

**उत्तर क्षेत्रीय विद्युत समिति**  
**NORTHERN REGIONAL POWER COMMITTEE**

**ADDITIONAL AGENDA-1**  
**FOR**  
**47<sup>th</sup> MEETING OF TECHNICAL COORDINATION SUB-COMMITTEE**  
**&**  
**49<sup>th</sup> MEETING OF NORTHERN REGIONAL POWER COMMITTEE**

Time & Date of TCC meeting: 11:00 Hrs. on 23.09.2021 and 24.09.2021

Time & Date of NRPC meeting: 11.00 Hrs. on 27.09.2021

Venue: Via Video Conferencing

**B. OPERATIONAL ISSUES**

**B.36 Regularization of newly added OPGW Links of PSTCL under Package 1(a) (Agenda by POWERGRID)**

B.36.1 During execution of the OPGW project for State Sector under Fibre Optics Communication System (Additional Requirement), based on PSTCL's request, some additional links were incorporated in this project due to connectivity requirement. Most of the works has been completed, balance installation works/commissioning are also likely to be completed shortly. However, approval/vetting NRPC meetings is required at the time of petition filing in CERC. The Tariff for the investment made is to be shared by PSTCL as per CERC notification. The scheme shall become part of existing Commercial Agreement signed for ULDC Project.

B.36.2 The 18<sup>th</sup> TeST sub-committee approved the addition of the said OPGW links under the Fibre Optics Communication System (Additional Requirement) scheme. These additional links as requested by PSTCL is put up for post facto approval/regularization by NRPC.

B.36.3 The following links to be regularized under package 1(a) scheme.

Sr. No	Name of links	Line length (Km)	Addition / deletion
1	220 kV Jamsher 220 - Jadla	67.326	Addition
2	LILO of 132 kV ASPH-I 132 Kv - ASPH II 132 at Anandpur Sahib 132	2.993	Addition
3	LILO portion of Jamsher 220-Jadla 220 at Goraya220	7.490	Addition
4	220 kV Jadla 220 - GGSSTP(RTP) 220	43.395	Addition
5	LILO of 220 kV Wadala Granthian 220 Kv - FC Churian 220 at Kotli Surat Mali 220	9.080	Addition

Sr. No	Name of links	Line length (Km)	Addition / deletion
6	LILO of 220 kV FC Churian 220 - Civil Lines Asr 220 at Majitha	5.440	Addition
7	LILO of 220 kV Civil Lines Asr 220 - Khassa 220 at Chugawan 220	5.848	Addition
8	LILO of 220 kV Sultanpur 220 - Patti 220 at Chola Sahib 220 Kv	4.760	Addition
9	LILO of Talwandi Bhai- Ferozpur at Sadiq	23.605	Addition
10	LILO of 220 kV Ablawal 220 - Rajila 220 at Passiana	1.102	Addition
11	LILO of 220 kV Rajila 220 - Patran 220 at Kakrala	3.389	Addition
12	LILO of 220 kV Rajila 220 - Patran 220 at Patran	6	Addition
13	LILO of 220 kV Patran 220 - Sunam 220 at Bangan 220	13	Addition
14	LILO of 220 kV sunam 220 - Mansa at Jhunir 220	33.585	Addition
15	LILO of 220 kV Mansa 220 - GHTP at Dhanoula	37.89	Addition
16	LILO Portion of GHTP 220 - Mansa at Talwandi Sabo	29.122	Addition
17	LILO Portion of GHTP 220 - Mansa at Mour	9.475	Addition
18	LILO of Muktsar 220 - Bathinda 220 at Malout 220	24.035	Addition
19	LILO of Muktsar 220 - Bathinda 220 at Badal 221	25.457	Addition
20	LILO of 220 kV Sahnewal 220 - GGSSTP LILO Point – Kohara 220	2.843	Addition
21	LILO of 220 kV Sahnewal 220 - GGSSTP at Gaunsgarh 220	16.685	Addition

Name of Link			New Length (in kms)	Voltage Level (in Kv)	Route Length (in kms)	Remarks
Link Name as per LOA	From	To				
Bilaspur 132 - Doraha 132 - Sahnewal 220	Bilaspur 132kV	Sahnewal 220kV	21	132	21	Modified, (Doraha deleted)
MPH-I-II-III-IV - Shri Har Gobindpur - Wadala Granthian 220	MPH-I-II-III-IV	Wadala Granthian 220kV	80	132	80	Modified, (Sri Har govindpur deleted)

**Members may kindly discuss.**

### **B.37 Implementation and funding of Unified Load Despatch and Communication (ULDC) Phase–III (SCADA/EMS upgradation Project) (Agenda by POWERGRID)**

B.37.1 The issue of replacement/upgradation of SCADA system installed in Northern Region under ULDC phase-II was discussed in the special TeST sub-committee meeting held on 25.02.2021. In the said meeting it was agreed that the need for upgradation is at most importance due to recent challenges of

cyber security threats and obsolescence of the system. Further it was also deliberated that as per CERC regulations, life of the system is of 7 years which is going to be completed by Dec' 2022 and it is the right time for upgradation of the system. In the said meeting, POSOCO had proposed for SCADA upgradation process and they will prepare the technical specification, award and funding may be arranged by respective entity only.

B.37.2 Since the proposal of POSOCO entailed funding by states in CAPEX mode, some SLDCs had written to NRPC suggesting that upgradation/replacement of existing SCADA System may be taken up through PSDF funding. If PSDF funding is not feasible then the existing approach of Tariff based funding may be agreed upon, as done in ULDC Phase-I and Phase-II, instead of arranging for the budgetary provision by the states themselves for upfront payment. Request for PSDF funding for the SCADA upgradation process was sent to National Power Committee. However, no reply has been received so far on the request.

B.37.3 POWERGRID informed NRPC that some of the constituents approached POWERGRID and requested to carry out SCADA replacement/upgradation in a similar manner as done earlier in ULDC Phase-I & Phase-II, wherein cost would be recovered through tariff mode.

B.37.4 In view of above, the issue was discussed in the 18<sup>th</sup> Test sub-committee meeting held on 10<sup>th</sup> Aug' 2021. POWERGRID gave a detailed presentation and highlighted following aspects:

- POWERGRID has been successfully implemented ULDC Phase-I and Phase-II (spanning total period of approx. 20 yrs) and is willing to implement ULDC Phase-III on similar lines as well.
- States shall make payment in Tariff mode.
- No additional MoU needs to be signed for this purpose, project execution shall be done in line with existing MoU of ULDC.

B.37.5 The issue was deliberated in detail and after deliberations representatives of SLDCs of Uttar Pradesh, Rajasthan, BBMB, Haryana, Punjab, Delhi, Uttarakhand and Jammu & Kashmir stated that they would prefer to go with the proposal of POWERGRID. Representative of SLDC of Himachal Pradesh stated that they would prefer to stick with the proposal of POSOCO, since they have already signed MoU.

B.37.6 HVPNL further, informed that in ULDC Phase-II, CERC has instructed NRPC and POWERGRID to implement the SCADA/EMS Project in integrated manner for getting economy of scale and avoid integration issues at later stage.

B.37.7 After detailed deliberation, it was finalized that POWERGRID may initiate necessary actions like formation of a committee to firm up technical

specifications, tendering, etc.

B.37.8 Subsequently, POWERGRID has sent request letters to all stake holders including NRLDC and all SLDCs of Northern Region for nominating officials to firm up the Technical Specification, and tendering, etc.

B.37.9 In line with the above deliberations in the Test committee it is proposed that upgradation/replacement of existing SCADA/EMS system for SLDCs (ULDC Phase-III) may be implemented by POWERGRID and the tariff for the above project may be recovered as per CERC regulation. This project will be part of the earlier agreement signed between POWERGRID and constituents for ULDC Projects.

**Members may kindly deliberate.**

### C. COMMERCIAL ISSUES

#### C.1 Default in payment of outstanding dues and surcharge by beneficiaries

##### PTC India (27.09.2021)

S. No.	Name of the State Utility/ Discom	Details of Outstanding dues	Outstanding dues as on 31.08.2021 (Rs Cr.)
1.	M/s.JKPDD/JKPCL	Outstanding amount for power supply from IEX through PTC	Rs 770.61 Cr.

