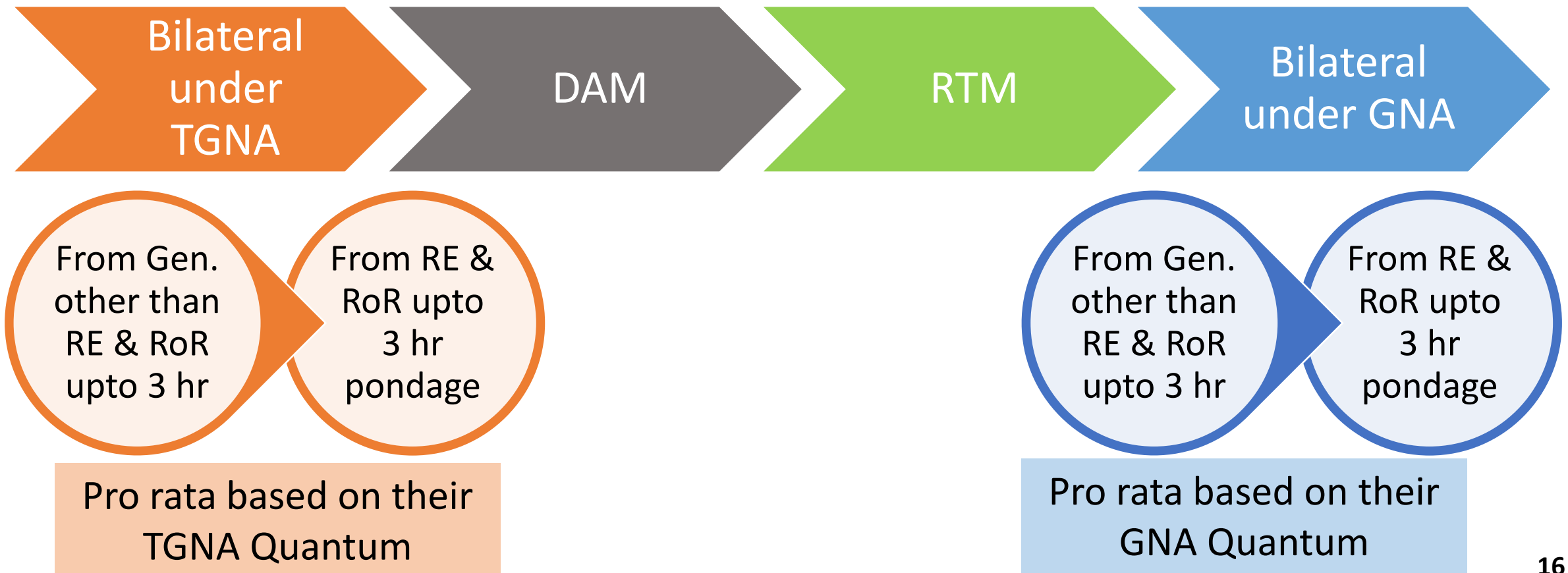
- Schedules under GNA (ISGS & Contract)
- 07th & 08th time block

Generators

- DC rev. due to Forced Outage
 - ✓ GNA/T-GNA revision
 - × Collective transaction: No revision
- In case of forecasting error WS seller may revise sch. and RoR hydro may revise its DC
- 07th & 08th time block from the time block intimation received

49.3.a. Schedule Rev. in interest of Grid Security

- Scheduled transaction may be curtailed with immediate effect
- Transactions under TGNA to be curtailed before those under GNA



49.7. Schedule Rev. in event forced outage

Allowed only in case of bilateral transactions & not in case of collective transaction

Generator to intimate outage of unit for DC rev. along with estimated time of restoration to its Concerned RLDC

