RAJASTHAN ELECTRICITY REGULATORY COMMISSION, JAIPUR

In the matter of the RERC (Standards of Performance of Transmission Licensee) Regulations, 2021

Coram: **1. Shri Shreemat Pandey, Chairman**
2. Shri S. C. Dinkar, Member
3. Shri Prithvi Raj, Member

Date of hearing: 09.12.2020 (Video Conferencing)

Date of Order: 03.02.2021

Memo on Statement of objects & reasons and consideration of Comments/ Suggestions, received from various stakeholders

Background:

1 The Rajasthan Electricity Regulatory Commission (RERC or Commission), in exercise of powers conferred under Section 181(2)(za) read with section 57 (1), 57 (2), 59 and 86 (1)(i) of the Electricity Act, 2003 (Act 36 of 2003), and all other provisions enabling it in this behalf, framed the following Draft Regulations:

"**Rajasthan Electricity Regulatory Commission (Standards of Performance of Transmission Licensee) Regulations, 2020**"

2 These Draft Regulations along with the Explanatory Memorandum and Public Notice were placed on the website of the Commission for inviting public comments. Comments from the stakeholders were also invited through Public Notice published in the following newspapers, on the date indicated against each:

(1) Dainik Bhaskar	:	06.11.2020
(2) Rajasthan Patrika	:	06.11.2020
(3) Times of India	:	07.11.2020

3 The last date for submission of comments/suggestions by the stakeholders/public was 27.11.2020. The list of 4 no. of stakeholders who offered their comments/suggestions on the Draft Regulations and Explanatory Commission, and have been considered by the

Commission while finalising the Regulations, is placed at **Annexure-I**.

4 Public Hearing was conducted through Video Conferencing on 09.12.2020.

5 Total 3 no. of stakeholders have preferred their comments/suggestions on the Draft Regulations through Public Hearing. The same stakeholders who have submitted their Comments/ Suggestions have participated in the hearing.

6 The main comments and views expressed by the stakeholders through their written submissions as well as during the hearing and the Commission's views thereon have been summarized in the following paragraphs. It may be noted that all the suggestions given by the stakeholders have been considered, and the Commission has attempted to elaborate all the suggestions as well as the Commission's decisions on each suggestion in the Statement of Reasons. However, in case any suggestion is not specifically elaborated, it does not mean that the same has not been considered. Further, Syntax/phrase/addition of word(s)/rewording related changes have been suitably incorporated, wherever necessary. Also, it may be noted that all headings and the clause numbers given in this Statement of Reasons are related to those mentioned in the Draft RERC (Standards of Performance of Transmission Licensee) Regulations, 2020.

7 **Regulation No. 1: Short title and applicability**

Commission's Proposal:

"***1 Short title and applicability***

1.1 These Regulations may be called as 'Rajasthan Electricity Regulatory Commission (Standards of Performance of Transmission Licensee) Regulations, 2020';

1.2 These Regulations shall come into force on the date of their publication in official gazette."

Stakeholders' Comments/Suggestions:

7.1 JVVNL submitted that during the public hearing, RVPN was of the view that there is no need for framing these SOP Regulations as norms for availability are already specified in RERC MYT Regulations, 2019. JVVNL submitted that the purpose of both the Regulations are different. While MYT Regulations specify norms for Target Availability for the licensee's network as a whole for the purpose of recovery of Annual Fixed Charges, SOP Regulations are meant for the minimum transmission element-wise norms and the compensation payable by the licensee to the affected user in case of non-compliance. JVVNL cited the similar instance when CERC denied the submission of PGCIL while framing the CERC (Standards of Performance) Regulations, 2012 on need for framing SOP Regulations. Therefore, JVVNL requested the Commission to not consider the argument put forward by RVPN during public hearing for not framing SOP Regulations for transmission Licensee.

Commission's Views/Decision:

7.2 The Commission finds the merit in the submission of JVVNL. and the Commission is of the view that the Standards of Performance Regulations for Transmission Licensee are essential to define the minimum transmission element-wise norms and other norms to improve the performance of the Transmission Licensee. The norms of availability specified in the Tariff Regulations are for the purpose of recovery of Annual Transmission Charges. Hence in this regard, following provision is made in SOP Regulations:

"*Provided also that the norms of Availability of Transmission System for recovery of Annual Transmission Charges and Incentive shall be as specified in Transmission Service Agreement or Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2019, as amended from time to time.*"

8 **Regulation No. 2(2): Definition for Affected Person**

Commission's Proposal:

"***2(2) "Affected Person"*** *means a User of State Transmission System, who is affected due to non-adherence to the Standards of Performance specified in these regulations by transmission licensee;*"

Stakeholders' Comments/Suggestions:

8.1 Bask Research Foundation suggested that the definition of the affected person may be replaced with following to ensure legal clarity:

"Affected Person" *means a User of State Transmission System in direct contract with the transmission licensee, who is affected due to non-adherence to the Standards of Performance specified in these regulations by transmission licensee.;*"

Commission's Views/Decision:

8.2 The Commission has noted the suggestion from the stakeholder and is of the view that as per the definition of "User" specified at Regulation 2(15) of the Draft Regulations, User may be any person who has entered into Transmission Service Agreement with Transmission Licensee. Since the definition of "Affected Person" mentions a User of State Transmission System, it implies that the User has already entered into Transmission Service Agreement with Transmission Licensee. Therefore, no change is required in the proposed definition of "Affected Person" in the Draft Regulations.

9 **Regulation No. 2 (5): Definition for Force Majeure Event**

Commission's Proposal:

"***2(5) "Force Majeure Event"*** *means, with respect to any party, any event or circumstance, which is not within the reasonable control of, or due to an act or omission of, that party and which, by the exercise of reasonable care and*

diligence, that party is not able to prevent, including, without limiting the generality of the foregoing:

(a) acts of God, including but not limited to lightning, storm, earthquakes, flood, drought and natural disaster;

(b) strikes, lockouts, go-slow, bandh or other industrial disturbances;

(c) acts of public enemy, wars (declared or undeclared), blockades, insurrections, riots, revolution, sabotage, vandalism and civil disturbance;

(d) unavoidable accident, including but not limited to fire, explosion, radioactive contamination and toxic chemical contamination;

(e) any shutdown or interruption of the grid, which is required or directed by the State or Central Government or by the Commission or the State Load Despatch Centre;"

Stakeholders' Comments/Suggestions:

9.1 Rajasthan Rajya Vidyut Prasaran Nigam Limited (RVPN) suggested to include following provision in the definition of Force Majeure Event:

"(f) Transmission line outage due to some external agency's fault duration may be excluded- Due to collision of vehicle/ fire/ kite festival/ illegal construction/ sabotage/ agitation, etc."

Commission's Views/Decision:

9.2 The Commission has noted the suggestion from the stakeholder. The Commission is of the view that there is no requirement of any modification in the definition of "Force Majeure Event" as the Definition of Force Majeure is in line with the definition specified in RERC (Terms and Condition for determination of Tariff) Regulations, 2019.

10 **Regulation No. 2(6): Definition for Intra-State Transmission Licensee or Transmission Licensee**

Commission's Proposal:

"2(6) "Intra-State Transmission Licensee" or "Transmission Licensee" *means a licensee including a deemed licensee authorized to establish, operate and maintain transmission lines within the State, as per the provisions of the Act."*

Stakeholders' Comments/Suggestions:

10.1 Bask Research Foundation submitted that as per Regulation 2(6) of the Draft Regulations, the definition of "Intra-State Transmission Licensee" or "Transmission Licensee" limits the scope of transmission licensee to establish, create and maintain transmission lines within the State. This is contrary to the Electricity Act 2003 and the explanatory memorandum which deals with the whole of state transmission system, including sub-stations, power transformers, inter-connected transformers, etc. Hence,

it is suggested that the definition of transmission licensee is modified to include transmission utilities and licensee with their scope of work appropriately defined.

