एसजेवीएन लिमिटेड

CIN:L40101HP1988GOI008409

(भारत सरकार एवं हिमाचल प्रदेश सरकार का संयुक्त उपक्रम)
A Mini Ratna & Schedule "A" PSU
आईएसओ 9001:2008 प्रमाणित कम्पनी
कॉरपोरेट वाणिज्यिक एवम प्रणाली प्रचालन विभाग,
एसजेवीएन **निगम मुख्यालय**, **शा**नान, शिमला – 171 006
फोन : **0177- 2660210** फैक्स : **0177-2660211,**
ई–मेल: gmcsosjvn@gmail.com / sjvn.cso@sjvn.nic.in

संदर्भ : एसजेवीएन/सी सी/ सीएवंएसओ/ 07020- 854 **दिनांक: 24.05.2024**

सचिव
केंद्रीय बिजली नियामक आयोग
7वीं मंजिल, टावर बी, वर्ल्ड ट्रेड सेंटर,
नौरोजी नगर, नई दिल्ली-110029

Sub: Comments/Suggestions of SJVN Ltd on "Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism & Related Matters) Regulations, 2024.

Respected Sir,

Please find enclosed herewith four copies (One Original + Three Copies) of comments/suggestions of SJVN Ltd on Draft Central Electricity Regulatory Commission (Deviation Settlement Mechanism & Related Matters) Regulations, 2024 for your kind considerations.

सधन्यवाद,

एसजेवीएन लिमिटेड की ओर से,
भवदीय,

संलग्न: यथोक्त

(हरीश कुमार शर्मा) 24/5/24
मुख्य महाप्रबंधक (सी एंड एस ओ)

एसजेवीएन लिमिटेड
SJVN Limited
(भारत सरकार एवम् हिमाचल प्रदेश सरकार का संयुक्त उपकम)
(A Joint Venture of Govt. of India & Govt. of Himachal Pradesh)
भारत मिनि रत्न एवं अनुसूची "ए" पी. एस. यू.
A Mini Ratna & Schedule 'A' P.S.U.
CIN No.:L40101HP1988GOI008409

COMMENTS/SUGGESTIONS OF SJVN LTD ON "**DRAFT CENTRAL ELECTRICITY REGULATORY COMMISSION (DEVIATION SETTLEMENT MECHANISM & RELATED MATTERS) REGULATIONS, 2024":**

Regulation No.	Description	Comments of SJVN
8(1), Sub Clause-I	**(I) For Deviation up to [10% DGS or 100 MW, whichever is less] and f within f_{band}:**	➢ The relevant provisions of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 are reproduced here as under: ***30. FREQUENCY CONTROL AND RESERVES:*** *(10) Primary Control:* *(k) The normal governor action shall not be suppressed in any manner through load limiter, Automatic Turbine Run-up System (ATRS), turbine supervisory control or coordinated control system and no time delays shall be deliberately introduced. In the case of a renewable energy generating unit, a reactive power limiter or power factor controller or voltage limiter shall not suppress the primary frequency response within its capabilities.* ***The inherent dead band of a generating unit or frequency controller shall not exceed +/- 0.03 Hz.***

		The governor shall be set with respect to a reference frequency of 50.000 Hz and response outside the dead band shall be with respect to a total change in frequency. *(l) The thermal and hydro generating units shall not resort to Valve Wide Open (VWO) operation to make available margin for providing governor action.* *(m)The PRAS shall start immediately when the frequency deviates beyond the dead band as specified in sub-clause (k) of this clause and shall be capable of providing its full PRAS capacity obligation within 45 seconds and sustaining at least for the next five (5) minutes.* ➢ **In view of the aforementioned IEGC Regulations, it is proposed that inherent dead band of *+/- 0.03 Hz with respect to a reference frequency of 50 Hz* in DSM Regulations, 2024 may be considered for calculation of DSM charges. During the dead band of 49.97 Hz < = f<= 50.03 hz, receivable/payable by the seller on account of Deviation by way of over injection and under injection may be equal @ RR or similar increase or decrease in percentage of RR while over injection/under injection. Beyond the dead band frequency, increase or decrease in percentage may be varied accordingly.**
8(1), Sub clause-I, (v), II(iii) &	**(I) For Deviation up to [10% DGS or 100 MW, whichever is less] and f within f_{band}:** Deviation by way of under injection (Payable by the Seller):	Regulation 30(10) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 are reproduced here as under: *(g) All the generating units shall have their governors or frequency controllers in operation all the time with droop settings of 3 to 6 % (for thermal generating units*

