

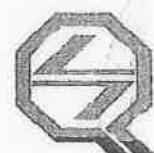
(14 Pages)
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भारत सरकार / GOVERNMENT OF INDIA

केन्द्रीय विद्युत प्राधिकरण
CENTRAL ELECTRICITY AUTHORITY
दक्षिण क्षेत्रीय विद्युत समिति
SOUTHERN REGIONAL POWER COMMITTEE
29, रेस कोर्स क्रास रोड / 29, Race Course Cross Road
बैंगलूरु – 560 009 / Bangalore – 560 009



आई.एस.ओ. / I.S.O : 9001 - 2015

सं / No. SRPC/SE(O)/2020/

दिनांक / Dated : 04.06.2020

To

As per List attached

विषय :- Procedure for Outage Planning of Communication Channels
and Equipments & Formats for applying outages - Reg.

महोदय / Sir,

As stated vide clause 10 of Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020, all the Users will abide by Procedure issued by RPC to plan and avail monthly outage and got approved by the owner of communication equipment in the concerned regional power committee, as per the detailed procedure finalized by the respective RPC. It is to ensure reliable speech and data communication systems on path diversified data links and data exchange / supervision / control of the grid by the NLDC, RLDC and SLDC in accordance with CERC (Communication System for Inter-State Transmission of Electricity) Regulations, 2017 and CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020.

Therefore, SRPC has prepared a draft procedure on "Monthly Outage Planning of Communication System". The formats for getting the approval from

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SRPC in respect of the communication channels and equipment as well as for submitting the actual outage data have also been prepared. The formats for submission of data for getting approval are hereby attached as Format COA1 & COA2 and the formats for furnishing the actual outage data of communication equipments are also attached as Annexure COD1 & COD2.

It has been proposed to hold a meeting through VC / WebEx on 18.06.2020 (Thursday, 11:00 AM) to finalize the procedure on "Monthly Outage Planning of Communication System" and the said Formats. The Constituents / Owners / Users of the communication equipment are requested to go through the attached procedure and formats and to suggest for the improvement / modification of the procedure and formats, if any, by 15.06.2020 so that the final procedure and formats will be circulated to all Constituents / Owners / Users of the communication equipments, including the Generators using ISTS Communication.

Encl : (1) Draft Procedure on Monthly Outage Panning
(2) Format COA1 & COA2
(3) Format COD1 & COD2

