

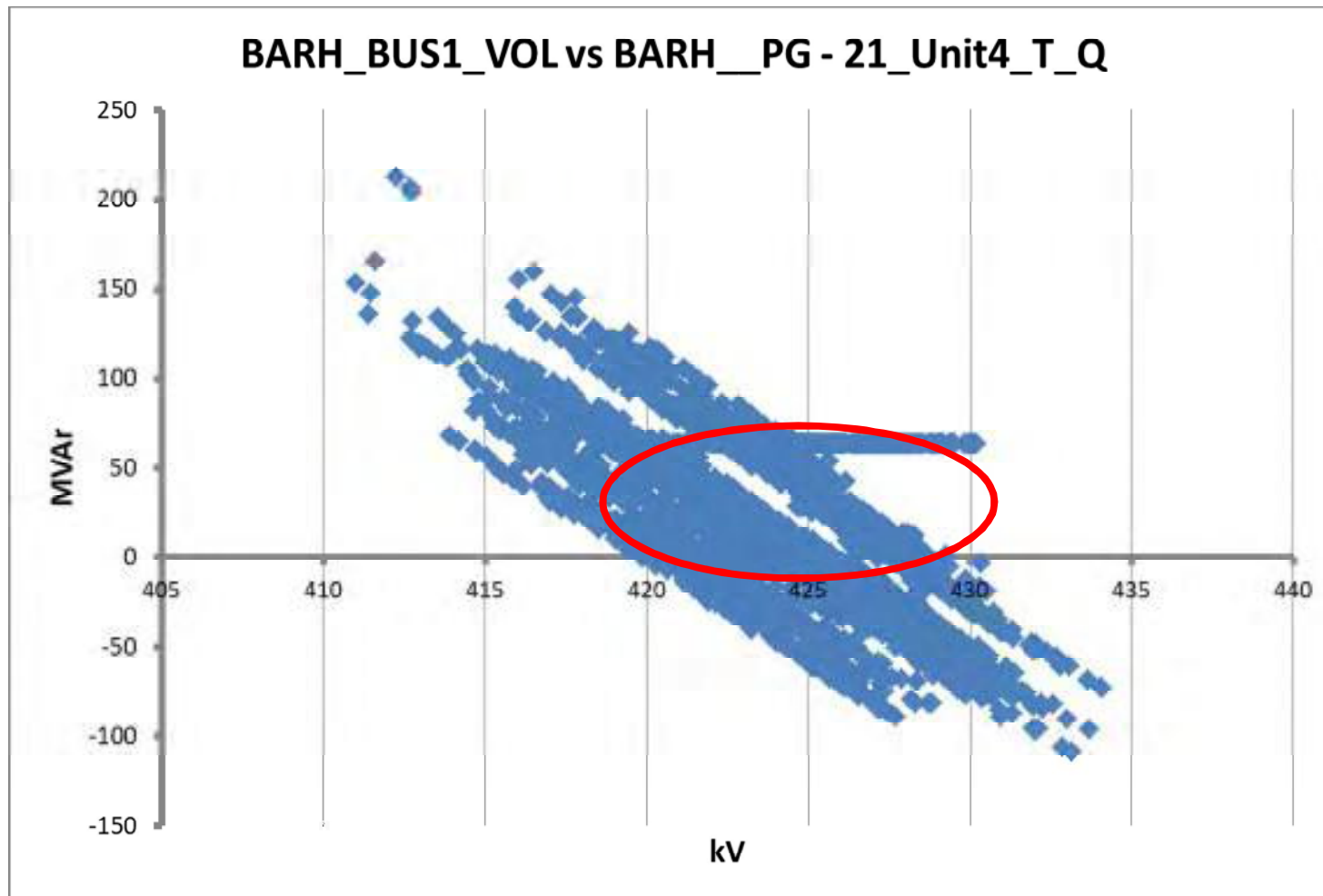
Annexure-B37

Reactive power performances of
various units in the month of July,
2017

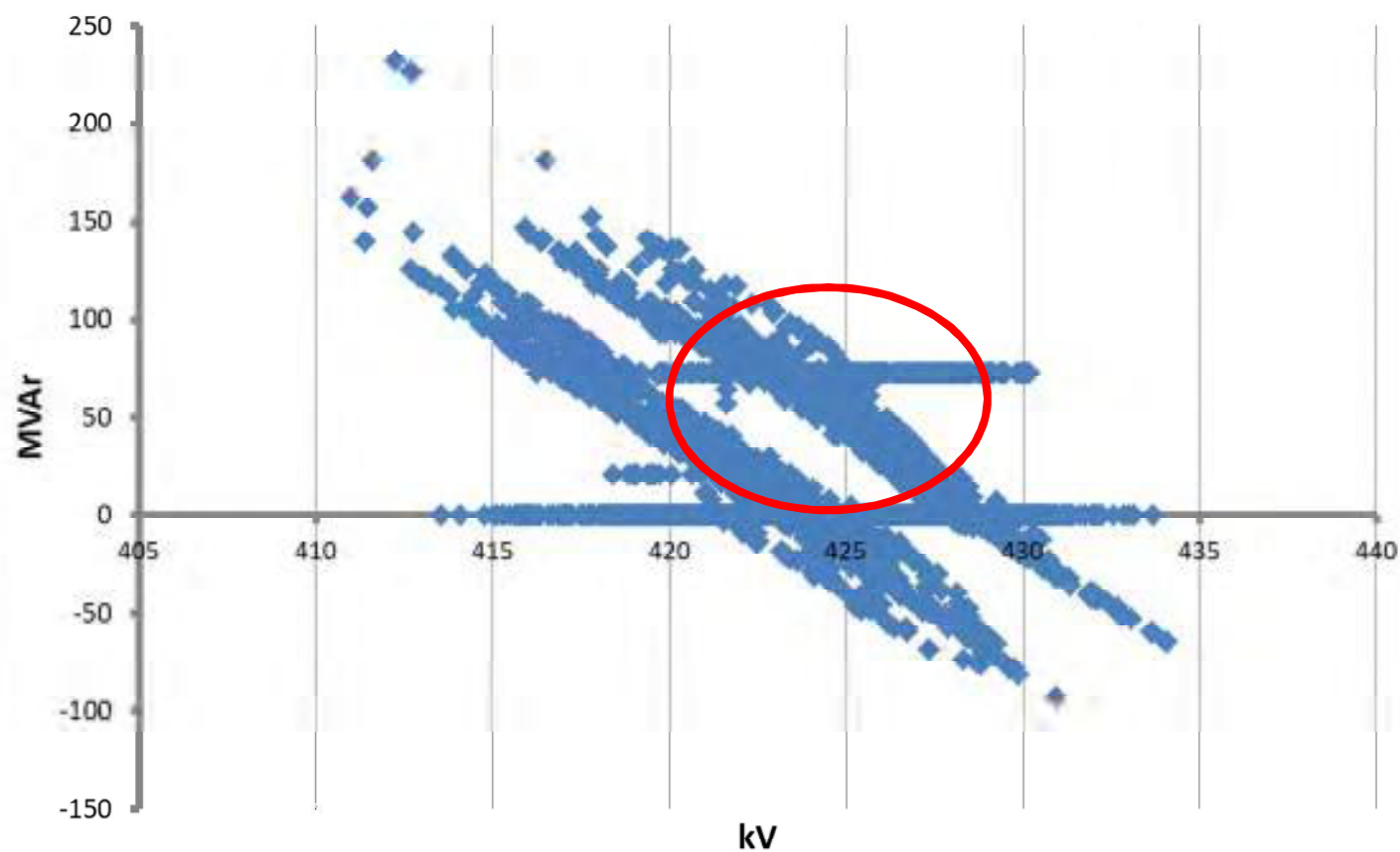
Voltage & reactive power injection (Unit MVar injection-MVar absorption in GT) at terminal point of generating units are compared for various generating units in ER.

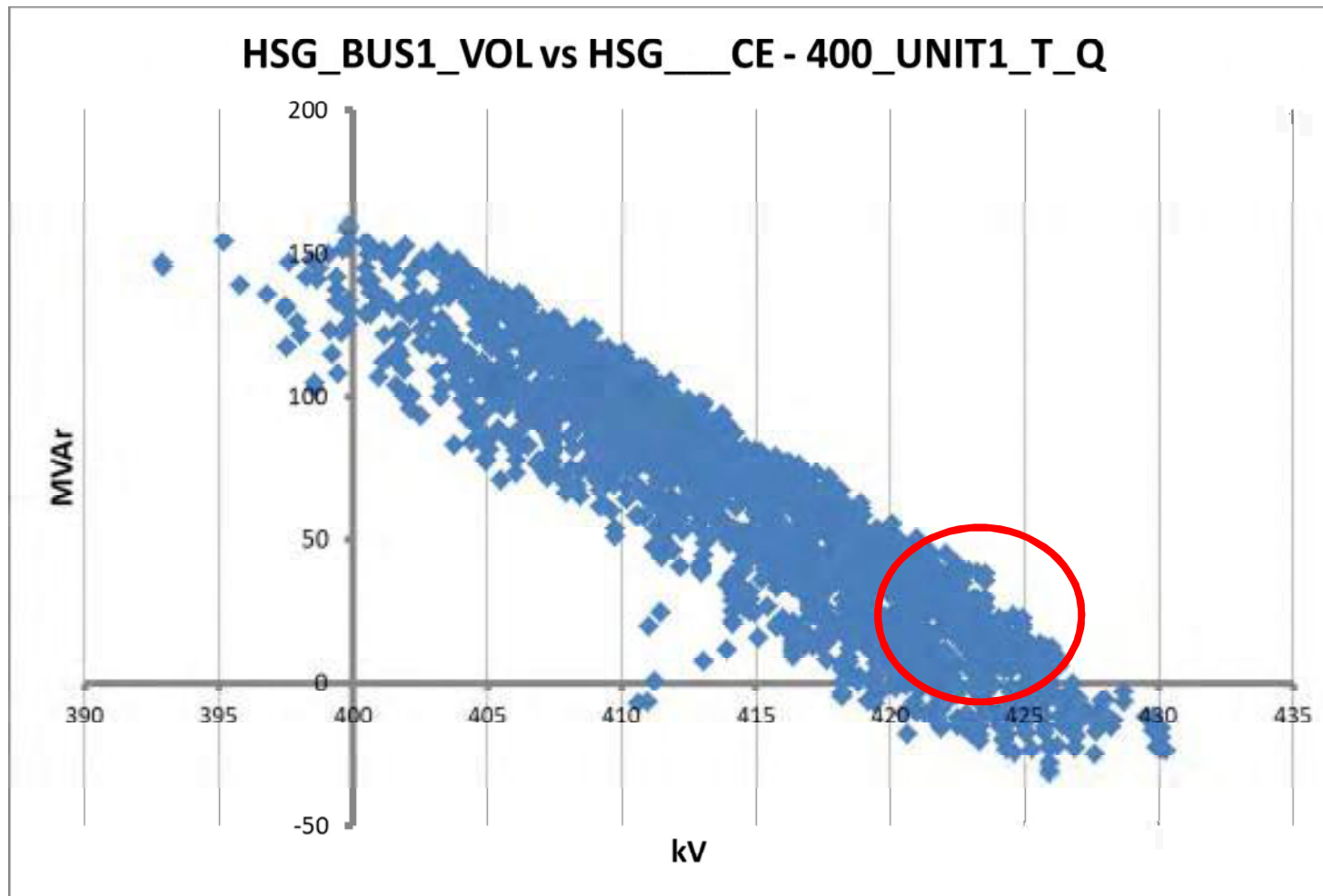
- Scatter plot is plotted with taking
 - Terminal voltage across x axis
 - Reactive power injection across y axis
 - (Nominal terminal voltage (kV), 0 MVar) as origin
- MVar injection should reduce with increase in terminal voltage

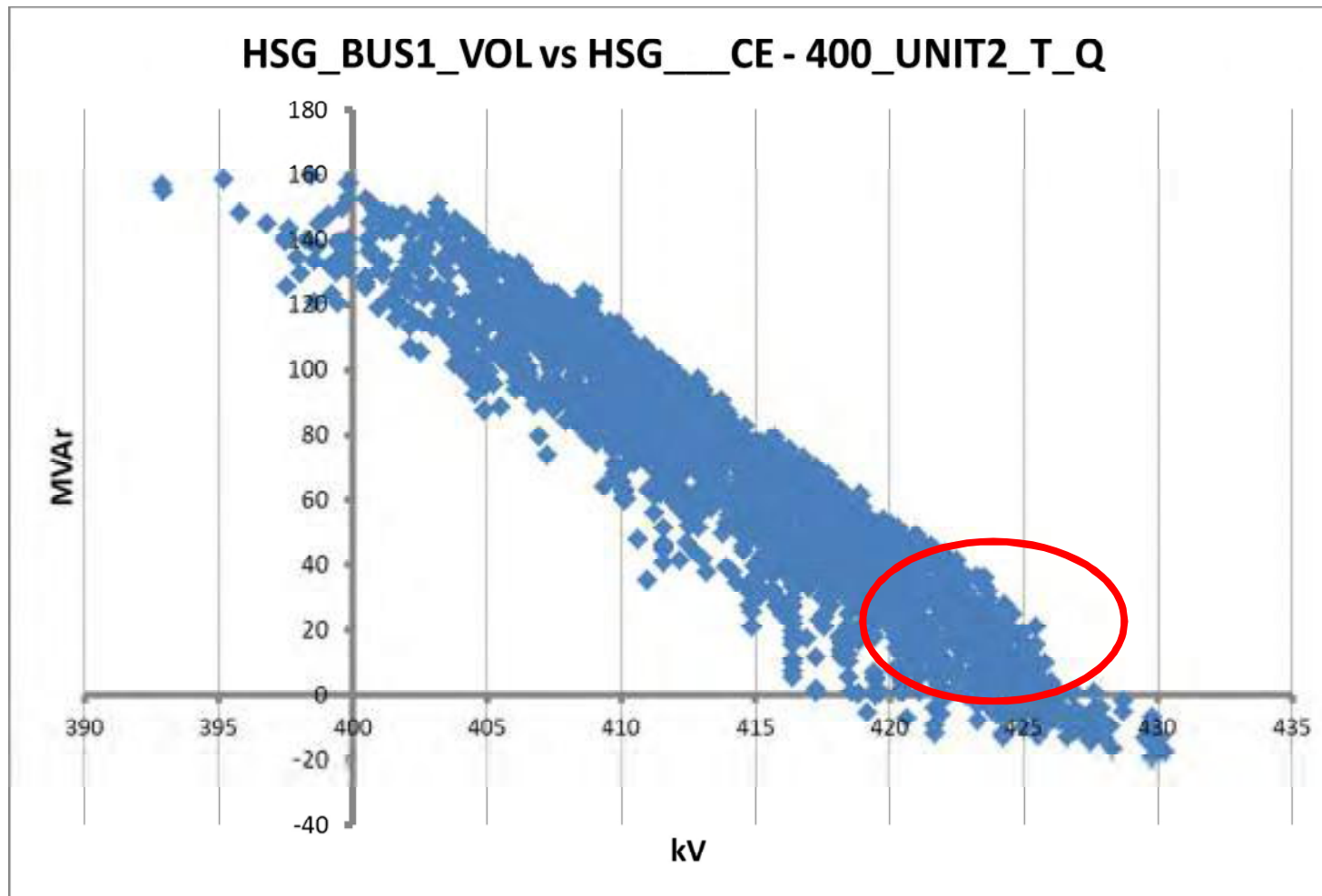
Response of the units whose MVAR injection decreases with increase in voltage but does not absorb reactive power even in high voltage period



BARH_BUS1_VOL vs BARH_PG - 21_Unit5_T_Q







Annexure-C1

Power System Operation Corporation Ltd.



