

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Review Petition No. 23/RP/2015
in
Petition No. 6/SM/2014**

**Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member**

**Date of Hearing: 10.12.2015
Date of order: 29.06.2016**

In the matter of

Review of order dated 9.10.2015 passed in Petition No.6/SM/2014.

**And
In the matter of**

Non-compliance of Regulation 5.2 (n) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 for ensuring security of the Northern Regional Grid as well as interconnected Indian Grid.

**And
In the matter of**

Punjab State Power Transmission Corporation Limited
PSEB Head Office, The Mall,
Patiala-147 001

...Review Petitioner

The following was present:

Shri M.G. Ramchandran, Advocate, PSPTCL

ORDER

The Review Petitioner, Punjab State Power Transmission Corporation Limited (PSPTCL), has filed this Review Petition seeking review of the Commission's order dated 9.10.2015 in Petition No. 6/SM/2015. The Commission vide the said order had

imposed penalty of Rs. one lakh under Section 142 of the Electricity Act, 2003 on the heads of STU and SLDC of Punjab among other States of the Northern Region for non-compliance of provisions of Regulation 5.2 (n) and 5.4.2 (e) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code).

2. The Review Petitioner has submitted that in the impugned order, the Commission has proceeded on the basis of the report of NRLDC and held that the status of df/dt relays operation in Northern Region as on 12.3.2014 revealed that the STUs had not properly provided df/dt relays for load shedding in their respective systems in terms of Regulation 5.2 (n) of the Grid Code. The Review petitioner has submitted that the report of NRLDC did not place the correct and complete facts in compliance of the Commission's directions dated 22.5.2014 and therefore, there are errors on the face of the record which warrants review of the impugned order.

3. The Review Petitioner has explained the following in support of its contention regarding the infirmities in the report of NRLDC:

(a) There was a mistake regarding number df/dt relays which were operating in the Punjab Control Area as conveyed vide letter dated 4.7.2014 of the PSPTCL. While 17 df/dt relays under Stage-I and Stage-II had operated during the incident, inadvertently owing to the miscommunication, NRLDC was informed that only 9 df/dt relays had operated;

(b) NRLDC did not calculate the load relief data from the SCADA system. Resultantly, the Commission has been led to hold that the status of df/dt relays operation in Northern Region as on 12.3.2014 revealed that the STUs including STU Punjab had not properly provided df/dt relays for load shedding in their respective systems in terms of Regulation 5.2 (n) of the Grid Code. Such information was readily available in the SCADA System. As NRLDC was directed to give the load relief obtained from operation of the df/dt relays to the Commission, it should have provided the same in its report which NRLDC failed to do.

(c) The report submitted by NRLDC also did not place for consideration of the Commission the most significant fact that the total target load relief fixed at 3522 MW by NRPC for Punjab under different defence mechanisms was based on peak load/demand of 2012-13 i.e.8751 MW, whereas Punjab experienced varying nature of load ranging from 2500 MW to 10155 MW in the year. At the time of the tripping incident on 12.3.2014 at around 19:20 hours, Punjab was experiencing only 40% of its peak load at 4046MW, being a lean month. Accordingly, the targeted load relief fixed could not at all have been achieved in the first place. The above aspect ought to have been considered and the proportionate reduction from actual quantum of load only ought to have been considered.

3. The Review Petitioner has submitted that the following steps have been taken by the Review Petitioner for implementation of the provisions of the Grid Code and directions of the Commission:

(a) PSPTCL has provided automatic UFR and df/dt Relays for load shedding in its system to arrest frequency decline that could result in a collapse/disintegration of the grid and is ensuring its effective application to prevent any cascading tripping of generating units in case of any contingency.

(b) All UFR and df/dt relays installed in the entire Punjab Control Area are healthy and functional and necessary details of their healthiness and functionality are regularly placed on its website and duly informed and available with NRPC. PSPTCL has been regularly monitoring and submitting quarterly certificates regarding the healthiness of UFRs and df/dt relays to NRPC which was duly placed in the reply filed by PSPTCL in Petition No. 6/SM/2014. However, the same was not considered while passing the order dated 9.10.2015.

(c) Owing to a miscommunication between the field office, PSPTCL, vide its letter dated 4.7.2014, inadvertently informed NRLDC that only nine df/dt Relays operated during the tripping incident on 12.3.2014 at around 19:20 hours i.e., 6 under Stage I and 3 under Stage II. In fact, 17 df/dt relays installed in the Punjab Control Area under Stage I and Stage II, stood duly initiated and operationalised at the time of the tripping incident on 12.3.2014. Therefore, all these df/dt relays were healthy and functional at the time of the said incident and duly provided

adequate load relief of 157.41MW at the time of the tripping incident in proportion to the amount of load running in the system at the time.

4. The Review Petitioner has submitted NRLDC was required to provide load relief data after obtaining the same from the SCADA system in terms of the order dated 22.5.2014. However, NRLDC did not place the same for the consideration of the Commission. The report submitted by NRLDC pursuant to the order dated 22.5.2014 was not provided to the Review Petitioner and therefore, it was under the *bonafide* understanding that as load relief data from SCADA system was readily available with NRLDC which would have been placed before the Commission. The Review Petitioner has submitted that since NRLDC did not place the load relief obtained on operation of df/dt relay for number of States, including Punjab and the report was not provided to the Review Petitioner, it had no opportunity to respond to the submissions of NLDC and NRPC.