Commission's Views/Decision:

10.2 *The Commission do not find any merit in the suggestion of the stakeholder. Therefore, no change is required in the proposed definition of "Intra-State Transmission Licensee or Transmission Licensee" in the Draft Regulations.*

11 **Regulation No. 2(15): Definition of User**

Commission's Proposal

*"**2(15) "User"** means, any person who uses any segment/ element of the State Transmission System including Generating Station located in the State, Independent Power Producer(s), Renewable Energy Power Plant, Distribution Licensee, Open Access customer interconnected to State Transmission System, and entered into Transmission Service Agreement with Transmission Licensee."*

Stakeholders' Comments/Suggestions:

11.1 RVPN suggested to revise the definition of User as below:

*"**"User**" means, any person who uses any segment/ element of the State Transmission System including Generating Station located in the State, Independent Power Producer(s), Renewable Energy Power Plant, Distribution Licensee, Deemed Licensee, Open Access customer interconnected to State Transmission System, and entered into Transmission Service Agreement with Transmission Licensee."*

Commission's Views/Decision:

11.2 The Commission accepts the suggestion of the stakeholder since Deemed Licensees are also the Users of the State Transmission System. The modified definition for User is as follows:

*"**2(15) "**User" means any person who uses any segment/ element of the State Transmission System including Generating Station located in the State, Independent Power Producer(s), Renewable Energy Power Plant, Distribution Licensee, Deemed Licensee, Open Access customer interconnected to State Transmission System, and entered into Transmission Service Agreement with Transmission Licensee."*

12 **Regulation No. 3: Objective**

Commission's Proposal:

*"**3 Objective***

3.1 These standards of performance shall serve as guidelines for transmission licensee to operate its State Transmission System for providing an efficient,

reliable, coordinated and economical system of electricity supply and transmission.

3.2 These standards set the levels of operational security and quality of supply, which licensee shall be obliged to maintain in making power available for the purposes of supply to licensees and supply to/ receipt from various generating stations, as laid down in the Transmission Licence. The objectives of the performance standards are:

(1) To ensure that the Grid Performance meets a minimum standard, which is essential for the Users' system demand and the equipment function properly.

(2) To enable the Users to design their systems and equipment to suit the electrical environment that they operate in.

(3) To ensure compliance of Standards of Performance by Transmission Licensees."

Stakeholders' Comments/Suggestions:

12.1 RVPN suggested to revise the Regulation 3.2 of the Draft Regulations as below:

"3.2 These standards set the levels of operational security and quality of supply, which licensee shall be obliged to maintain in making power available for the purposes of supply to ~~licensees~~ User and supply to/ receipt from various generating stations, as laid down in the Transmission Licence. The objectives of the performance standards are:

…."

Commission's Views/Decision:

12.2 The Commission finds the merit in the suggestion to use the word "User" in place of "licensees" to bring more clarity since "User" has been defined at Regulation 2(15) of the Draft Regulations and it may be any person who uses any segment/ element of the State Transmission System including Generating Station located in the State, Independent Power Producers (IPP(s)), RE Power Plant, Distribution Licensee, Open Access customer interconnected to State Transmission System, and entered into Transmission Service Agreement with Transmission Licensee.

12.3 The modified objective of the Regulations are as follows:

*"**3 Objective***

3.1 These standards of performance shall serve as guidelines for transmission licensee to operate its State Transmission System for providing an efficient,

reliable, coordinated and economical system of electricity supply and transmission.

3.2 These standards set the levels of operational security and quality of supply, which licensee shall be obliged to maintain in making power available for the purposes of supply to/ receipt from user, as laid down in the Transmission Licence. The objectives of the performance standards are:

(1) To ensure that the Grid Performance meets a minimum standard, which is essential for the Users' system demand and the equipment function properly.

(2) To enable the Users to design their systems and equipment to suit the electrical environment that they operate in.

(3) To ensure compliance of Standards of Performance by Transmission Licensees."

13 **Regulation No. 6.2: Element wise availability of the transmission system**

Commission's Proposal:

"6.2. The element-wise monthly availability of the transmission system shall not be below the availability as given below:

Transmission Elements	**Availability (% of time)**
AC Transmission line, including Transmission bay	90
Power Transformer	90
Reactors	90
Static VAR Compensator	90
Series Compensator	90
HVDC (Back-to-back Stations and bi-pole links)	85

Note:

(1) Tower collapse upto limit specified in Regulation 8 shall not be counted for the purpose of calculation of monthly availability of AC transmission line and HVDC bipole line under these Regulations.

(2) Failure of Power Transformer and Reactor upto limit specified in Regulation 8 shall not be counted for the purpose of calculation of availability of Power Transformer and Reactor under these Regulations.

Provided that the element-wise availability and total system availability for month as well as for whole year shall be calculated by transmission licensee and duly certified by the SLDC:

Provided also that the norms of Availability of Transmission System for recovery of Annual Transmission Charges and Incentive shall be as specified in Rajasthan

Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2019, as amended from time to time.

…."

Stakeholders' Comments/Suggestions:

13.1 RVPN submitted that the availability of power supply is not affected by operation of Reactors, Static VAR and Series Compensator. Therefore, the availability for these elements may be excluded. RVPN suggested to revise the Regulation 6.2 of the Draft Regulations, 2020 as under:

"*6.2. The element-wise monthly availability of the transmission system shall not be below the availability as given below:*

Transmission Elements	**Availability (% of time)**
AC Transmission line, ~~including Transmission bay~~	85
Power Transformer	85
~~Reactors~~	~~90~~
~~Static VAR Compensator~~	~~90~~
~~Series Compensator~~	~~90~~
HVDC (Back-to-back Stations and bi-pole links)	85

…"

13.2 Jaipur Vidyut Vitran Nigam Limited (JVVNL) submitted that as per the Regulation 5 of the RERC (Transmission Licensee's Standards of Performance) Regulations, 2004, licensee has to ensure weighted annual average system availability for the system as a whole and not separately for each element. In the Petition no. RERC/1454/19 dated 24.01.2019, JVVNL highlighted various instances where the Discom faced losses and increased dissatisfaction among consumers due to failure of the transmission licensee to meet its obligations timely. Examples for the same are as below:

i) Bharatpur: The transmission system operates in N-1 condition. One of the Transmission lines in Bharatpur circle had been in a faulty condition for long time. On 02.05.2018, due to storms in the region, the second line / tower broke down leading to complete breakdown of the transmission system in the area. This resulted in power blackout in the area for three continuous days causing major grievances and dissatisfaction among the consumers.

ii) Jawahar Circle: 132 kV cable from 220 KV GSS in Indira Gandhi to 132 KV GSS in Malviya Nagar was faulty for three months from 17.12.2017 at 4:46 PM and was restored on 18.03.2018 at 10:38 PM. GSS shutdown led to increased losses because power had to be fed from other distant GSS

system.

iii) Kushkhera (Alwar): 220/132 KV 160 MVA transformer at 22 KV GSS Kushkhera remained faulty from 11.11.2017 to 20.03.2018. Around 20-30% of the load of HT consumers could not be met due to failure of 220 kV transformer in the area leading to power cuts for HT consumers and revenue loss for the Discom.

13.3 As pointed out in the instances above, due to unavailability of many GSS substations and lines, Discoms had to resort to power cuts of various consumers especially the profitable subsidizing categories. Setting minimum standards for individual transmission system elements and compensation in case of failure to meet those standards will entail the transmission licensee to improve the system at the earliest. The objective of the regulations lays stress on providing efficient, reliable, quality supply to the distribution licensees. The current regulations (of 2004) recognize the transmission system in aggregate and do not take into consideration failure of individual line or substation. Such failure/ breakdown triggers great hardship to the consumers affected resulting in consumer dissatisfaction and causes huge revenue loss to Discoms.

13.4 JVVNL in its Petition no. RERC/1454/19 had requested the Commission to set availability standards for individual transmission system elements. As per Regulation 6 of the Draft RERC (Standards of Performance of Transmission Licensee) Regulations, 2020, availability of various transmission elements on monthly basis is based on the norms specified in the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012. This amendment is also in line with the Discom's proposal regarding availability calculation suggested in Petition no. RERC/1454/19 for amendment of the RERC (Transmission Licensee's Standards of Performance) Regulations, 2004. JVVNL submitted that provision of monthly element-wise availability standards rather than annual availability for the overall system is a welcome step.