137th OCC Meeting



At ERPC, Kolkata
21st September, 2017
ER Grid Performances

Highlights for the month of August-17

Frequency Profile

Average Freq:- 49.99 Hz
Avg FVI: - 0.0375
Lowest FVI:- 0.02

Max- 50.20Hz on 20th
August' 17
Min- 49.65 Hz on 08th
August' 17

76.90% of the time freq
was with in IEGC Band

Peak Demand

ER: 20187 MW on 25th August
2017 at 21:36 hrs
% Growth in Average Demand
Met w.r.t. last year- 9.51%

BSPHCL : 4350 MW ; ON 26/08/17
JUVNL: 1279 MW; ON 25/08/17
DVC: 2736 MW; ON 29/08/17
GRIDCO: 4412 MW; ON 26/08/17
WB: 8587 MW; ON 30/08/17
SIKKIM: 97 MW; ON 02/08/17

Energy met

Max. 434 MU on 26th Aug 2017
%Growth w.r.t. last year on Max
energy – 3.64%
Avg. 407 MU in August 2017
%Growth w.r.t. last year on Avg.
energy – 6.27%

New Element

Generating Units-NIL
Transmission Lines-466
CKM

Open Access

STOA transactions
approved -203 nos.
Energy Approved-
648 MUs

1. Achievements during the month

a. New generating units synchronized:

NIL

b. New transmission elements charged:

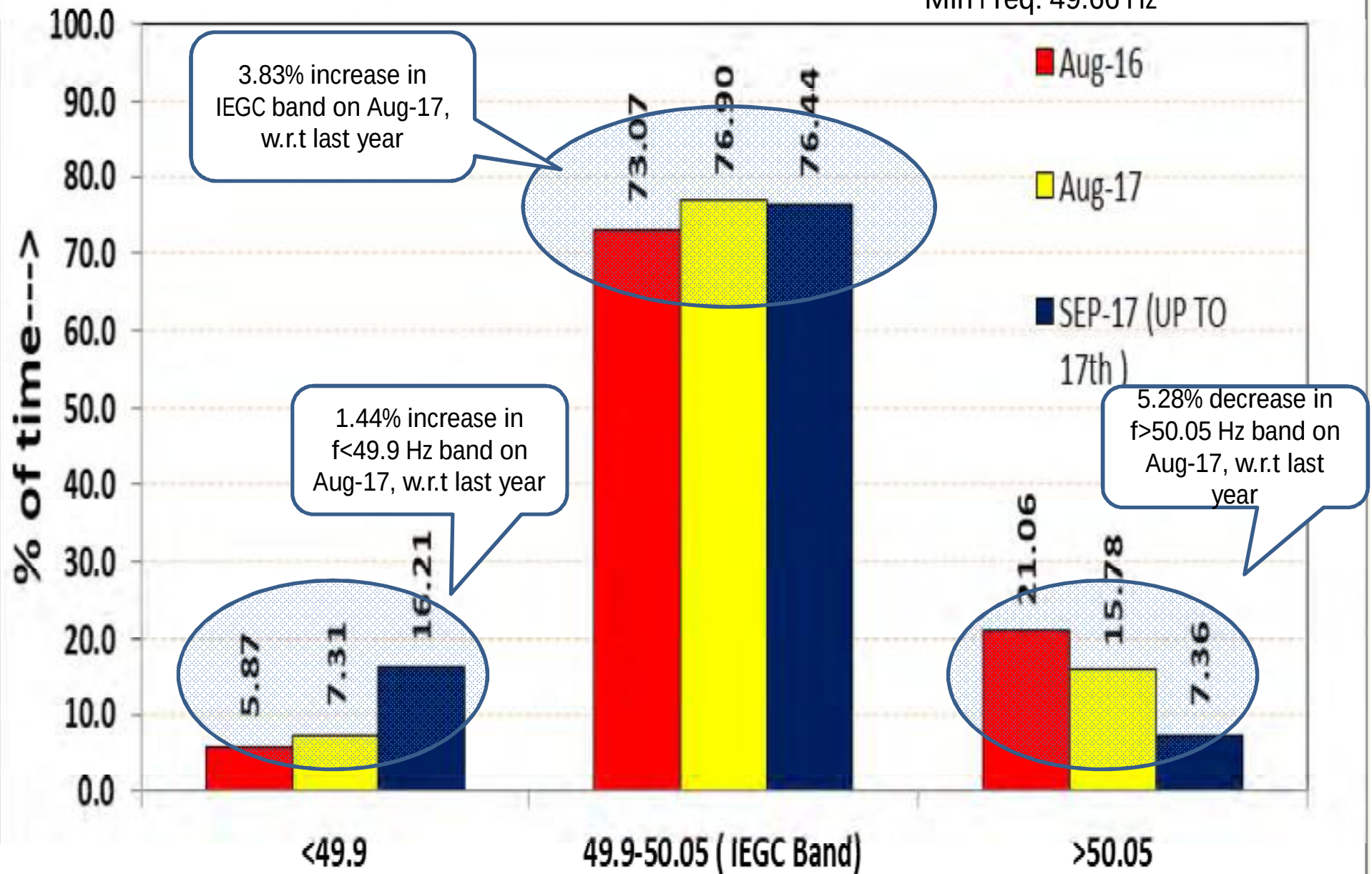
1. 400kV Barh- Motihari Ckt-II (LILLO of 400kV Barh-GorakhPur II at Motihari) charged for the first time at 19:20Hrs 01/08/17
 2. 315MVA ICT I at Motihari S/Stn charged for the first time at 20:52Hrs of 01/08/17
 3. 125 MVAR Bus Reactor I & II at Rengali charged for the first time at 20:40Hrs and 21:12Hrs of 01/08/17 respectively.
 4. 125 MVAR Bus Reactor I & II at Motihari S/Stn charged for the first time at 00:08Hrs and 16:35 hrs of 02/08/17 and 03/08/17 respectively.
 5. 132kV Motihari-Bettiah I & II charged for the first time at 12:20Hrs and 12:21Hrs of 04/08/17 respectively.
 6. 132Kv Motihari-Motihari(BSPHCL) II charged for the first time at 15:41hrs of 04/08/17.
 7. 315MVA ICT II at Motihari S/Stn charged for the first time at 18:09Hrs of 06/08/17.
 8. 400kV Gorakhpur- Motihari ckt-I (LILLO of 400kV Barh-Gorakhpur-I at Motihari) charged for the first time at 12:14Hrs of 07/08/17
 10. 400kV Barh- Motihari ckt-II (LILLO of 400kV Barh Gorakhpur-II at Motihari) charged for the first time at 15:55hrs of 07/08/17.
 11. 80MVAR Bus Reactor at New Chanditala S/Stn charged for the first time at 19:07Hrs of 18/08/17.
 12. 400kV RTPS-Ranchi Ckt.-II & III charged for the first time at 19:37hrs and 19:40Hrs of 28/08/17 respectively.
-

Monthly Frequency Profile of Grid

In SEP-17 (Up to 17th):

Max Freq: 50.32 Hz

Min Freq: 49.66 Hz



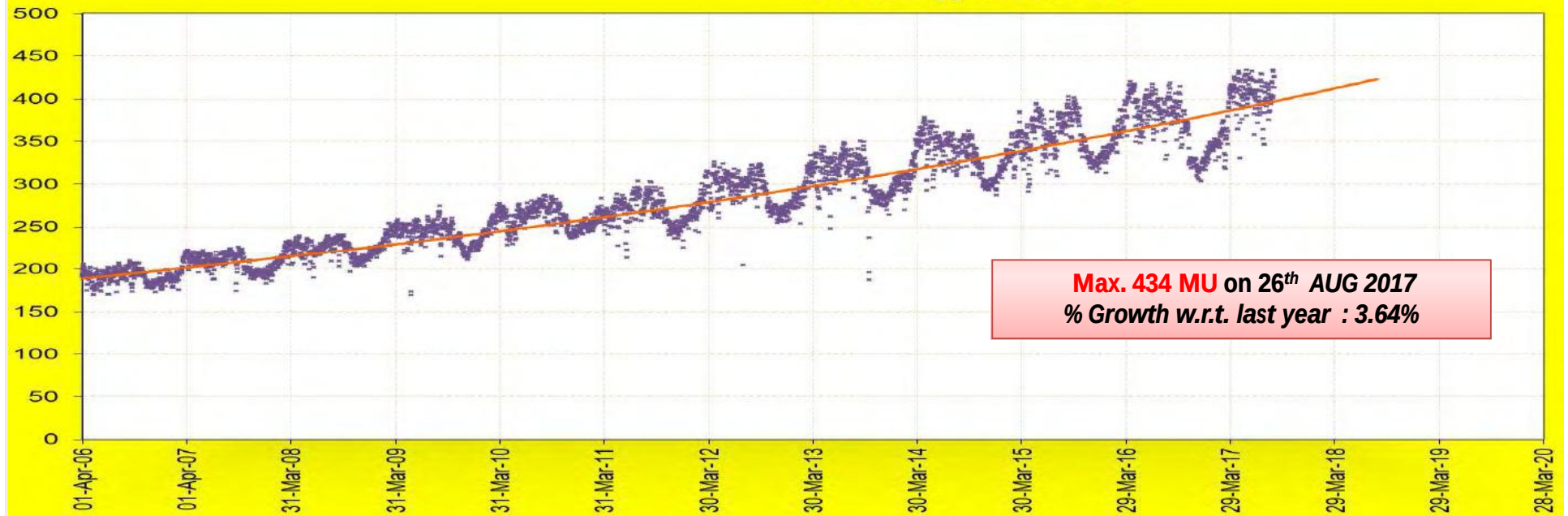
So Far Highest Demand

Constitute	Demand (in MW)	Date	Time	Dmd met on 16 th Sep'17(max dmd met day)
Bihar	4350	26-Aug-17	20:30	4192
DVC	3333	10-Apr-16	20:57	2659
Jharkhand	1262	10-Jun-17	19:54	1126
Odisha	4412	22-Aug-17	19:37	4381
W. Bengal	8605	12-Apr-17	19:56	8140
Sikkim	117	28-Oct-16	18:59	90
ER	20815	16-Sep-17	18:47	20815

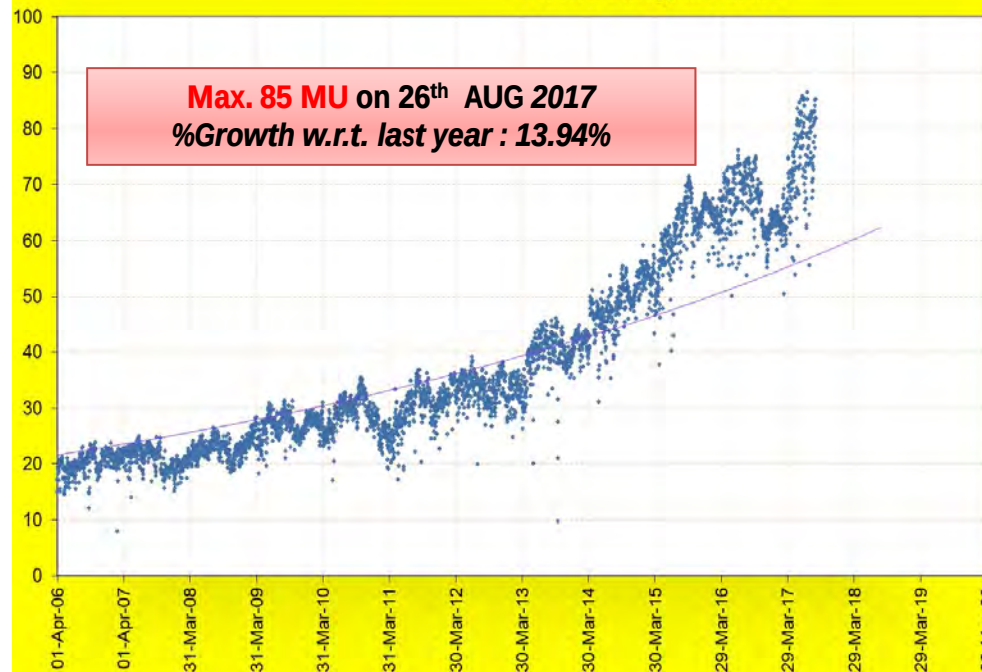
So Far Highest Energy Consumption

Constitute	Energy consumption (in MUs)	Date	Dmd met on 16 th Sep'17(max dmd met day)
Bihar	85.8	18-June-17	85.6
DVC	75	23-Mar-17	58.6
Jharkhand	26	20-Apr-16	21.7
Odisha	91.5	16-Sep-17	91.5
West Bengal	181	27-Apr-16	164
Sikkim	2	24-Mar-17	1.4
ER	439	16-Sep-17	439