5. The Review Petitioner has submitted that as per Regulation 5.4.2(e) the Grid Code, 2846 MW was to be shared at the State level under the provision of SLDC's Regulations on scheduled and unscheduled power cuts and for NRPC controlled defence mechanisms i.e. df/dt, UFR and SPS relays. The Review Petitioner has submitted that on analyzing the percentage of load running at the relevant time of the tripping, it would be evident that the 14 number df/dt relays which operated under stage-I obtained 149MW of load relief i.e.5.25% corresponding to 5.6% of load relief at 460 MW considering peak load demand of 8751 MW after deducting 1200 MW towards uninterruptible load category. The percentage of load relief upon considering all the 17

df/dt relays which operated under Stage-I and II comes to 5.53%. Therefore, the Review Petitioner cannot be held to have not complied with the provisions of the Act and Regulations 5.2 (n) and 5.4.2 (e) of the Grid Code.

6. During the course of hearing, learned counsel for the Review Petitioner submitted that PSPTCL had complied with the provisions of the Regulations 5.2 (n) and 5.4.2 (e) of the Grid Code. Learned counsel submitted that the Commission, based on the report of NRLDC, imposed the penalty on the Review Petitioner which was factually not correct. Learned counsel requested the Commission to review the impugned order imposing the penalty on the Review Petitioner as the Review Petitioner had taken necessary steps.

7. We have considered the submission of the Review Petitioner. Subsequent to the grid disturbance on 30.7.2012 and 31.7.2012, the Government of India, Ministry of Power constituted a high level committee to submit a report on the events leading up to the disturbances. The Committee after analyzing various data and reports submitted by SLDCs, RLDCs/NLDC, PGCIL and generating companies in its report dated 16.8.2012 *inter-alia* highlighted the non-operation of UFR and df/dt in the system, as one of the major contributing factor to the grid disturbances. Based on the report, NRLDC filed Petition No. 221/MP/2013 seeking directions to State utilities in the Northern Region to install and/or carry out testing of all existing UFR and df/dt relays installed in their respective system in accordance with Regulation 5.2 (n) of the Grid Code. The Commission after hearing the parties, vide order dated 23.12.2013 in Petition No. 221/MP/2012 expressed its dissatisfaction with the defence mechanism in terms of

UFR and df/dt and directed to issue show cause notices to the constituents of Northern Region under Section 142 of the Act for non-compliance of the Act and the Grid Code. Accordingly, show cause notices were issued to the heads of STUs including Review Petitioner in Petition No. 6/SM/2014 to explain as to why action under Section 142 of the Act should not be initiated against them for non-compliance of the provisions of the Act and Grid Code. In response, to show cause notice, the Review Petitioner in its reply dated 12.5.2014 had submitted that since PSPTCL has complied with the provisions of Regulation 5.2 (n) of the Grid Code and all UFRs and df/dt relays have been installed as per the Commission's directions, non-compliance of the provisions of the Grid Code is not made out against it. NRLDC was directed to file the report on the incident of 12.3.2014 and the steps taken thereafter. NRLDC submitted its report which was considered by the Commission in the impugned order as under:

“20. NRLDC has submitted that the following status of df/dt relay operation in NR as on 12.3.2014:

NR state control Area	df/dt, stage-1 (49.9 Hz, 0.1Hz/s) Required Relief (MW)	df/dt, stage-II (49.9 Hz, 0.3Hz/s) Required Relief (MW)	df/dt, stage-III (49.9 Hz, 0.4Hz/s) Required Relief (MW)	Tata Mundra tripping (loss of 3700MW on 12.3.2014 at 19:21 hrs)			
				Observed df/dt (Hz/s)	Applicable stages of df/dt	Envisaged quantum of load shedding under df/dt stage-I (MW)	Load df/dt as Reported by respective state control area
Punjab	430	490	490	Greater than (-) 0.1Hz/s for 800 ms	I	430	\$
Haryana	280	310	310		I	280	
Rajasthan	330	371	371		I	330	
Delhi	250	280	280		I	250	53
Uttar Pradesh	500	280	280		I	500	245.87*
Uttarakhand	70	70	70		I	70	
Chandigarh	50	70	70		I	50	
Himachal Pradesh	90	90	90		I	90	
Jammu & Kashmir	0	50	50		I	0	
Northern Region	2000	2010	2010		I	2000	

* Load relief on df/dt as reported by UP include 147 MW for 0.1 Hz/sec and 99 MW for 0.2Hz/sec. Also, reportedly 19 MW load also tripped on UFR.

\$: Relays at nine 132 kv sub-stations operated but quantum of relief not mentioned.