##### Month wise details

S. No.	Details of Outstanding dues	Outstanding dues Rs Cr.	Delayed Months
1.	Power Supply in the month of Oct2018 to JKPDD	24.12	34
2.	Power Supply in the month of Nov2018 to JKPDD	9.76	33
3.	Power Supply in the month of Dec2018 to JKPDD	36.71	32
4.	Power Supply in the month of Jan2019 to JKPDD	36.76	31
5.	Power Supply in the month of Feb2019 to JKPDD	1.49	30
6.	Surcharge for above	53.76	
7.	Power Supply in the month of Feb2021 to JKPCL	168.44	6
8.	Power Supply in the month of Mar2021 to JKPCL	163.34	5
9.	Power Supply in the month of Apr2021 to JKPCL	164.7	4
10.	Power Supply in the month of May2021 to JKPCL	56.56	3

S. No.	Details of Outstanding dues	Outstanding dues Rs Cr.	Delayed Months
11.	Power Supply in the month of Jun2021 to JKPCL	1.8	2
12.	Power Supply in the month of Jul2021 to JKPCL	0.0969	1
13.	Power Supply in the month of Aug2021 to JKPCL	0.01493	
14.	Surcharge for above	53.12	

- C.1.8 PTC and JKPDD/JKPCL have executed agreement wherein PTC is delivering services for sale and purchase of power sourced from power exchange(s). In the credit segment, PTC has been providing its services by making advance payments on behalf of J&K to the power exchanges, and receiving payments from J&K subsequently. While we have been doing our utmost to support J&K, currently however, payment outstanding to PTC from J&K on this account (i.e. IEX) amounts to Rs.770.61 Crores. This situation has arisen because of continued delays in payments to PTC by J&K.
- C.1.9 It may be appreciated that PTC is required to make advance payments to IEX and PTC has to mobilise additional resources for the working capital mismatch and continued delays are causing liquidity crunch to PTC. PTC has been making regular follow ups with JKPCL through emails, telephone and visit to JKPCL. However, we have not received the above outstanding dues.
- C.1.10 In view of above, PTC requests that M/s JKPCL commit the date for payment of outstanding dues.

#### **C.14 DSM billing issue for Punjab for the period 23.07.2021 to 07.08.2021**

- C.14.1 A letter was received from Chief Engineer/PP&R, PSPCL on 03.09.2021 wherein it was informed that high UI/ Deviation charges (around 96 crores) have been imposed on PSPCL (DISCOM) due to erroneous data received from NRLDC end (Moga ICTs).
- C.14.2 A special meeting in this regard was called on 08.09.2021 to discuss the issue (MoM attached as **Annexure C.14**) Based on the discussion held in the meeting, it was observed that there was underdrawal from the grid by Punjab on all days from 01.07.21 to 22.07.21. From 23.07.21 to 07.07.21 however, the pattern changed completely and Punjab resorted to overdrawal on all days (except 28.07 and 29.07). In terms of daily DSM charges, Punjab was receivable on most days between 01.07.21 to 22.07.21, whereas from 23.07.21 to 07.07.21, huge penalties were levied on Punjab on account of overdrawal, sometimes to the tune of 12-13 crore. This change in trend can be attributable to the erroneous SCADA data being received by Punjab.
- C.14.3 Regarding possible solutions for resolution of this problem, it was informed that Punjab has actually consumed the energy that was overdrawn from the grid. Accounting for this energy needs to be done. Hence, complete waiver of

DSM charges, as requested by Punjab may not be possible. The following 2 options may be explored:

Option 1:

Punjab may be levied only base DSM charges for the period 23.07.21 to 07.08.21, whereas additional DSM and sustained DSM charges, which are additional penalties for non-adherence to grid discipline, may be exempted for the said period.

Option 2:

The deviation done by the Punjab during the period may be bifurcated under 2 parts, Part 1 which is attributable to the erroneous SCADA data at Moga ICTs and Part 2 which is not attributable to the erroneous SCADA data. At present, energy drawn under both Part 1 and Part 2 is being treated as deviation, and all 3 deviation charges i.e. base DSM, additional DSM and sustained DSM are being levied on it. It is proposed that additional energy consumed by Punjab under Part 1, which is attributable of erroneous SCADA data, may be charged at either Area Clearing Price (ACP) or Average Power Purchase Cost (APPC). Only Part 2, which is not attributable to erroneous SCADA data may be treated as deviation and deviation charges may be levied on it accordingly.

- C.14.4 However, Punjab may approach the Commission in this regard since DSM Regulations do not provide any mandate of NRPC Secretariat to issue revised DSM accounts due to the indicated reason.
- C.14.5 Representative of Punjab stated that as explained in their letter and subsequently apparent from the presentation, overdrawal by Punjab during the period 23.07.2021 to 07.08.2021 was on account of incorrect SCADA data being received from NRLDC end. Since Punjab was not at fault for this overdrawal, accounts for the said period may be revised as per option 1. Punjab has already made payments for week 17 (Rs 16.13 crore) and week 18 (Rs 19.37 crore) under protest. Punjab would make the remaining payment, if any, after revised accounts are issued.
- C.14.6 Member Secretary, NRPC opined that NRPC is already issuing revised DSM accounts if there has been any error schedule data or meter data provided by NRLDC or any calculation error at NRPC end. CERC is not being approached in such cases. In the present case as well, there was some error in the SCADA data due to which this huge deviation took place. Hence, NRPC Secretariat may issue revised accounts based on Option 1, as preferred by Punjab. However, the matter may be put up in the upcoming TCC/NRPC meeting before taking a final call in this matter.

***Members may discuss.***

<b>D. ITEMS for NRPC</b>
--------------------------

**D.7 Improper operation & Accounting and delays in annual contribution from the constituent members**

D.7.1 An audit para was raised by CAG auditors regarding Improper operation & Accounting and delays in annual contribution from the constituent members

D.7.2 The following reply has been sent by NRPC Secretariat on the audit para:

*“The Audit para pertains to NRPC Fund which is a contributory fund created and run as per by-laws of NRPC fund approved by Chairperson, NRPC. The NRPC fund was created for annual expenditure of NRPC Secretariat. Though the operation of NRPC fund is kept under administrative control of Member Secretary but financial control lies with Chairperson, NRPC. NRPC fund is annually audited by both CAG empanelled Chartered Accountant as well as by a Committee having members from POWERGRID, POSOCO and NRPC as approved by Chairperson, NRPC. NRPC fund is maintained by a Nodal officer deputed by POWERGRID. A Statement of annual audit is placed before NRPC members in “NRPC Board meeting” for information. Regarding delay in contribution, the matter is being regularly pursued and NRPC members are also appraised in every NRPC Board meeting.*

*In view of above measures being taken, it is requested that the para may kindly be dropped.”*

D.7.3 Submitted for post facto approval of the above reply.



भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
उत्तर क्षेत्रीय विद्युत समिति  
Northern Regional Power Committee

स.उक्षेविस/ वाणिज्यिक/203/04/2021/

दिनांक : 10.09.2021

सेवा में / To,

संलग्नसूची के अनुसार/As per list attached

**Subject: Minutes of special meeting to discuss DSM billing issue of Punjab**

पंजाब के विचलन निपटान लेखा के सन्दर्भ में एक विशेष बैठक दिनांक 8 सितम्बर, 2021 को वेब-एक्स विडियो कॉन्फ्रेंसिंग के माध्यम से आयोजित की गई थी। इस बैठक की कार्यसूची सूचना व आवश्यक कार्यवाही हेतु संलग्न है।

A special meeting to discuss DSM billing issue of Punjab was held on 08<sup>th</sup> September, 2021 via WebEx video conferencing. Minutes of the meeting are enclosed herewith for information and necessary action.

-sd-

(सौमित्र मजूमदार)  
(Saumitra Mazumdar)  
अधीक्षण अभियंता  
Superintending Engineer



**Minutes of Special Meeting held on 08.09.2021 to deliberate  
DSM (Deviation Settlement Mechanism)  
Billing issue raised by Punjab for the period 23.7.21 to 08.08.21**

1. Member Secretary, NRPC welcomed the participants from Punjab and NRLDC to the meeting. He stated that the meeting had been called on the receipt of a letter from Chief Engineer/PP&R, PSPCL on 03.09.2021 wherein it was informed that high UI/Deviation charges (around Rs. 96 crore) have been imposed on PSPCL (DISCOM) due to erroneous data received from NRLDC end (Moga ICTs). He requested SE(C), NRPC to brief about the issue.
2. SE(C), NRPC stated that PSPCL in its letter informed that NRLDC while carrying out changes in its SCADA on 23.07.2021, made some wrong changes in the tag of Moga ICTs (400kV tag was changed to 765kV tag) which resulted in incorrect data display at NRLDC control room as well as at Punjab SLDC control room. The error persisted from 23.07.2021 to 07.08.2021, during which there was a difference of around 5-6% between the SCADA drawal data available at Punjab SLDC end and actual SEM based figure. Punjab scheduled its power based on the SCADA data, which was indicating under drawal (due to erroneous figures from Moga ICTs) whereas it was actually overdrawing heavily from the grid. This resulted in huge DSM penalties as indicated in the table below:

<b>Sr. No.</b>	<b>Period</b>	<b>DSM Charges (Rs Lakh)</b>
1	23-07-2021 to 25-07-2021	1640.89
2	26-07-2021 to 01-08-2021	1937.28
3	02-08-2021 to 08-08-2021*	6058.55
	<b>Total</b>	<b>9636.72</b>

\* Error persisted till 07-08-2021.