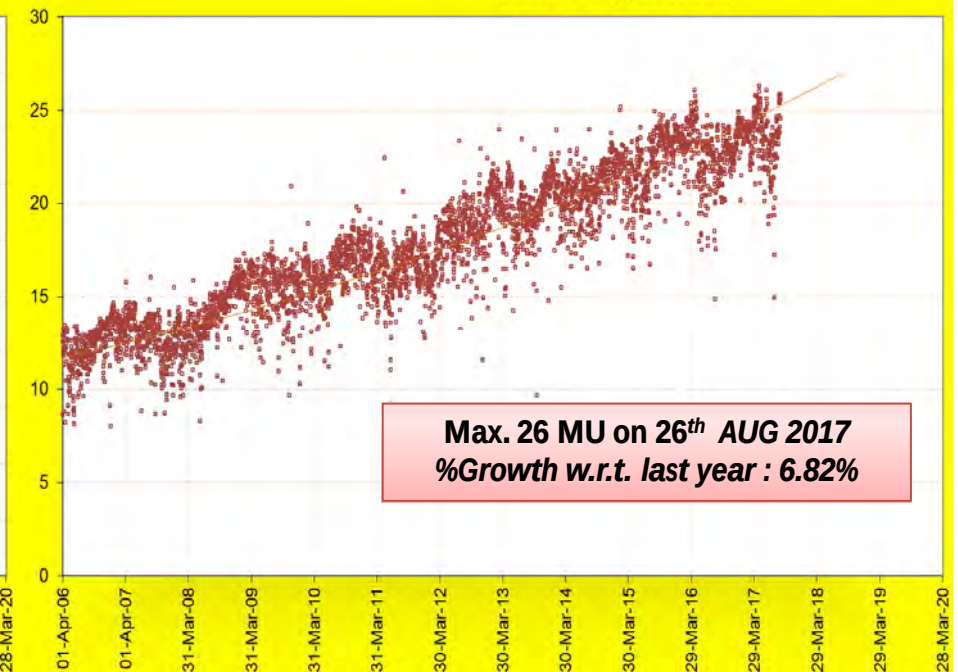
ER Energy met in MU



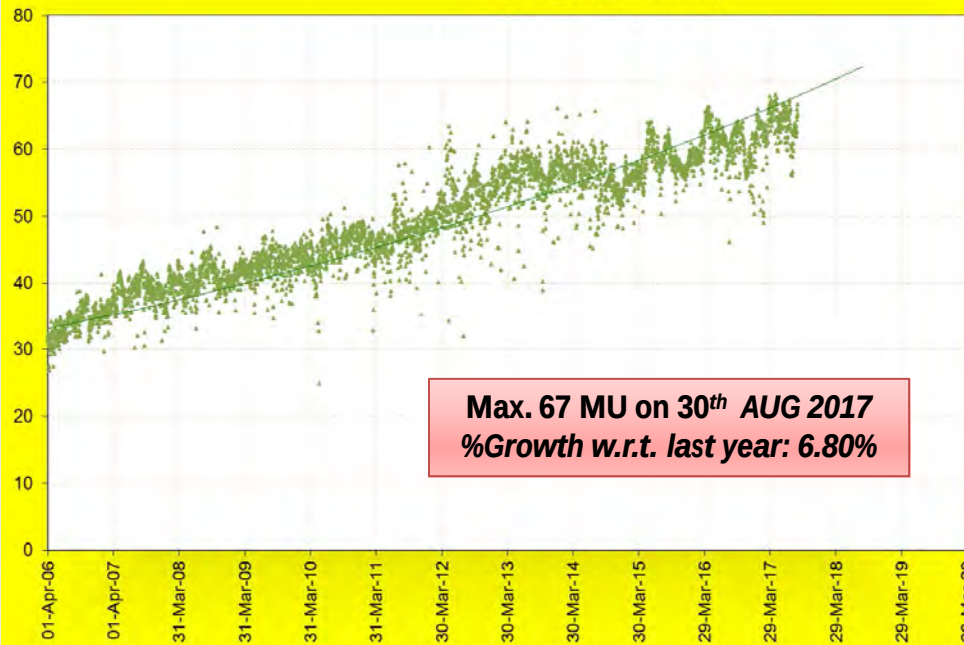
BSPHCL Energy met in MU



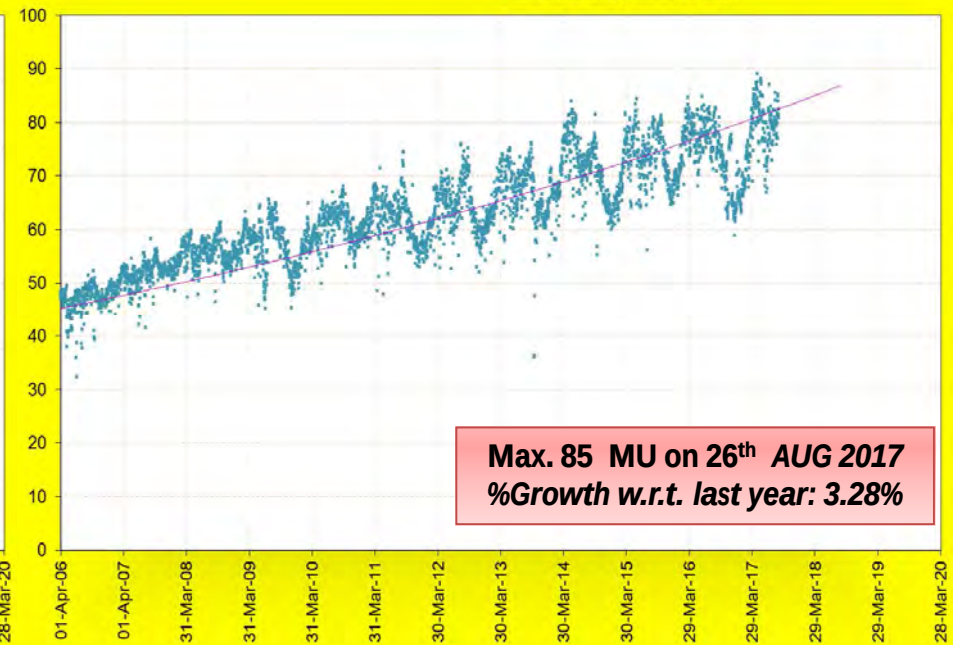
JUVNL Energy met in MU



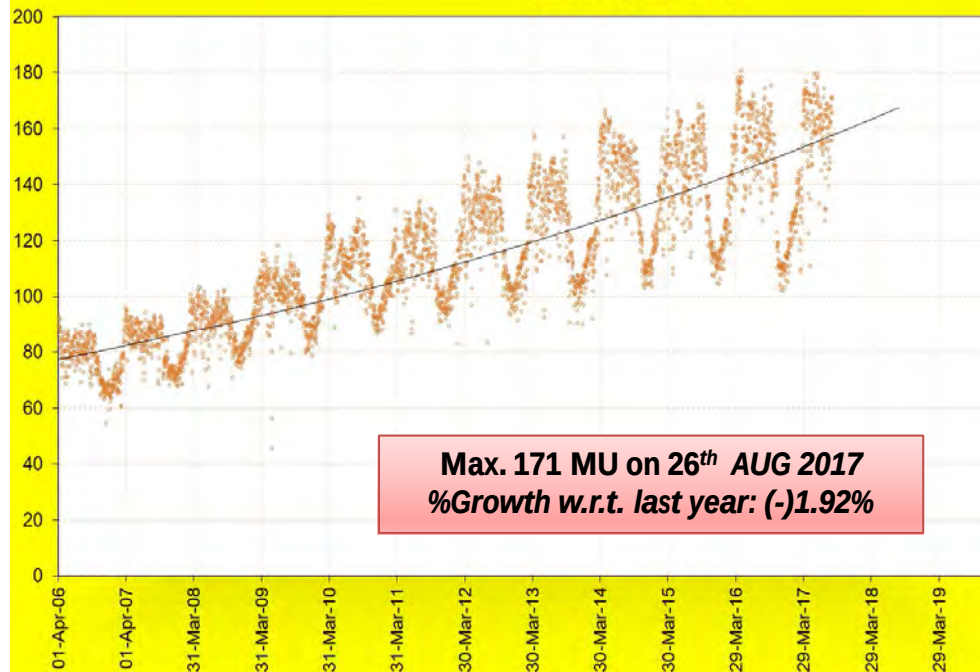
DVC Energy met in MU



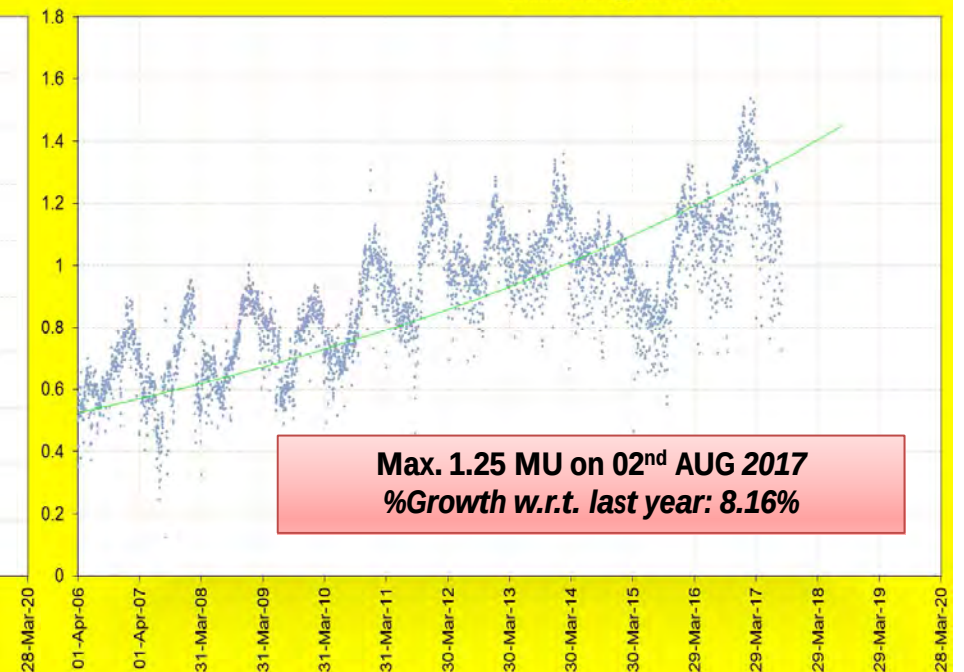
Odisha Energy met in MU



WB Energy met in MU



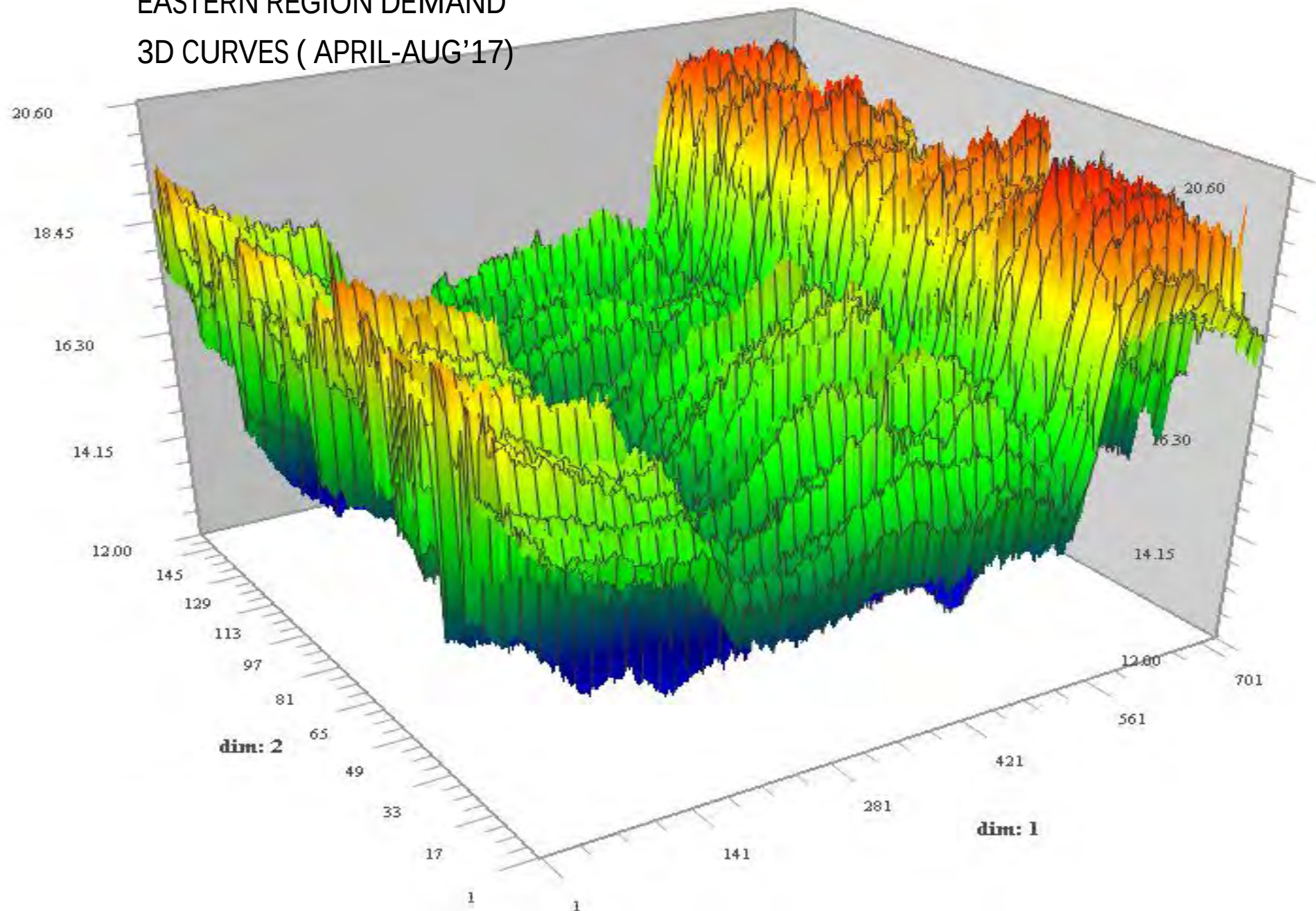
Sikkim Energy met in MU



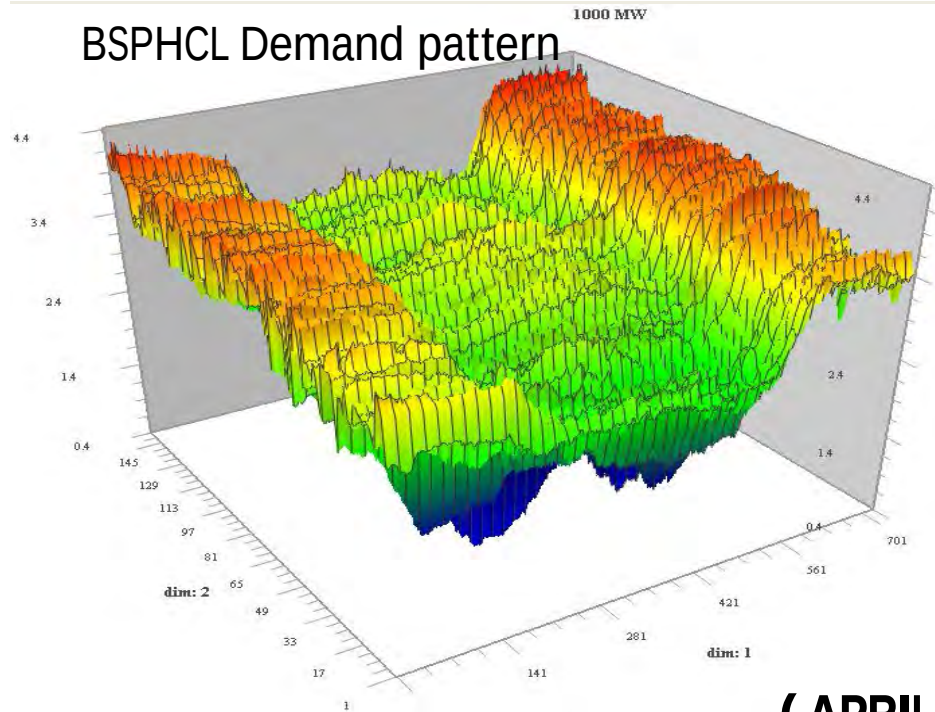
3D VIEW OF ER DEMAND PATTERN (APR-17 TO AUG-17)

1000 MW

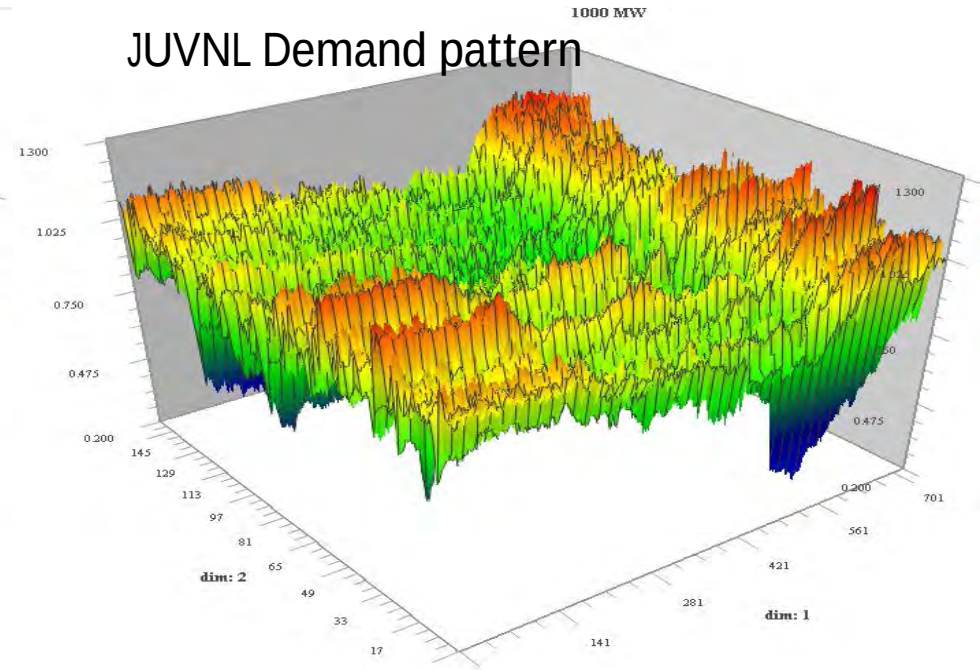
EASTERN REGION DEMAND 3D CURVES (APRIL-AUG'17)



BSPHCL Demand pattern

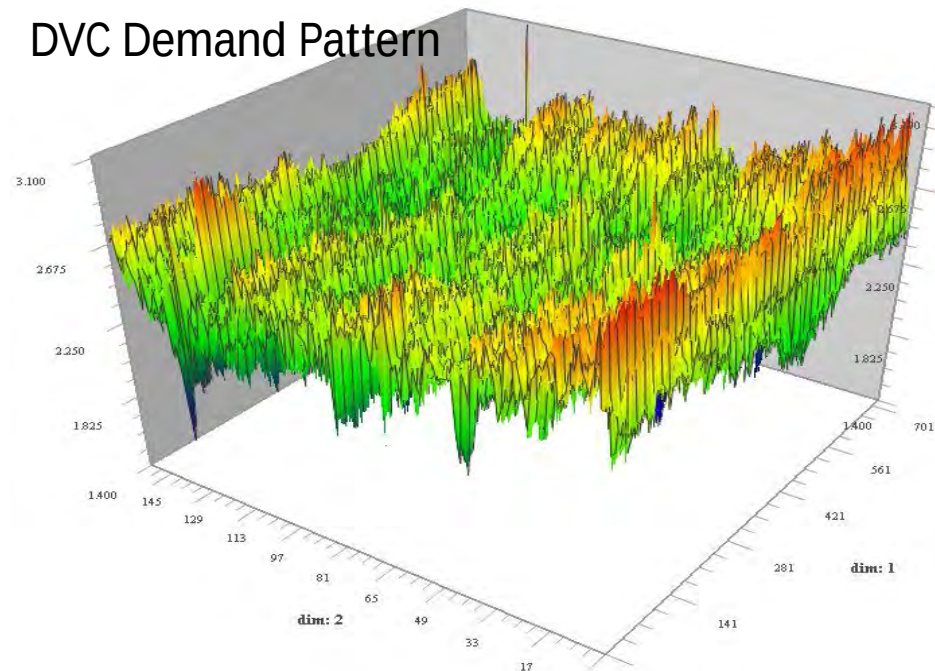


JUVNL Demand pattern

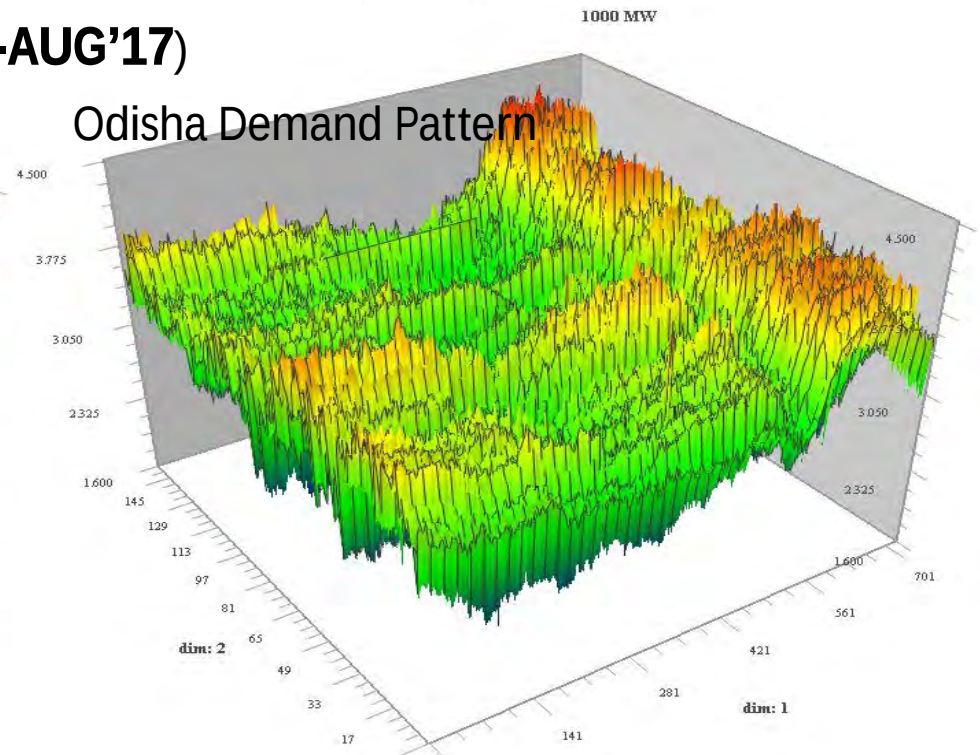


(APRIL-AUG'17)

