BEST's submission on

Deviation Settlement Mechanism (DSM) Regulations

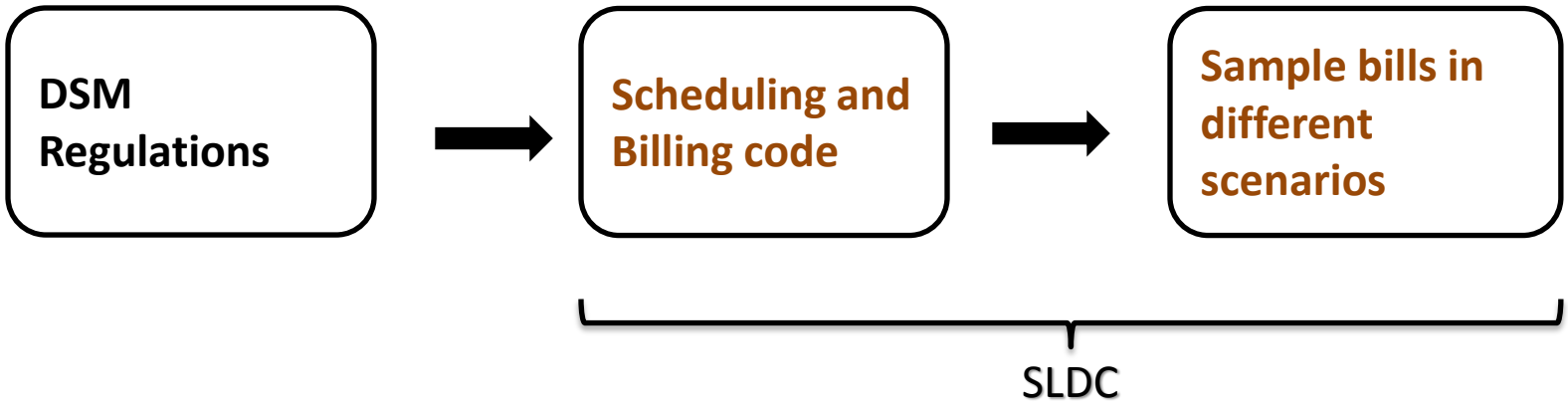
for

Maharashtra State

Workshop on 12th February, 2019

Detailing the practices based on DSM

12. Framework for Operationalisation and Monitoring of DSM



It is necessary to prepare details of DSM implementation e.g. Scheduling and Billing code up to the stage of sample bills and verify them in light of DSM Regulations.

Issue 1 - Definition of deviation:

2 g : *'Deviation' in a time-block for a Buyer means its total actual drawl minus its total scheduled drawl and shall form part of the State Energy Accounts to be prepared by the State Load Dispatch Centre.*

As per draft regulations	
Actual Drawl	217 MW
Scheduled Drawl	220 MW
Drawl Deviation	3 MW
Deviation charges @ 50.06 Hz	**Rs 0**

As per commercial settlement Practice	
Actual Drawl	217 MW
Actual Availability	**350 MW**
Drawl Deviation	**133 MW**
	Rs 3.72 Lac

In commercial settlement it needs to be clarified that "The actual availability will be considered as scheduled drawl."

Issue 2 - Hydro Generation Scheduling

6.B *All the Sellers and Buyers under these Regulations shall be guided by the scheduling and despatch procedure to be formulated by the SLDC in accordance with Maharashtra State Grid Code*

Though it is specified in the draft MoD guidelines, there is no mention in this draft regulation about keeping any kind of spinning reserve from hydro generation. Thus there is no clarity over the quantum which contracting Discom/Buyer can schedule from hydro generation.

There is no clarity as how Irrigation off take requirements to be incorporated in the hydro schedule.

