

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Review Petition Nos. 32/RP/2018 in Petition No. 241/TT/2016 and
33/RP/2018 in Petition No. 6/TT/2016**

Coram:

**Shri P.K. Pujari, Chairperson
Dr. M.K. Iyer, Member**

Date of Order : 23.01.2019

Petition No. 32/RP/2018

In the matter of:

Review petition under Section 94(1)(f) of the Electricity Act, 2003 read with Regulation 103 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999 seeking review of the order dated 21.6.2018 in Petition No. 241/TT/2016.

Petition No. 33/RP/2018

In the matter of:

Review petition under Section 94(1)(f) of the Electricity Act, 2003 read with Regulation 103 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999 seeking review of order dated 22.6.2018 in Petition No. 6/TT/2018.

And in the matter of:

Power Grid Corporation of India Limited,
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon – 122001 (Haryana)

.... Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005.
2. Ajmer Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur.



3. Jaipur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur.
4. Jodhpur Vidyut Vitran Nigam Ltd.,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur.
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building-II,
Shimla-171 004.
6. Punjab State Power Corporation Limited,
Thermal Shed Tia, Near 22 Phatak,
Patiala-147 001.
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109.
8. Power Development Department,
Government of Jammu and Kashmir,
Mini Secretariat, Jammu.
9. Uttar Pradesh Power Corporation Ltd.,
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001.
10. Delhi Transco Ltd.,
Shakti Sadan, Kotla Road,
New Delhi-110 002.
11. BSES Yamuna Power Ltd.,
Shakti Kiran Building,
Karkardooma, Delhi-110 092.
12. BSES Rajdhani Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi.
13. North Delhi Power Ltd.,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to
66/11kV Pitampura-3 Grid Building,



Near PP Jewellers,
Pitampura, New Delhi-110 034

14. Chandigarh Administration,
Sector-9, Chandigarh.
15. Uttarakhand Power Corporation Ltd.,
Urja Bhawan, Kanwali Road,
Dehradun.
16. North Central Railway,
Allahabad
17. New Delhi Municipal Council,
Palika Kendra,
Sansad Marg,
New Delhi-110 002.

.....Respondents

For Petitioner : Shri Sitiesh Mukherjee, Advocate, PGCIL
Shri Ved Prakash Rastogi, Advocate, PGCIL
Shri Deep Rao, Advocate, PGCIL
Shri Divyanshu Bhatt, Advocate, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri S. K. Niranjana, PGCIL
Shri S.S. Raju, PGCIL
Shri Zafrul Hasan, PGCIL
Shri Abhay Kumar, PGCIL

For Respondents : None

ORDER

By this common order, we dispose of the Review Petition Nos. 32/RP/2018 and 33/RP/2018 filed by Power Grid Corporation of India Limited ("PGCIL").

2. PGCIL in Review Petition No. 32/RP/2018 is seeking review of the order dated 21.6.2018 in Petition No. 241/TT/2016 whereby the Commission determined tariff for



400/220 kV Kankroli Sub-station (+) 400 MVAR/(-) 300 MVAR SVC under "Static VAR Compensator (SVCs) in Northern Region" in accordance with the provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "2014 Tariff Regulations").

3. In Petition No. 33/RP/2018, PGCIL is seeking review of the order dated 22.6.2018 in Petition No. 6/TT/2018 wherein the Commission determined tariff for 400/220 kV New Wanpoh Sub-station: (+) 300 MVAR/(-) 200 MVAR SVC("asset") under "Static VAR Compensator (SVCs) in Northern Region" under 2014 Tariff Regulations.

4. The Commission in the impugned order dated 21.6.2018 allowed initial spares @ 4%, categorizing the assets, i.e. SVCs as Series Compensation Devices in terms of Regulation 13(d)(iv) of 2014 Tariff Regulations against the PGCIL's claim of 6% initial spares. Relevant portion of the impugned order is extracted as follows:-

"26. We have considered the submission of the petitioner. We are considering the initial spares of the instant asset under Regulation 13(d)(iv) as the asset falls under the definition of "series compensation device" and the ceiling limit for the same is 4.00%."