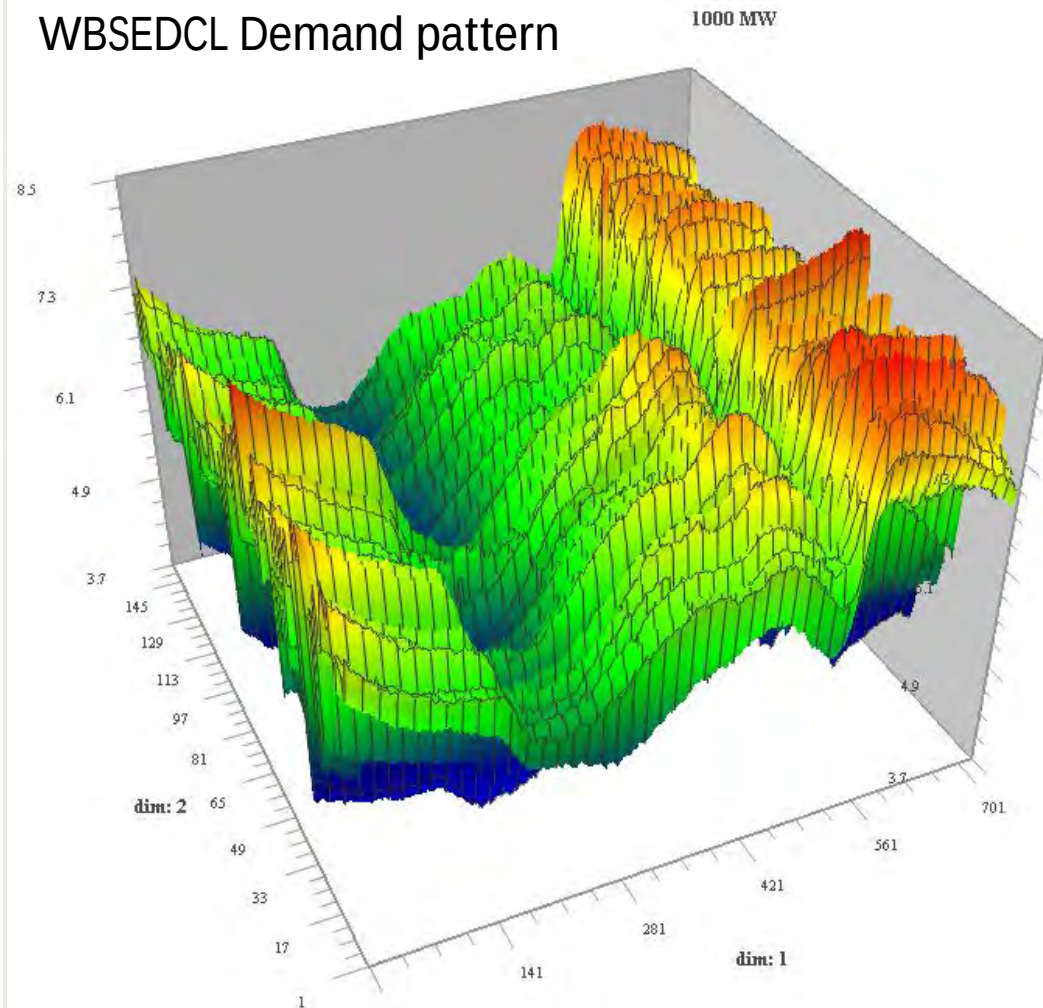
DVC Demand Pattern



Odisha Demand Pattern

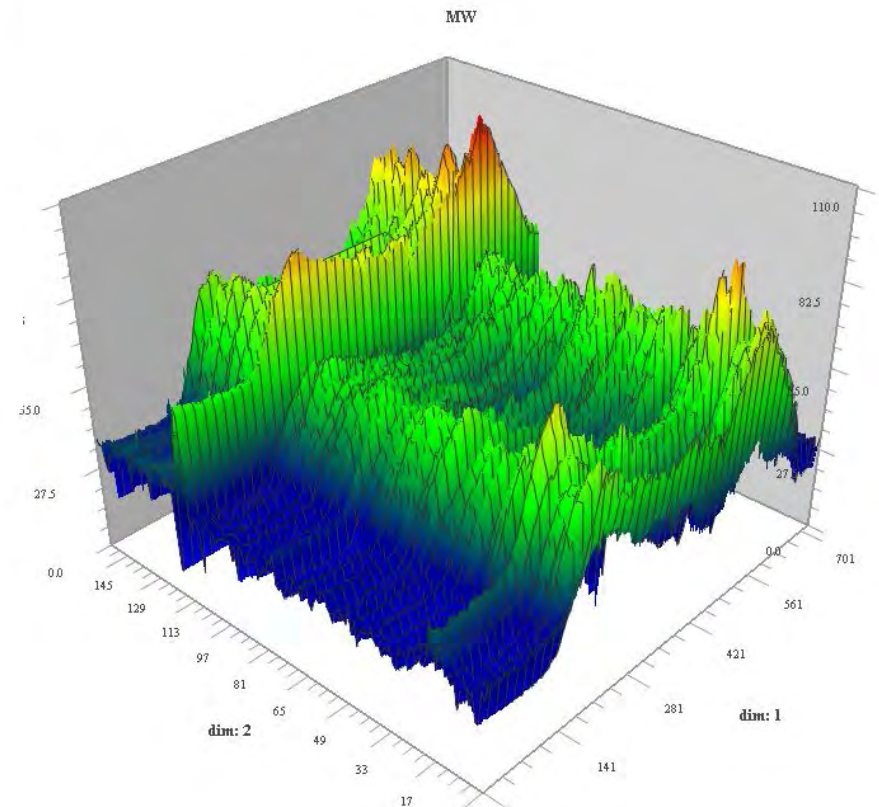


WBSEDCL Demand pattern

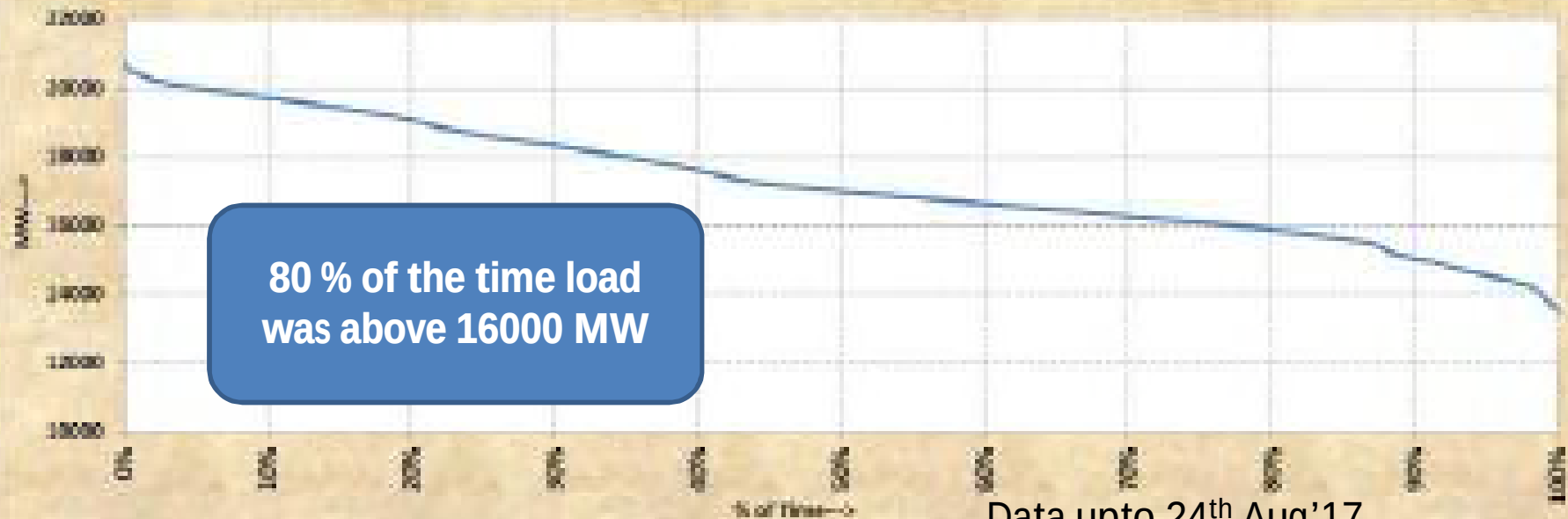


(APRIL-AUG'17)

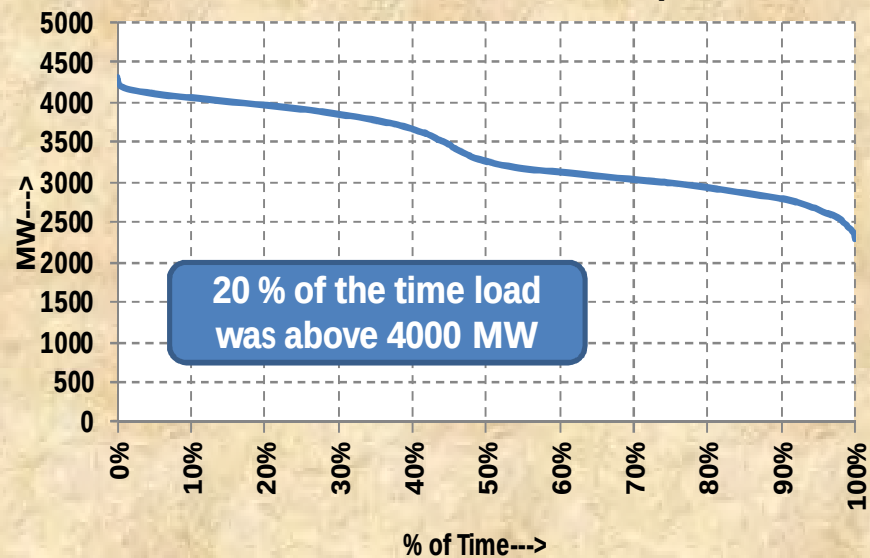
Sikkim Demand pattern



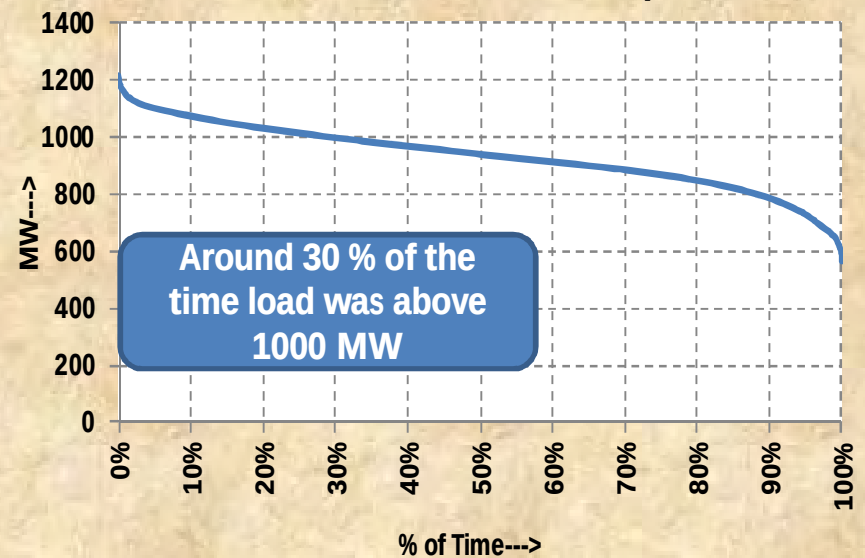
EL Load duration curve -Sep-17



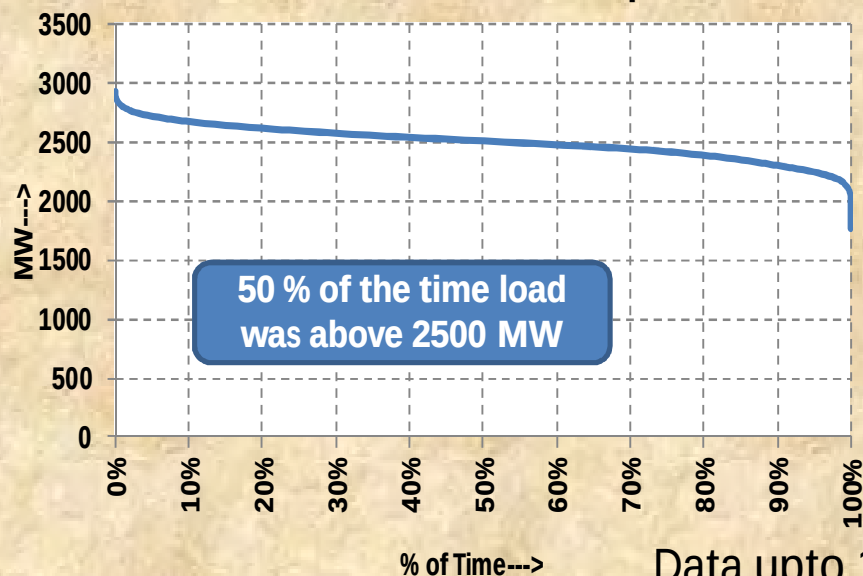
BSPHCL Load duration curve -Sep-17



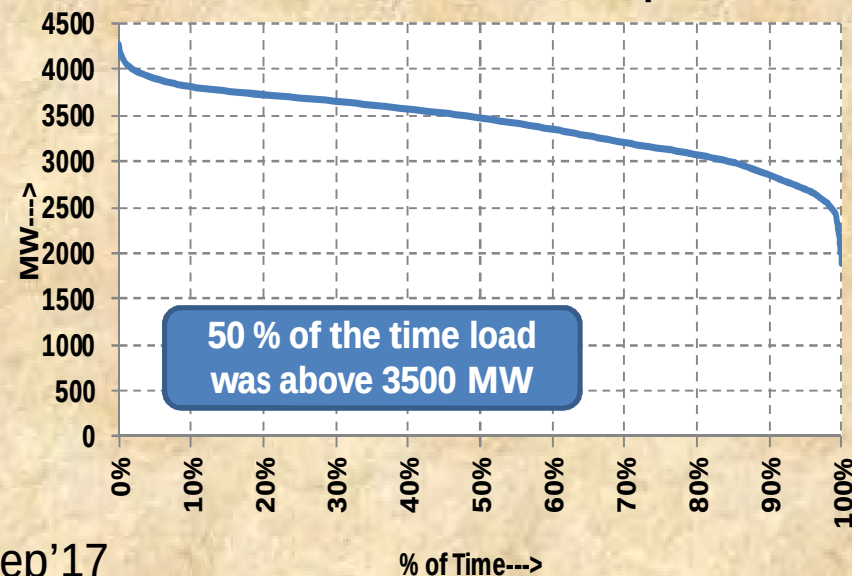
JUVNL Load duration curve -Sep-17



DVC Load duration curve -Sep-17

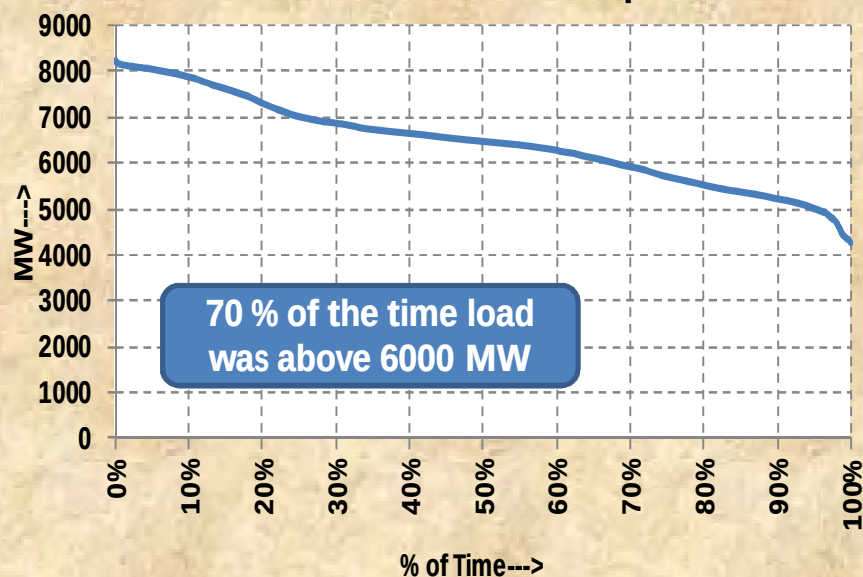


Gridco Load duration curve -Sep-17

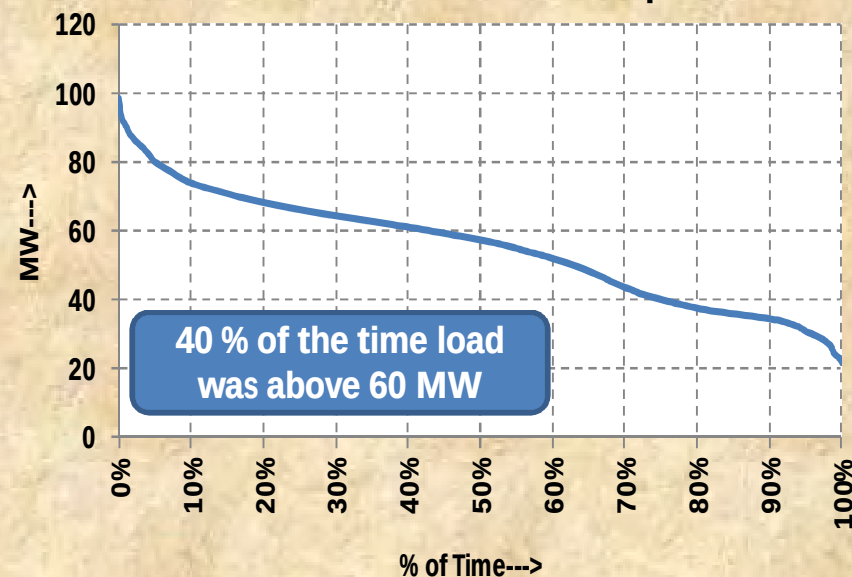


Data upto 18th Sep'17

WB Load duration curve -Sep-17



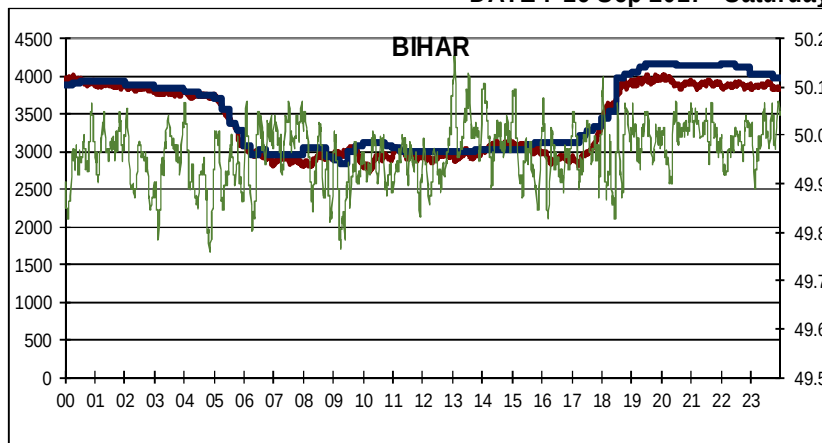
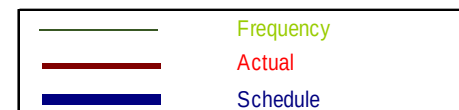
Sikkim Load duration curve -Sep-17