Issue 3 – Un-requisitioned Surplus (URS) power

6.B.i *For the purpose of load generation balance, Buyer/Utility-wise MoD principle shall be followed with opportunity for inter-se exchange of un-requisitioned surplus available power amongst Buyer(s)/Distribution Licensee(s) to optimise their cost of power procurement.*

Under MOD operation only variable charge is considered; hence, rate for inter-se exchange of URS power will have only variable component. The mechanism for Fixed cost reconciliation needs to be defined separately.

There has to be clarity regarding inclusion and compensation rates to be considered for must absorb quantum in the computation in the sale URS power.

Detailed methodology of sharing of URS power has to be developed along with DSM regulations.

Issue 4 - Change in sign of deviation

6.G *Further, additional condition for a change in sign of the deviation shall be met once every 12-time blocks by Buyer/Seller, failing which, additional charges @10% of the Deviation Charges applicable shall be levied for the duration of continuance of violation.*

This being a deliberate deviation irrespective of the system condition, it may lead to unwarranted levy of deviation charges.

MSLDC should provide real time data visibility of billing meters to all the utilities to monitor the deviations for taking precise decisions accordingly.

Issue 5– Deviation volume limit for Discoms

10.B The Volume Limit of [X] MW for distribution licensee(s) $= \frac{\text{Peak Demand of Discom}}{\sum \text{NCPD of State Discoms}} \times$ State Volume Limit (i.e.250 MW)

Deviation volume limit of only 9 MW deviation is permitted for BEST, which is just 1% of the peak scheduled demand. There is a practical difficulty in forecasting demand with accuracy level of 1% with the available load forecasting software in the market.

Thus restricting the deviation within this limit is practically impossible to achieve. The limit needs to be increased suitably.

Issue 6 :Deviation due to change in InSTS loss

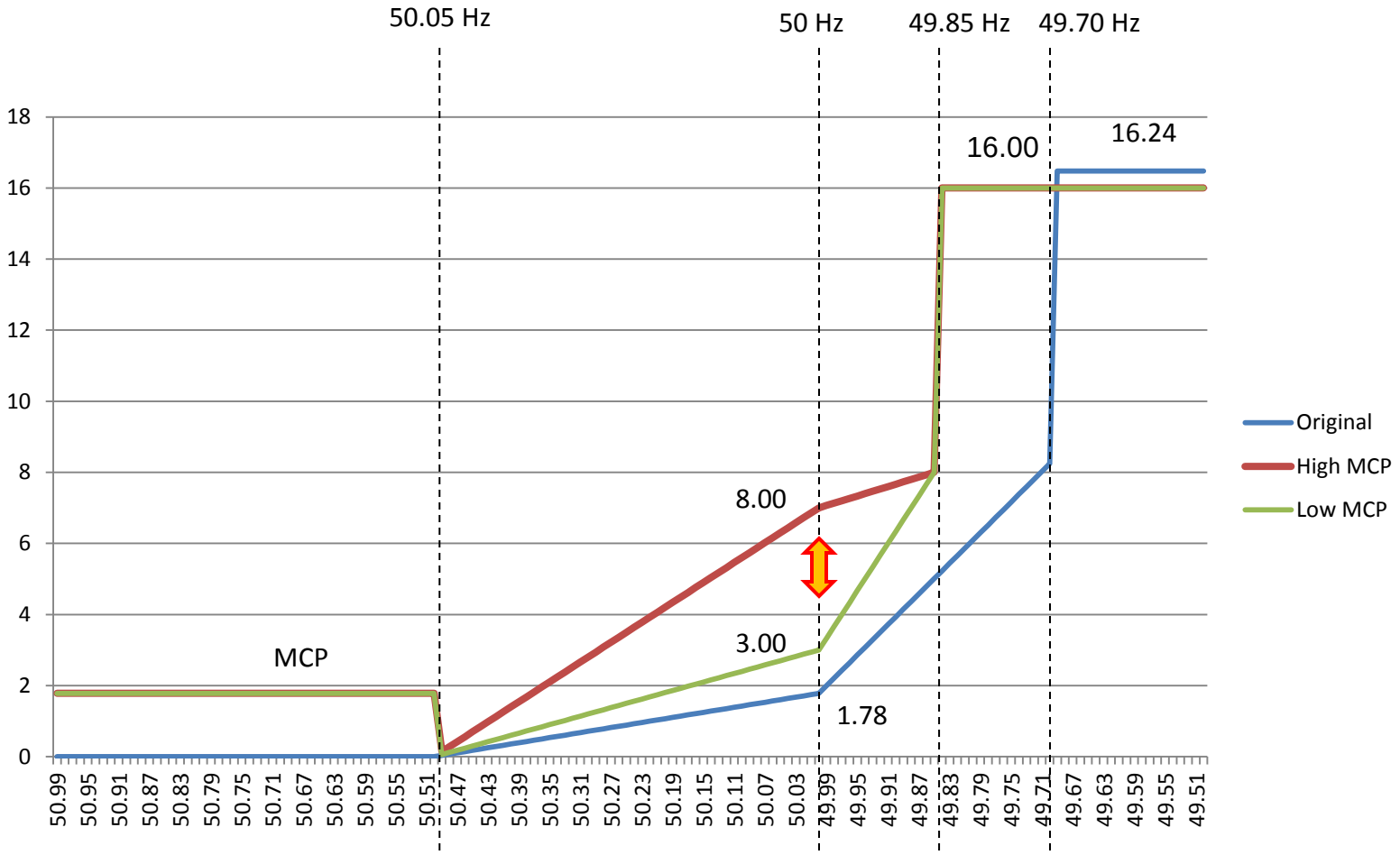
6.I *For scheduling purposes, intra-state transmission system losses as approved by the Commission shall be allocated amongst the State entities in proportion to the schedule drawal by each State Entity.*