3. SE (C), NRPC further informed that a meeting in this regard has already taken place between Punjab and NRLDC on 01.09.2021. In that meeting, NRLDC has acknowledged that there was some error in SCADA data at their end due to wrong changes made in the summation tag at Moga ICTs by their engineer. Punjab has also acknowledged that it was totally dependent on calculation of NRLDC SCADA and if it had calculated drawal based on data available at SLDC end, the error could have been identified earlier. Punjab agreed to take the following measures at their end in the said meeting:
  - i. SLDC shall calculate its own drawal based on 220kV Telemetry from PSTCL stations and shall regularly monitor their drawal calculation
  - ii. SLDC shall regularly monitor 400/220 kV ICTs flows used in their drawal and inform NRLDC in case of any discrepancy / error is suspected.
  - iii. SLDC shall also compare drawal computed on the basis of SCADA data and SEM data regularly to check any mismatches.
4. SE(C), NRPC stated that NRPC Secretariat has prepared a presentation on the past deviation trends of Punjab and possible solutions for this issue. Brief presentation on the matter was given by EE(C.), NRPC (copy of presentation enclosed as Annexure-I).

5. In the presentation, EE(C.), NRPC informed that as per CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 roles of both RLDC and SLDC have been defined which has been reproduced as under:

***“7.5 Role of RLDCs:***

*(i) The Regional Load Despatch Centre shall be nodal agency for integration and supervision of Communication System of the ISTS, ISGS, SLDCs and IPPs at RLDC end for monitoring, supervision and control of Power System and adequate data availability in real time.*

*(ii) The Regional Load Despatch Centre (RLDC) shall collect and furnish data related to Communication System of various users, CTU, RLDC, STU and SLDC to RPCs.*

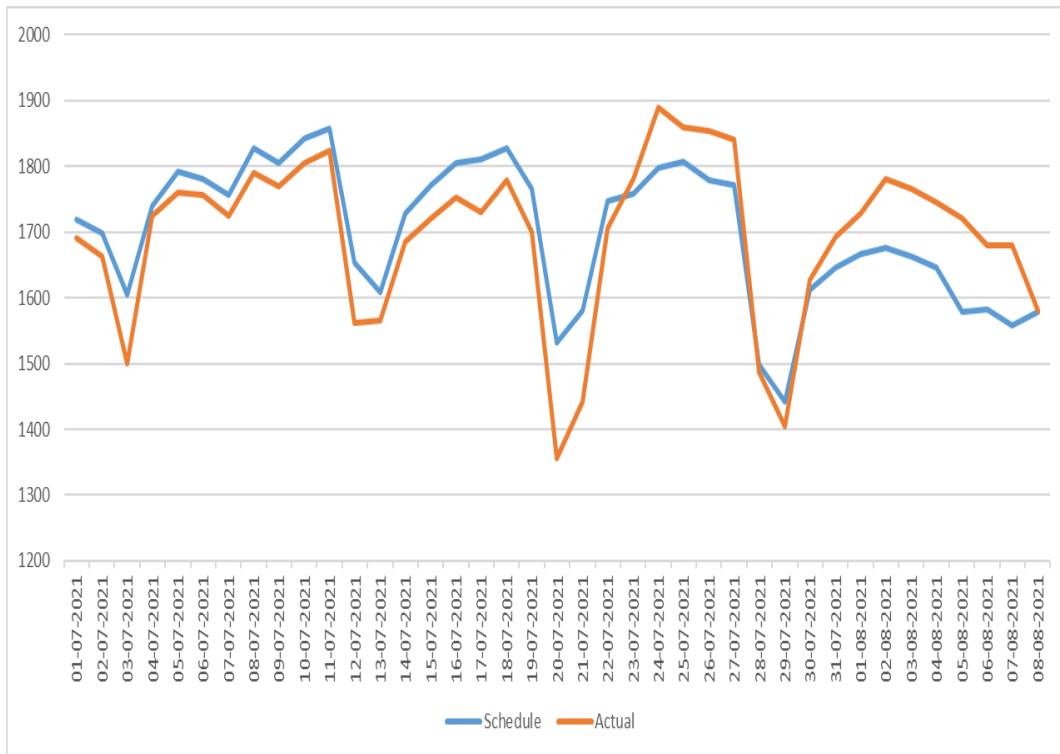
*(iii) RLDCs shall provide operational feedback to CTU.*

***7.6 Role of SLDCs:***

*(i) The State Load Despatch Centres shall be nodal agency for integration of Communication System in the intra-State network, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in real time.*

*(ii) SLDC shall provide operational feedback to CTU and STU.”*

6. As per above, NRLDC is the nodal agency responsible for monitoring, supervision and control of Power system of ISTS, ISGS, SLDCs and IPPs at NRLDC end and ensuring adequate data availability in real time. Moga S/S is part ISTS system and NRLDC created erroneous data display at its ICTs by changing their 400kV tag to 765kV tag. By this, NRLDC has violated CERC's Communication Regulation. The drawal data for all SLDCs is being monitored through SCADA at NRLDC end as per these regulations. All states including Punjab use this SCADA display,
7. On the other hand, Punjab SLDC is responsible for monitoring supervision and control of power system in the intra-state network, distribution system and generating stations at SLDC end. Although NRLDC is definitely at fault for creating erroneous SCADA data at their end, which was used for making decision in real time by both NRLDC and Punjab; however, in case Punjab was monitoring SCADA data of their downstream network as per these regulations, the error could have been identified much earlier than 15 days for which it persisted.
8. Representative of NRPC Secretariat further informed that the daily schedule vs drawal patterns (in LUs) for the period 01.07.2021 to 08.08.2021 have been analyzed which is presented below.



It is observed that there was under drawal from the grid by Punjab on all days from 01.07.21 to 22.07.21. From 23.07.21 to 07.07.21 however, the pattern changed completely and Punjab resorted to over drawal on all days (except 28.07.21 and 29.07.21). In terms of daily DSM charges, Punjab was receivable on most days between 01.07.21 to 22.07.21, whereas from 23.07.21 to 07.07.21, huge penalties were levied on Punjab on account of over drawal, sometimes to the tune of 12-13 crore per day. This change in trend can be attributable to the erroneous SCADA data created by NRLDC as the same was being received by Punjab in real time. Daily and weekly deviations (in LUs) and deviation charges (in Rs Lakh) for the said period is indicated in the Tables below:

Date	Schedule (Lus)	Actual (Lus)	Deviation (Lus)	DSM Charges (Rs Lakh)
01-07-2021	1719	1691	-28	-27.2
02-07-2021	1698	1663	-35	-16.2
03-07-2021	1604	1500	-104	38.5
04-07-2021	1739	1725	-14	-10.7
05-07-2021	1792	1760	-32	-61.5
06-07-2021	1781	1757	-24	21.2
07-07-2021	1756	1725	-31	-35.8
08-07-2021	1829	1791	-37	-42.2
09-07-2021	1806	1769	-37	-47.8
10-07-2021	1843	1805	-38	-53.2
11-07-2021	1857	1823	-33	-60.4
12-07-2021	1653	1563	-90	-5.2
13-07-2021	1609	1566	-43	-25.8
14-07-2021	1728	1685	-44	-27.8
15-07-2021	1772	1721	-51	-38.0
16-07-2021	1806	1753	-52	-59.4
17-07-2021	1811	1730	-81	-26.8
18-07-2021	1827	1779	-48	-17.8
19-07-2021	1766	1700	-66	-10.6
20-07-2021	1531	1357	-174	23.7
21-07-2021	1580	1442	-139	-20.8
22-07-2021	1747	1706	-41	-19.6
23-07-2021	1759	1781	22	319.2
24-07-2021	1797	1890	92	944.0
25-07-2021	1808	1859	51	377.7
26-07-2021	1779	1854	75	498.0
27-07-2021	1772	1840	68	425.6
28-07-2021	1499	1486	-13	90.1
29-07-2021	1442	1405	-37	173.5
30-07-2021	1612	1628	16	185.3
31-07-2021	1647	1692	45	266.4
01-08-2021	1666	1728	62	298.5
02-08-2021	1677	1781	104	861.4
03-08-2021	1663	1766	103	937.4
04-08-2021	1647	1745	98	827.8
05-08-2021	1579	1721	142	1277.4
06-08-2021	1583	1680	96	872.8
07-08-2021	1559	1679	121	1264.8
08-08-2021	1579	1580	1	17.0

Week	Date	Schedule	Actual	Base DSM	Add DSM	Sus DSM	Sus Count	Adj DSM	Net DSM
		( in LUs)		(in Rs Lakh)				(in Rs Lakh)	
14	28.06 to 04.07	11800	11556	-210	145	35	33	2	-26
15	05.07 to 11.07	12663	12431	-436	58	95	43	3	-279
16	12.07 to	12205	11796	-456	35	214	72	5	-200