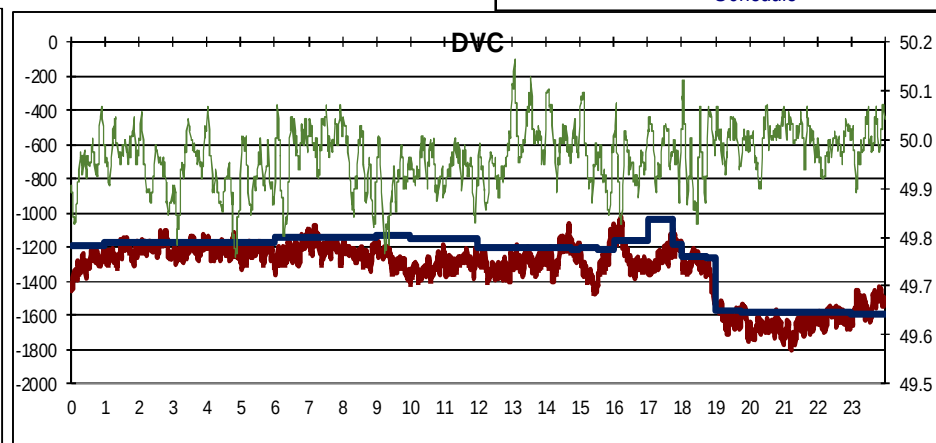


CONSTITUENTWISE SCHEDULE & ACTUAL EXCHANGE

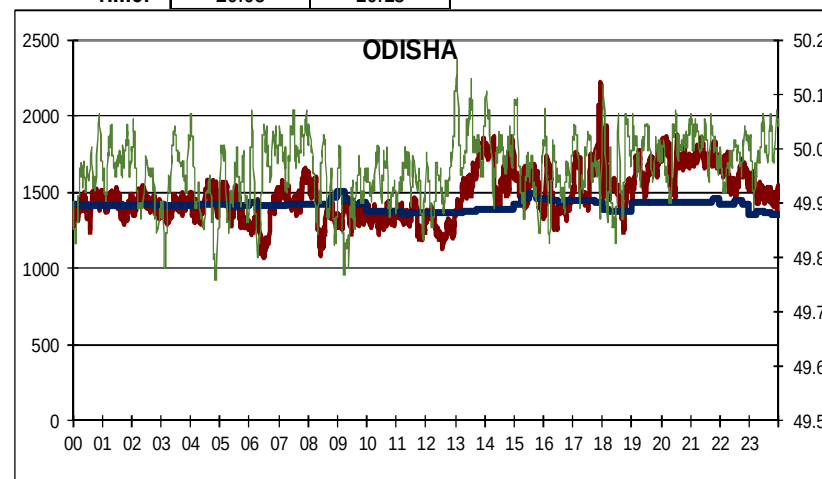
DATE : 16 Sep 2017 Saturday



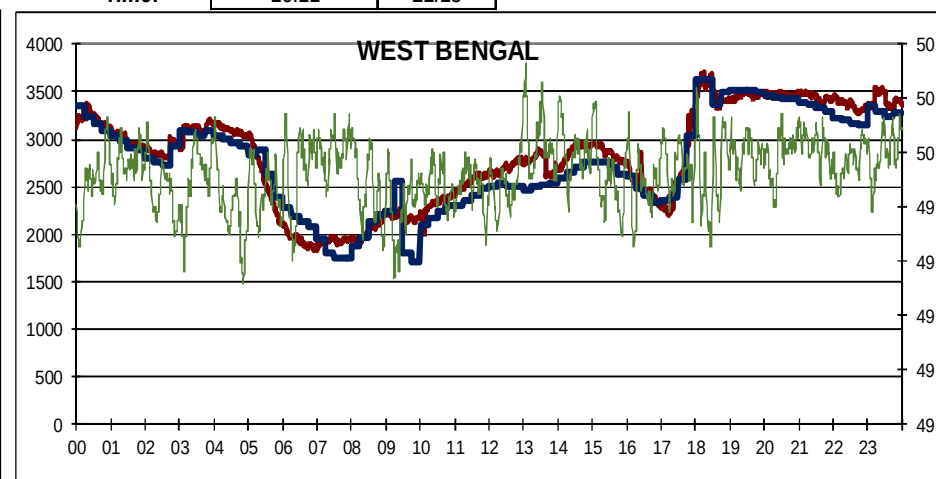
Act MU	MAX	MIN	STD	LF	SCHEDULE
81.3	4011	2737	449	0.84	83.66
Time:		20:05	10:13		



Act MU	MAX	MIN	STD	LF	SCHEDULE
-32.0	-1020	-1808	163	1.31	-30.15
Time:		16:11	21:13		



Act MU	MAX	MIN	STD	LF	SCHEDULE
35.6	2229	1073	161	0.67	33.94
Time:		17:55	6:30		

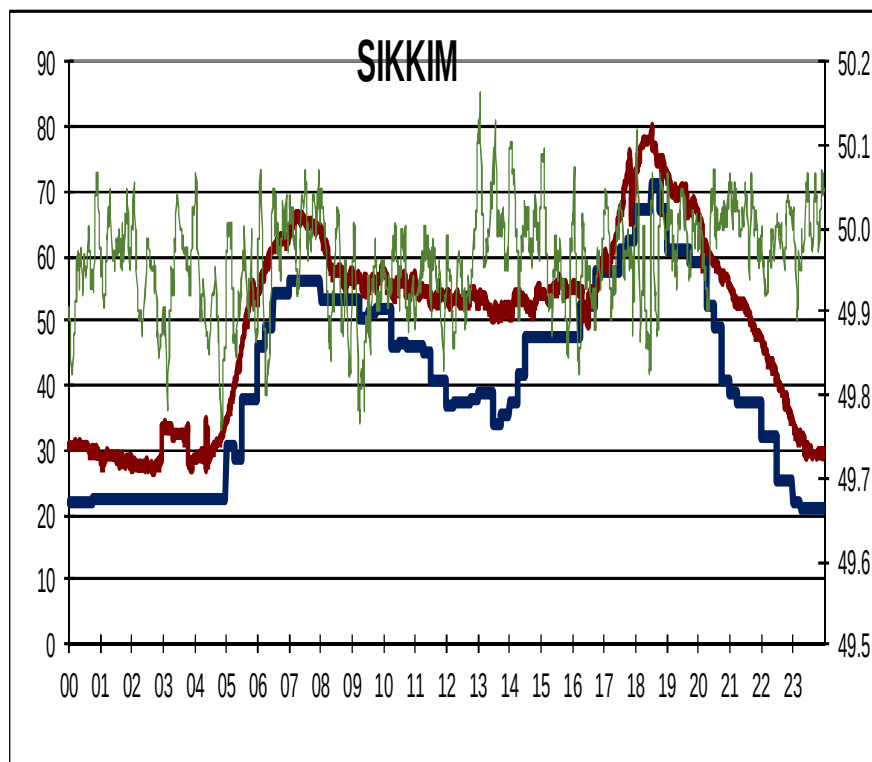
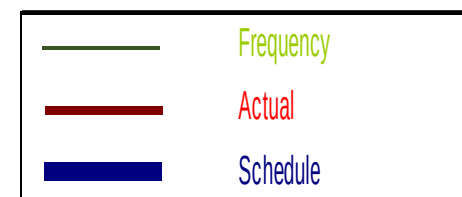


Act MU	MAX	MIN	STD	LF	SCHEDULE
67.8	3709	1832	505	0.76	66.18
Time:		18:14	6:54		

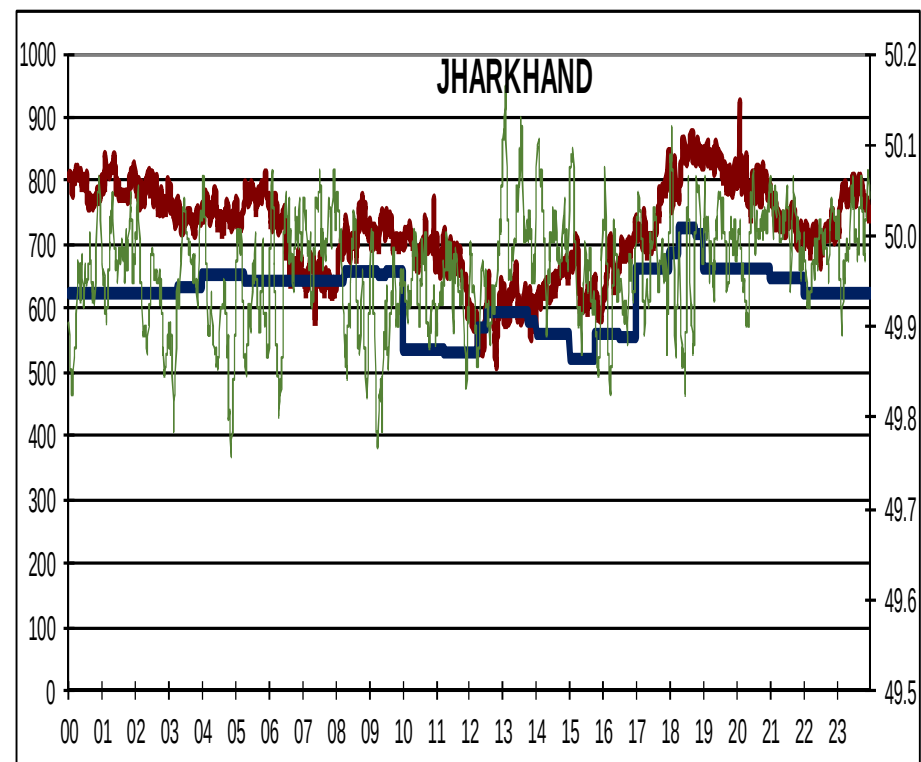


CONSTITUENTWISE SCHEDULE & ACTUAL EXCHANGE

DATE : 16 Sep 2017 Saturday



MU	MAX	MIN	STD	LF	SCHEDULE
1.2	80	27	14	0.63	1.00
Time:	18:32	2:42			



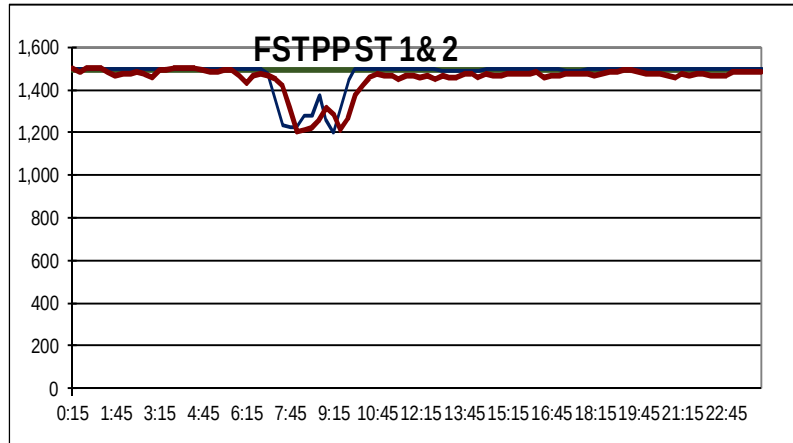
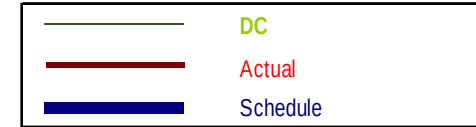
Act MU	MAX	MIN	STD	LF	schd MU
17.36	926	510	71.44	0.78	14.89
Time:	20:04	12:47			



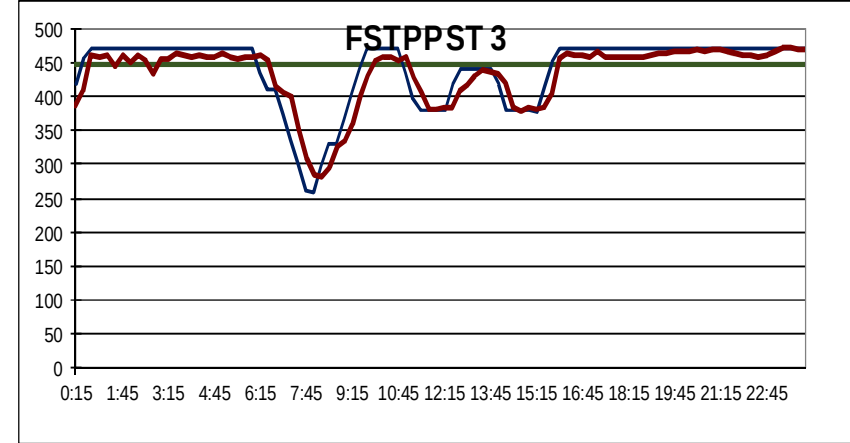
ISGS (THERMAL) DC, SCHEDULE & ACTUAL GENERATION

DATE : 16 Sep 2017

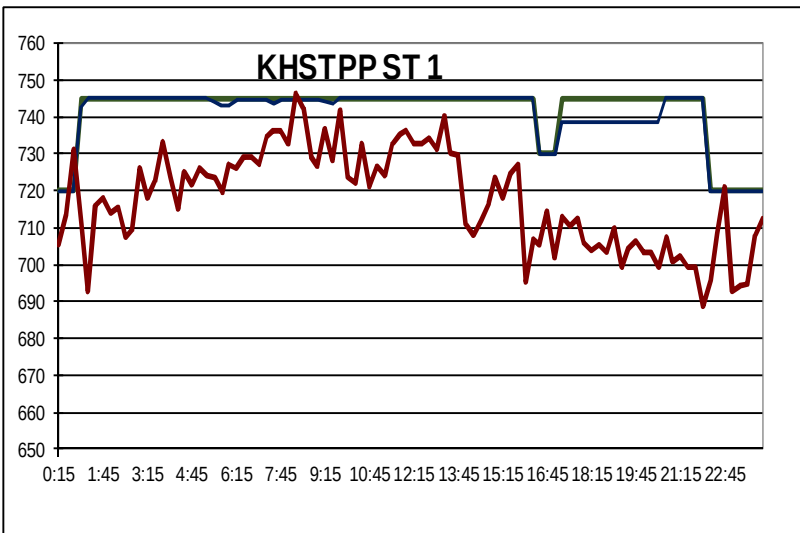
Saturday



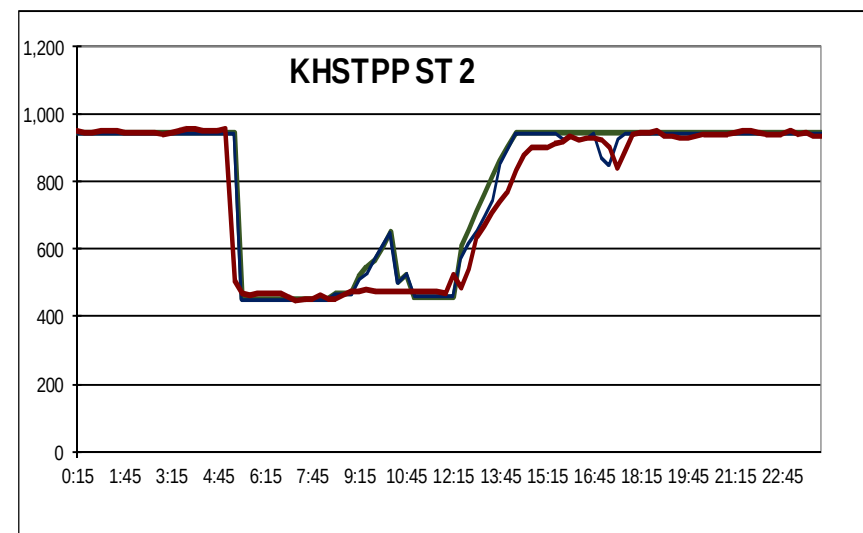
Act MU	MAX	MIN	STD	LF	schd MU
34.9	1504	1206	68	0.97	35.32
Time:	4:00	8:00			