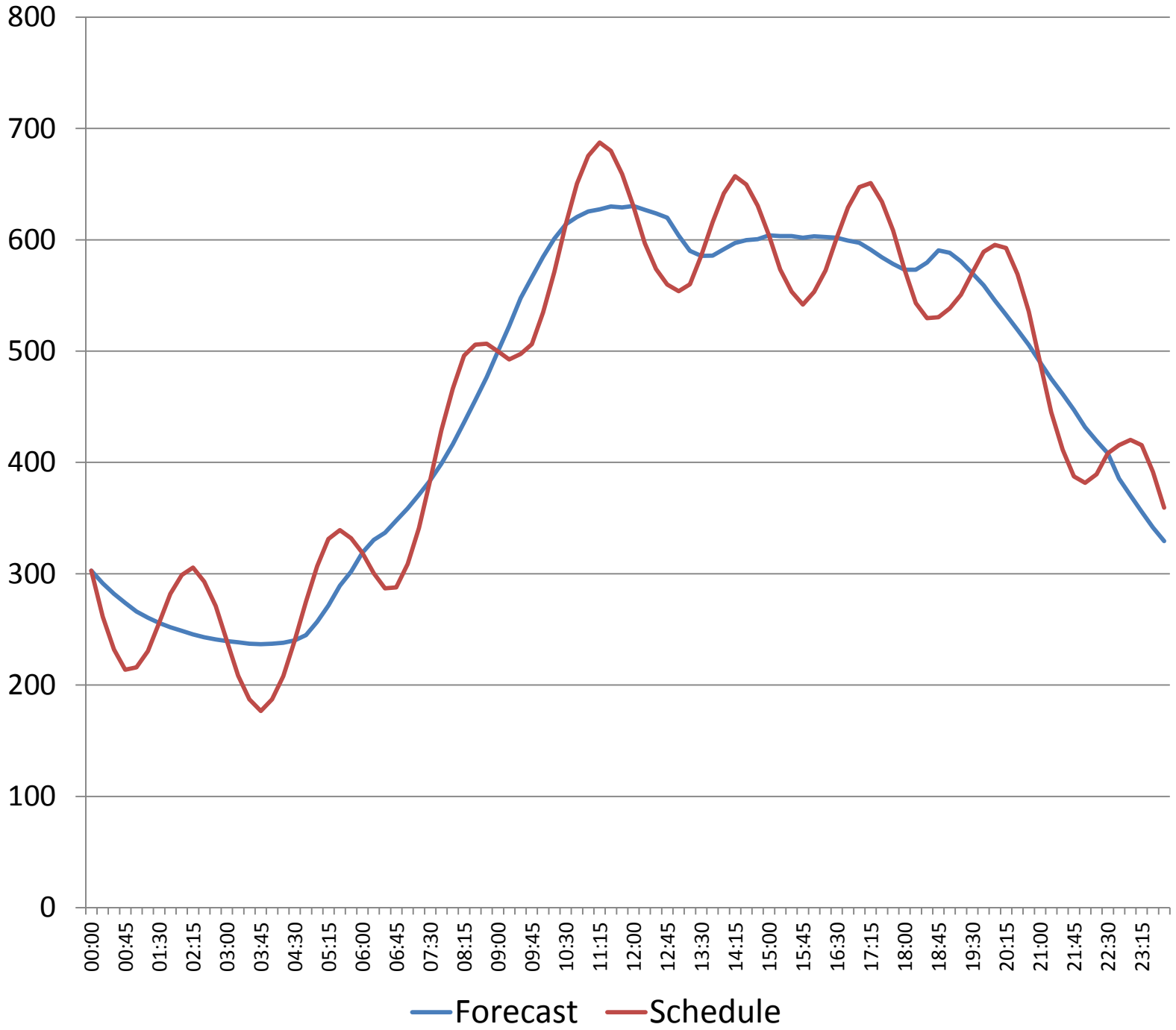
There is always variation in scheduling loss and actual InSTS loss considered for every time block at the time of billing. Such deviation to be exempted from levy of deviation penalty.