13.5 JVVNL also submitted that as proposed by it in the Petition no. RERC/1454/19 for amendment in the RERC (Transmission Licensee's Standards of Performance) Regulations, 2004, the Commission is requested to frame standards for the following additional parameters regarding outage:

i) Total outage of 132, 220, 400, 765, KVA GSS;
ii) Outage of 220/132, 132/33 KVA Transformers;
iii) Outage of circuit breaker;
iv) Outage of 765, 400, 220, 132 kV lines due to failure of insulator, snapping of conductor and collapse of tower;
v) Outage of 220, 132 kV Current Transformers (CT), etc.

13.6 JVVNL also submitted that the MYT Regulations, 2019 stipulates that Transmission Licensee can earn incentives for normative availability of 98% for the recovery Annual

Transmission Charges. Further, the availability calculation already excludes tower collapse, shut-down for maintenance or construction of elements of another scheme, switching of a transmission line as per the direction of SLDC, force majeure conditions, outages caused by grid disturbance not attributable to transmission licensee. Therefore, the minimum monthly availability of transmission system specified in Regulation 6.2 of the draft Regulations should be revised from 90% to at least 95%,.

13.7 JVVNL also submitted that the availability norms for Network Cable may also be specified in the Regulations.

Commission's Views/Decision:

13.8 The Commission is of the view that the norms for availability are proposed for various transmission elements on monthly basis are based on the norms specified in the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012. Therefore, the Commission decides to retain the proposed norms for availability in the Draft Regulations. However, in order to provide better clarity on transmission elements, the Commission has modified the Regulation 6.2 as follows:

"6.2. The element-wise monthly availability of the transmission system shall not be below the availability as given below:

Transmission Elements	**Availability (% of time)**
AC Transmission line	90
Power Transformer/ Inter connecting Transformer (ICT)	90
Reactors	90
Static VAR Compensator	90
Series Compensator	90
HVDC (Back-to-back Stations and bi-pole links)	85

Note:

(1) Tower collapse upto limit specified in Regulation 8 shall not be counted for the purpose of calculation of monthly availability of AC transmission line and HVDC bipole line under these Regulations.

(2) Failure of Power Transformer and Reactor upto limit specified in Regulation 8 shall not be counted for the purpose of calculation of availability of Power Transformer and Reactor under these Regulations.

Provided that the element-wise availability and total system availability for month as well as for whole year shall be calculated by transmission licensee and duly certified by the SLDC:

Provided also that the norms of Availability of Transmission System for recovery of Annual Transmission Charges and Incentive shall be as specified in Rajasthan

Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2019, as amended from time to time."

14 **Regulation No. 6.3: Methodology for computation of Availability**

Commission's Proposal:

"***6.3 Methodology for computation of Availability:***

6.3.1 Transmission System Availability factor for nth month or for a year (TSAFn) shall be calculated by transmission licensee and duly certified by the SLDC, separately for each AC and HVDC transmission system.

6.3.2 Transmission System Availability factor for nth month or for a year (TSAFn) shall be calculated by considering the following:

(a) ***AC transmission lines:*** *Each circuit of AC transmission line shall be considered as one element;*

(b) ***Power Transformer:*** *Each Power Transformer shall form one element;*

(c) ***Inter-Connecting Transformers (ICTs):*** *Each ICT bank (three single phase transformers together) shall form one element;*

(d) ***Static VAR Compensator (SVC):*** *SVC along with SVC transformer shall form one element;*

(e) ***Bus Reactors or Switchable line reactors:*** *Each Bus Reactors or Switchable line reactors shall be considered as one element;*

(f) ***Static Synchronous Compensation ("STATCOM"):*** *Each STATCOM shall be considered as separate element.*

(g) ***HVDC Bi-pole links:*** *Each pole of HVDC link along with associated equipment at both ends shall be considered as one element;*

(h) ***HVDC back-to-back station:*** *Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for transfer of inter- regional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable;*

….."

Stakeholders' Comments/Suggestions:

14.1 Bask Research Foundation submitted that in Regulation 6.2 of the Draft Regulations, the table providing percentage availability of all the transmission elements, ICTs are not mentioned whereas in Regulation 6.3.2 (c), ICTs are mentioned while explaining the methodology for computation of Availability. It is suggested that suitable changes are made to ensure consistency in language.

Commission's Views/Decision:

14.2 The Commission finds the merit in the suggestions of stakeholder. Accordingly, the Commission has added the provision percentage availability for ICT in Regulation 6. 2 to maintain the uniformity in transmission elements mentioned in Regulation 6.3.2 (c) of the Draft Regulations.

15 **Regulation No. 6.3.5: Weightage factor for transmission elements**

Commission's Proposal:

"6.3.5 The weightage factor for each category of transmission elements shall be considered as under:

(a) For each circuit of AC line – Number of sub-conductors in the line multiplied by ckt-km;

(b) For each HVDC pole- The rated MW capacity x ckt-km;

(c) For each Power Transformer/ICT – The rated MVA capacity;

(d) For SVC- The rated MVAR capacity (inductive and capacitive);

(e) For Bus Reactor/switchable line reactors – The rated MVAR capacity;

(f) For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and

(g) For STATCOM – Total rated MVAR Capacity."

Stakeholders Comments/Suggestions:

15.1 RVPN submitted that outage of line does not depend upon number of conductors. Therefore, it suggested to revise the Regulation 6.3.5 of the Draft Regulations as below:

"6.3.5 The weightage factor for each category of transmission elements shall be considered as under:

(a) For each circuit of AC line – ~~Number of sub-conductors in the line multiplied by~~ ckt-km;

(b) For each HVDC pole- The rated MW capacity x ckt-km;

(c) For each Power Transformer/ICT – The rated MVA capacity;

(d) For SVC- The rated MVAR capacity (inductive and capacitive);

(e) For Bus Reactor/switchable line reactors – The rated MVAR capacity;

(f) For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and

(g) *For STATCOM – Total rated MVAR Capacity."*

Commission's Views/Decision:

15.2 The Commission accepts the stakeholder's suggestions that outage of the transmission line does not depend upon the number of conductors. Therefore, the modified provisions of Regulation 6.3.5 are as follows:

"6.3.5 The weightage factor for each category of transmission elements shall be considered as under:

(a) For each circuit of AC line –ckt-km;
(b) For each HVDC pole- The rated MW capacity x ckt-km;
(c) For each Power Transformer/ICT – The rated MVA capacity;
(d) For SVC- The rated MVAR capacity (inductive and capacitive);
(e) For Bus Reactor/switchable line reactors – The rated MVAR capacity;
(f) For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and
(g) For STATCOM – Total rated MVAR Capacity."

16 **Regulation No. 6.3.6: Deemed availability of transmission elements**

Commission's Proposal:

"6.3.6 The transmission elements under outage due to following reasons shall be deemed to be available:

(a) Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission:

Provided that, if the other transmission scheme belongs to the transmission licensee, SLDC may restrict the deemed availability period to that considered reasonable for the work involved:

Provided further that, in case of dispute regarding deemed availability, the matter shall be referred to SPC within thirty (30) days.

(b) Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC or concerned RLDC."

Stakeholders Comments/Suggestions:

16.1 RVPN suggested to revise the Regulation 6.3.6 of the Draft Regulations as below:

"6.3.6 The transmission elements under outage due to following reasons shall be deemed to be available:

(a) Shut down availed for maintenance of transmission element/ another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission:

Provided that, if the other transmission scheme belongs to the transmission licensee, SLDC may restrict the deemed availability period to that considered reasonable for the work involved:

Provided further that, in case of dispute regarding deemed availability, the matter shall be referred to SPC within Sixty (60) days.

(b) Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC or concerned RLDC

(c) Shutdown of healthy circuit in double circuit line for attending breakage in one circuit should be removed from outage criteria.

(d) Outage period due to refusal of shutdown of feeder by consumer/Discom

(e) Shutdown taken for protection testing of faulty equipment"

Commission's Views/Decision:

16.2 The Commission is of the view that there is a merit in the suggestion given at sub-clause (c), i.e., shutdown of healthy circuit in double circuit line for attending breakage in one circuit should be removed from outage criteria. The Commission finds no merit in the other suggestions.