Act MU	MAX	MIN	STD	LF	schd MU
10.4	473	282	45	0.92	10.56
Time:	23:15	8:15			



Act MU	MAX	MIN	STD	LF	schd MU
17.2	746	688	14	0.96	17.77
Time:	8:15	22:00			



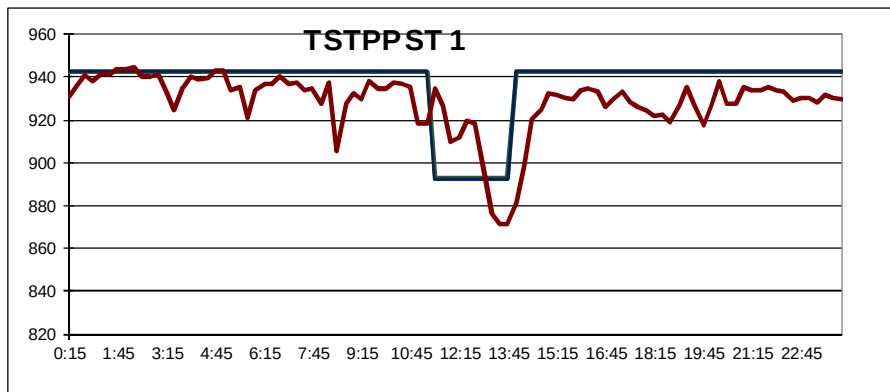
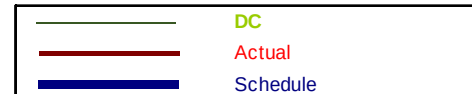
Act MU	MAX	MIN	STD	LF	schd MU
18.6	957	449	216	0.81	18.94
Time:	5:00	7:15			



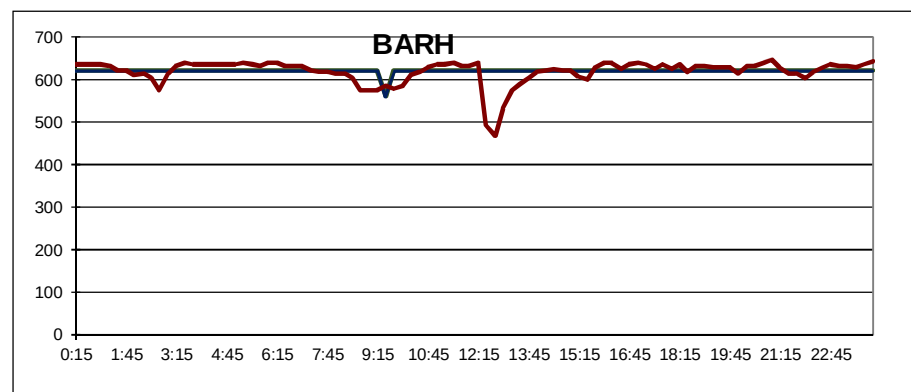
ISGS (THERMAL) DC, SCHEDULE & ACTUAL GENERATION

DATE : 16 Sep 2017

Saturday



Act MU	MAX	MIN	STD	LF	schd MU
22.3	944	872	14	0.98	22.50
Time:	2:15	13:45			



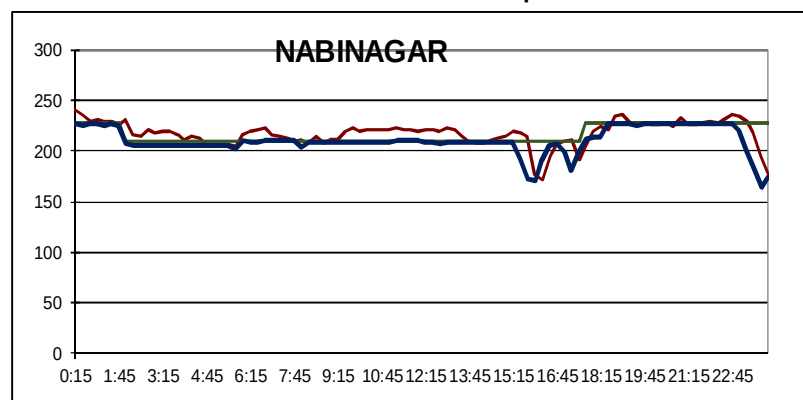
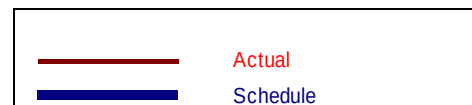
Act MU	MAX	MIN	STD	LF	schd MU
14.9	646	469	28	0.96	14.91
Time:	21:00	12:45			



SCHEDULE & ACTUAL GENERATION OF IPP

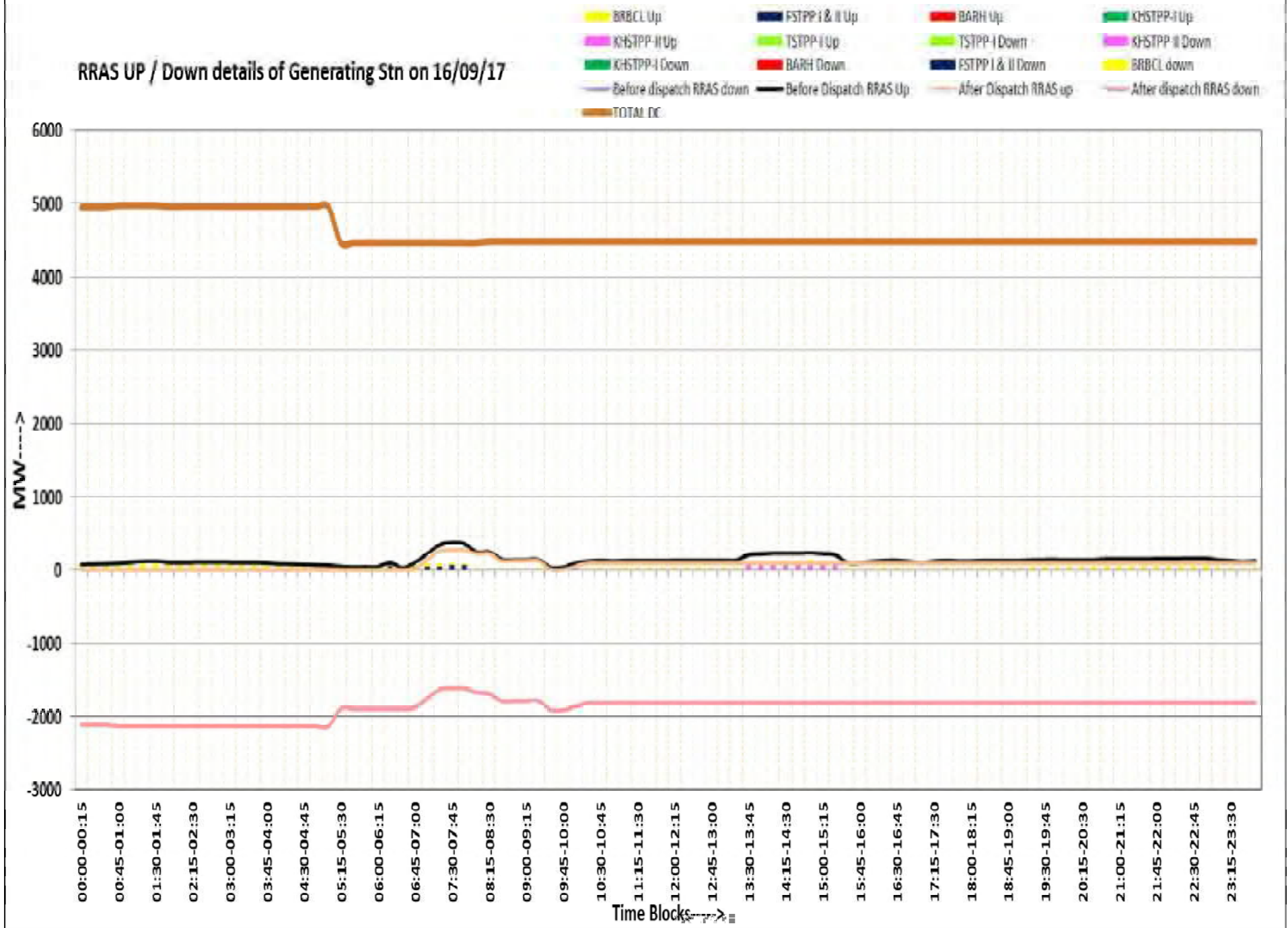
DATE : 16 Sep 2017

Saturday

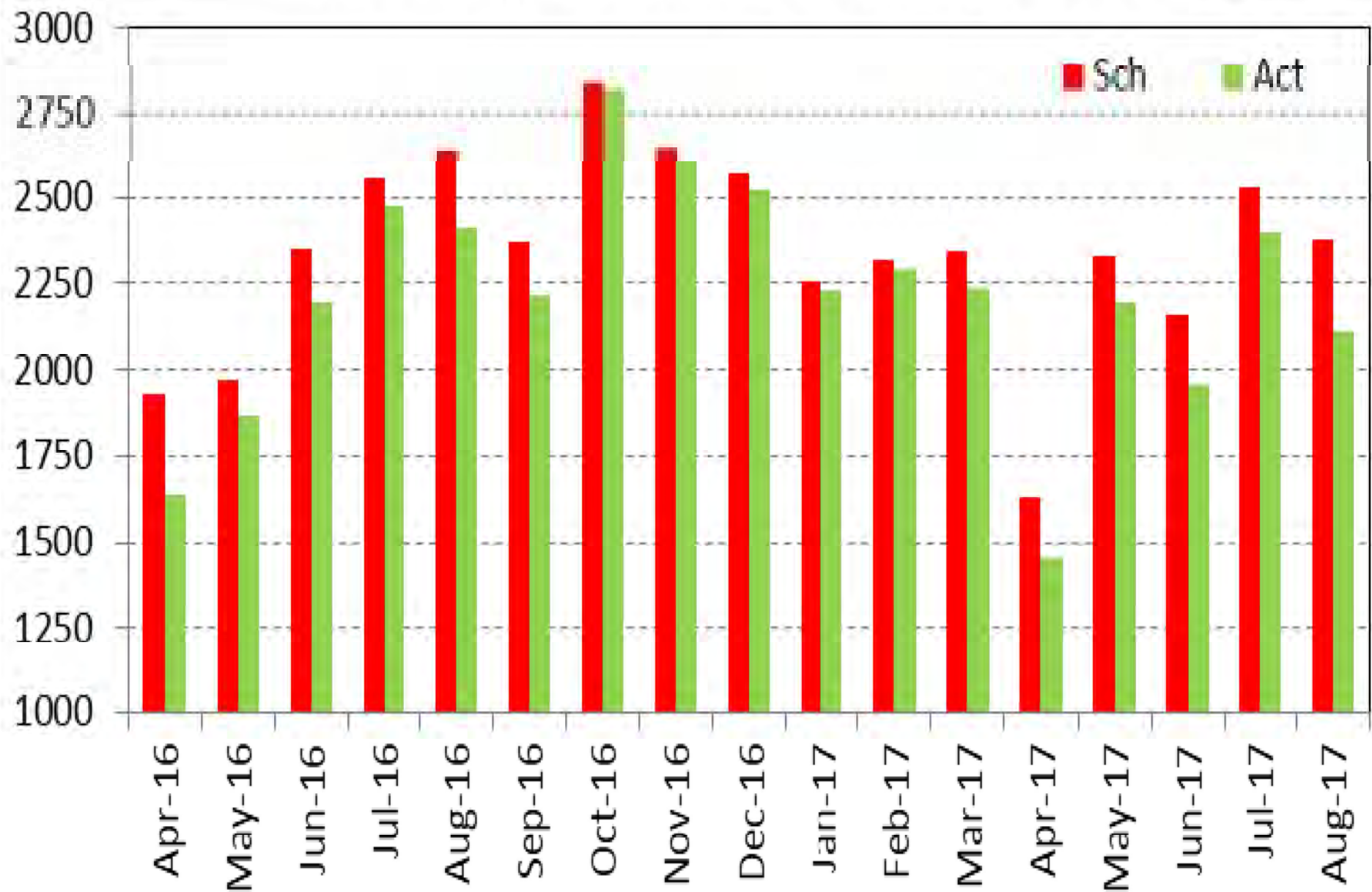


Act MU	MAX	MIN	STD	LF
5.2	241	171	12	0.90
Time:	0:15	16:15		

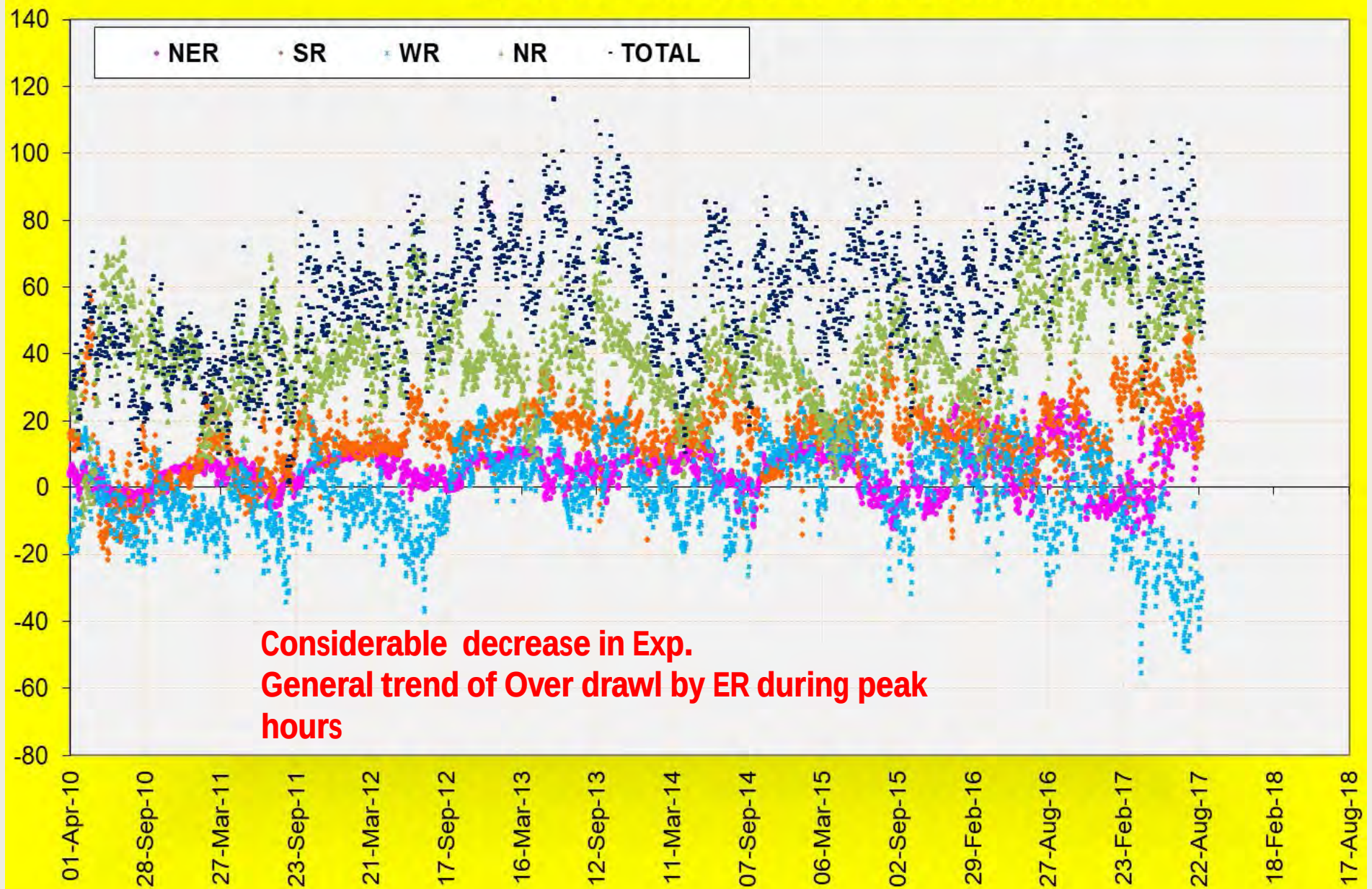
RRAS UP / Down details of Generating Stn on 16/09/17