Alternatively, Mumbai Utilities transmission loss can be calculated separately as suggested in concept paper submitted by MSPC.(Point 1.4.1-iv of explanatory Memorandum)

Thank you !

Comparison of DSM 2014 and DSM 2019

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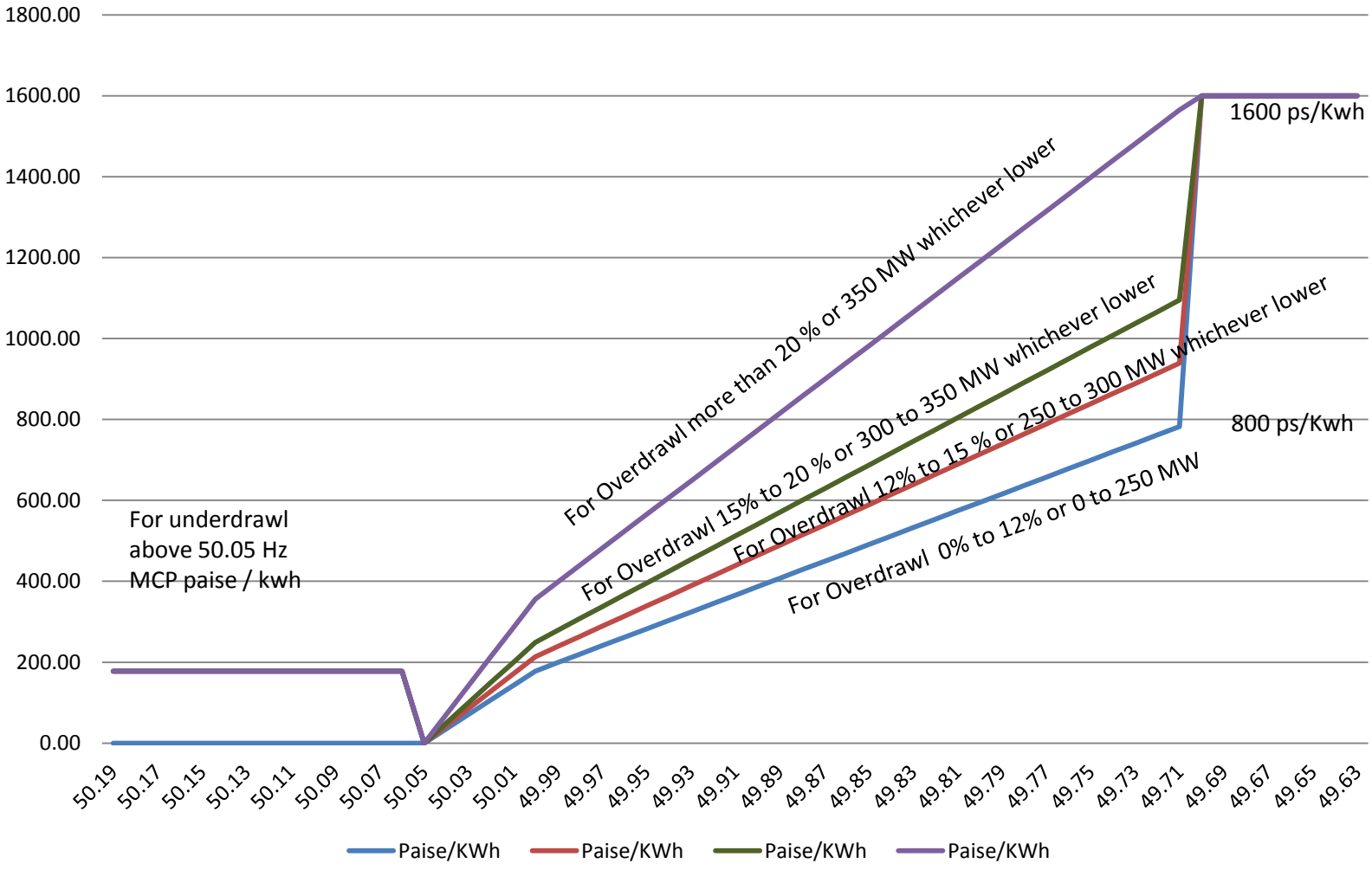
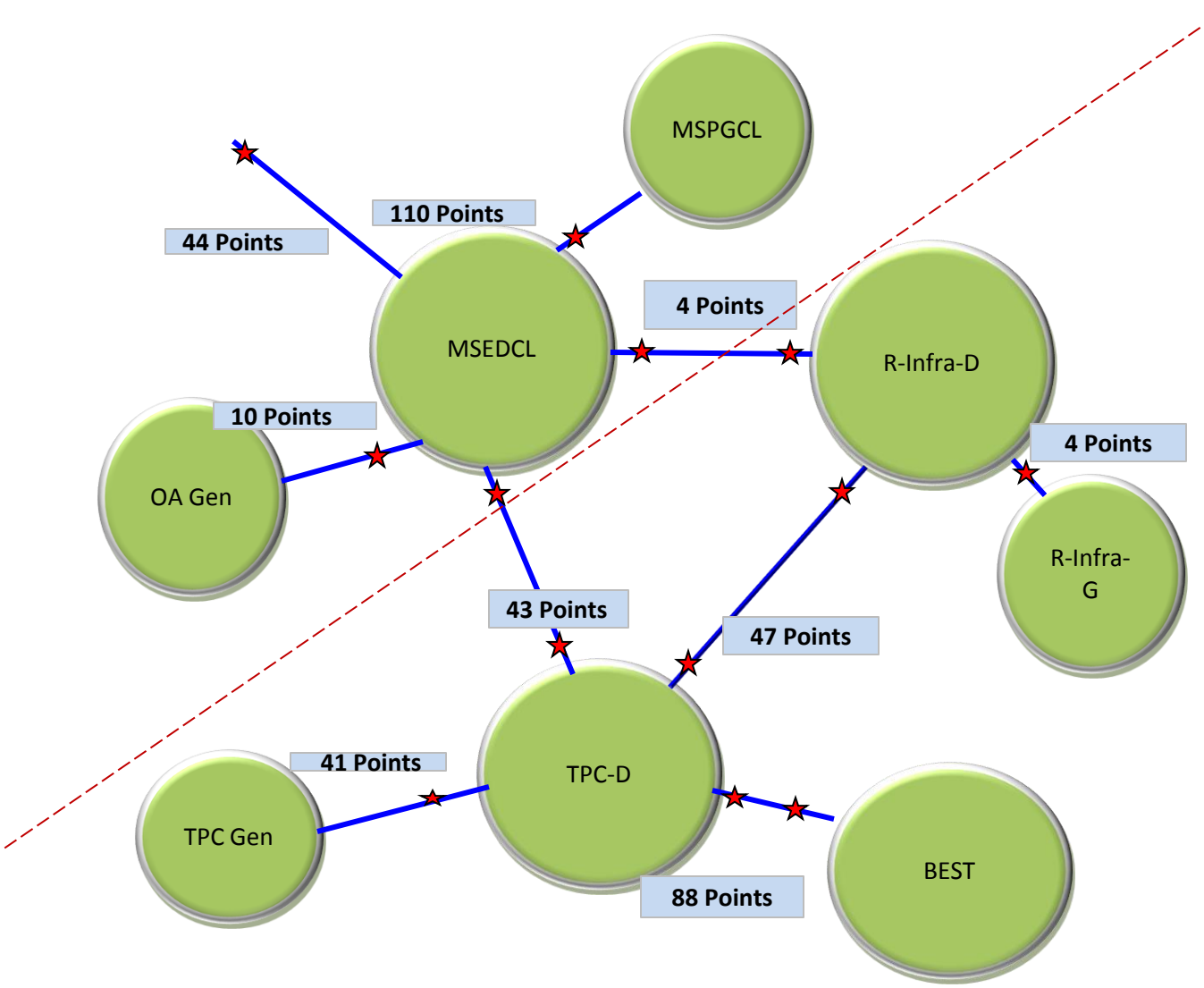
Forecast
Schedule