16.3 Therefore, the modified provisions in the Draft Regulations are as follows:

"6.3.6 The transmission elements under outage due to following reasons shall be deemed to be available:

(a) Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission:

Provided that, if the other transmission scheme belongs to the transmission licensee, SLDC may restrict the deemed availability period to that considered reasonable for the work involved:

Provided further that, in case of dispute regarding deemed availability, the matter shall be referred to SPC within thirty (30) days.

(b) Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC or NRLDC.

(c) Shutdown of healthy circuit in double circuit line for attending breakage in one circuit."

17 **Regulation No. 6.3.7: Contingencies**

Commission's Proposal:

"6.3.7 For the following contingencies, outage period of transmission elements, as certified by SLDC, shall be excluded from the total time of the element under period of consideration for the following contingencies:

(a) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not design failure) will be verified by SLDC. A reasonable restoration time for the element shall be considered by SLDC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee:

Provided that SLDC may consult the transmission licensee or any expert for estimation of reasonable restoration time:

Provided further that circuits restored through ERS (Emergency Restoration System) shall be considered as available.

(b) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, Power Transformer/ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration:

Provided that in case of any disagreement with the transmission licensee regarding reason for outage, same may be referred to SPC within 30 days. The above need to be resolved within two months:

Provided further that where there is a difficulty or delay beyond sixty days, from the incidence in finalizing the recommendation, the SLDC shall allow the outage hours on provisional basis till the final view."

Stakeholders Comments/Suggestions:

17.1 As regards clause (a) of Regulation 6.3.7 of the Draft Regulations, RVPN submitted that design failure should be excluded because natural conditions change with time and design improvement is continuous process. Therefore, RVPN suggested to revise the Regulation 6.3.7 of the Draft Regulations as below:

"6.3.7 For the following contingencies, outage period of transmission elements, as certified by SLDC, shall be excluded from the total time of the element under period of consideration for the following contingencies:

(a) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure ~~(not design failure)~~ will be verified by SLDC. A reasonable restoration time for the element shall be considered by SLDC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee:

Provided that SLDC may consult the transmission licensee or any expert for estimation of reasonable restoration time:

Provided further that circuits restored through ERS (Emergency Restoration System) shall be considered as available.

(b) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, Power Transformer/ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration:

Provided that in case of any disagreement with the transmission licensee regarding reason for outage, same may be referred to SPC within <u>60</u> days. The above need to be resolved within two months:

Provided further that where there is a difficulty or delay beyond sixty days, from the incidence in finalizing the recommendation, the SLDC shall allow the outage hours on provisional basis till the final view."

17.2 Bask Research Foundation submitted that the proviso in Regulation 6.3.7 (a) of the Draft Regulations states that SLDC may consult the transmission licensee or any expert for estimation of reasonable restoration time. However, SLDC should comply with restoration time limit defined within the Regulations. Consulting transmission licensee or an expert can lead to conflict of interest or collusion. Any delay in restoration is a business and operations risk and should have been accounted by the licensee in his bid. Therefore, additional relief should not be provided under any circumstances, except in cases of Force Majeure.

Commission's Views/Decision:

17.3 The Commission clarifies that the provision of Force Majeure is already covered in the Regulations. Therefore, the Commission decides to retain the provisions of the Regulation 6.3.7 of the Draft Regulations.

18 **Regulation No. 7: System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI)**

Commission's Proposal:

"7 System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI)

7.1 SAIFI and SAIDI shall be calculated on monthly basis as per following formula-

(a) System Average Interruption Frequency Index (SAIFI)

$SAIFI = \Sigma I / N$

Where,
Σ I = Sum number of interruptions exceeding 5 minutes at a time duration in the month for the voltage class.
N = Number of EHV sub stations in service at the beginning of month having that class of voltage supply.

(b) System Average Interruption Duration Index (SAIDI)

$SAIDI = \Sigma D / N$

Where,
Σ D = Sum of duration all interruptions of exceeding 5 minutes at a time in the month for the voltage class.
N = Number of EHV sub stations in service at the beginning of month having that class of voltage supply.

Provided that all interruptions of duration exceeding 5 (five) minute at a time

shall be considered for computation of indices:

Provided further that interruptions due to scheduled outage (including three shift operation of agriculture pump sets), load shedding to meet capacity shortage, failure of inter-state transmission system or failure of generating units (leading to grid failure or system islanding) shall be excluded:

7.2 The monthly SAIFI and SAIDI for the transmission system shall not exceed standards as given in the Table below:

SAIFI	***SAIDI***
2 interruptions per month	*30 minutes per month*

7.3 SAIFI and SAIDI shall be calculated by Transmission Licensee on monthly basis and duly certified by SLDC."

Stakeholders Comments/Suggestions:

18.1 RVPN submitted that there is no relevance of SAIFI and SAIDI because element wise availability and restoration time are specified. Therefore, RVPN suggested that SAIFI and SAIDI should be excluded from the Draft Regulations.

18.2 RVPN suggested to revise the Regulation 7.2 of the Draft Regulations as below:

"7.2 The monthly SAIFI and SAIDI for the transmission system shall not exceed standards as given in the Table below:

SAIFI	***SAIDI***
***4** interruptions per month*	***60** minutes per month*

"

18.3 JVVNL submitted that as per the RERC (Transmission Licensee's Standards of Performance) Regulations, 2004, the SAIFI and SAIDI is calculated for whole network and does not consider individual substation wise impact. Since there are a large number of sub stations at service, the impact of breakdown of few large and critical substations is not reflected in the overall SAIFI and SAIDI calculations. The Transmission licensee may have good overall SAIFI and SAIDI but the Discoms face huge revenue losses and consumer dissatisfaction due to major interruptions on critical substations and failure of the Transmission licensee to timely rectify the power supply issues. Keeping these points in view, the Discom submitted in its Petition no. RERC/1454/19, that the Commission may set standards for individual substations and compensation mechanism be stipulated in case these standards are not meet.

18.4 In the draft RERC SOP (Transmission) Regulations, 2020 (Regulation 7.1), it has been specified that the monthly SAIFI for the transmission system shall not exceed 2 interruptions per month and the SAIDI for the transmission system shall not exceed 30 minutes per month which is a welcome step as it would eventually increase consumer

satisfaction. Calculation of the SAIFI and SAIDI on a monthly basis rather than on the weighted average interruptions in a year is also a welcome step.

18.5 JVVNL submitted that, as proposed by the Discom in the Petition no. RERC/1454/19, the Commission may set SAIFI and SAIDI standards for individual substations rather than for the system overall, and a compensation mechanism for failing to adhere to the norms may be specified accordingly.

18.6 Bask Research Foundation submitted that as per RERC (Transmission Licensees Standards of Performance) Regulations, 2004, standards for final stage-level-3 SAIFI were 18 interruptions per year (i.e., 1.5 interruptions per month) whereas in proposed Draft Regulations, it is increased to two interruptions per month. Considering the advancements in the technology and materials, the number of interruptions should either decrease or at least kept at 1.5 interruptions per month.

18.7 Barmer Power Transmission Service Limited (BPTSL)/ Adani Transmission Limited submitted that system availability is a true measure of Transmission system performance which itself includes SAIFI and SAIDI parameters whereas SAIFI and SAIDI parameters are more relevant in the case of Distribution System.

Commission's Views/Decision:

18.8 The Commission has noted the suggestions of RVPN. However, the Commission is of the view that even though element wise availability and restoration time are already specified in the Regulations, SAIFI and SAIDI are required to measure transmission system reliability of the network operators. As regards the modifications suggested for SAIFI and SAIDI norms by RVPN and Bask Research Foundation, the Commission clarifies that the proposed SAIFI and SAIDI standards are reasonable and therefore, the same are retained.

18.9 The Commission noted the suggestions of Jaipur Discom to specify standards for individual sub-stations. However, the Commission is of the view that SAIFI and SAIDI are the key indicators used to measure transmission system reliability at overall level and setting SAIFI and SAIDI standards for individual sub-station would make measurement as well as monitoring more complicated. Therefore, the Commission decides to retain the provisions of the Draft Regulations for SAIFI and SAIDI.