Expected restoration time can be revised once per day

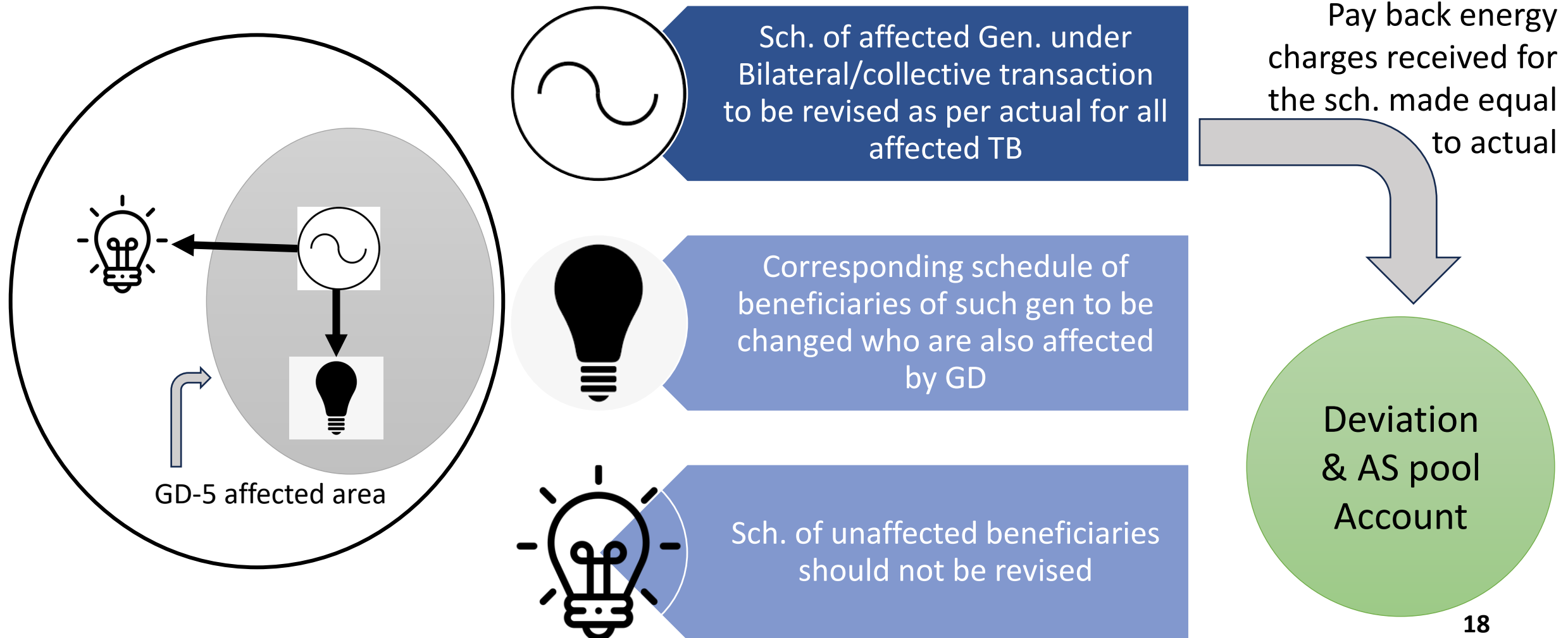
Sch. of buyers shall be revised on pro-rata basis

In case of forecasting error WS seller may revise sch. and RoR hydro may revise its DC

Rev. to be effective from 7th/8th TB incl. for WS seller

49.5.SCHEDULE REV. DUE TO GD-5

- **GD-5:** When 40% of antecedent load/generation is lost as per CEA grid standards
- RLDC to notify GD by posting in website incl. its duration



Highlight of Changes:

1. Schedule of Beneficiaries shall be within GNA (Outside and inside region) for ISGS and other contract (other than T-GNA)
2. DC revision only in case of unit tripping.
3. Power plant can replace its power from RE generator up to technical minimum.
4. Revision by RE due to forecasting error.
5. Schedule data shall be available only in WBES through user credential controlled access.
6. Transmission loss not applicable in case of replacement of power from RE up to generator periphery.
7. Nil transmission charge for replacement of power, needs to apply T-GNA.
8. T-GNA shall have preference over upwards revision/ URS from ISGS or contract schedule under GNA.
9. Power plant going under USD needs to full fill its obligation.
10. In case of unit tripping Power plant may full fill its obligation if don't want any DC revision.
11. GNA requisition in WBES, T-GNA requestion in NOAR.

ध्यानवाद