Monthly Net Export (In MU) from Eastern Region to Other Regions

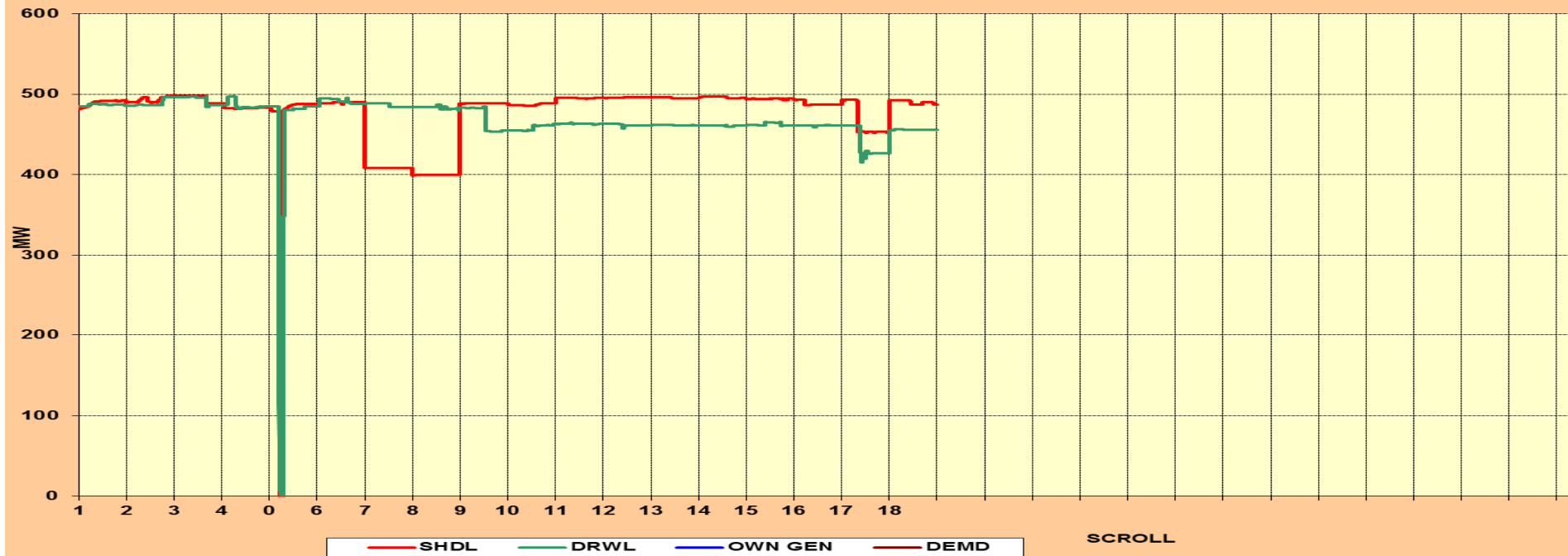


Inter Regional Exchange in MU; (+)ve Export (-)ve Import



DETAILS OF BAGLADESH FOR SEPTEMBER-2017

TIME ZOOM
SCROLL

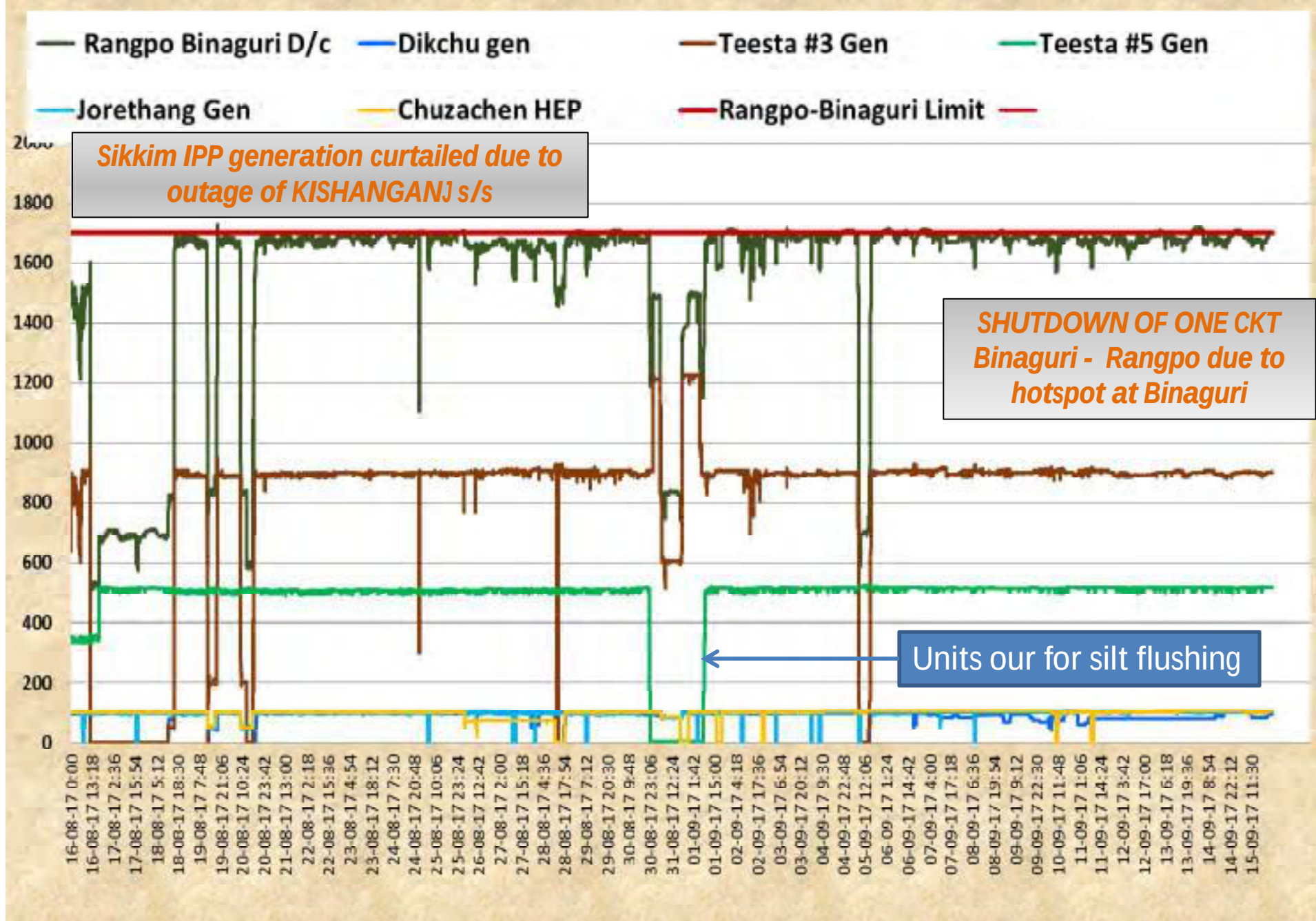


DETAILS OF Tala+ chukha FOR SEPTEMBER-2017

TIME ZOOM
SCROLL

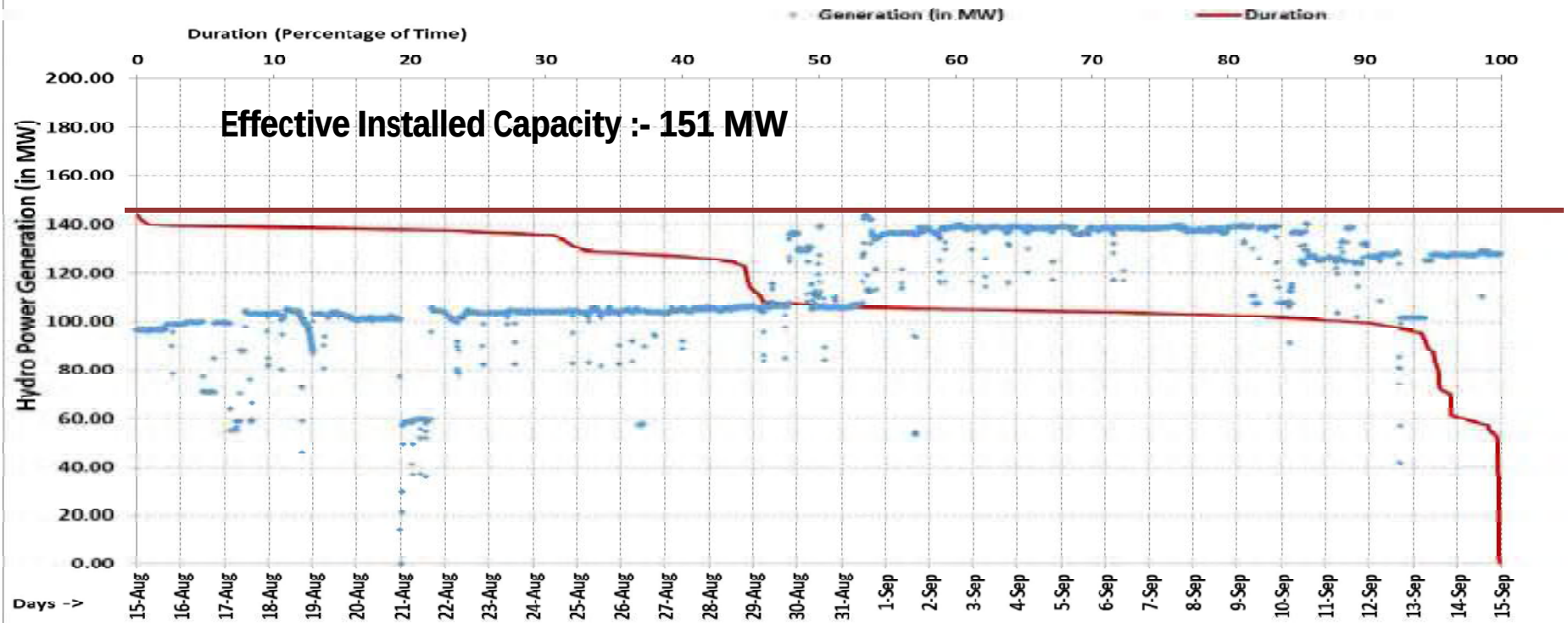


Rangpo – Binaguri D/C loading & Sikkim IPP generators Gen. pattern 15/08/17 to 15/09/17

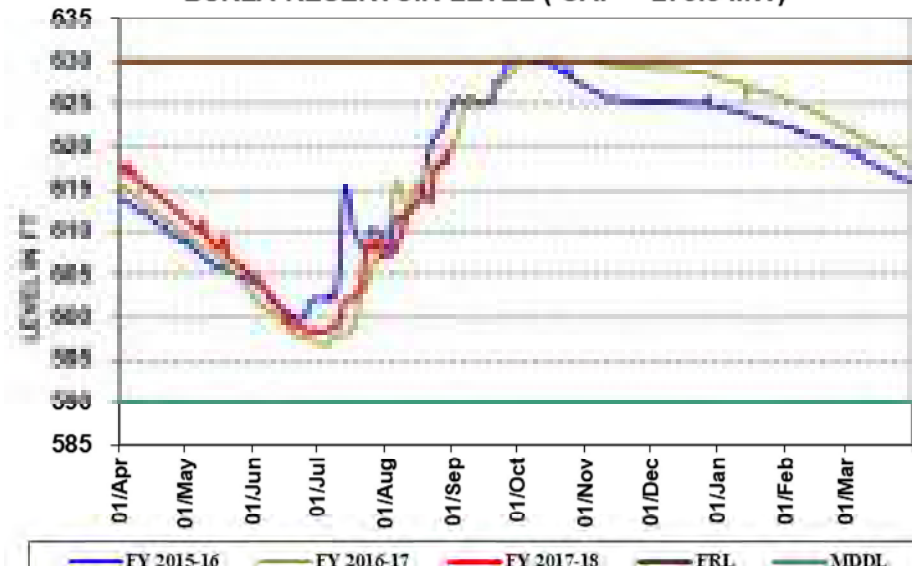


State Hydro Generators Performance

BURLA GEN (49.5*2+32*2+37.5*3=237.5)

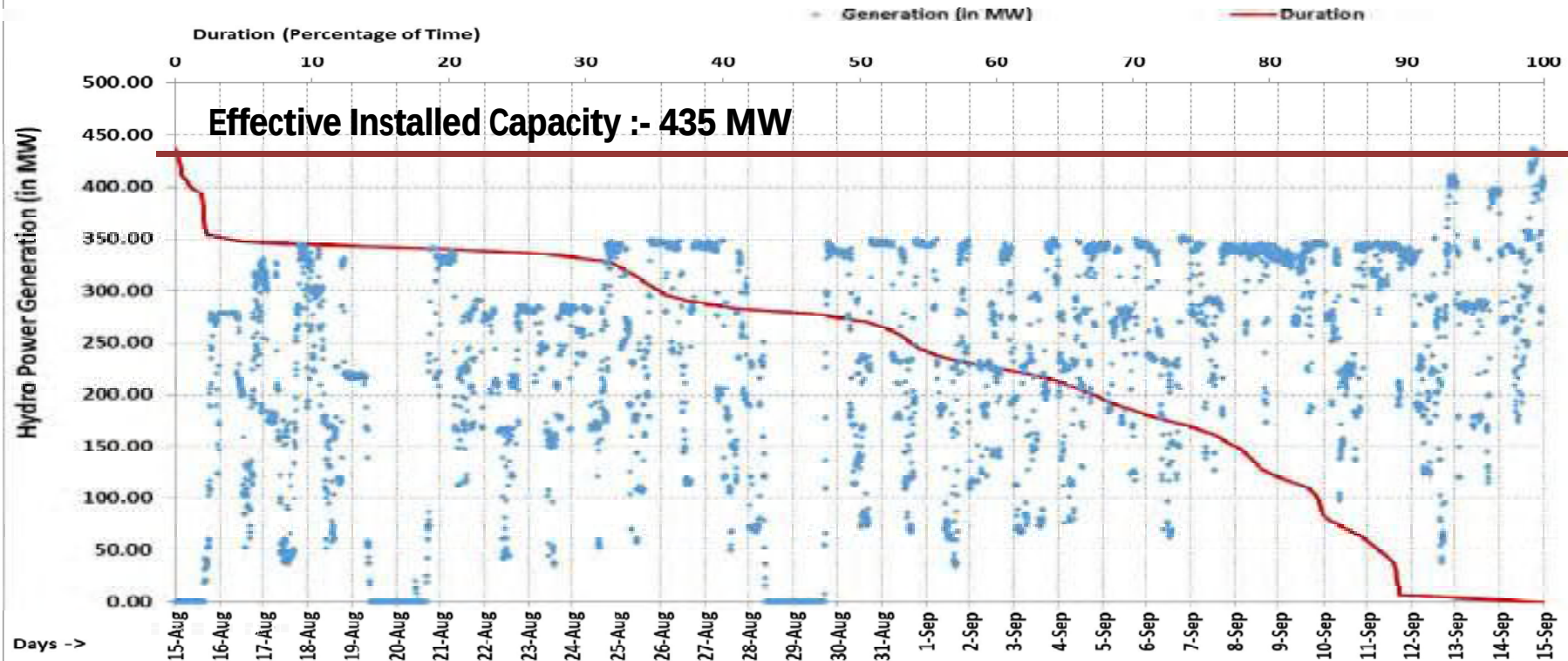


BURLA RESERVOIR LEVEL (CAP = 275.5 MW)

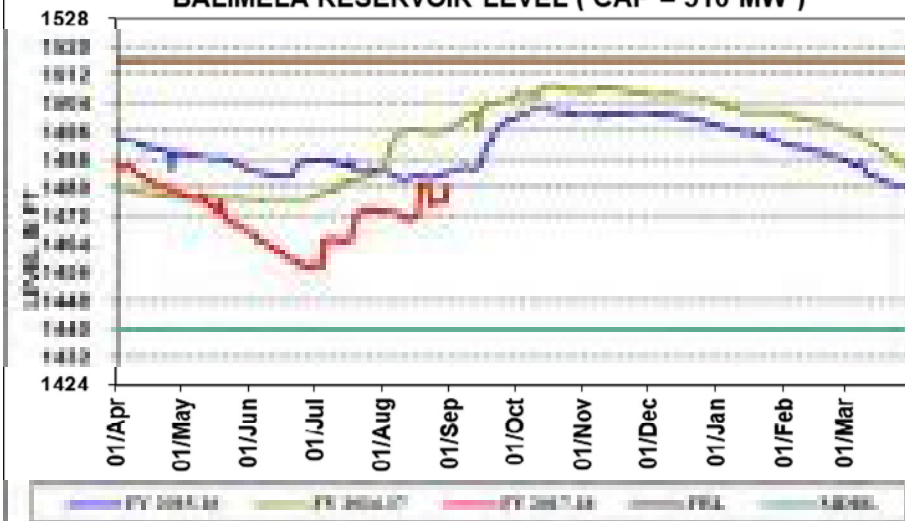


Unit No	Date of Outage	Reason
U - 5	25.10.2016	R & M Work
U - 6	16.10.2015	R & M Work
U - 1	05.08.2016	R & M Work

BALIMELA GEN(60*6+75*2=510 MW)