18.10 On the submission of BPTSL that SAIFI and SAIDI parameters are not relevant for transmission system, the Commission is of the view that SAIFI and SAIDI parameters are equally important for measurement of performance of transmission system.

18.11 Further, the Commission deems it appropriate to calculate SAIFI and SAIDI by Transmission Licensee for each voltage class. Accordingly, the Commission decides to revise the provision of Regulation 7.3 as below:

"7.3 SAIFI and SAIDI shall be calculated by Transmission Licensee on monthly basis for each voltage class and duly certified by SLDC."

19 **Regulation No. 8: Restoration Time**

Commission's Proposal:

*"**8 Restoration Time***

Restoration time for different types of failures of transmission line, power transformers and reactors shall not exceed the following time limit:

Sl. No.	***Type of Failures***	***Restoration Time (Days)***
1.	*Insulation failure*	
	Plain Terrain	*1*
	Hilly/Desert Terrain	*2*
2.	*Tower after collapse by Emergency Restoration System (ERS)*	*12*
3.	*Tower after collapse*	
	Plain Terrain	*30*
	River Bed	*50*
	Hilly/Desert Terrain	*50*
4.	*Snapping of phase conductor*	
	Plain Terrain	*2*
	Hilly/Desert Terrain	*3*
5.	*Failure of earth wire*	
	Plain Terrain	*2*
	Hilly/Desert Terrain	*3*
6.	*Failure of Power Transformer*	
	Restoration of failed Power Transformer	*120*
7.	*Failure of Reactors*	
	Restoration of the failed reactor	*120*

Note: Hilly/Desert terrain shall be as per notification issued by Central/State government from time to time."

Stakeholders Comments/Suggestions:

19.1 RVPN suggested to revise the restoration time proposed in Regulation 8 of the Draft Regulations based on voltage level, number of towers collapsed, suspension and tension string as below:

"***8 Restoration Time***

Restoration time for different types of failures/ Outage of transmission line, power transformers and reactors shall not exceed the following time limit:

S. No.	**Type of Failures**	**132 KV**	**220 KV**	**400 KV & 765 KV**	**Justification for Suggestions**
		Single Circuit line			
		Restoration Time (Days)	**Restoration Time (Days)**	**Restoration Time (Days)**	
1	Insulator failure Per String				
a	**Suspension string**				
	Plain Terrain	2	2		One day for identification & one day for rectification
	Hilly/Desert Terrain	4	4		
b	**Tension string**				
	Plain Terrain	4	4		Execution of work in tension string takes double time of suspension string.
	Hilly/Desert Terrain	8	8		
2	Tower after collapse by Emergency Restoration System (ERS)	12	12	24	
3	***Tower after collapse**				
	1 to 2 Towers				
	Plain Terrain	30	30	75	
	River Bed	50	50	100	
	Hilly/Desert Terrain	50	60	120	
	3 to 5 Towers				
	Plain Terrain	50	60	120	
	River Bed	60	80	140	
	Hilly/Desert Terrain	80	100	200	
	6 to 10 Towers				
	Plain Terrain	90	120	180	
	River Bed	120	180	250	
	Hilly/ Desert Terrain	120	200	300	
	More than 11 Towers				
	Plain Terrain	120	180	240	

	River Bed	180	240	360	
	Hilly/Desert Terrain	200	300	400	
	*** For Double Circuit line 1.5 times is required then Single Circuit**				
	XLPE Cable	12 Month	12 Months		
4	Snapping of phase conductor				
	Plain Terrain	3	3	8	
	Hilly/Desert Terrain	4	4	12	
5	Failure of earth wire				
	Plain Terrain	2	2	4	
	Hilly/Desert Terrain	3	3	6	
6	**OPGW (Optical Ground Wire)**				
	Plain Terrain	5	5	10	
	Hilly/Desert Terrain	7	7	14	
7	Failure of Power Transformer				
	Restoration of failed Power Transformer				
	25 MVA 132 kV & 100 MVA 220 kV rating	180	180		
	50 MVA 132 kVA & 160 MVA 220 kV rating	360	360		
	400 kV & 765 kV rating			730	
8	Failure of Reactors				
	Restoration of the failed Reactor			730	

19.2 JVVNL submitted that as per Regulation 8 of the RERC SOP (Transmission) Regulations, 2020, the restoration time (in days) for various types of failures in each type terrain has been fixed. The quick restoration will not only help curtail the financial losses of the Discoms, but also will increase the consumer satisfaction. Therefore, addition of this provision is a welcome step.

19.3 JVVNL also submitted that the restoration time of failed power transformers should be reduced from 120 days to 60 days. CERC has specified the restoration time of 120 days for the central transmission licensee, i.e., PGCIL, which is spreaded over a larger span of area as compared to the transmission utility network within the State. Out of 120 days, nearly 60 days have been considered for transportation, ordering of trailer and bringing trailer to the site. Moreover, the CERC had specified the restoration norms for the transmission licensee keeping in view of the situation prevailing at the time of notification of the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations in 2012. Hence, the proposed Regulations should be realigned keeping in view of the technological advancement in today's time which require lesser time for restoration.

19.4 JVVNL also submitted that the restoration time norms for Network Cable may also be specified in the Regulations.

Commission's Views/Decision:

19.5 The Commission agrees with JVVNL's view that quick restoration of failures of transmission elements will help the Discoms to increase supply hours, and to increase the consumer satisfaction.

19.6 As regards the suggestions of RVPN and JVVNL to revise the restoration time, the Commission is of the view that restoration time has been fixed keeping in view the best practices in the power transmission industry. Further, it is pertinent to mention that the restoration time for different types of failure have been proposed based on the norms specified in the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012. Therefore, the Commission do not find any merit in the suggestions of the stakeholders. However, to provide better clarity on types of failures, the Commission decides to revise the provisions of the Draft Regulations as below:

"8 Restoration Time

Restoration time for different types of failures of transmission line, power transformers and reactors shall not exceed the following time limit:

Sl. No.	Type of Failures	Restoration Time (Days)
1.	Insulator failure	
	Plain Terrain	1
	Hilly/Desert Terrain	2
2.	Tower after collapse by Emergency Restoration System (ERS)	12
3.	Tower after collapse	
	Plain Terrain	30
	River Bed	50
	Hilly/Desert Terrain	50
4.	Phase conductor broken	
	Plain Terrain	2
	Hilly/Desert Terrain	3
5.	Failure of earth wire	
	Plain Terrain	2
	Hilly/Desert Terrain	3
6.	Failure of Power Transformer	
	Restoration of failed Power Transformer	120
7.	Failure of Reactors	
	Restoration of the failed reactor	120

Note: Hilly/Desert terrain shall be as per notification issued by Central/State government from time to time."

20 **Regulation No. 9: Payment of Compensation**

Commission's Proposal:

"***9 Payment of Compensation***

Any failure by the transmission licensee to maintain the standards of performance specified in Regulation 6 and 8 shall render the said licensee liable to payment of compensation to an affected person claiming such compensation under the provisions of the Act.

Provided that any claim for such compensation shall be accompanied by the certification of SLDC.

Provided further that the payment of compensation by the transmission licensee shall be without prejudice to any penalty, which may be imposed or any prosecution which may be initiated by the Commission as provided in the Act."

Stakeholders Comments/suggestions:

20.1 JVVNL submitted that the draft Regulations do not specify compensation against the non-achievement of SOP norms related to SAIFI and SAIDI. The unavailability of the transmission network has severe impact not only on the revenue of the Discoms but also on the interests of the end-consumers. Therefore, compensation against the non-achievement of SOP norms related to SAIFI and SAIDI should be included in the Regulations.

Commission's Views/Decision:

20.2 The Commission do not find any merit in the submission of JVVNL since the non-achievement of SOP norms related to SAIFI and SAIDI will result into non-achievement of SOP norms related to availability and/or restoration time and compensation for non-achievement of SOP norms related to availability and restoration time is already specified under Regulation 9 of the Draft Regulations.

21 **Regulation No. 10: Methodology for Compensation**

Commission's Proposal:

"***10 Methodology for Compensation***

10.1 An affected person may make an appropriate Petition to the Commission for award of compensation along with necessary documentary evidences of being affected because of non-adherence of Standards of Performance.

10.2 The Commission shall determine the compensation after giving reasonable opportunity to the transmission licensees of being heard:

Provided further that the compensation to be paid by the transmission licensee to the affected party shall be limited to 1.5 times of the applicable transmission charges for the affected person during such period of non-adherence of

Standards of performance:

Provided further that the transmission licensee shall not be entitled to recover the amount of compensation awarded through tariff from the users of the transmission of electricity:

Provided also that no claim for compensation shall be entertained, if the application for the claim is filed after expiry of a period of ninety (90) days from the end of the month when the availability of the transmission system falls short of the availability specified in Regulation 6 and ninety (90) days from the date of restoration of transmission element, as the case may be, for the standards prescribed in Regulation 8 of these regulations.

10.3 In case of non-compliance of the order/ direction passed by the Commission, proceeding under Section 142 of Act will be initiated."

Stakeholders Comments/suggestions:

21.1 RVPN suggested to revise the Regulation 10 of the Draft Regulations in line with CERC Regulations as below:

"***10 Methodology for Compensation***

10.1 An affected person may make an appropriate Petition to the Commission for award of compensation along with necessary documentary evidences of being affected because of non-adherence of Standards of Performance.

10.2 The Commission shall determine the compensation after giving reasonable opportunity to the transmission licensees of being heard:

Provided further that the compensation to be paid by the transmission licensee to the affected party shall be limited to ~~1.5 times of~~ ~~the~~ applicable transmission charges for the affected person during such period of non-adherence of Standards of performance <u>for that particular element because of which person is affected</u>:

Provided further that the transmission licensee shall not be entitled to recover the amount of compensation awarded through tariff from the users of the transmission of electricity:

Provided also that no claim for compensation shall be entertained, if the application for the claim is filed after expiry of a period of ninety (90) days from the end of the month when the availability of the transmission system falls short of the availability specified in Regulation 6 and ninety (90) days from the date of restoration of transmission element, as the case may be, for the standards prescribed in Regulation 8 of these regulations.

10.3 In case of non-compliance of the order/ direction passed by the Commission, proceeding under Section 142 of Act will be initiated."

21.2 Bask Research Foundation submitted that the proviso of Regulation 10.2 of the Draft Regulations provides that the compensation to be paid by the transmission licensee to the affected party shall be limited to 1.5 times of the applicable transmission charges for the affected person during such period of non-adherence of Standards of performance. However, in case multiple transmission licensees are responsible for maintaining a transmission line, failure by any one transmission licensee can have a bearing on the user. Therefore, clarity needs to be provided for calculation of system availability and compensation in such cases.

Commission's Views/Decision:

21.3 The Commission has noted the suggestions of the stakeholders. The Commission is of the view that the proposed compensation limited to 1.5 times of the applicable transmission charges to be paid by the transmission licensee for non-adherence of Standards of Performance is reasonable. Further, the modalities of compensation in case of multiple transmission licensees shall be as determined by the Commission from time to time. Therefore, the Commission has not considered the suggestions of the stakeholders. However, to give more clarity, the Commission decides to add reference of Regulation 9 in Regulation 10.1. as shown below:

"***10 Methodology for Compensation***

10.1 An affected person may make an appropriate Petition to the Commission under Regulation 9 above for award of compensation along with necessary documentary evidences of being affected because of non-adherence of Standards of Performance.

…."

22 **Regulation No. 11: Time frame for certification by SLDC**

Commission's Proposal:

"***11 Time frame for certification by SLDC***

Following schedule shall be followed for certification of Availability, SAIDI and SAIFI by SLDC:

(a) Submission of Availability, SAIFI & SAIDI supported by outage data by Transmission Licensees to SLDC – By 15th of the following month;

(b) Verification & issue of above certificate by SLDC – by 25th of the following month

Provided that total transmission availability for the year shall be calculated with the calculation of last month by transmission license and certified by

SLDC."

Stakeholders Comments/suggestions:

22.1 RVPN suggested to revise the Regulation 11 of the Draft Regulations as below:

"***11 Time frame for certification by SLDC***

Following schedule shall be followed for certification of Availability, SAIDI and SAIFI by SLDC:

(a) Submission of Availability, SAIFI & SAIDI supported by outage data by Transmission Licensees to SLDC – By ~~15th~~ end of the following month;

(b) Verification & issue of above certificate by SLDC – by ~~25th~~ 20th of the ~~following~~ next month

Provided that total transmission availability for the year shall be calculated with the calculation of last month by transmission license and certified by SLDC."

22.2 JVVNL submitted that, representative of Discom should be assigned during the assessment of SAIFI and SAIDI. JVVNL also submitted that the certification by SLDC should be done in the presence of a representative of Discom to ensure the authenticity and transparency in assessment of the performance parameters of transmission licensee. Further, a Committee may be formed by the Commission for the same.

22.3 Adani Transmission Ltd/ BPTSL submitted that the transmission licensee should provide the data by 2nd day of following month and SLDC should verify and issue certified certificate by 4th of succeeding month instead of 25th of following month. As per the provision of Transmission Service Agreement (TSA) between Transmission Service Provider (TSP) and Long Term Transmission Customers (LTTCs), TSP shall submit to LTTCs by fifth day of such and each succeeding month an invoice in agreed form(" Monthly Transmission Charge Invoice") signed by the authorized signatory of TSP. Further, with the proposed Regulations, TSP shall not be in position to submit invoices to LTTCs within 5th of succeeding month as SLDC has the time period up to 25th day of succeeding month to issue certified Availability Certificate. Hence, the proposed Regulations shall cause non-compliance of TSA provision on the part of TSP.

Commission's Views/Decision:

22.4 The Commission notes that RVPN has not provided any valid reasoning for extension in time frame for certification by SLDC. Further, BPTSL has suggested to revise timeframe for certification by SLDC in line with the timeframe for submission of invoice as per TSA. However, reduction of timeframe proposed from 15th day to 2nd day for submission of

performance data by transmission licensee is not reasonable. Further, as discussed earlier, the timelines specified in these Regulations are only for the purposes of compliance of SOP Regulations and timelines mentioned in other documents such as TSA needs to be complied by the stakeholders as per respective documents. Therefore, the Commission decides to retain the provisions of the Draft Regulations.

22.5 As regards the suggestions of Jaipur Discom to assign Discom's representative for assessment of the performance parameters of transmission licensee, the Commission is of the view that there is no need of the same since SLDC has to certify the performance parameters of transmission licensee as per the Regulation 11 of the Draft Regulations. Further, on suggestion on forming a Committee it is clarified that as per Regulation 13, the State Power Committee shall review the performance of each transmission licensee every year and submit its recommendations, if any, to the Commission.

23 **Regulation No. 12: Information to be furnished by Transmission Licensees**

Commission's Proposal:

"***12 Information to be furnished by Transmission Licensees***

12.1 All transmission licensees, in accordance with Section 59 of the Act, shall furnish to the Commission,

(1) The level of performance achieved regarding element wise system availability, total availability of transmission system, SAIFI and SAIDI;

(2) Details of element where restoration time has exceeded the standards specified in Regulation 8

(3) Details of compensation paid by the Transmission Licensee

Provided that such information shall be submitted in the formats in the Schedule of these regulations.

12.2 Such monthly information in the requisite formats shall be submitted to the Commission twice during the financial year, on six monthly basis by 31st October and 30th April for the periods April to September and October to March respectively:

Provided that such information also be displayed by the Commission on its website.

12.3 All transmission licensees shall display on their websites the actual performance against the specified Standards of Performance on a monthly basis and the aggregate amount of compensation paid, if any, in the formats enclosed in the Schedule:"

Stakeholders Comments/suggestions:

23.1 RVPN suggested to revise the Regulation 12 of the Draft Regulations as below:

"***12 Information to be furnished by Transmission Licensees***

12.1 All transmission licensees, in accordance with Section 59 of the Act, shall furnish to the Commission,

(1) The level of performance achieved regarding element wise system availability, total availability of transmission system, SAIFI and SAIDI;

(2) Details of element where restoration time has exceeded the standards specified in Regulation 8

(3) Details of compensation paid by the Transmission Licensee

Provided that such information shall be submitted in the formats in the Schedule of these regulations.