(III) (ii)	**(v)** When [50.00 Hz < f ≤50.05 Hz], for every increase in f by 0.01 Hz, charges for deviation for such seller shall be reduced by 3% of RR so that charges for deviation become 85% of RR when f = 50.05Hz **II) For Deviation up to [10% DGS or 100 MW, whichever is less] and f outside f band:** Deviation by way of under injection (Payable by the Seller): (iii) @ 85 % of RR when [f > 50.05 Hz] **III) For Deviation beyond [10% DGS or 100 MW, whichever is less] and f within and outside f band:**	*and WS Seller) or 0-10% (for hydro generating units) as specified in the CEA Technical Standards for Connectivity.* *(m) The PRAS shall start immediately when the frequency deviates beyond the dead band as specified in sub-clause (k) of this clause and shall be capable of providing its full PRAS capacity obligation within 45 seconds and sustaining at least for the next five (5) minutes.* ➢ As of now, SJVNs two R-O-R with Pondage generating stations namely NJHPS (6X250 MW) and RHPS (6 X 68.67 MW) is under operation and their scheduling is given by NRLDC. SJVN's both the power stations are operating in FGMO and giving primary response by increasing and decreasing generation during frequency fluctuation. ➢ As per the instant Regulation, the General seller is being penalized even for supporting Grid by under injection when frequency of higher than 50 Hz. The treatment of Hon'ble CERC may be deemed fit for Pondage type Hydro Power station during lean seasons, in view of saving of primary fuel due to under injection, which may be utilized later on. ➢ For hydro generating stations during high inflow season, there is spillage of water continuously after utilising the discharge available for full generation including overload Capability. In case, there is high frequency in the Grid, generating stations respond according to the droop setting of the stations and generating less than the scheduled generation for supporting the Grid. However, in accordance with aforesaid

	Deviation by way of under injection (Payable by the Seller): (ii) Such seller shall pay @ RR when [f ≥ 50.00 Hz];	Regulations, generating stations are being penalized in terms of DSM charges for under injection. Due to this, there would be loss to the generating stations corresponding to the difference between Scheduled and actual generation in terms of DSM charges during high inflow season. ➢ **In view of above, it is proposed that pondage type of Hydro Power stations should not be penalized for supporting Grid by under injection when frequency higher than 50 Hz during high inflow seasons.**
8(1), Sub clause-III (i)	**III) For Deviation beyond [10% DGS or 100 MW, whichever is less] and f within and outside f_{band}:** Deviation by way of under injection (Payable by the Seller): (i) Such seller shall be paid back @ zero when (f < 50.10 Hz):	➢ Hydro power project is giving peaking support as per the requirement of the Grid. They are giving fast response during starting and stopping of unit(s) and playing major role for stability and security of the Grid. ➢ NJHPS (6X250 MW) and RHPS (6 X 68.67 MW) are peaking stations and schedule of these generating stations are being given by NRLDC varied from 170 MW to 1482 MW for NJHPS and 50 MW to 408 MW for RHPS depending upon inflow in the river during the day. During lean season, Morning /Evening peaking is given by the generating stations as per the schedule given by the NRLDC. Thus, all six machines of NJHPS and RHPS is synchronized with Grid during Morning/ Evening peaking Hrs with ramping up of one unit (250 MW with ramp rate of 1 MW/second in case of NJHPS and 68.67 MW with ramp rate of 0.35 MW/second in case of RHPS) in every progressive time block as per the requirement of Grid and safe operation of unit (s) and similarly shut down of all six units of NJHPS and RHPS with ramping

		down of one unit after Morning/ Evening Peaking. Hence, there is frequent start and stop of all the Unit(s) of NJHPS and RHPS during the day. ➢ During Lean season from October to May months, there is a margin available in generating stations during ramping up and down the unit (s), as partial schedule is given by RLDC to the generating stations. In that case, beyond 10 % of DGS may be injected by generating stations for supporting the grid during reduction of frequency. However, the Instant Regulation is not incentivizing Generating Stations for providing grid support by increasing generation beyond 10% or 100 MW (whichever is less) when frequency is lower than 49.90 Hz. ➢ **It is therefore proposed that DSM Charges for over injection beyond 10 % may be kept @ 115% of RR when Frequency is lower than 49.90 without volume limit.**
8(8)	**(8)** The charges for deviation for injection of infirm power shall be zero: Provided that upon such infirm power being scheduled, the charges for deviation for such power shall be as applicable for a general seller or WS seller, as the case may be.	➢ As per the Regulation 5 (5) of CERC ((Deviation Settlement Mechanism and related matters) Regulations, 2014, the infirm power injected into the grid by a generating unit of a generating station during the testing, prior to COD of the unit shall be paid at Charges for Deviation for infirm power injected into the grid, consequent to testing subject to ceiling of Cap rates corresponding to the main fuel used. ➢ The revenue generated on account of inform power as per aforesaid regulation had resulted in reduction in capital cost of the generating station, which was beneficial for DISCOMS as well as Generators.

		➢ It is therefore, proposed that that rate for deviation for injection of infirm power may be finalized depending upto the frequency of the grid. For example: • Frequency between 49.90 to 50.05 Hz: @ Rs 1.50 per unit • Frequency is lower than 49.90 Hz: @ Rs 2.00 per unit • Frequency is higher than 50.05 Hz: @ Zero.