Week	Date	Schedule	Actual	Base DSM	Add DSM	Sus DSM	Sus Count	Adj DSM	Net DSM
		( in LUs)		(in Rs Lakh)				(in Rs Lakh)	
	18.07								
17	19.07 to 25.07	11988	11733	526	521	563	84	2	1613
18	26.07 to 01.08	11417	11634	936	477	520	78	3	1937
19	02.08 to 08.08	11286	11952	2570	1646	1841	81	0	6058

9. As per CERC (Deviation Settlement Mechanism and other related matters) Regulations, 2014, the deviation for entity has been defined as:

*“2 (1) (h) ‘Deviation’ in a time block for a seller means its total actual injection minus its total scheduled generation and for a buyer means its total actual drawal minus its total scheduled drawal”*

Actual drawal by an entity has been defined as

*“2 (1) (b) ‘Actual drawal’ in a time block means electricity drawn by a buyer, as the case may be, measured by the interface meter”*

NRPC Secretariat issues statement for deviation based on these regulations as per data provided by NRLDC. Revised accounts are also issued in case of any error in the value of scheduled data or actual data provided by NRLDC, or calculation error at NRPC end. However, in this particular case, schedule data, actual data and calculation by NRPC Secretariat based on these data is correct. Only NRLDC SCADA data which was used by Punjab for scheduling in real time was incorrect, and as such this type of incident has not been encountered so far.

10. Regarding possible solutions for resolution of this problem, it was informed that Punjab has actually consumed the energy that was overdrawn from the grid. Accounting for this energy needs to be done. Hence, complete waiver of DSM charges, as requested by Punjab may not be possible. The following 2 options may be explored:

Option 1:

Punjab may be levied only base DSM charges for the period 23.07.21 to 07.08.21, whereas additional DSM and sustained DSM charges, which are additional penalties for non-adherence to grid discipline, may be exempted for the said period.

Option 2:

The deviation done by the Punjab during the period may be bifurcated under 2 parts: Part 1 which is attributable to the erroneous SCADA data at Moga ICTs and Part 2 which is not attributable to the erroneous SCADA data. At present, energy drawn under both Part 1 and Part 2 is being treated as deviation, and all 3 deviation charges i.e. base DSM, additional DSM and sustained DSM are being levied on it. It may be explored that additional energy consumed by Punjab under Part 1, which is attributable of erroneous SCADA data, may be charged at either Area Clearing Price (ACP) or Average Power Purchase Cost (APPC). Only Part 2, which is not attributable to erroneous SCADA data may be considered as deviation and deviation charges may be levied on it accordingly. However, Punjab may approach

the Commission in this regard since DSM Regulations do not provide any mandate of NRPC Secretariat to issue revised DSM accounts due to the indicated reason.

11. Member Secretary, NRPC sought views of Punjab and NRLDC.
12. Representative of Punjab Discom informed that they have surrendered power in several stations where ECR was less than Rs 3/- unit since they were under the impression that they were under-drawing from the grid based on the SCADA data received. They further increased the agricultural hours of power supply to certain categories (free power supply) of consumers to reduce their under drawal. Hence, they should not be unnecessarily burdened with DSM charges.
13. Representative of Punjab stated that as explained in their letter and subsequently apparent from the presentation, over-drawal by Punjab during the period 23.07.2021 to 07.08.2021 was on account of incorrect SCADA data being received from NRLDC end. Since Punjab was not at fault for this over-drawal, accounts for the said period may be revised as per above mentioned option-1. Punjab has already made payments for week 17 (Rs 16.13 crore) and week 18 (Rs 19.37 crore) under protest. Punjab would make the remaining payment, if any, after revised accounts are issued.
14. SE(C), NRPC stated that there is no precedence for issuing revised DSM accounts due to incorrect SCADA data. Regulation 13 and 14 provide power to the Commission to Relax any provision of these Regulations or issue any directions in furtherance of the objective and purpose of these regulations.
15. CGM (I/c), NRLDC stated that there may be issues in arriving at the deviation attributable to erroneous SCADA data as indicated in Option-2, since there was huge variation in Punjab's demand during the period where this error in SCADA data occurred. He further stated that the matter of whether RPCs can issue revised DSM accounts based due to erroneous SCADA data needs further deliberations.
16. Member Secretary, NRPC opined that NRPC is already issuing revised DSM accounts if there has been any error schedule data or meter data provided by NRLDC or any calculation error at NRPC end. And, CERC is not being approached in such cases. In the present case as well, there was some error in the SCADA data due to which this huge deviation took place. Hence, NRPC Secretariat may issue revised accounts based on Option-1, as preferred by Punjab. However, the matter may be put up in the upcoming TCC/NRPC meeting before taking a final call in this matter.
17. Member Secretary, NRPC expressed his serious concern on erroneous changes made by NRLDC in its SCADA system. For 15 days, NRLDC was operating NR Grid with reduced security by making Punjab to falsely believe it was under drawing, when actually Punjab was over drawing to the tune of 800-1000MW. Hence, Punjab overdrew unknowingly and was not at fault so Punjab may not be asked to pay DSM charges. This fact is also established by looking at Punjab drawal pattern prior to 23/7/21. During this period, Punjab was very cautious in putting extra load and on almost all occasions received UI. Therefore, had NRLDC not done this wrong data display, Punjab would have continued its earlier trend and as such Rs 97 Cr DSM penalty would not have been imposed on them. Besides commercial implications, error in SCADA data at NRLDC end illusioned both Punjab SLDC as well as NRLDC

who were unaware of quantum of power being drawn through Moga ICTs. Under such scenario, any serious grid incident could have happened. It was NRPC who first detected this error while preparing DSM accounts and asked NRLDC to check. Regarding the issue why Punjab SLDC was following NRLDC SCADA, he stated that there is nothing wrong as NRLDC is an apex organization for grid operation, and is a statutory body as per Electricity Act. He advised NRLDC to put in place robust internal systems, with proper checks and balances, so that such incidents do not take place in the future. He also advised Punjab SLDC to build its drawal calculation system at 220kV level as double check, and not rely 100% on NRLDC data so that errors like this one can be easily identified and rectified immediately. MS, NRPC opined that considering this incident as eye opener, other constituents may be warned not to rely fully on NRLDC SCADA data.

18. Meeting ended with note of thanks for the chair.

List of Participants:

NRPC:

1. Shri Naresh Bhandari (Member Secretary)
2. Shri Saumitra Mazumdar (Superintending Engineer)
3. Shri Vikrant Singh Dhillon (Executive Engineer)
4. Shri Shrey Kumar (Assistant Executive Engineer)

NRLDC:

1. Shri N nallarasan, NRLDC Head, [nallarasan@posoco.in](mailto:nallarasan@posoco.in)
2. Shri Surajit Banarjee CGM, [surajit.banerjee@posoco.in](mailto:surajit.banerjee@posoco.in)
3. Shri M M Hassan, GM, [mm.hassan@posoco.in](mailto:mm.hassan@posoco.in)
4. Shri Mahavir Prasad Singh, DGM, [mahavir@posoco.in](mailto:mahavir@posoco.in)
5. Shri Ankur Gulati, CM, [ankurgulati@posoco.in](mailto:ankurgulati@posoco.in)

SLDC Punjab:

1. Er. Yogesh Tandon, Director/Technical, PSTCL, [dir-tech@pstcl.org](mailto:dir-tech@pstcl.org)
2. Er. S.K. Garg, CE/SLDC, PSTCL, [ce-sldc@pstcl.org](mailto:ce-sldc@pstcl.org)
3. Er. V.S. Mander, CE/PP&R, PSPCL, [ce-ppr@pspcl.in](mailto:ce-ppr@pspcl.in)
4. Er. A.P. Singh, Dy. CE/SLDC(Op.), PSTCL, [se-sldcop@pstcl.org](mailto:se-sldcop@pstcl.org)
5. Er. Akshay Garg, Addl.SE/SLDC(Op.), PSTCL, [ase-sldcop@pstcl.org](mailto:ase-sldcop@pstcl.org)
6. Er. Iqbal Singh, Addl.SE/SLDC, PSPCL, [pcpseb@gmail.com](mailto:pcpseb@gmail.com)
7. Er. Kamal Kumar, Sr.Xen/SLDC SCADA EMS, PSTCL, [srxen-sldc2@pstcl.org](mailto:srxen-sldc2@pstcl.org)

# Special Meeting for DSM billing issue of Punjab



## Background

- A letter was received from Chief Engineer/PP&R, PSPCL on 03.09.2021 wherein it was informed that high UI/ Deviation charges (around 96 crores) have been imposed on PSPCL (DISCOM) due to erroneous data received from NRLDC end (Moga ICTs).
- It was informed that while carrying out changes in SCADA display at NRLDC end, some changes were made in the summation tag of drawl calculation by NRLDC, which resulted into incorrect display data at Punjab SLDC control room.