12.2 Such monthly information in the requisite formats shall be submitted to the Commission twice during the financial year, on six monthly basis by ~~31st October~~ 30th November and ~~30th April~~ 31st May for the periods April to September and October to March respectively:

Provided that such information also be displayed by the Commission on its website.

12.3 All transmission licensees shall display on their websites the actual performance against the specified Standards of Performance on a monthly basis and the aggregate amount of compensation paid, if any, in the formats enclosed in the Schedule:"

23.2 JVVNL submitted that the Discom in its Petition for amendment of RERC (Transmission Licensee's Standards of Performance) Regulations, 2004 requested the Commission to direct the Transmission licensee to update quarterly reports on the Commission's website with present actual performance vs standards set by the Commission and the compensation paid to the utility for failure to meet the standards.

23.3 As per Regulation 12.3 of the RERC SOP (Transmission) Regulations, 2020, the Commission has directed the transmission licensees to display the reports on a monthly basis rather than quarterly basis. This is highly appreciated by the Discoms and is seen as a welcome step.

23.4 Bask Research Foundation submitted that standards should also be defined for data management and reporting to enforce discipline and consistent in reporting of data. It is suggested the Commission to include the same in the proposed Regulations. This shall also include provisions for verification or certification and audit of data reported.

Commission's Views/Decision:

23.5 The Commission notes that RVPN has not provided any reasoning for extension in time frame for submission of information to the Commission. Therefore, the Commission decides to retain the provisions of the Draft Regulations.

23.6 On the suggestion by the stakeholder regarding data management and reporting, the Commission is of the view that the proposed framework as specified in Regulations 12 regarding information to be furnished by Transmission Licensee is adequate to ensure to enforce discipline and consistency in reporting of data.

24 **Schedule A: Information to be furnished by Transmission Licensee to SLDC**

Commission's Proposal:

"SCHEDULE A

Information to be furnished by Transmission Licensee to SLDC

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Availability

Element Name	*Outage*	*Restoration*	*Duration of Outage Attributable to*		*Reason of Outage*	*% Availability*		
	Date Time	*Date Time*	*Transmission Licensee*	*Others*	*System constraint/ Natural calamity/ Militancy*	*Deemed Available*	*Reason of Outage*	
			Hrs:Min	*Hrs:Min*	*Hrs:Min*	*Hrs:Min*		

(II) The restoration times for different types of failures of a transmission line and failure of power transformer and reactor in the following format:

Sl. No.	***Types of failures***	***Restoration Time (Days)***
		Terrain Type

Sl. No.	***Types of failures***	***Restoration Time (Days)***		
		Plain	*River Bed*	*Hilly/ Dessert*
1.	*Insulation failure*			
2.	*Tower after collapse by Emergency Restoration System (ERS)*			
3.	*Tower after collapse*			
4.	*Snapping of phase conductor*			
5.	*Failure of earth wire*			
6.	*Failure of Power Transformer*			
	Restoration of failed Power Transformer			
7.	*Failure of Reactors*			
	Restoration of the failed reactor			

Stakeholders Comments/suggestions:

24.1 RVPN submitted that in view of incorporating complete information to verify the availability the format for Schedule A should be modified as under:

"SCHEDULE A

Information to be furnished by Transmission Licensee to SLDC

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Availability

Element Name	Outage	Restoration	Reason of Outage	Duration of Outage Attributable to				Weightage factor (w)	% Availability
	Date Time	Date Time		Transmission Licensee	Others	Force Majeure Conditions	Deemed Available as per Reg 6.3.6 & 6.3.7		
				Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		

(II) Restoration Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

S. No.	***Name of Element***	***Restoration time in Regulation 8***		***Actual restoration time (in days)***
		Table Ref. No.	***Specified time (in days)***	

S. No.	***Name of Element***	***Restoration time in Regulation 8***		***Actual restoration time***

Commission's Views/Decision:

24.2 The Commission finds merit in the Stakeholder's suggestion for making changes in proposed formats to provide more comprehensive information.

24.3 Therefore, the modified Schedule A for the Regulations is as follows:

"SCHEDULE A

Information to be furnished by Transmission Licensee to SLDC

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Availability

Element Name	Outage	Restoration	Reason of Outage	Duration of Outage Attributable to				Weightage factor (w)	% Availability
	Date Time	Date Time		Transmission Licensee	Others	Force Majeure Conditions	Deemed Available as per Reg 6.3.6 & 6.3.7		
				Hrs:Min	Hrs:Min	Hrs:Min	Hrs:Min		

(II) The restoration times for different types of failures of a transmission line and failure of power transformer and reactor in the following format:

Sl. No.	**Types of failures**	***Restoration time in Regulation 8***		***Actual restoration time (in days)***
		Table Ref. No.	***Specified time (in days)***	
1.	Insulator failure			
2.	Tower after collapse by Emergency Restoration System (ERS)			
3.	Tower after collapse			
4.	Phase conductor broken			
5.	Failure of earth wire			
6.	Failure of Power Transformer			
	Restoration of failed Power Transformer			
7.	Failure of Reactors			
	Restoration of the failed reactor			

"

25 **Schedule B: Information to be furnished by Transmission Licensee to the Commission**

Commission's Proposal:

"SCHEDULE B

Information to be furnished by Transmission Licensee to the Commission

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Transmission System Availability

Particulars	*Total outage time during month (minutes)*	*Total outage time during month considered for computation of Availability (minutes)*	*% Availability during the month*	*Remarks, if any*
AC Transmission line, including Transmission bay				
Power Transformer				
Reactors				
Static VAR Compensator				
Series Compensator				
HVDC (Back-to-back Stations and bi-pole links)				

Note – Total Outage time shall be summation of outage time of all elements during

the month

(II) Availability of the AC and HVDC Transmission System

	Month/Year	*% Availability*
AC Transmission System		
HVDC Transmission System		

(III) SAIFI and SAIDI of the Transmission System

Month	*SAIFI (in Numbers)*	*SAIDI (in mins)*

(IV) Details of Elements where restoration time has exceeded the standards specified in Regulation 8.

Element Name	*Restoration time as specified in Regulation 8 (in days)*	*Actual restoration time (in days)*

(V) Details of compensation paid by the transmission licensee

Element Name	*Violation of Regulation 6*		*Violation of Regulation 7*		*Violation of Regulation 8*		*Compensation Paid (in Rs.)*
	% Availability Prescribed	*Actual % Availability*	*SAIFI SAIDI as per regulation*	*Actual SAIFI & SAIDI*	*Restoration time as per Regulation (in days)*	*Actual restoration time (in days)*	
Total							

"

Stakeholders Comments/suggestions:

25.1 RVPN submitted that since, monthly availability of AC and HVDC transmission lines are indicated in the Format (I) for 'Element wise Transmission System Availability' of Schedule B, month may be deleted from the Format (II) for 'Availability of the AC and HVDC Transmission System'.

25.2 RVPN submitted that since SAIFI and SAIDI are not required, therefore, the Format (III) for 'SAIFI and SAIDI of the Transmission System' may be deleted. Also, since SAIFI and SAIDI are not part of the compensation methodology, they may be deleted from the Format (V) for 'Details of compensation paid by the transmission licensee'.

25.3 RVPN suggested to modify Schedule B as under:

"SCHEDULE B

Information to be furnished by Transmission Licensee to the Commission

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Transmission System Availability

Particulars	*Total outage time during month (minutes)*	*Total outage time during month considered for computation of Availability (minutes)*	*% Availability during the month*	*Remarks, if any*
AC Transmission line, ~~including Transmission bay~~				
Power Transformer				
Reactors				
Static VAR Compensator				
Series Compensator				
HVDC (Back-to-back Stations and bi-pole links)				

Note – Total Outage time shall be summation of outage time of all elements during

the month

(II) Availability of the AC and HVDC Transmission System

	~~*Month/*~~ *Year*	*% Availability*
AC Transmission System		
HVDC Transmission System		

~~*(III) SAIFI and SAIDI of the Transmission System*~~

~~*Month*~~	~~*SAIFI (in Numbers)*~~	~~*SAIDI (in mins)*~~

(IV) Details of Elements where restoration time has exceeded the standards specified in Regulation 8.

Element Name	*Restoration time as specified in Regulation 8 (in days)*	*Actual restoration time (in days)*

(V) Details of compensation paid by the transmission licensee

Element Name	*Violation of Regulation 6*		~~*Violation of Regulation 7*~~		*Violation of Regulation 8*		*Compensation Paid (in Rs.)*
	% Availability Prescribed	*Actual % Availability*	~~*SAIFI SAIDI as per regulation*~~	~~*Actual SAIFI & SAIDI*~~	*Restoration time as per Regulation (in days)*	*Actual restoration time (in days)*	
Total							

"

Commission's Views/Decision:

25.4 The Commission finds merit in changes proposed by the stakeholder in all the formats of Schedule B, except for format at sr. no. (III). Therefore, the modified Schedule B for the Regulations is as follows:

"SCHEDULE B

Information to be furnished by Transmission Licensee to the Commission

Outage Details of AC Transmission Line/ Power Transformers/ Static VAr Compensator/ Series Compensator/ HVDC (Back-to-Back Stations and Bi-Pole Links)/ Line Rectors/ Bus Reactors for the month of _____

(I) Element wise Transmission System Availability

Particulars	*Total outage time during month (minutes)*	*Total outage time during month considered for computation of Availability (minutes)*	*% Availability during the month*	*Remarks, if any*
AC Transmission line				
Power Transformer/ Inter connecting Transformer (ICT)				
Reactors				
Static VAR Compensator				
Series Compensator				
HVDC (Back-to-back Stations and bi-pole links)				

Note – Total Outage time shall be summation of outage time of all elements during the month

(II) Availability of the AC and HVDC Transmission System

	Year	*% Availability*
AC Transmission System		
HVDC Transmission System		

(III) SAIFI and SAIDI of the Transmission System

Month	*SAIFI (in Numbers)*	*SAIDI (in mins)*

(IV) Details of Elements where restoration time has exceeded the standards specified in Regulation 8.

Element Name	*Restoration time as specified in Regulation 8 (in days)*	*Actual restoration time (in days)*

(V) Details of compensation paid by the transmission licensee

Element Name	Violation of Regulation 6		Violation of Regulation 8		Compensation Paid (in Rs.)
	% Availability Prescribed	Actual % Availability	Restoration time as per Regulation (in days)	Actual restoration time (in days)	
Total					

"

26 **Additional Comment: Transmission Element wise SOP**

Stakeholders' Comments/Suggestions:

26.1 RVPN during the hearing submitted that the Draft RERC (Standards of Performance of Transmission Licensee) Regulations, 2020 mainly emphasises element wise SOP and consequently provisions for compensation. RVPN submitted that it does not takes element wise tariff and as the transmission tariff is being approved by the Commission for overall transmission system of RVPN. Therefore, RVPN suggested that element wise SOP and consequently provisions for compensation should not be applicable for RVPN.

Commission's Views/Decision:

26.2 The Commission is of the view that though the tariff is approved by the Commission for overall transmission system of RVPN, however, it is important that all the elements of transmission system maintain certain minimum performance standards. The norms for availability are proposed for various transmission elements on monthly basis are based on the norms specified in the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012. Further, the availability parameters specified in Standards of Performance Regulations to be met for various elements are much lower than the normative availability specified for recovery of Annual Transmission Charges. Therefore, the Commission is of the view that no change is required in the proposed provisions in the Draft Regulations.

27 **Additional Comment: Voltage variation index and Frequency variation index**

Stakeholders' Comments/Suggestions:

27.1 Bask Research Foundation submitted that the Voltage variation index and Frequency variation index, Voltage unbalance, system security (steady state stability, transient stability) were included in Standard of Performance for Transmission Licensee in RERC (Transmission Licensee's Standards of Performance) Regulations, 2004. The reason for exclusion of same in revised Regulations is unclear. Given the increase requirement of system level frequency and voltage control, it is suggested that same are included in the proposed Regulations.

Commission's Views/Decision:

27.2 The parameters on Voltage variation index, Frequency variation index, Voltage unbalance, and system security (steady state stability, transient stability), etc. are not specified in the CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012. Therefore, the Commission has not included the same in these Regulations.

28 **Additional Comment: Safety related incident**

Stakeholders' Comments/Suggestions:

28.1 Bask Research Foundation submitted that Transmission Licensee shall also be required to report all safety related incident to the Commission and Standards of Performance should also be defined for same.

Commission's Views/Decision:

28.2 The Commission clarifies that the Safety standards shall be governed by RERC (Rajasthan Electricity Grid Code) Regulations as applicable from time to time. Therefore, there is no need to separately specify the safety standards in these Regulations.

29 **Additional Comment: Line Loading Limits**

Stakeholders' Comments/Suggestions:

29.1 Bask Research Foundation submitted that Line Loading Limits of the transmission system should be maintained within permissible limits as specified by CEA's Manual on "Transmission Planning Criteria" by the transmission licensee. Hence, line loading limits may also be considered as a SOP in the proposed Draft Regulations and suitable index should be defined to monitor the same.

Commission's Views/ Decision:

29.2 The Commission is of the view that the issues related to network loading shall be governed by RERC (Rajasthan Electricity Grid Code) Regulations as applicable from

time to time. Therefore, no change is required in the proposed provisions in the Draft Regulations.

30 **Additional Comment: Voice and Data Communication**

Stakeholders' Comments/Suggestions:

30.1 Bask Research Foundation submitted that for the reliable and efficient functioning of the transmission system, voice and data communication becomes an important part for the system. It is suggested that Standard of Performance shall also be defined for same in an appropriate format.

Commission's Views/Decision:

30.2 CERC (Standards of Performance of inter-State Transmission Licensees) Regulations, 2012 does not include suggested provisions as above related to voice and data communication. Therefore, no change is required in the proposed provisions in Draft Regulations.

31 **Additional Comment: System Studies**

Stakeholders' Comments/Suggestions:

31.1 Bask Research Foundation suggested that Transmission Licensee should conduct system studies such as load flow, short circuit, and transient stability studies at least once a year, and the same shall be included in Standards of Performance for Transmission Licensee in the proposed Regulations. The reports shall be submitted to the Commission and may also be shared with State Power Committee.

Commission's Views/Decision:

31.2 The Commission is of the view that the system studies are not related to Standards of Performance and hence there is no need to specify the same in SOP Regulations.

32 **Additional Comment: Regulations for 'Transmission Planning & Security Standards, Power Supply Planning & Security Standards, Transmission Operating Standards and Power Supply Operating Standards'**

Stakeholders' Comments/Suggestions:

32.1 Bask Research Foundation suggested that in line with the Transmission Standards laid down by Andhra Pradesh Electricity Regulatory Commission (APERC) in the year 2003, the Commission should notify Regulations for 'Transmission Planning & Security Standards, Power Supply Planning & Security Standards, Transmission Operating Standards and Power Supply Operating Standards' separately.

Commission's Views/Decision:

32.2 The Commission is of the view that the suggested Regulations for 'Transmission Planning & Security Standards, Power Supply Planning & Security Standards, Transmission Operating Standards and Power Supply Operating Standards' does not come under the purview of the Standards of Performance Regulations. Therefore, no change is required in the proposed provisions in Draft Regulations.

33 Accordingly, Commission finalises the Regulations attached with this Memo. The same may be notified in the official gazette.

34 Copy of this memo, along with the finalized Regulations, may be sent electronically and/or by post to the State Government, CEA, concerned Utilities and other stakeholders.

(Prithvi Raj)	(S.C. Dinkar)	(Shreemat Pandey)
Member	Member	Chairman

Annexure-1

The list of stakeholders who offered the comments/suggestions:

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited (RVPN)
2. Jaipur Vidyut Vitaran Nigam Limited (JVVNL)
3. Bask Research Foundation
4. Barmer Power Transmission Service Limited (BPTSL)/ Adani Transmission Limited