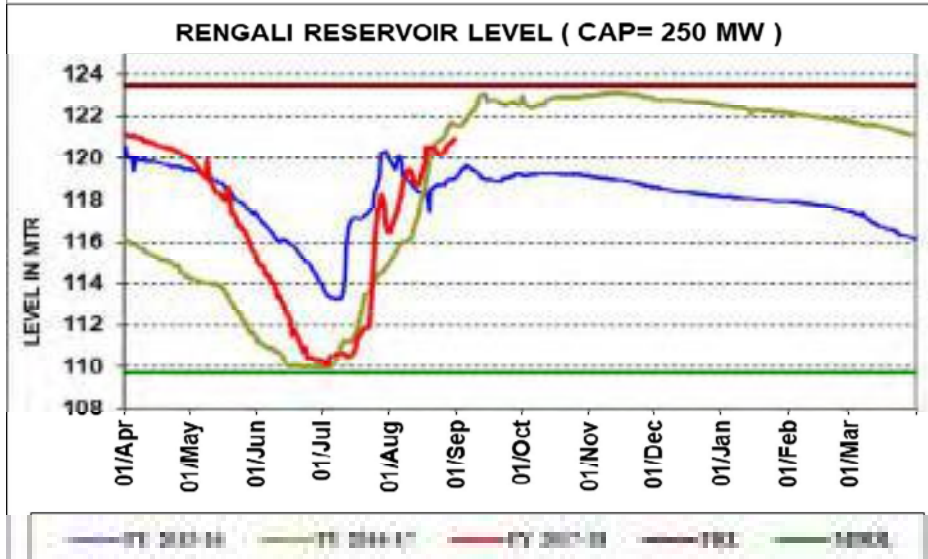
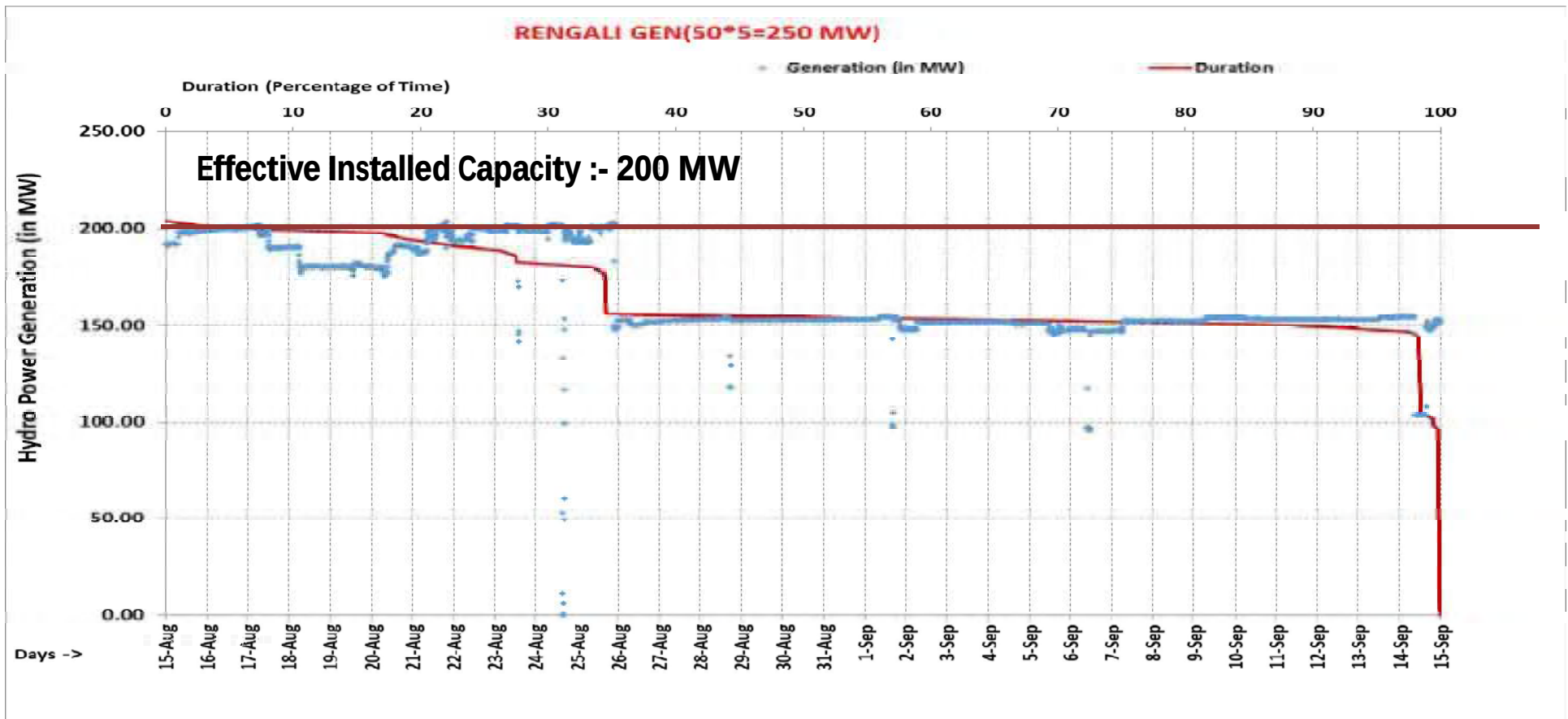


BALIMELA RESERVOIR LEVEL (CAP = 510 MW)

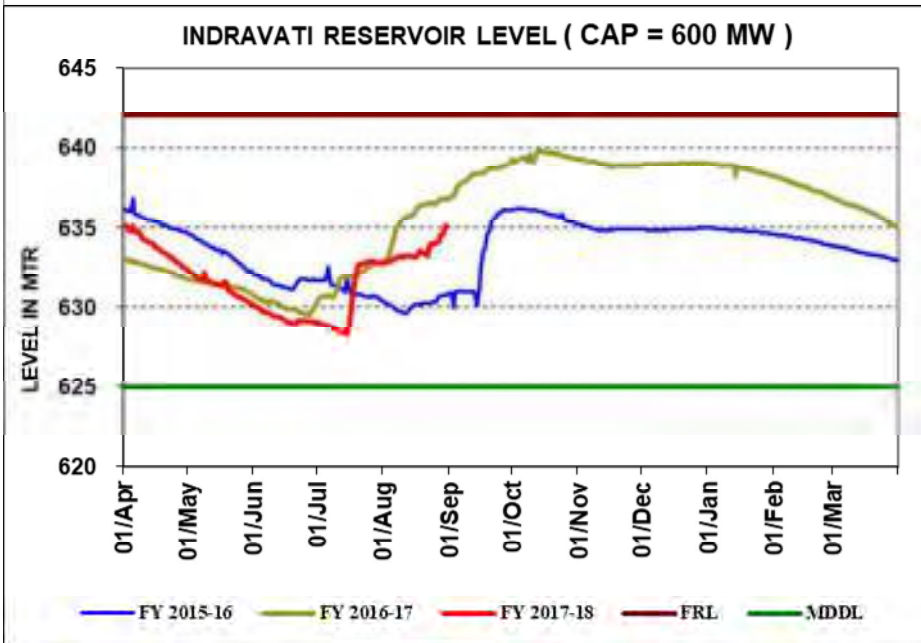
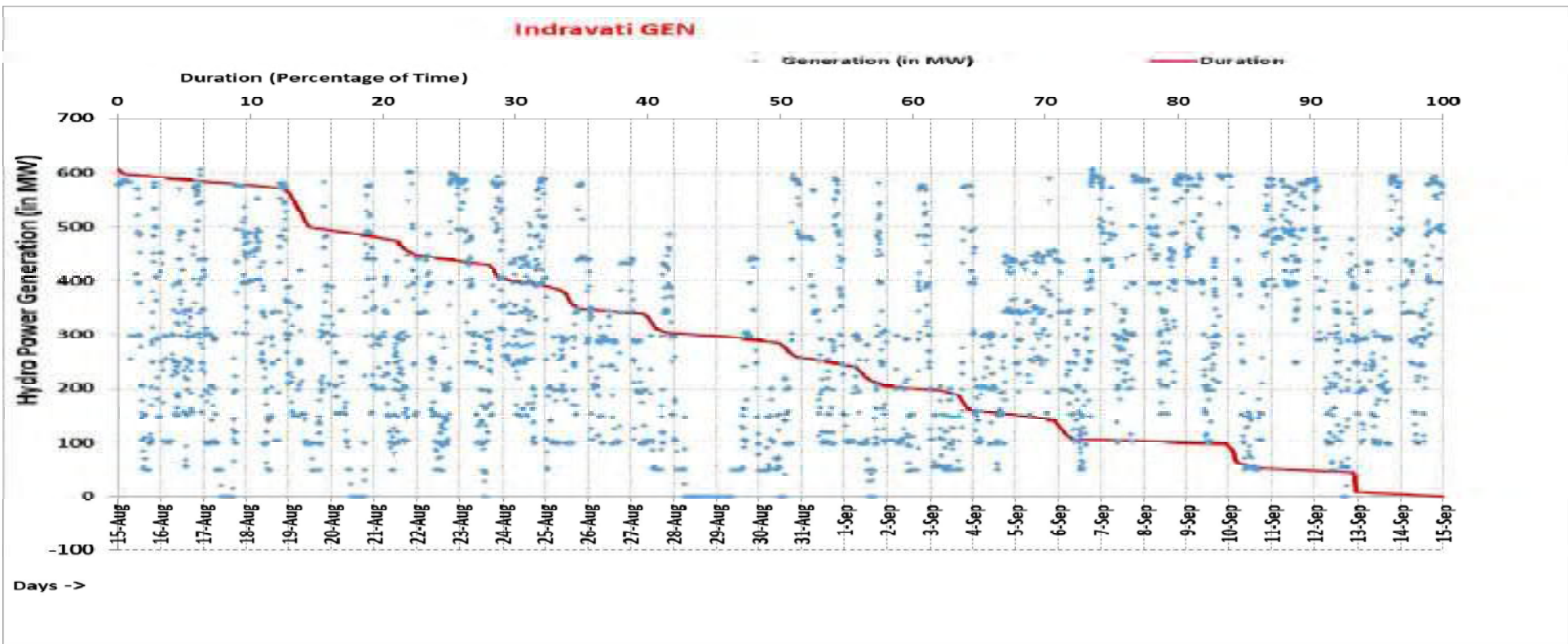


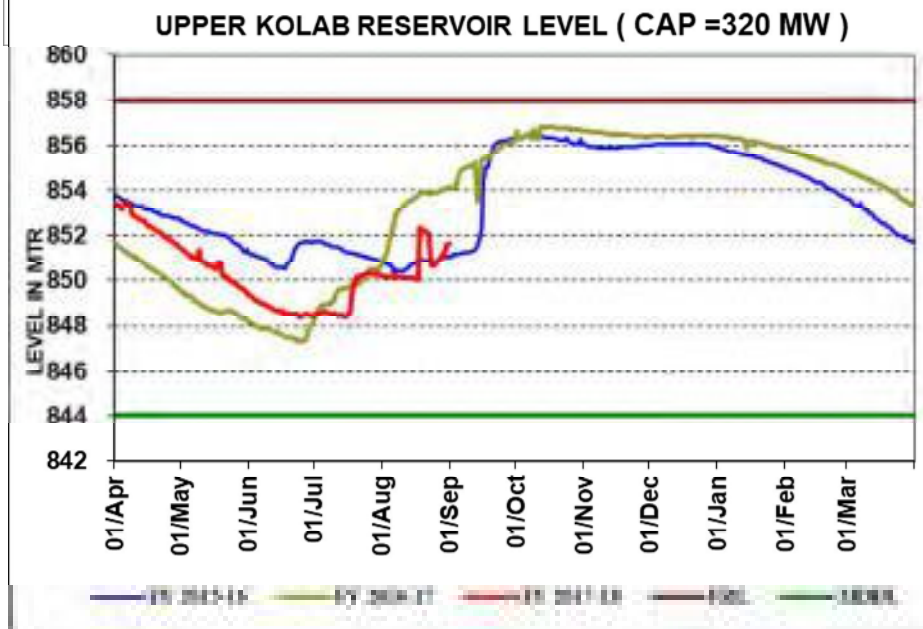
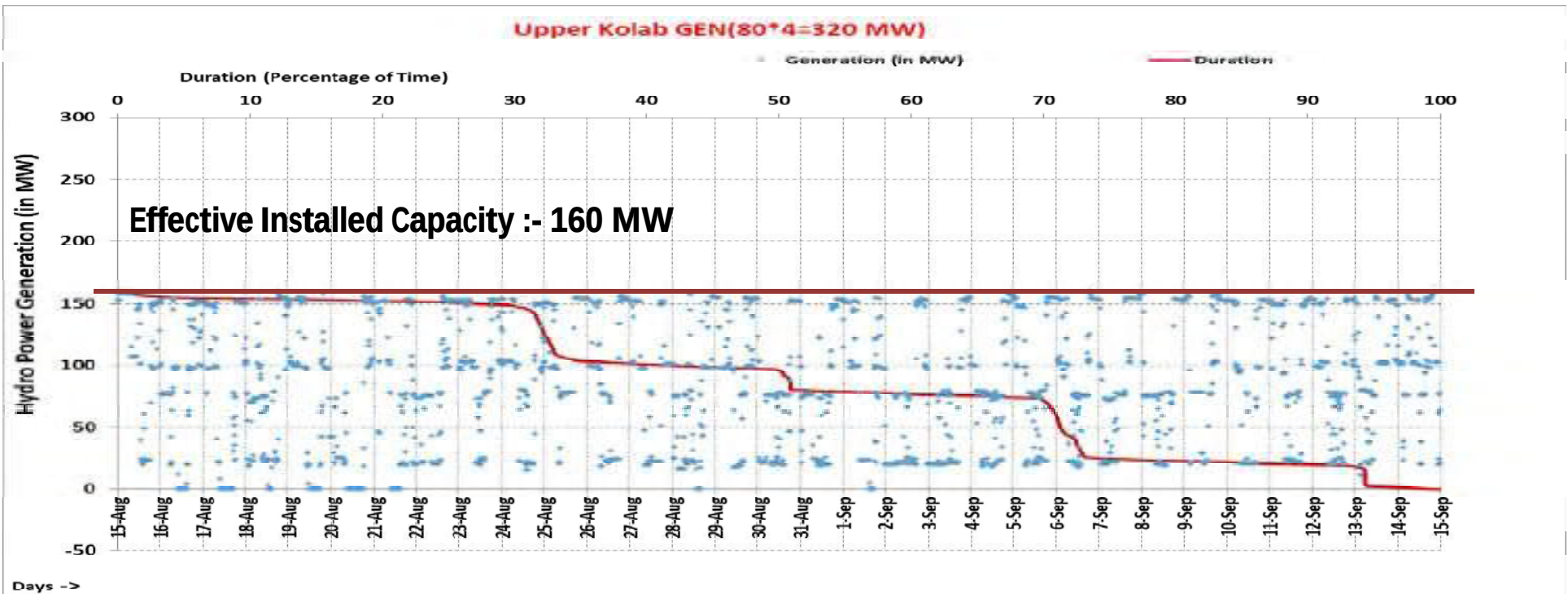
Unit No	Date of Outage	Reason of Outage
U - 1 (60)	05.08.2016	R & M Work
U - 7 (75)	16.04.2017	Gen. Stator Problem

U-7 synchronized on 13th Sep - 2017

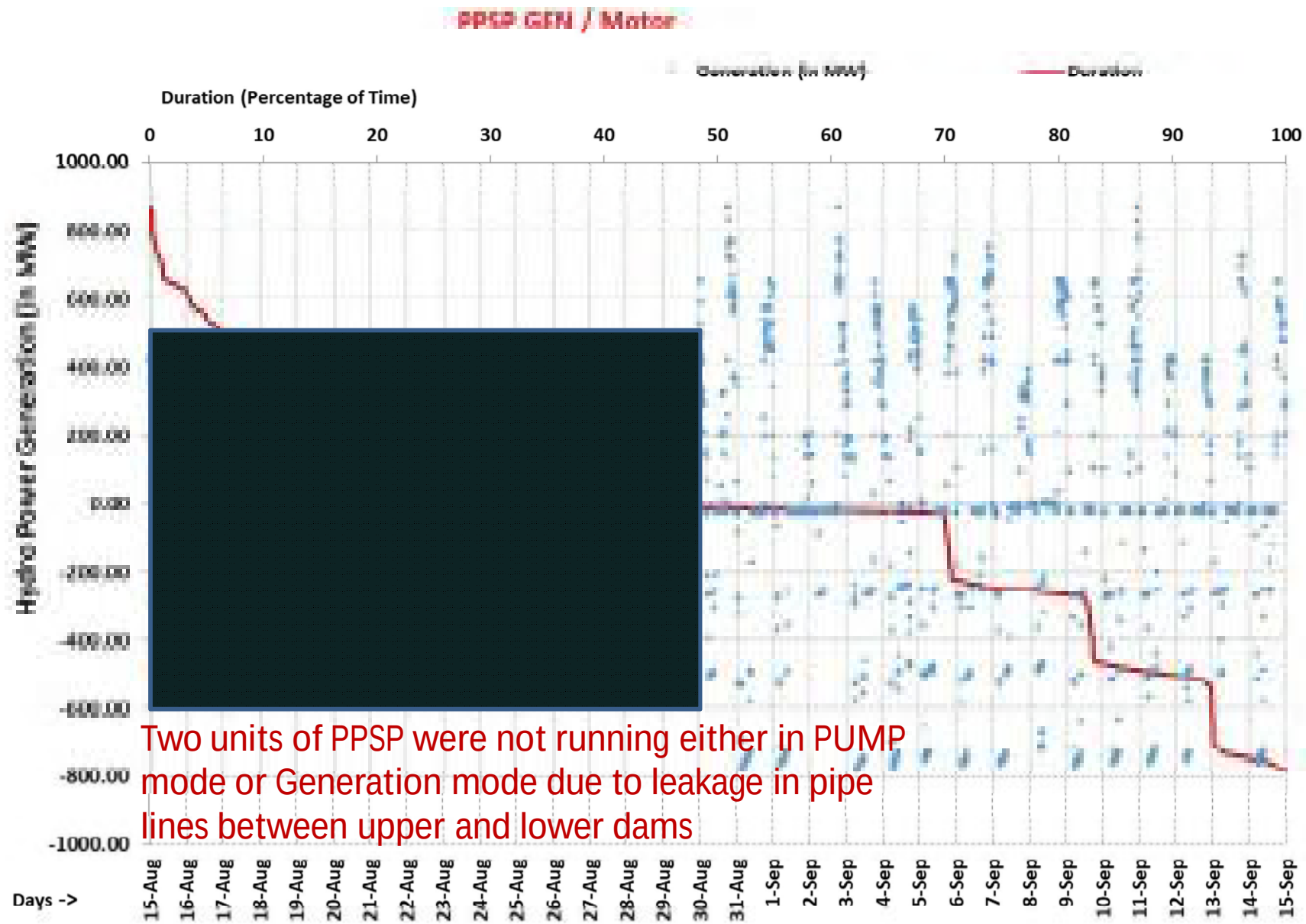


Unit No	Date of Outage	Reason
U - 5	21.03.2017	Hoist Gate Problem
U - 5	08.09.2017	Stator Earth Fault





Unit No	Date of Outage	Reason of Outage
U – 2 (80)	22.06.2017	Annual Maintenance
U – 3 (80)	19.04.2017	Gen. Internal fault



Two units of PPSP were not running either in PUMP mode or Generation mode due to leakage in pipe lines between upper and lower dams