## Background

- The error persisted from 23.07.2021 to 07.08.2021, wherein there was a difference of around 5-6% between the SCADA drawal available at Punjab SLDC end and actual SEM based figure.
- The following deviation charges were imposed on Punjab during the said period:

Sr. No.	Period	DSM Charges
1	23-07-2021 to 25-07-2021	Rs. 1640.89 Lakhs
2	26-07-2021 to 01-08-2021	Rs. 1937.28 Lakhs
3	02-08-2021 to 08-08-2021	Rs. 6058.55 Lakhs
	Total	Rs. 9636.72 Lakhs

## CERC (Communication System for inter-State transmission of electricity) Regulations, 2017

- **Role of RLDCs:** (i) The Regional Load Despatch Centre shall be nodal agency for integration and supervision of Communication System of the **ISTS, ISGS, SLDCs** and IPPs at RLDC end for monitoring, supervision and control of Power System and adequate data availability in real time. (ii) The Regional Load Despatch Centre (RLDC) shall collect and furnish data related to Communication System of various users, CTU, RLDC, STU and SLDC to RPCs. (iii) RLDCs shall provide operational feedback to CTU.
- **Role of SLDCs:** (i) The State Load Despatch Centres shall be nodal agency for integration of Communication System in the **intra-State network**, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in real time. (ii) SLDC shall provide operational feedback to CTU and STU.



# Deviation trends



# Deviation trends

Date	Schedule	Actual	Deviation	DSM Charges
01-07-2021	1719	1691	-28	-27.2
02-07-2021	1698	1663	-35	-16.2
03-07-2021	1604	1500	-104	38.5
04-07-2021	1739	1725	-14	-10.7
05-07-2021	1792	1760	-32	-61.5
06-07-2021	1781	1757	-24	21.2
07-07-2021	1756	1725	-31	-35.8
08-07-2021	1829	1791	-37	-42.2
09-07-2021	1806	1769	-37	-47.8
10-07-2021	1843	1805	-38	-53.2
11-07-2021	1857	1823	-33	-60.4
12-07-2021	1653	1563	-90	-5.2
13-07-2021	1609	1566	-43	-25.8
14-07-2021	1728	1685	-44	-27.8
15-07-2021	1772	1721	-51	-38.0
16-07-2021	1806	1753	-52	-59.4
17-07-2021	1811	1730	-81	-26.8
18-07-2021	1827	1779	-48	-17.8
19-07-2021	1766	1700	-66	-10.6
20-07-2021	1531	1357	-174	23.7

Date	Schedule	Actual	Deviation	DSM Charges
21-07-2021	1580	1442	-139	-20.8
22-07-2021	1747	1706	-41	-19.6
23-07-2021	1759	1781	22	319.2
24-07-2021	1797	1890	92	944.0
25-07-2021	1808	1859	51	377.7
26-07-2021	1779	1854	75	498.0
27-07-2021	1772	1840	68	425.6
28-07-2021	1499	1486	-13	90.1
29-07-2021	1442	1405	-37	173.5
30-07-2021	1612	1628	16	185.3
31-07-2021	1647	1692	45	266.4
01-08-2021	1666	1728	62	298.5
02-08-2021	1677	1781	104	861.4
03-08-2021	1663	1766	103	937.4
04-08-2021	1647	1745	98	827.8
05-08-2021	1579	1721	142	1277.4
06-08-2021	1583	1680	96	872.8
07-08-2021	1559	1679	121	1264.8
08-08-2021	1579	1580	1	17.0



## Deviation trends

Week	Date	Schedule	Actual	Base DSM	Add DSM	Sus DSM	Sus Count	Adj DSM	Net DSM
14	28.06 to 04.07	11800	11556	-210	145	35	33	2	-26
15	05.07 to 11.07	12663	12431	-436	58	95	43	3	-279
16	12.07 to 18.07	12205	11796	-456	35	214	72	5	-200
17	19.07 to 25.07	11988	11733	526	521	563	84	2	1613
18	26.07 to 01.08	11417	11634	936	477	520	78	3	1937
19	02.08 to 08.08	11286	11952	2570	1646	1841	81	0	6058



## CERC DSM Regulations

- A statement of charges for deviations, including additional charges for deviation levied under these regulations shall be prepared by the Secretariat of the respective RPCs on weekly basis based on the data provided by the concerned RLDC(s)
- Deviation: Deviation in a time block for a buyer means its total actual drawal minus its total scheduled drawal.
- Actual drawal: Actual drawal in a time block means electricity drawn by a buyer, as the case may be, measured by the interface meter.
- Revised DSM statements are issued by RPC Secretariat mainly on account of following 3 reasons:
  - Revised schedule data provided by NRLDC
  - Revised meter data provided by NRLDC
  - Error in calculation at NRPC end



## Possible Solutions:

### Option 1

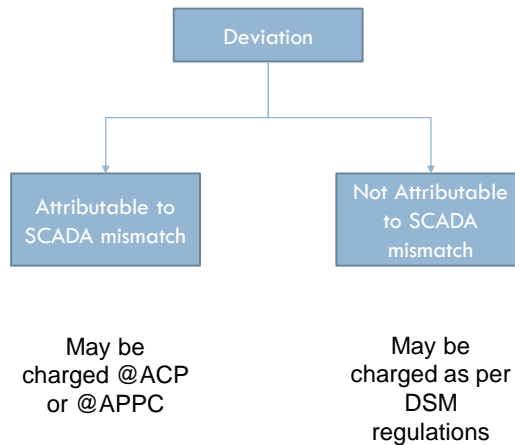
- Additional Deviation and sustained deviation charges for the said period may be waived off by the Commission.

Sr. No.	Period	Base DSM	Add DSM	Sus DSM	Net DSM
1	23-07-21 to 25-07-21	734	<b>488</b>	<b>417</b>	1641
2	26-07-21 to 01-08-21	936	<b>477</b>	<b>520</b>	1937
3	02-08-21 to 08-08-21	2570	<b>1646</b>	<b>1841</b>	6058
	Total	4240	<b>2611</b>	<b>2778</b>	9636



## Possible Solutions:

### Option 2





## Possible Solutions:

### Option 2

- Suppose incorrect SCADA reading at Moga ICT = 'x'
- SCADA reading after correcting tag = 'y'
- Error due to incorrect SCADA reading (z) =  $y - x$
- Power 'z' was overdrawn by Punjab on account of error in SCADA value, hence unintentional.
- At present, power 'z' is being treated as overdrawal and charges as per DSM regulations are being levied on it.
- Punjab may be levied charges @ ACP or @ APPC for Power 'z' since this overdrawal was unintentional.
- Deviation charges for Punjab may be recalculated after subtracting 'z' from the drawal of Punjab.

**THANK  
YOU!!!**

पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड  
(भारत सरकार का उद्यम)  
**POWER SYSTEM OPERATION CORPORATION LIMITED**  
(A Govt. of India Enterprise)



उत्तरी क्षेत्रीय भार प्रेशण केन्द्र / **NORTHERN REGIONAL LOAD DESPATCH CENTRE**  
कार्यालय : 18-ए, शहीद जीत सिंह सनसनवाल मार्ग, कटवारिया सराय, नई दिल्ली- 110016  
OFFICE : 18-A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi- 110016  
CIN : U40105DL2009GOI188682, Website : www.nrlc.org, www.nrlc.in, Tel.: 011- 26519406, 26523869, Fax : 011- 26852747

संदर्भ सं०: NRLDC/SO-II/ 1659-1663

दिनांक : 17<sup>th</sup> Sept. 2021

To

Member Secretary, NRPC  
SJSS Marg Katwaria Sarai  
New delhi-110016

**Sub: NRLDC comments on Minutes of special meeting to discuss DSM billing issue of Punjab- reg**

Sir,

Please find enclosed herewith, NRLDC comments/observations on minutes of meeting held on 08.09.21 on the cited subject. It is hereby requested to consider the suggestions attached at Annexure-I and revised minutes of meeting or corrigendum may please be issued.

Regards,

N.Nallarasana  
CGM (In-charge), NRLDC

Copy to:

1. Director Technical , PSTCL
2. Chief Engineer , SLDC PSTCL
3. Chief Engineer , CE/PP&R , PSPCL
4. Superintending Engineer , NRPC

**Minutes of Special Meeting held on 08.09.2021 to deliberate DSM**  
**(Deviation Settlement Mechanism)**  
**Billing issue raised by Punjab for the period 23.7.21 to 08.08.21**

1. Member Secretary, NRPC welcomed the participants from Punjab and NRLDC to the meeting. He stated that the meeting had been called on the receipt of a letter from Chief Engineer/PP&R, PSPCL on 03.09.2021 wherein it was informed that high UI/Deviation charges (around Rs. 96 crore) have been imposed on PSPCL (DISCOM) due to erroneous data received from NRLDC end (Moga ICTs). He requested SE(C), NRPC to brief about the issue.