5. Similar view was taken by the Commission in order dated 22.6.2018 in Petition No. 6/TT/2018 wherein initial spares was allowed @ 4% against the PGCIL's claim of initial spares @ 6.36%. The relevant portion of the said order is as under:-

"18. The petitioner has claimed initial spares @ of 6.36% for the instant assets, which is higher than the norms specified for the Series Compensation Devices in Regulation 13 of the 2014 Tariff Regulations. As per Regulation 13(d)(iv) of the 2014 Tariff Regulations, the ceiling limit for Series Compensation Devices is 4%. Accordingly, the initial spares are allowed @ 4% as specified in the 2014 Tariff Regulations."



6. Aggrieved by the aforesaid orders dated 21.6.2018 and 22.6.2018 of the Commission, PGCIL has filed the present Review Petitions praying for-

- a. review and modify the impugned order dated 21.6.2018 in Petition No. 241/TT/2016 and order dated 22.6.2018 in Petition No. 6/TT/2018 in terms of the submissions as set out in the aforesaid review petitions and
- b. allow 6% rate for the initial spares applicable as per Regulation 13(d)(iii) of 2014 Tariff Regulations.

7. The Commission heard the matters on 18.12.2018 on admissibility of the petitions and reserved the order. Based on the submissions of the petitioner and documents available on record, we proceed to examine the maintainability of the review petition at the admission stage.

Submissions of the Review Petitioner

8. The submissions of the Review Petitioner are as under:-

- a. The Commission has erred in the aforesaid impugned orders as the SVCs should have been categorized under "Transmission Sub-station (Brown-field) in terms of Regulation 13(d)(iii) of 2014 Tariff Regulations and initial spares @ 6% of the cost of Plant and Machinery should have been allowed to be capitalized, instead of restricting the initial spares of SVCs to 4% under Regulation 13(d)(iv) of 2014 Tariff Regulations.
- b. SVC is used to provide dynamic VAR compensation into the grid to increase overall stability of the grid, whereas, a series compensation device is provided to



increase power flow capability of a line by reducing the line inductance. AC power transmission over long lines, are primarily limited by the series reactive impedance of the line. Series capacitors are used to partially offset the effects of the series inductances of transmission lines. Series compensation results in the improvement of the maximum power-transmission capacity of the line. The net effect is a lower load angle for a given power-transmission level and, therefore, a higher-stability margin and ultimately a higher transmission capacity.

c. The SVC is a shunt connected device, with a completely different function compared to a Series Compensation Device. Further, components of shunt connected compensators are not interchangeable vis-à-vis series connected compensators and even different SVCs are not interchangeable amongst themselves because of their unique design specific to location in the grid. The fact that SVCs as well as series compensation devices are aimed at regulating transmittable power cannot be a sufficient basis to treat them similarly. Thus, the Commission has erred in categorizing the petitioner's SVC as a 'Series Compensation Device'.

d. A SVC is a thyristor-based shunt compensation device and is fundamentally different from a thyristor-based series compensation device, such as a Thyristor Controlled Series Capacitor ("TCSC") or a Fixed Series Capacitor ("FSC"). In short, SVC is a shunt device to control voltage and reactive power flow and is not a Series Compensation Device. Hence, it ought to be categorized as part of "Transmission Sub-station (Brown Field)" under Regulation 13(d)(iii) of 2014 Tariff Regulations.



e. The Commission in order dated 28.12.2016 in Petition No. 149/TT/2016 allowed initial spares @ 6% for SVC in terms of Regulation 13(d)(iii) of 2014 Tariff Regulations.

9. Learned counsel for the petitioner submitted during the hearing that the Commission has erroneously considered the SVC as Series Compensation Device in terms of Regulation 13(d)(iv) of 2014 Tariff Regulations and allowed initial spares @ 4% whereas SVC should have been considered under “Transmission Sub-station (Brown-field) in terms of Regulation 13(d) (iii) of 2014 Tariff Regulations and should have been allowed initial spares @ 6%.