Deviation charges including additional charges w.e.f 1st Jan 2019



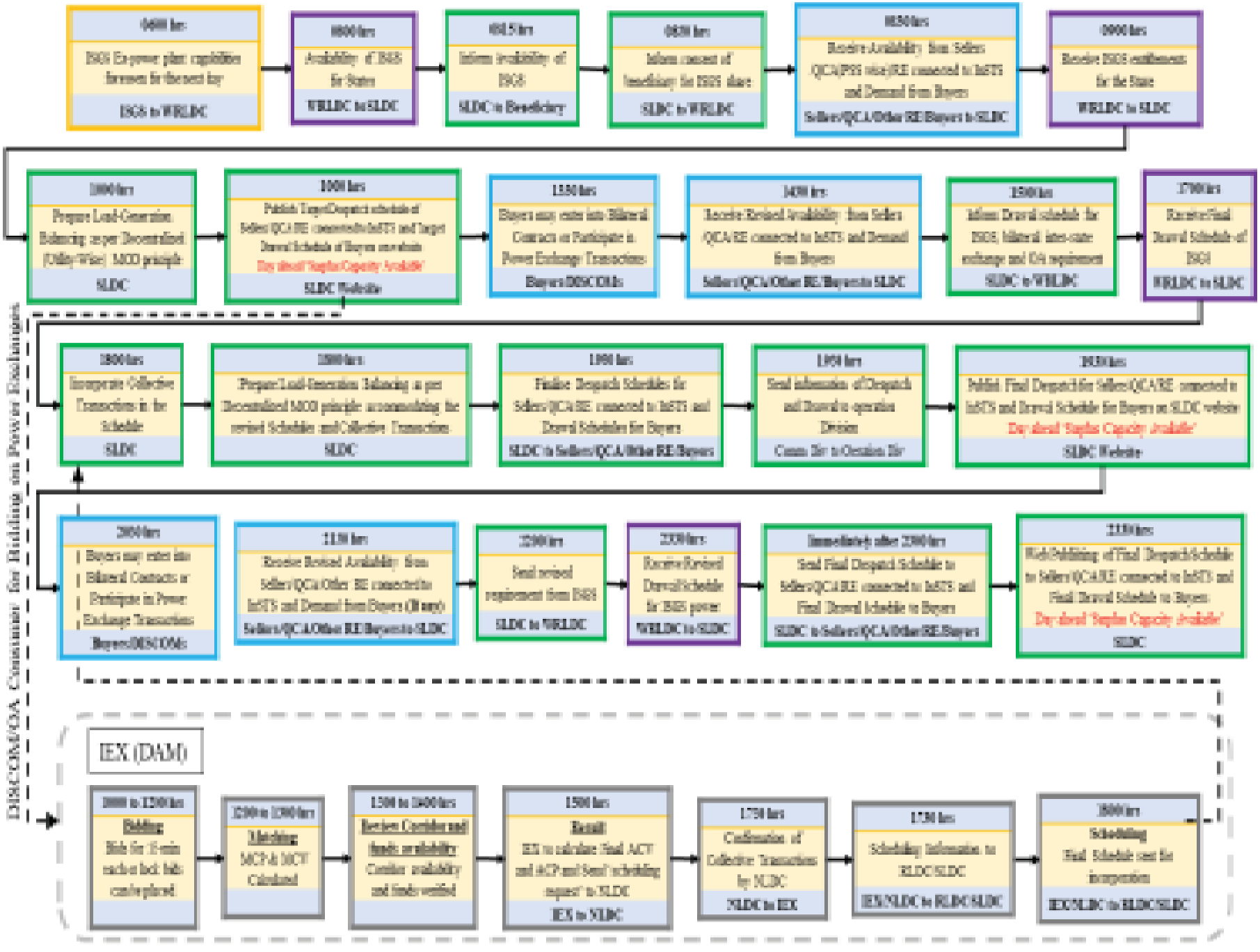


Periphri Points	
MSPGCL	110
MSEDCL	201
JSW	4
WPCL	2
LMEL	1
AMNEPL	2
GEPL	1
TPC-D	219
TPC-G	41
R-Infra-D	55
R-Infra-G	4
BEST	88
Net Interface points	343

Additional Charge				CERC DSM							MERC DSM						
				Overdrawl				Underdrawl			Decrement				Increment		Increment
				Up to 250 MW	250 to 300	300 to 350	Above 350	Upto 250	Above 250		Upto 9 MW	9 to 19 MW	19 to 29 MW	Above 29	Up to 9 MW	Above 9 MW	FBSM
				0%	20%	40%	100%	Receivable	Payble		0%	20%	40%	100%	Receivable	Payble	Receivable
Below	49.7	824		1624	1624	1624	1624	824	0		1624	1624	1624	1624	824	0	SMC+LVC
49.6	49.7	803.2		803.2	963.84	1124.48	1606.4	803.2	0		803.2	963.84	1124.48	1606.4	803.2	0	SMC+LVC
F_t	F_{t+1}	R		R	120% R	140% R	200% R	R	0		R	120% R	140% R	200% R	R	0	SMC+LVC
50	50.01	178		178	213.6	249.2	356	178	0		178	213.6	249.2	356	178	0	SMC+LVC
50.06	50.05	0		0	0	0	0	0	0		0	0	0	0	-178	-178	SMC+LVC
above	50.1	0		0	0	0	0	-178	-178		0	0	0	0	-178	-178	SMC+LVC

25000 250

900 9


0600 hrs
ISGS Ex-power plant capabilities furnished for the next day
ISGS to WRLDC
0800 hrs
Availability of ISGS for States
WRLDC to SLDC
0915 hrs
Inform Availability of ISGS
SLDC to Beneficiary
0930 hrs
Inform consent of beneficiary for ISGS share
SLDC to WRLDC
0930 hrs
Receive Availability from Sellers (QCA/PSS mix)/RE connected to InSTS and Demand from Buyers
Sellers/QCA/Other RE/Buyers to SLDC
0900 hrs
Receive ISGS entitlements for the State
WRLDC to SLDC
1000 hrs
Prepare Load-Generation Balancing as per Decentralized (Utility Wise) MOD principle
SLDC
1000 hrs
Publish Time-Block wise schedule of Sellers (QCA/RE connected to InSTS and Target Drawal Schedule of Buyers on website
Day ahead 'Surplus Capacity Available'
SLDC Website
1330 hrs
Buyers may enter into Bilateral Contracts or Participate in Power Exchange Transactions
Buyers/DISCOMs
1430 hrs
Receive Revised Availability from Sellers (QCA/RE connected to InSTS and Demand from Buyers
Sellers/QCA/Other RE/Buyers to SLDC
1500 hrs
Inform Drawal schedule for ISGS, bilateral inter-state exchange and OA requirement
SLDC to WRLDC
1700 hrs
Receive Final Drawal Schedule of ISGS
WRLDC to SLDC
1800 hrs
Incorporate Collective Transactions in the schedule
SLDC
1800 hrs
Prepare Load-Generation Balancing as per Decentralized MOD principle accommodating the revised Schedules and Collective Transactions
SLDC
1900 hrs
Finalize Despatch Schedules for Sellers (QCA/RE connected to InSTS and Drawal Schedules for Buyers
SLDC to Sellers/QCA/Other RE/Buyers
1930 hrs
Send information of Despatch and Drawal to operation Division
Comm. Div. to Operation Div.
1930 hrs
Publish Final Despatch for Sellers (QCA/RE connected to InSTS and Drawal Schedule for Buyers on SLDC website
Day ahead 'Surplus Capacity Available'
SLDC Website
2000 hrs
Buyers may enter into Bilateral Contracts or Participate in Power Exchange Transactions
Buyers/DISCOMs
2130 hrs
Receive Revised Availability from Sellers (QCA/Other RE connected to InSTS and Demand from Buyers (If any)
Sellers/QCA/Other RE/Buyers to SLDC
2200 hrs
Send revised requirement from ISGS
SLDC to WRLDC
2230 hrs
Receive Revised Drawal Schedule for ISGS power
WRLDC to SLDC
Immediately after 2300 hrs
Send Final Despatch Schedule to Sellers (QCA/RE connected to InSTS and Final Drawal Schedule to Buyers
SLDC to Sellers/QCA/Other RE/Buyers
2330 hrs
Week Publishing of Final Despatch Schedule to Sellers (QCA/RE connected to InSTS and Final Drawal Schedule to Buyers
Day ahead 'Surplus Capacity Available'
SLDC
DISCOMs/OA Consumers for Bidding on Power Exchanges
IEX (DAM)
1000 to 1200 hrs
Bidding
Bids for 15-min market block bids can be placed
1200 to 1300 hrs
Matching
MCP & MCV Calculated
1300 to 1400 hrs
Revision Corridor and finally available
Corridor available and finally verified
1500 hrs
Result
IEX to calculate Final ACV and MCP and Send scheduling request to SLDC
IEX to SLDC
1730 hrs
Confirmation of Collective Transactions by SLDC
SLDC to IEX
1730 hrs
Scheduling Information to SLDC/SLDC
IEX/SLDC to RLDC/SLDC
1800 hrs
Scheduling
Final Schedule sent for incorporation
IEX/SLDC to RLDC/SLDC