**NRLDC Comments :Point no.1 shall be framed as below:**

Member Secretary, NRPC welcomed the participants from Punjab and NRLDC to the meeting. He stated that the meeting had been called on the receipt of a letter from Chief Engineer/PP&R, PSPCL on 03.09.2021 wherein it was informed that high UI/Deviation charges (around Rs. 96 crore) have been imposed on PSPCL (DISCOM) due to relying on (inadvertently changed)erroneous SCADA data of Summation tag of Moga ICTs. He requested SE(C), NRPC to brief about the issue.

2. SE(C), NRPC stated that PSPCL in its letter informed that NRLDC while carrying out changes in its SCADA on 23.07.2021, made some wrong changes in the tag of Moga ICTs (400kV tag was changed to 765kV tag) which resulted in incorrect data display at NRLDC control room as well as at Punjab SLDC control room. The error persisted from 23.07.2021 to 07.08.2021, during which there was a difference of around 5-6% between the SCADA drawal data available at Punjab SLDC end and actual SEM based figure. Punjab scheduled its power based on the SCADA data, which was indicating under drawal (due to erroneous figures from Moga ICTs) whereas it was actually overdrawing heavily from the grid. This resulted in huge DSM penalties as indicated in the table below:

**NRLDC Comments :Point no.2 shall be framed as below:**

SE(C), NRPC stated that PSPCL in its letter informed that NRLDC while carrying out changes in its SCADA on 23.07.2021, inadvertently made changes in the summation tag of Moga ICTs (400kV tag was replaced by 765kV tag) which resulted in incorrect data display at NRLDC control room as well as at Punjab SLDC control room. The error persisted from 23.07.2021 to 07.08.2021, during which there was a difference of around 5-6% between the SCADA drawal data available at NRLDC and Punjab SLDC end and actual drawal recorded by SEM. Punjab reduced its drawal schedule after observing its actual drawal from SCADA data, which was indicating under drawal (due to erroneous figures from summation tag of Moga ICTs) whereas it was actually overdrawing heavily from the grid. This resulted in huge deviation charges after DSM account was prepared by NRPC, as indicated in the tablebelow:

Sr. No.	Period	DSM Charges (Rs Lakh)
1	23-07-2021 to 25-07-2021	1640.89
2	26-07-2021 to 01-08-2021	1937.28
3	02-08-2021 to 08-08-2021*	6058.55
	<b>Total</b>	<b>9636.72</b>

\* Error persisted till 07-08-2021.

*401/2021*

3. SE (C), NRPC further informed that a meeting in this regard has already taken place between Punjab and NRLDC on 01.09.2021. In that meeting, NRLDC has acknowledged that there was some error in SCADA data at their end due to wrong changes made in the summation tag at Moga ICTs by their engineer. Punjab has also acknowledged that it was totally dependent on calculation of NRLDC SCADA and if it had calculated drawal based on data available at SLDC end, the error could have been identified earlier. Punjab agreed to take the following measures at their end in the said meeting:
- i. SLDC shall calculate its own drawal based on 220kV Telemetry from PSTCL stations and shall regularly monitor their drawal calculation
  - ii. SLDC shall regularly monitor 400/220 kV ICTs flows used in their drawal and inform NRLDC in case of any discrepancy / error is suspected.
  - iii. SLDC shall also compare drawal computed on the basis of SCADA data and SEM data regularly to check any mismatches.

**NRLDC Comments :Point no.3 shall be framed as below:**

SE (C), NRPC further informed that a meeting in this regard had already taken place between Punjab and NRLDC on 01.09.2021. In that meeting, NRLDC acknowledged that there was some error in SCADA data at their end due to changes made inadvertently in the summation tag at Moga ICTs. Punjab has also acknowledged that it was fully dependent on NRLDC SCADA for monitoring its own drawal in real time. If it had calculated drawal based on data available at SLDC end, the error could have been identified earlier. Punjab agreed to take the following measures at their end to avoid such pitfall in future, in the said meeting:

- i. SLDC shall calculate its own drawal based on 220kV Telemetry from PSTCL stations and shall regularly monitor their drawal calculation
  - ii. SLDC shall regularly monitor 400/220 kV ICTs flows used in their drawal and inform NRLDC in case of any discrepancy / error is suspected.
  - iii. SLDC shall also compare drawal computed on the basis of SCADA data and SEM data regularly to check any mismatches.
4. SE(C), NRPC stated that NRPC Secretariat has prepared a presentation on the past deviation trends of Punjab and possible solutions for this issue. Brief presentation on the matter was given by EE (C.), NRPC (copy of presentation enclosed as Annexure-I).
5. In the presentation, EE(C.), NRPC informed that as per CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 roles of both RLDC and SLDC have been defined which has been reproduced as under:

**“7.5 Role of RLDCs:**

- (i) The Regional Load Despatch Centre shall be nodal agency for integration and supervision of Communication System of the ISTS, ISGS, SLDCs and IPPs at RLDC end for monitoring, supervision and control of Power System and adequate data availability in real time.
- (ii) The Regional Load Despatch Centre (RLDC) shall collect and furnish data related to Communication System of various users, CTU, RLDC, STU and SLDC to RPCs.
- (iii) RLDCs shall provide operational feedback to CTU.

**7.6 Role of SLDCs:**

- (i) The State Load Despatch Centres shall be nodal agency for integration of Communication System in the intra-State network, distribution system and generating stations at SLDC end for monitoring, supervision and control of Power System and adequate data availability in

*1.10.2021*



real time.

(ii) SLDC shall provide operational feedback to CTU and STU.”

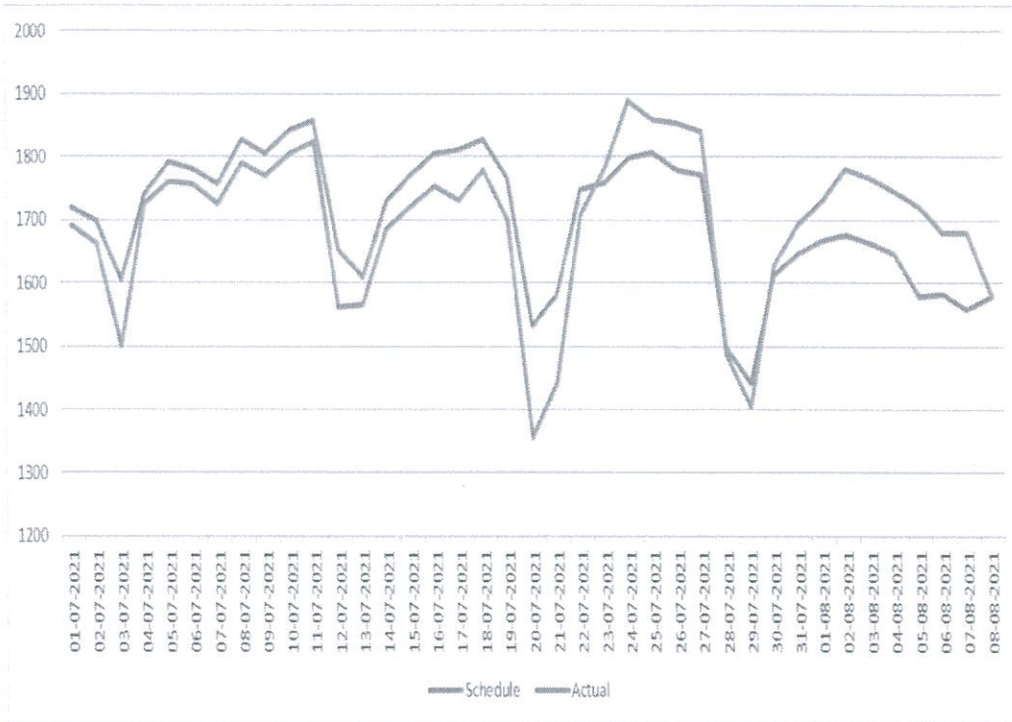
6. As per above, NRLDC is the nodal agency responsible for monitoring, supervision and control of Power system of ISTS, ISGS, SLDCs and IPPs at NRLDC end and ensuring adequate data availability in real time. Moga S/S is part ISTS system and NRLDC created erroneous data display at its ICTs by changing their 400kV tag to 765kV tag. By this, NRLDC has violated CERC's Communication Regulation. The drawal data for all SLDCs is being monitored through SCADA at NRLDC end as per these regulations. All states including Punjab use this SCADA display,
7. On the other hand, Punjab SLDC is responsible for monitoring supervision and control of power system in the intra-state network, distribution system and generating stations at SLDC end. Although NRLDC is definitely at fault for creating erroneous SCADA data at their end, which was used for making decision in real time by both NRLDC and Punjab; however, in case Punjab was monitoring SCADA data of their downstream network as per these regulations, the error could have been identified much earlier than 15 days for which it persisted.

**NRLDC Comments: Point no.6 & 7 shall be framed as below:**

From the above sections of the CERC Communication System for inter-State transmission of electricity Regulations 2017, it may be seen that NRLDC is the nodal agency responsible for monitoring, supervision and control of Power system of ISTS, ISGS, SLDCs and IPPs at RLDC end. In addition, Punjab SLDC is responsible for monitoring, supervision and control of power system in the intra-state network, distribution system and generating stations at SLDC end. NRLDC was of the opinion that Punjab SLDC also has the responsibility of monitoring the net drawal of its own control area in real time by adding the SCADA data received at SLDC from the STU end substations of the tie lines. Representative from NRLDC informed that during some database maintenance activities, some inadvertent error in the system resulted in the changes in Punjab drawal. He further informed that During the meeting between PSTCL/PSPCL and NRLDC representative on 01-09-21, same was informed to PSTCL. During the meeting, NRLDC also expressed concerns about the importance of availability of SCADA data from STU substations. The matter was also discussed in 6th TeST Sub-committee meeting and there it was decided that in real time, drawal calculation should be made independently at SLDC end also. SLDC also shall be responsible for calculation of its own drawl based on their drawal points (alternate calculation based on the SLDC drawal points) for proper monitoring (and checking) of their respective feeders/ICTS. SLDC shall use its own calculated value of real-time drawal from the grid and compare the same with drawal based on ISTS end values to ensure the correctness. In case of any mismatch, corrective measures shall be taken accordingly. In case Punjab had monitored SCADA data of their downstream network as per these regulations, the error could have been identified much earlier than 15 days for which it persisted.

8. Representative of NRPC Secretariat further informed that the daily schedule vs drawal patterns (in LUs) for the period 01.07.2021 to 08.08.2021 have been analyzed which is presented below.

*D.01.07.2021*



It is observed that there was under drawal from the grid by Punjab on all days from 01.07.21 to 22.07.21. From 23.07.21 to 07.07.21 however, the pattern changed completely and Punjab resorted to over drawal on all days (except 28.07.21 and 29.07.21). In terms of daily DSM charges, Punjab was receivable on most days between 01.07.21 to 22.07.21, whereas from 23.07.21 to 07.07.21, huge penalties were levied on Punjab on account of over drawal, sometimes to the tune of 12-13 crore per day. This change in trend can be attributable to the erroneous SCADA data created by NRLDC as the same was being received by Punjab in real time. Daily and weekly deviations (in LUs) and deviation charges (in Rs Lakh) for the said period is indicated in the Tables below:

**NRLDC Comments :Above Para shall be framed as below:**

It is observed that there was under drawal from the grid by Punjab on all days from 01.07.21 to 22.07.21. From 23.07.21 to 07.08.21 however, the pattern changed completely and Punjab resorted to over drawal on all days (except 28.07.21 and 29.07.21). In terms of daily DSM charges, Punjab was receivable on most days between 01.07.21 to 22.07.21, whereas from 23.07.21 to 07.08.21, huge DSM were payable by Punjab for this period on account of over drawal, sometimes to the tune of 12-13 crore per day.. Daily and weekly deviations (in LUs) and deviation charges (in Rs Lakh) for the said period is indicated in the Tablesbelow:

Date	Schedule (Lus)	Actual (Lus)	Deviation (Lus)	DSMCharges (Rs Lakh)
01-07-2021	1719	1691	-28	-27.2
02-07-2021	1698	1663	-35	-16.2
03-07-2021	1604	1500	-104	38.5
04-07-2021	1739	1725	-14	-10.7
05-07-2021	1792	1760	-32	-61.5
06-07-2021	1781	1757	-24	21.2
07-07-2021	1756	1725	-31	-35.8
08-07-2021	1829	1791	-37	-42.2

*Tot-07/08/21*

09-07-2021	1806	1769	-37	-47.8
10-07-2021	1843	1805	-38	-53.2
11-07-2021	1857	1823	-33	-60.4
12-07-2021	1653	1563	-90	-5.2
13-07-2021	1609	1566	-43	-25.8
14-07-2021	1728	1685	-44	-27.8
15-07-2021	1772	1721	-51	-38.0
16-07-2021	1806	1753	-52	-59.4
17-07-2021	1811	1730	-81	-26.8
18-07-2021	1827	1779	-48	-17.8
19-07-2021	1766	1700	-66	-10.6
20-07-2021	1531	1357	-174	23.7
21-07-2021	1580	1442	-139	-20.8
22-07-2021	1747	1706	-41	-19.6
23-07-2021	1759	1781	22	319.2
24-07-2021	1797	1890	92	944.0
25-07-2021	1808	1859	51	377.7
26-07-2021	1779	1854	75	498.0
27-07-2021	1772	1840	68	425.6
28-07-2021	1499	1486	-13	90.1
29-07-2021	1442	1405	-37	173.5
30-07-2021	1612	1628	16	185.3
31-07-2021	1647	1692	45	266.4
01-08-2021	1666	1728	62	298.5
02-08-2021	1677	1781	104	861.4
03-08-2021	1663	1766	103	937.4
04-08-2021	1647	1745	98	827.8
05-08-2021	1579	1721	142	1277.4
06-08-2021	1583	1680	96	872.8
07-08-2021	1559	1679	121	1264.8
08-08-2021	1579	1580	1	17.0

Week	Date	Schedule	Actual	Base DSM	Add DSM	Sus DSM	Sus Count	Adj DSM	Net DSM
		( in LUs)		(in Rs Lakh)				(in Rs Lakh)	
14	28.06 to 04.07	11800	11556	-210	145	35	33	2	-26
15	05.07 to 11.07	12663	12431	-436	58	95	43	3	-279
16	12.07 to	12205	11796	-456	35	214	72	5	-200
Week	Date	Schedule	Actual	Base DSM	Add DSM	Sus DSM	Sus Count	Adj DSM	Net DSM
		( in LUs)		(in Rs Lakh)				(in Rs Lakh)	
	18.07								
17	19.07 to 25.07	11988	11733	526	521	563	84	2	1613
18	26.07 to 01.08	11417	11634	936	477	520	78	3	1937
19	02.08 to 08.08	11286	11952	2570	1646	1841	81	0	6058

9. As per CERC (Deviation Settlement Mechanism and other related matters) Regulations, 2014, the deviation for entity has been defined as:

*"2 (1) (h) 'Deviation' in a time block for a seller means its total actual injection minus its total scheduled generation and for a buyer means its total actual drawal minus its total scheduled drawal"*

Actual drawal by an entity has been defined as

*"2 (1) (b) 'Actual drawal' in a time block means electricity drawn by a buyer, as the case may be, measured by the interface meter"*

NRPC Secretariat issues statement for deviation based on these regulations as per data provided by NRLDC. Revised accounts are also issued in case of any error in the value of scheduled data or actual data provided by NRLDC, or calculation error at NRPC end. However, in this particular case, schedule data, actual data and calculation by NRPC Secretariat based on these data is correct. Only NRLDC SCADA data which was used by Punjab for scheduling in real time was incorrect, and as such this type of incident has not been encountered so far.

**NRLDC Comments : Point No.9 shall be framed as below:**

- As per CERC (Deviation Settlement Mechanism and other related matters) Regulations, 2014, the deviation for entity has been defined as:

*"2 (1) (h) 'Deviation' in a time block for a seller means its total actual injection minus its total scheduled generation and for a buyer means its total actual drawal minus its total scheduled drawal"*

Actual drawal by an entity has been defined as

*"2 (1) (b) 'Actual drawal' in a time block means electricity drawn by a buyer, as the case may be, measured by the interface meter"*

NRPC Secretariat issues statement for deviation based on these regulations as per data provided by NRLDC. Revised accounts are also issued in case of any error in the value of scheduled data or actual data provided by NRLDC, or calculation error at NRPC end. However, in this particular case, schedule data, actual data and calculation by NRPC Secretariat based on these data is correct, but SCADA data which was used by Punjab for monitoring its drawal in real-time was incorrect, and as such this-type of incident has not been encountered so far.

10. Regarding possible solutions for resolution of this problem, it was informed that Punjab has actually consumed the energy that was overdrawn from the grid. Accounting for this energy needs to be done. Hence, complete waiver of DSM charges, as requested by Punjab may not be possible. The following 2 options may be explored:

Option 1:

Punjab may be levied only base DSM charges for the period 23.07.21 to 07.08.21, whereas additional DSM and sustained DSM charges, which are additional penalties for non-adherence to grid discipline, may be exempted for the said period. Option 2:

The deviation done by the Punjab during the period may be bifurcated under 2 parts: Part 1 which is attributable to the erroneous SCADA data at Moga ICTs and Part 2 which is not attributable to the erroneous SCADA data. At present, energy drawn under both Part 1 and Part 2 is being treated as deviation, and all 3 deviation charges i.e. base DSM, additional DSM

and sustained DSM are being levied on it. It may be explored that additional energy consumed by Punjab under Part 1, which is attributable of erroneous SCADA data, may be charged at either Area Clearing Price (ACP) or Average Power Purchase Cost (APPC). Only Part 2, which is not attributable to erroneous SCADA data may be considered as deviation and deviation charges may be levied on it accordingly. However, Punjab may approach the Commission in this regard since DSM Regulations do not provide any mandate of NRPC Secretariat to issue revised DSM accounts due to the indicated reason.

11. Member Secretary, NRPC sought views of Punjab and NRLDC.
12. Representative of Punjab Discom informed that they have surrendered power in several stations where ECR was less than Rs 3/- unit since they were under the impression that they were under-drawing from the grid based on the SCADA data received. They further increased the agricultural hours of power supply to certain categories (free power supply) of consumers to reduce their under drawal. Hence, they should not be unnecessarily burdened with DSM charges.
13. Representative of Punjab stated that as explained in their letter and subsequently apparent from the presentation, over-drawal by Punjab during the period 23.07.2021 to 07.08.2021 was on account of incorrect SCADA data being received from NRLDC end. Since Punjab was not at fault for this over-drawal, accounts for the said period may be revised as per above mentioned option-1. Punjab has already made payments for week 17 (Rs 16.13 crore) and week 18 (Rs 19.37 crore) under protest. Punjab would make the remaining payment, if any, after revised accounts are issued.

**NRLDC Comments : Point No 13 shall be framed as below:**

Representative of Punjab stated that as explained in their letter and subsequently apparent from the presentation, over-drawal by Punjab during the period 23.07.2021 to 07.08.2021 was because of monitoring its drawal based on incorrect SCADA data. Since over drawal was attributable to incorrect monitoring of drawal value in real-time, accounts for the said period maybe revised as per above-mentioned option-1. Punjab has already made payments for week 17 (Rs 16.13 crore) and week 18 (Rs 19.37 crore) under protest. Punjab would make the remaining payment, if any, after revised accounts are issued.

14. SE(C), NRPC stated that there is no precedence for issuing revised DSM accounts due to incorrect SCADA data. Regulation 13 and 14 provide power to the Commission to Relax any provision of these Regulations or issue any directions in furtherance of the objective and purpose of these regulations.
15. CGM (I/c), NRLDC stated that there may be issues in arriving at the deviation attributable to erroneous SCADA data as indicated in Option-2, since there was huge variation in Punjab's demand during the period where this error in SCADA data occurred. He further stated that the matter of whether RPCs can issue revised DSM accounts based due to erroneous SCADA data needs further deliberations.
16. Member Secretary, NRPC opined that NRPC is already issuing revised DSM accounts if there has been any error schedule data or meter data provided by NRLDC or any calculation error at NRPC end. And, CERC is not being approached in such cases. In the present case as well, there was some error in the SCADA data due to which this huge deviation took place.

*Handwritten signature/initials*

Hence, NRPC Secretariat may issue revised accounts based on Option-1, as preferred by Punjab. However, the matter may be put up in the upcoming TCC/NRPC meeting before taking a final call in this matter.

**NRLDC Comments :Point No 16 shall be framed as below:**

Member Secretary, NRPC opined that NRPC is already revising DSM accounts if any error in schedule data or meter data provided by NRLDC or any calculation error at NRPC end have been noticed, CERC is not being approached in such cases. However, in the present case, none of the errors as mentioned above had occurred. Only the SCADA data was erroneous. Hence, NRPC Secretariat may issue revised accounts based on Option-1, as preferred by Punjab. However, the matter may be taken in the upcoming TCC/NRPC meeting before taking a final call in this matter.

17. Member Secretary, NRPC expressed his serious concern on erroneous changes made by NRLDC in its SCADA system. For 15 days, NRLDC was operating NR Grid with reduced security by making Punjab to falsely believe it was under drawing, when actually Punjab was over drawing to the tune of 800-1000MW. Hence, Punjab overdrew unknowingly and was not at fault so Punjab may not be asked to pay DSM charges. This fact is also established by looking at Punjab drawal pattern prior to 23/7/21. During this period, Punjab was very cautious in putting extra load and on almost all occasions received UI. Therefore, had NRLDC not done this wrong data display, Punjab would have continued its earlier trend and as such Rs 97 Cr DSM penalty would not have been imposed on them. Besides commercial implications, error in SCADA data at NRLDC end illusioned both Punjab SLDC as well as NRLDC who were unaware of quantum of power being drawn through Moga ICTs. Under such scenario, any serious grid incident could have happened. It was NRPC who first detected this error while preparing DSM accounts and asked NRLDC to check. Regarding the issue why Punjab SLDC was following NRLDC SCADA, he stated that there is nothing wrong as NRLDC is an apex organization for grid operation, and is a statutory body as per Electricity Act. He advised NRLDC to put in place robust internal systems, with proper checks and balances, so that such incidents do not take place in the future. He also advised Punjab SLDC to build its drawal calculation system at 220kV level as double check, and not rely 100% on NRLDC data so that errors like this one can be easily identified and rectified immediately. MS, NRPC opined that considering this incident as eye opener, other constituents may be warned not to rely fully on NRLDC SCADA data.

**NRLDC Comments : Point No 17 shall be framed as below: Also order of Point No 16 & 17 may be interchanged.**

Member Secretary, NRPC expressed his serious concern over erroneous changes in SCADA data, which induced Punjab to overdraw from the grid unknowingly for 16 days apart from operation of NR grid with reduced security. Punjab had overdrawn to the tune of 800-1000MW in some of the time blocks due to incorrect SCADA data resulting in high DSM charges for the period 23-07-21 to 07-08-21 and became liable to pay Rs 96 crore DSM charges for the same. This fact is also established by looking at Punjab's drawal pattern prior to 23/7/21. During this period, Punjab was very cautious in putting extra load on almost all occasions and therefore received UI charges. The error has been identified after 15 days during regular practice of checking of actual drawal of NR constituents based on SEM data

*Not to be taken*

with respect to drawal calculated based on SCADA data. NRLDC noticed that there was mismatch between SCADA and SEM based drawal of PSTCL (after receipt of SEM data) and immediately took action to identify the reasons and resolved the issue. The huge over drawal by Punjab and corresponding DSM charges payable to pool was also detected by NRPC while preparing DSM accounts and it also asked NRLDC to check the processed SEM data for correctness.. He advised NRLDC to put in place robust internal systems, with proper checks and balances, so that such incidents do not take place in the future. He also advised Punjab SLDC to develop a regular practice of monitoring its drawal in real time based on the SCADA data received from 220kV intra-state drawal points as double check. He emphasized that PSTCL should not rely only on NRLDC SCADA data (single source) for monitoring drawal in real time, where huge commercial implication is involved and they should cross-verify the data in real-time based on PSTCL sub-station end value also. He further expressed his concern that this mismatch is bound to happen in future if proper cross-check is not done by SLDC. MS NRPC opined that considering this incident as eye opener ,other constituents need to have alternate drawal monitoring display using STU end data at 220 kv level, as a check against ISTS end data

18. Meeting ended with note of thanks for the chair.

List of Participants:

NRPC:

1. Shri Naresh Bhandari (Member Secretary)
2. Shri Saumitra Mazumdar (Superintending Engineer)
3. Shri Vikrant Singh Dhillon (Executive Engineer)
4. Shri Shrey Kumar (Assistant Executive Engineer)

NRLDC:

1. Shri N Nallarasana, NRLDC Head, nallarasana@posoco.in
2. Shri Surajit Banarjee CGM, surajit.banerjee@posoco.in
3. Shri M M Hassan, GM, mm.hassan@posoco.in
4. Shri Mahavir Prasad Singh, DGM, mahavir@posoco.in
5. Shri Ankur Gulati, CM, ankurgulati@posoco.in

SLDC Punjab:

1. Er. Yogesh Tandon, Director/Technical, PSTCL, dir-tech@pstcl.org
2. Er. S.K. Garg, CE/SLDC, PSTCL, ce-sldc@pstcl.org
3. Er. V.S. Mander, CE/PP&R, PSPCL, ce-ppr@pspcl.in
4. Er. A.P. Singh, Dy. CE/SLDC(Op.), PSTCL, se-sldcop@pstcl.org
5. Er. Akshay Garg, Addl.SE/SLDC(Op.), PSTCL, ase-sldcop@pstcl.org
6. Er. Iqbal Singh, Addl.SE/SLDC, PSPCL, pcpseb@gmail.com
7. Er. Kamal Kumar, Sr.Xen/SLDC SCADA EMS, PSTCL, srxen-sldc2@pstcl.org

*List of participants:*