Analysis and decision

10. We have heard the learned counsel for the petitioner, perused the aforesaid impugned orders and gone through the material available on record. The Commission in impugned orders dated 21.6.2018 in Petition No. 241/TT/2016 and dated 22.6.2018 in Petition No. 6/TT/2018 observed that the SVCs fall under the definition of “series compensation device” covered under Regulation 13(d)(iv) of the 2014 Tariff Regulations and accordingly initial spares were allowed initial spares @ 4% as specified in 2014 Tariff Regulations.

11. Regulation 13(d) of 2014 Tariff Regulations provides the following norms for the transmission assets:-

“13. Initial Spares



xxx

(d) Transmission system

- (i) Transmission line - 1.00%
- (ii) Transmission Sub-station (Green Field) - 4.00%
- (iii) Transmission Sub-station (Brown Field) - 6.00%
- (iv) Series Compensation devices and HVDC Station - 4.00%
- (v) Gas Insulated Sub-station (GIS) - 5.00%
- (vi) Communication system - 3.5%

xxx”

12. Perusal of the impugned orders show that SVCs have been granted initial spares @ 4% of the cost of the Plant and Machinery in terms of the provision 13(d)(iv) of 2014 Tariff Regulations as they fall under the definition of “Series Compensation Devices”. During the hearing on 18.12.2018, the learned counsel for PGCIL pointed out differences between Static Var Compensators (SVC)/Shunt Compensation Device and Series Compensation Device (SCD) which is reproduced hereunder:-

Device Criteria	Static VAR Compensator (SVC), a shunt compensation device.	Series Compensation Device (SCD) [categorised as Reg. 13(d)(iv)]
Placement	Placed in shunt/parallelly with the transmission line at particular nodes.	Connected in series with the transmission line at particular nodes.
Performance	Absorbs and supplies dynamic VAR, thereby effectively regulating network voltage. An SVC provides unique advantage of very rapid reaction, good reliability, insignificant contribution to the short-circuit power, and low maintenance.	Reduces line inductance, thereby regulating power flow and partially offsetting series inductance
Ultimate Function	Improves overall grid stability by regulating voltage.	Does not regulate voltage. Increases maximum power transmission capacity.
Cost	Approximately ₹175 crore.	Approximately ₹40 crore.



13. The norms for initial spares for Static Var Compensators (SVC) are not specified in the 2014 Tariff Regulations. SVC is also a compensating device, like Series Compensation Device (SCD). Though, SVC can be placed in shunt, it is basically a compensation device and therefore, it was considered akin to Series Compensation Device in the impugned orders and allowed initial spares @ of 4% as provided for SCD in Regulation 13(d)(iv) of the 2014 Tariff Regulations. Further, PGCIL has not given any convincing reason for categorizing the SVC under Regulation 13(d) (iii) of the 2014 Tariff Regulations. Moreover, higher cost of SVC cannot be reason for allowing initial spares @ 6% under Regulation 13(d) (iii) categorizing the SVCs under the head "Transmission Sub-station (Brown Field)-6.00%". Thus, there is no error in the impugned orders.

14. PGCIL has contended that Commission in order dated 28.12.2016 in Petition No.149/TT/2016 had allowed initial spares @ 6% and the same may be made applicable in the present case. This submission of PGCIL is not acceptable. In the present case, the Commission in the absence of any specific provision for SVC, by a conscious decision had categorized the SVC alongwith the SCD, since the functioning of the SVC is also in the nature of compensation device in line with SCD and allowed initial spares @ 4% in the impugned orders. In our considered view, the order dated 28.12.2016 was based on the facts pleaded therein and therefore cannot be made applicable in the instant case. Accordingly, the PGCIL's contention is rejected.



15. For the reasons stated above, we are unable to agree with the proposition as suggested by the petitioner. We, therefore, reject the instant Review Petition Nos. 32/RP/2018 and 33/RP/2018 at admission stage itself. Accordingly, Review Petition Nos. 32/RP/2018 and 33/RP/2018 stand disposed of as dismissed.

sd/-
(Dr. M.K. Iyer)
Member

sd/-
(P.K. Pujari)
Chairperson