भवदीय,

ASIT SINGH

(असित सिंह / ASIT SINGH)
अधीक्षक अभियंता / Superintending Engineer

पानेवालों की सूची / List of Recipients

- 1 मुख्य अभियंता (एसएलडीसी), एपी ट्रांस्को / C.E. (SLDC), APTRANSCO, Vijayawada – 4
2. मुख्य अभियंता (ग्रि.प्र.), टी.एस.ट्रानस्को / Chief Engineer (SLDC), TSTRANSCO, Hyderabad
- 3 मुख्य अभियंता (एसएलडीसी), बैंगलूरु / Chief Engineer (SLDC), KPTCL, Bangalore
- 4 मुख्य अभियंता (एसओ), केएसईबीएल / Chief Engineer (SO), KSEBL, Kalamaserry
- 5 मुख्य अभियंता (प्र), टैनट्रांस्को / Chief Engineer (Opn.), TANTRANSCO, Chennai
- 6 अधीक्षक अभियंताविद्युत , - विभागपुदुचेरी , / S.E - I, Electricity Department, Puducherry
- 7 ई ,आरएसटीपीएस ,डी.एनटीपीसीरामगुंडम , / E.D, RSTPS, Jyothinagar, Ramagundam
- 8 महाप्रबंध, तालचेर स्टेज-II, एनटीपीसी / G.M, STPP Stg - II, NTPC, Talcher
- 9 समूह महाप्रबंधक ,सिंहाद्री एस.टी.पी.एस, एन.टी.पी.सी. / G.G.M, Simhadri STPS, Simhadri
- 10 महाप्रबंधक (ओ&एम), एनटीईसीएल, वल्लूर / G.M (O&M), NTECL, Vallur, Chennai
- 11 महाप्रबंधक, एनटीपीसी कुड्गी / G.M, Kudgi, NTPC
- 12 महाप्रबंधक (ओएस), एनटीपीसी एचक्यू / G.M (OS), SR HQ,NTPC,Secunderabad
- 13 मुख्य महा प्रबंधक, एनएलसी टीपीएस-II / Chief General Manager, Neyveli TPS-II, Neyveli
- 14 एन.टी.पी.एल / CGM (Ele), NLC Tamil Nadu Power Limited (NTPL), Harbour Estate, Tuticorin – 628 004, Tamil Nadu
- 15 महा प्रबंधक, एनएनटीपीपी / General manager, NNTPP, Neyveli
- 16 ओएम, एमएपीएस / Operation Superintendent, MAPS, Kalpakkam
- 17 एस.टी.ई (ई&आई), कैगा स्टेज – 1 / STE (E&I), Kaiga A.P.S. Stage - I, Kaiga.
- 18 एस.टी.ई (ई&आई), कैगा स्टेज – 2 / STE (E&I), Kaiga A.P.S. Stage - II, Kaiga.
- 19 ओ.एस, केकेएनपीपी, कूँडंकुलम / Operation Superintendent, KKNPP, Kudankulam, TN
- 20 अपर महाप्रबंधक (ओ&एम), एस.आर-1, सिकंदराबाद / A.G.M (O&M), SRTS-1, PGCIL, Secunderabad
- 21 अपर महाप्रबंधक (ओ&एम), एस.आर-2, बैंगलूरु / A.G.M (O&M), SRTS – II, PGCIL, Bangalore
- 22 वरिष्ठ उपाध्यक्ष(तकनीकी) , एम.ई.पी.एल, हैदराबाद / Sr. Vice President (Tech), MEPL, No.119, Road No.10, Jubilee Hills, Hyderabad – 33
- 23 वी.पी (ऊर्जा), एसईएल / The Vice President (Energy), Simhapuri Energy Ltd. (SEL), Thammina Patnam, Momidi Village, Vargali (Po), Chillakur (Mdl), SPSR Nellore (Dt) – 524 002
- 24 वी.पी (प्रचालन), लेनको / The Vice President (Operations), LANCO (LKPL), LANCO House, Plot No. 4, Software Unit Layout, Hytec City, Madhapur, Hyderabad – 81
- 25 कोस्टल एनजर्जन / Coastal Energen Pvt Ltd., 7th Floor, Buhari Towers, No.4, Moores Road, Chennai – 600 006 (Ph : 4296 4296, Fax : 4296 4297)

- कोस्टल इनजीन / The Electrical Advisor, Coastal Energen Pvt Ltd, Melamarudur Village, Ottapidaram (Taluk), Tuticorin – 628 105, Tamil Nadu
- 26 आर.एस.टी.सी.एल / Raichur – Sholapur Transmission Comp.Ltd, Patel Estate, S.V. Road, Jogeswari (West), Mumbai - 102
आर.एस.टी.सी.एल / The Project Manager, Raichur – Sholapur Transmission Company Limited, Plot No.6, Sy. No. 20/A, Above (VKG) TATA Show Room, Gunj Area, Hyderabad Road, Yadgir – 585 201, Karnataka (Ph : 9916759111)
- 27 कार्यपालक निदेशक, पोसोको, एसआरएलडीसी, बैंगलूरु / E.D, SRLDC, POSOCO, Bangalore
- 28 टी.पी.सी.आई.एल / Sembcorp Energy India Ltd – SEIL P1 (Formerly TPCIL), Nellore, Andhra Pradesh.
टी.पी.सी.आई.एल / Sembcorp Energy India Ltd – SEIL P1 (Formerly TPCIL), 6-3-1090, A-Block, 5th Floor, TSR Towers, Rajbhawan Road, Somajiguda, Hyderabad – 500 082
- 29 सेंबकार्प गायत्री पावर SEIL P2 / The Sr. Executive (Comm), SembCorp Gayatri Power Ltd (Formerly known as NCCPL), 6-3-1090, A Block, 5th Floor, TSR Towers, Rajbhawan Road, Somajiguda, Hyderabad – 500 082
(naresh.kotha@sembcorp.com)
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- 30 महाप्रबंधक आई.एल & एफ.एस / O&M Head, IL & FS, Cuddalore, Tamil Nadu
- 31 हिंदुजा, विसाखपट्टणम / Hinduja National Power Corporation Limited (HNPLC), Palavalasa Village, T.Devada (PO), Steel Plant (Sub Office), Pedaganttyada (Mandal), Visakhapatnam – 530 031, Andhra Pradesh
हिंदुजा, विसाखपट्टणम / Sr.Vice President (O&M), Hinduja House, 171, Dr. Annie Besant Road, Worli, Mumbai – 400 018 (for Vizag Plant)
- 32 सिंगारेनी कोल्लिएरिएस / Singareni Collieries (STPP)
- 33 परियोजना अधीक्षक (ओ&एम), केटीएल, तुमकूरु / O&M Project Head, Kudgi Transmission Ltd (KTL), 5, Vasantanarsapura, Near NH 4 (Behind Bellavi Road), Kora Hobli, Tumkur (Taluk & Dt) – 572128
निदेशक, केटीएल, तुमकूरु / The Director, Kudgi Transmission Ltd (KTL), TCTC Building, 1st Floor, Mount Poonamallee Road, Manapakkam, Chennai – 600 089 ; Ph : 22528738
- 34 सीईओ, पीएसआईटीएसएल / CEO, PSITSL, C/o PGCIL HQ, Secunderabad – 500 080
- 35 परियोजना निदेशक (ओ&एम), एमटीएल, भोपाल / Project Director (O&M), MTL, Tulip-634, New Minal Residency, J.K Road, Near Ayodha Bypass, Bhopal – 462 023

Communication Nodal Officers / Mailing List :

1. Shri D Surender, DGM (ULDC), PGCIL SR 1, Hyderabad
2. Shri A Santhosh Kumar, Chief Manager, RTAMC, PGCIL SR 1, Hyderabad
3. Shri Y Rajesh Kumar, DGM (ULDC & IT), PGCIL SR II, Bangalore
4. SHri Mangesh Bansod, Chief Manager, (ULDC & IT), PGCIL SR II, Bangalore
5. Shri P Sarath Babu, Manager, SRLDC, POSOCO, Bangalore
6. Shri M Sudeep, Deputy Manager, SRLDC, POSOCO, Bangalore
7. Shri P Siva Prasad, DEE (Telecom), APTRANSCO, Vijayawada – 4
8. Shri B Hanumantha Rao, DEE (Telecom / SLDC), APTRANSCO, Vijayawada – 4
9. Shri Malakappa Hunshikatti, AEE (SCADA), KPTCL, Bengaluru – 9
10. Shri Madhu B.P, AEE (SCADA), KPTCL, Bengaluru – 9
11. Shri Jairaj KV, EE (Communication Division), KSEBL, Kalamassery, Kerala
12. Shri Rafeeqe KP, AEE (Communication Sub Division), KSEBL, Areacode, Kerala
13. Shri R. Seenu, EE / P&C / Alamathy, TANTRANSCO, Chennai
14. Shri P. Sivakumar, AEE / P&C / Erode, TANTRANSCO
15. Shri P.K. Sivakumar, AEE / P&C / Trichy, TANTRANSCO
16. Shri D. Thiagamoorthy, AEE / P&C / S.P. Koil, TANTRANSCO, Kanjipuram (Dist), Tamil Nadu
17. Shri K Madhava Rao, DE (SCADA), SLDC, TSTRANSCO, Hyderabad
18. Shri C Ramesh Babu, DE (Telecom), SLDC, TSTRANSCO, Hyderabad
19. Shri Thiru T A Arun, AE, PED, Puducherry
20. Shri D Taniguvvelane, JE, PED, Puducherry

Southern Regional Power Committee, Bengaluru

Draft Procedure on Outage Planning for Communication System -SR

1. Introduction :

The communication needs of the power sector have amplified significantly with the increase in the size and complexity of the grid. Communication is also a key pre-requisite for the efficient monitoring, operation and control of power system. Communication systems are vital to facilitate secure, reliable and economic operation of the grid. For integrated operation of the Grid, uninterrupted availability of the real time data of various Power System elements assumes utmost importance.

To facilitate this Central Electricity Regulatory Commission had notified Communication System for Inter-State Transmission of Electricity, Regulations, 2017 which came in force w.e.f. 01.07.2017.

2. Regulatory Provisions with respect to Outage Planning for Communication System :

- 2.1 The following provisions of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 merit attention :

.....
2(i) (f) "Communication Channel" means a dedicated virtual path configured from one users' node to another user's node, either directly or through intermediary node(s) to facilitate voice, video and data communication and tele-protection system

2(i) (g) "Communication network" means an interconnection of communication nodes through a combination of media, either directly or through intermediary node(s);

2(i) (h) "Communication system" is a collection of individual communication networks, communication media, relaying stations, tributary stations, terminal equipment usually capable of inter-connection and inter-operation to form an integrated communication backbone for power sector. It also includes existing communication system of Inter State Transmission System, Satellite and Radio Communication System and their auxiliary power supply system, etc. used for regulation of inter State and intra-State transmission of electricity ;

.....
9. Periodic Testing of the Communication System :

- (i) All users that have provided the communication systems shall facilitate for periodic testing of the communication system in accordance with procedure for maintenance and testing to be prepared by CTU within 60 days of notification of Regulations and approved by Commission.
- (ii) Testing process for communication network security should also be included even for third party system if exists in accordance with procedure for maintenance and testing to be prepared by CTU and approved by Commission.

2.2 The following provisions of Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 merit attention :

.....
7. *Reliability :*

- (1) *Total outage period shall be less than sixteen hours on monthly basis each for interface node, wideband node and communication network.*
 - (2) *The total outages in a rolling twelve months assessment period shall be less than forty-eight hours.*
 - (3) *The communication system shall be designed to ensure adequate redundancy.*
-

8. *Design and planning :*

- (6) ***User shall be responsible for planning, design, implementation, secured operation and maintenance of its own communication infrastructure to be interfaced with the communication system.***

.....
21. *Training :*

- (1) *Specialised training shall be provided to the persons manning the centralised monitoring center and to the field support staff to ensure quick fault detection and restoration of the communication system.*
- (2) *Training shall be provided to the maintenance persons on all communication equipment for its operation and maintenance.*

3. **Objective :**

3.1 Regulation 7.3 of Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 states

7.3 *Role of National Power Committee (NPC) and Regional Power Committee (RPC) :*

- (iv) *The RPC Secretariat shall be responsible for outage planning for communication system in its region. RPC Secretariat shall process outage planning such that uninterrupted communication system is ensured.*
-

3.2 Regulation 10 Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 states

10. *Outage planning : Monthly outage shall be planned and got approved by the owner of communication equipment in the concerned regional power committee, as per detailed procedure finalised by the respective regional power committee.*

3.3 The objective of this Procedure on Outage Planning of communication System is to carry out outage planning for communication system in SR such that uninterrupted

communication system is ensured. Monthly outage of Communication Equipment/system shall be planned and got approved by the owner of communication equipment / link.

4. Scope and applicability :

4.1 The scope and applicability as per Central Electricity Regulatory Commission (Communication System for inter-State transmission of electricity) Regulations, 2017 is given below :

.....
5. *Scope and Applicability :*

- (i) *These regulations shall apply to the communication infrastructure to be used for data communication and tele-protection for the power system at National, Regional and inter-State level and shall also include the power system at the State level till appropriate regulation on Communication is framed by the respective State Electricity Regulatory Commissions.*
 - (ii) *All Users, SLDCs, RLDCs, NLDC, CEA, CTU, STUs, RPCs, REMC, FSP and Power Exchanges shall abide by the principles and procedure as applicable to them in accordance with these regulations.*
-

4.2 The applicability as given in Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 notified on 27.02.2020 is given below :

.....
3. *Application - These regulations shall apply to all the users, National Load Despatch Centre, Regional Load Despatch Centres, State Load Despatch Centres, Load Despatch Centres of distribution licensee, Central Transmission Utility, State Transmission Utilities, Regional Power Committees, Renewable Energy Management Centres, forecasting service provider and power exchanges.*

.....

4.3 All concerned entities stated above would coordinate with SRPC / SRLDC for outage planning of communication System.

4.4 Communication Outage Coordination will be limited to the following system :

- (i) ISTS Communication System including ISGS
- (ii) Intra-state Communication System being utilised for ISTS Communication
- (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDCs
- (iv) VC links between LDCs
- (v) Inter regional AGC links
- (vi) Any other system agreed by the forum

4.5 Communication Equipment/link within the scope of the Procedure would include :

- (i) Optic Fibre links
- (ii) Any other link being used for ISTS communication
- (iii) ICCP links between Main & Backup RLDCs, Main & Backup SLDCs & Main & Backup NLDC

- (iv) SDH & PDH
- (v) DCPC
- (vi) RTU
- (vii) DTPCs
- (viii) Battery Banks and Charging Equipment
- (ix) EPABX
- (x) Any other equipment/link agreed by the forum

Note : PLCC would not be included, if the link is not used for SCADA Data.

5. Procedure on Monthly Outage Planning of Communication System – SR :

- (i) **Each concerned Entity would nominate Nodal Officer/ Alternate Nodal Officer** along-with details to the Outage Planning of Communication System group along-with designation, Mobile number, email ID, Phone number etc. Nodal Officer/ Alternate Nodal Officer would interact internally and would be single point contact for outage planning with SRPC/SRLDC.
- (ii) The outage proposal of the communication equipment shall be submitted in the prescribed format be mail only (attached as Annexure – COA1 & COA2). The type of services (viz. data, voice, protection etc.) being affected / not affected may also be mentioned under col No.8 in the format. If there is no interruption to any service, the precautions and actions (like redundant path) being taken to ensure data, voice etc availability would also be mentioned in col No.8, which facilitates to avoid simultaneous outage for the same service/s.
- (iii) Users / Owners of the communication equipment will furnish their monthly outage proposal in respect of their equipment through the software for Outage Planning of Communication System, which will be pursued by SRLDC with PWC or other Agencies for the usage by SRLDC, SRPC & Users / Owner of the communication equipments – **to be confirmed by SRLDC**.
- (iv) Till the software is developed by SRLDC, the Users / Owners of the communication equipments will furnish their monthly outage proposal in respect of their equipments in the prescribed (in excel format only). Modification of this format is not allowed. However, suggestion for improving the format is solicited. Outage proposals not in the format or through Fax/PDF etc will be rejected.
- (v) **RPC will consolidate the list of outage proposals received from various Users / Owners of the communication equipments and release the list by 15th of every month.**
- (vi) **Communication outages affecting other regions would be coordinated by SRLDC through NLDC.**
- (vii) **A meeting will be conducted every month during the middle of month** normally through VC to discuss and approve / dispose the proposed list of outages pertaining to communication links / equipments. **The date of VC will be informed by mail during the 1st week of the month.**
- (viii) **A communication System Google Group has already been made in the name of SR-Communication-System@Googlegroups.com** and the Nodal Officers who are dealing the communication system have been added in the group. This group is managed by SRPC from

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srpc.communication@gmail.com. All the Users / Owners of the communication equipments are requested to regularly watch this group and get their mail IDs updated through SRPC, in case of change in mail IDs. All the correspondence will be made through this Google Group only. Communication related issues would be addressed to srpc.communication@gmail.com

- (ix) The VC for approving the communication outage will be termed as "**Communication Equipment Outage Co-ordination Meeting-SR (COMSR)**" suffixed with the name of MONTH during which period the outages are proposed.
For example, for availing outage of communication equipments during the month of October, 2020, COMSR-October2020 will be held on the middle of September, 2020.
- (ix) In the VC, the system constraints pertaining to the outage of communication equipments, if any, will be discussed and the outage proposals will be approved / revised / disposed in the VC. Therefore, all the Users / Owners of the communication equipments shall attend the VC without fail including SRLDC. It is requested that the Nodal Officers who do not have VC facility may join in the nearby VC available with State SLDC / PGCIL.
- (x) **The final approved list of communication equipments will be released by SRPC after the VC is completed ie by 2 days from the date of VC.**
- (xi) **In case of any emergency outage requirement of communication equipments, Users / Owners may directly apply to SRLDC on D-1 basis to their mail ID srldcscada@posoco.in**
- (xii) Even though outages of communication equipments are approved in the VC, **Concerned entities will also confirm availing of approved outages of communication equipments on D-1 day to srldcscada@posoco.in & srldcer@posoco.in of SRLDC or confirm the dropping of approved outages, if any, on the D-1 day.**
- (xiii) **There would not be any code issued by SRLDC in this regard. However the concerned entity will inform the SRLDC Control room before start of the work & after completion of the work.**
- (xiv) All Users / Owners of the communication equipments **will submit their deviation report by 10th of the month** in respect of the outages of communication links / equipments availed during the previous month as per the format attached at **Annexure – COD1 & COD2**.

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Annexure -COA1

List of outages of Communication Links/ Channels proposed to avail during the month of July, 2020

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- Name of communication equipments :**

 - 1 OF links
 - 2 Any other link being used for ISTS communication
 - 3 ICCP links
 - 4 Any other link

Biology of the Copepod Calanus finmarchicus

- 1 : Communication module Sub-organisation will be linked to the following system .
 - 1.1 ISTS Communication System including ISGS
 - 1.2 Intra-state Communication System being utilised for ISTS Communication
 - 1.3 ICCP Links between SLDCs and RLDCs/Back Up SLDCs

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**List of outages of Communication Equipment proposed to avail during the month of
July, 2020**

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Annexure - COD1
List of outages of Communication links/Channels
July 2020

A. Details of Communication Links, proposed:										Communication VC Date :		Approved Date	
SL	Name of Requesting Agency	Description of Link [Channel (8 kbps, 104, PNU, VC, 101) / Voice / Protection circuits / VSAT / Others]	Source	Destination	Channel Routing	Ownership	Reason for availing outage with the details of equipment attended	Outage availed from	Outage availed upto	Total hours of outage availed during the last 12 rolling months	Total Hours of outage including this outage	Deviation (Y/N)	Deviation (Y/N)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1	01-Jul-20, 08:30	02-Jul-20, 07:35	0 day(s), 23:05 hr	9:30	1 day(s), 0:35 hr	01-Jul-20, 09:00 - 01-Jul-20, 18:00	1	1	1	1	Y	01-07-20, 09:00 - 01-07-20, 18:00
2	2	03-Jul-20, 08:30	06-Jul-20, 02:35	2 day(s), 18:05 hr	5:30	2 day(s), 23:35 hr	01-07-20, 09:00 - 01-07-20, 18:00	2	2	2	2	N	01-07-20, 09:00 - 01-07-20, 18:00

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**List of outages of Equipment availed during the month of
July, 2020**