Perusal of the above status of df/dt operation in NR as on 12.3.2014 reveals that the respondents have not properly provided df/dt relays for load shedding in their respective systems in terms of Regulation 5.2 (n) of the Grid Code. Despite our repeated directions to set right and discrepancies in the defence mechanism and provide required load relief, the respondents have taken it very casually. All constituents except Jammu and Kashmir were required to provide load relief at 0.1 Hz/sec fall of frequency. However, the load relief provided by the constituents was not sufficient. We express our displeasure at the conduct of the respondents to ignore our directions and provisions of the Grid Code, especially in such a matter where grid security is involved. In our view, there are no mitigating factors which exonerate the respondents from the charges initiated under section 142 of the Act. In our view, the charges against the respondents are proved and accordingly, we impose a penalty of ` one lakh on each of the heads of STUs and SLDCs of Uttar Pradesh, Rajasthan, Delhi, Haryana, Punjab, Himachal Pradesh, Uttarakhand and head of Electricity Department of UT, Chandigarh under Section 142 of the Act for non-compliance of provisions of Regulations 5.2 (n) and 5.4.2 (e) of the Grid Code. The penalties shall be deposited within one month from the date of issue of the order.”

8. The Review Petitioner is aggrieved that the report of NRLDC was not shared with the Review Petitioner. Further, the Review Petitioner has submitted that the report of NRLDC did not contain the correct information regarding the number of df/dt of PSPTCL in operation as on 12.3.2014 and therefore, the impugned order is vitiated on account of error apparent on the face of the record.

9. The Review Petitioner has submitted that the copy of the report submitted by NRLDC was not provided to PSPTCL. It is noted that NRLDC was directed by the Commission to upload the copy of the report on its website. Accordingly, NRLDC uploaded the copy of the report on its website so that the constituents of Northern Region can peruse the same and file their comments. However, no comment was filed the Review Petitioner on the report of NRLDC.

10. The Review Petitioner has submitted that the order dated 9.10.2015 was passed by the Commission solely on the basis of the report submitted by NRLDC which did not

consider the actual number of df/dt in operation under PSPTCL and therefore, there are errors in the impugned order. The Review petitioner has submitted that the Commission vide Record for Proceedings for hearing on 22.5.2014 directed NRLDC to submit report of 12.3.2014 incident and steps taken thereafter, df/dt relays and mapping of UFRs and df/dt relay on SCADA system by STUs. However, report submitted by NRLDC was not correct and was incomplete. The Review Petitioner has submitted that field office of the Review Petitioner, vide its letter dated 4.7.2014 inadvertently informed NRLDC that nine df/dt relays operated during the tripping incident on 12.3.2014 at around 19:20 hours i.e. 6 under Stage-I and 3 under Stage-II and the same communication of the Field Office of the Review Petitioner was reported to the Commission by NRLDC. The Review Petitioner has submitted that Chief Engineer, P&M, Ludhiana, vide letter dated 30.10.2015, sent to SLDC, Punjab the revised information with regard to operation of df/dt relay on 12.3.2014. According to the Review Petitioner, as per report from Chief Engineer, Ludhiana, the total number of df/dt relays operated at the time of the incident was 17 in place of 9 no. relays reported in the NRLDC report. The Review Petitioner has contended that PSPTCL proceeded on the basis that as the Commission had sought the report from NRLDC, it would calculate the load relief for the above incident by considering the readings from 19:00 hours available in the SCADA system.

11. The Review Petitioner itself has admitted that due to error in its field report and miscommunication between Field Office and head office, PSPCTL wrongly informed NRLDC that nine df/dt relays were operated during the tripping incident on 12.3.2014. According to the Review Petitioner, NRLDC only submitted the details in its report based on the information provided by PSPCTL in writing without checking the SCADA.

It is observed from the report of NRLDC that since the mapping of df/dt relays of Punjab was not available to the control center of NRLDC at the time of incident on 12.3.2014, NRLDC was unable to know about the number of df/dt relays operated at the time of incident on 12.3.2014 and was totally dependent on the information provided by PSPTCL. In our view, it is difficult to calculate accurately the load relief data due to df/dt relay operation from the SCADA system as the change in load may be attributable to number of factors such as load trend, load response, manual tripping, faults and through other defence mechanism, etc. It is observed that during the proceedings of the Petition No. 6/SM/2014, the Review Petitioner did not place on record the fact enumerated in the present petition regarding quantum of load relief provided by it on 12.3.2014.

12. The Review Petitioner has stated that the Chief Engineer, P&M, Ludhiana vide letter dated 30.10.2015 had sent SLDC Punjab the revised information with regard to the operation of df/dt as on 12.3.2014. The impugned order was passed on 9.10.2015. It appears that after the issue of the impugned order, SLDC Punjab has tried to ascertain the exact number of df/dt which was operational as on 12.3.2014. In other words, SLDC Punjab was not diligent in its action in providing the correct information at the appropriate time and it cannot hold NRLDC responsible for not cross checking its data with the data available on SCADA. In our view, there is no error apparent in the impugned order as the document sought to be relied upon by the Review Petitioner was not on record at the time of issue of the impugned order and in fact the said document has been generated after the issue of the impugned order.

13. Review Petition No. 23/RP/2015 is disposed of in terms of the above.

Sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson