



भारत सरकार

Government of India

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

वितरण प्रबोधन प्रभाग

Distribution Monitoring Division

File No: 04/05/CEA/DM (Feeder)/2019

Date 07.10.2019

Subject:- Inviting Public Comments on Draft Universal Feeder Code.

Ministry of Power (MoP) through various Central Public Sector Enterprises such as REC & PFC is implementing various schemes related to strengthening of power distribution infrastructure and monitoring of quality and quantity of power being supplied by the Distribution Companies of country.

In this regard, for better utilization of the installed infrastructure under any scheme, it is required that the existing infrastructure of respective DISCOMs should be mapped digitally. In order to do so, a unique feeder code for each feeder (Rural & Urban both) is required to be generated which shall be used for identification of particular feeder and the attributes related to it.

In view of above, MoP vide its letter No. 47/17/2016-RE dated 02nd Jul, 19 has directed CEA to formulate a guideline/ methodology for generation of unique feeder code for each feeder (Rural & Urban) to map each electricity supply related infrastructure of the Discoms.

In pursuance of direction, a **committee** was constituted comprising members from CEA and 8 Discoms to assist CEA in preparing this guideline/methodology for feeders in the Country. A meeting of the committee was held on **8th August, 2019 in CEA**. Based on the Discussion Points of meeting and inputs for Feeder Code, guidelines/methodology for Feeder Code has been prepared for adoption in Discoms/Power Departments which will enable State/National level monitoring at a common platform.

All are requested to please provide inputs, if any, in relation to desired modification in this Draft Feeder Code Report latest by **25.10.2019** on ce.pfam.cea@gov.in or cefacea@rediffmail.com.

sd/-
(Alok Dwivedi)
Deputy Director

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Chapter 1

Introduction

Ministry of Power (MoP) through its Central Public Sector Enterprises such as REC & PFC is implementing various schemes related to strengthening of power distribution infrastructure and aiming for monitoring of quality and quantity of power being supplied by the Distribution Companies of country.

In this regard, for better utilization of the installed infrastructure under any scheme, it is required that the existing infrastructure of respective DISCOMs should be mapped digitally. In order to do so, a unique feeder code for each feeder (Rural & Urban both) is required to be generated, which shall be used for identification of particular feeder and the power supply attributes related to it.

In view of above, MoP vide its letter No. 47/17/2016-RE dated 02nd Jul, 19 has directed CEA to formulate a guideline/ methodology for generation of unique feeder code for each feeder (Rural & Urban) to map each electricity supply related attributes of feeders of the Discoms.

In pursuance of direction, a **committee** was constituted comprising members from CEA and Discoms of West Bengal State Electricity Distribution Company Limited (WBSEDCL), Mangalore Electricity Supply Company (MESCOM), Tata Power Delhi Distribution Limited (TPDDL), Himachal Pradesh State Electricity Board Limited (HPSEBL), Paschim Gujarat Vij Company Limited (PGVCL), Andhra Pradesh Southern Power Distribution Company Ltd (APSPDCL), REC Power Distribution Company Limited (RECPDCL) and BSES Yamuna Power Limited (BYPL). (Order Copy Enclosed at **Appendix-II**) to assist CEA in preparing this guideline/methodology for feeders in the Country.

A meeting of the committee of was held on **8th August, 2019 in CEA** in which only four of these selected Discoms namely WBSEDCL, MESCOM, TPDDL and BYPL have attended the meeting. Based on the Discussion Points of meeting and inputs for Feeder Code, guidelines/methodology for Feeder Code has been prepared for adoption in Discoms/Power Departments which will enable State/National level monitoring at a common platform.

Chapter 2

Analysis of Existing Feeder Code in Some Discoms

Many Discoms in the Country are following one or other methodology for feeder coding, especially to integrate their system with SCADA. Feeder codes of some Discoms is discussed below.

Mangalore Electricity Supply Company has a four-character alpha-numeric code. First two character are numerical with value from one to nine, and these characters represent District and Taluka respectively. Next two characters are alpha-numeric which can be assigned any value between one & nine or “A” & “Z”, and represents Muss and Feeder code.

BSES Yamuna Power Limited (BYPL) has adopted 16 character 11KV feeder coding scheme. In this scheme first four characters represent EHV Grid Code, next character is dash(-) which is used as separator. Subsequent next four characters are used to represent voltage level followed by dash(-) again used as separator. Last six characters are used as SwitchID.

West Bengal State Electricity Distribution Company (WBSEDCL) has four character code for outgoing 11KV feeder and five character code for incoming 11KV feeder. In both the codes first three characters are only with numerical values and represent sub-station, rest characters in the codes represent feeders.

From above inputs, following is noted on the methodology being followed to assign feeder codes in various DISCOMs :-

- Increasing automation in Distribution sector with a view to establish Smart Grid and integration with SCADA require that every feeder up to 11KV must have unique code.
 1. Absence of universal Feeder Coding Standards have resulted in variation in feeder coding methodology across DISCOMs.
 2. Feeder Codes assigned by respective DISCOMs are not systemic in the sense that feeder code cannot be used to identify its physical location & as well as the (rural/urban) area to which it serve.
 3. Variation in coding scheme of Discoms create obstacle in importing all feeders and their operational parameters in single platform for analysis, when consolidated at State-level for multi-Discom State and at Central-level, for example in National Power Portal.

Chapter 3

Universal Feeder Code

Definition of Feeder

To define Universal Feeder Code, the definition of feeder must be understood clearly. Feeder can be defined as any high voltage line which is directly connected to Distribution Transformer serving consumer at 415 volt line voltage/ 240 volt phase voltage. Feeders are mostly radial feeder in rural area i.e. connected to power source at one end. But in some places mostly in urban areas to increase reliability of power supply ring mains distribution system is also used which may be defined as a method of power distribution system, in which different parts of the power distribution network (or each load center) have an option to feed power from the same source through more than one feeder.

With this understanding, Universal Feeder Code may be defined as code assigned to distribution feeder which provide it Unique identity not only at DISCOM and State level but also at National level. Such code must also be systematic in the way that code of a particular feeder helps in deducing, to certain extent, physical location of feeder, type of area it serves, along with the originating power sub-station etc.

Need for Universal Feeder Code

In Power Sector, the spotlight now is on the distribution of power particularly on the parameters that affects ordinary citizens/ electricity customers most, i.e. enhanced service quality and customer satisfaction. Distribution is with doddering infrastructure and is unprofessionally managed sector with poor financial condition. Most of these problems can be addressed by proper technological intervention, especially in respect of monitoring operation of Distribution Sector. It is in this context; most basic requirement is methodology for Universal Feeder Code. Apart from above, following reasons also necessitates feeder-coding requirement:-

- Directing Central government's investment in Distribution Sector in most efficient way assessed through centralized database of country's Distribution Network.
- Harmonizing already exiting multiple feeder-coding system followed by different DISCOMs in the country.
- Help in identifying and isolating priority areas to reduce AT&C losses.

Benefits for Universal Feeder Code

All-India level unique feeder coding would provide benefits like-

- Possibility of creating Centralized Database at State level and Central level also.
- Ease in monitoring of operational parameter at feeder level
- Open up opportunity for availing Availability Based Tariff
- Facilitate implementation of carriage-and –Content separation.
- Systemic Study for improving operational efficiency and reduction of AT&C loss become possibility.
- Helps in achieving objective of Power For All.

Proposed Universal Feeder Code

Following feeder code emerged after brainstorming during the meeting, for National/State/Discom level monitoring purpose:-

- i. It will be **14 Character Alpha-Numerical code.**

1 2 3 4 5 6 7 8 9 10 11 12 13 14

- ii. First two places (i.e. 1&2) of code will be alphabetical and will represent State/UTs name eg. UP for Uttar Pradesh, GJ for Gujarat etc.
- iii. Next three places (i.e. 3,4&5) will also be alphabetical and will represent name of Discom eg. DGV for DGVCL of Gujarat, DVV for DVVNL. (Detailed code for State/UTs and Discoms/Power Departments, already fixed in CEA is enclosed at **Appendix-III**)
- iv. Next three places (i.e. 6,7&8) will again be alpha-numeric and will represent originating substation eg RKP for RK Puram. (If more than one sub-stations exist in a particular locality, then RK1 will be used for 1st sub-station in RK Puram)
- v. Next two places (i.e. 9&10) will be numerical and will represent voltage level of feeder.eg 33 for 33KV, 11 for 11KV and 06 for 6.6KV etc.
- vi. Next place (i.e. 11) will be alphabetical and will represent type of feeder as mentioned below:

<u>Type of Feeder</u>	<u>Code letter</u>
Urban	U
Rural	R

Mixed	M (Urban & Rural or Rural and Agriculture)
Agriculture	A
Water Supply	W
Industrial	I
Interlinking Feeder/ Link Feeder	L

vii. Last three places (i.e. 12,13 & 14) of code will again be alpha-numeric and will represent name of feeder. Eg R.K.Puram 1 feeder as RK1.

The code from sr. no.-iv to vii shall be decided by the Discoms/Power Departments as per the actual conditions prevailing in their area of operation.

Also, 3 characters at 3, 4 and 5th places of first-five-characters of code as fixed by CEA, if required may be changed by Discoms/Power Department.

Issues related Implementation

Following issues related to implementation of proposed code shall also be considered by DISCOMs:-

- Switch over from already exiting Feeder Coding System.
- Uniformity across Ring Mains system and Mesh type feeders; 14 character code to be assigned for each feeders up to the point of Ring Mains units or Mesh formation points.
- Capacitor banks feeder panel or interlinking (bus coupler) panel need not be considered as feeder.

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Appendix-I: Ministry Letter

No. 47/17/2016-RE
Government of India
Ministry of Power
Shram Shakti Bhawan, New Delhi-110001

Dated the 2nd July, 2019

To
The Chairperson,
Central Electricity Authority,
Sewa Bhawan, R.K. Puram
New Delhi-110066

Subject: Guidelines/Methodology for generation of unique feeder code- regarding.

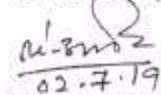
Sir,

I am directed to state that Ministry of Power (MoP) through various CPSUs such as REC & PFC is implementing various schemes related to monitoring of quality and quantity of power being supplied by the DISCOMs of country.

2. In this regard, for better utilization of the installed infrastructure under any scheme, it is required that information should be mapped with the existing infrastructure of respective DISCOMs. In order to do so, an unique feeder code for each feeder (Rural & Urban both) is required to be generated, which shall be used to identify of particular feeder and the attributes related to it.

3. In view of the above, CEA is requested to come up with the Guidelines/Methodology for generation of unique feeder code so that the same can be deliberated and may be followed uniformly by all utilities as well as MoP initiated programs so as to minimize the communication gap and enhancement of efficiency of entire system.

Yours faithfully,


02.7.19

(Narender Singh)

Under Secretary to the Govt. of India

Tel: 23708304

Email: narender.singh67@gov.in

Copy to: Director (D)/US(D) for information and necessary action.

Appendix-II: Order Copy for Constitution of Committee



भारत सरकार
Government of India
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
वितरण प्रबोधन प्रभाग
Distribution Monitoring Division

No. 04/10/CEA/DM (Feeder Code)/2019/535-545

Dated: 30.07.2019

MEETING NOTICE

Subject: Preparation of Guidelines/Methodology for generation of unique feeder code – regarding.

MoP vide its letter No. 47/17/2016-RE (copy attached) has directed CEA to formulate a guideline/methodology for generation of unique feeder code for each feeder (Rural & Urban) to map each electricity supply related infrastructure of the Discoms, for enabling easy identification of any particular feeder along with its other attributes.

Accordingly as desired by MoP, a Committee comprising of members from CEA and Discoms has been constituted in CEA under Chairmanship of Chief Engineer, Distribution Monitoring Division to formulate the guidelines/methodology. In this regard, it is proposed to hold a meeting of all members of the committee on **8th August, 2019 at 15:00 Hrs at Conference Hall, 6th Floor CEA, Sewa Bhawan, R.K.Puram, New Delhi - 110066.**

The members are requested to make it convenient to attend the meeting.


(सुनील कुमार जैन)
निदेशक
Ph. 011-2673-2664

To: (with a request to nominate a suitable member on behalf of their organization & advice the nominated member to attend the said meeting)

1. CEO, Tata power, NDPL House, Hudson Lines, Kingsway Camp, Delhi-110 009
2. CEO, BYPL, Shakti Kiran Building, Karkardooma, Delhi-110032 (Email: prem.r.kumar@relianceada.com)

सेवा भवन, आर के पुरम-1, नई दिल्ली -110066 टेलीफैक्स : 011-26715396/26732607 वेबसाइट: www.cea.nic.in
Sewa Bhawan, R. K. Puram-1, New Delhi-110066 ई-मेल/E-mail: cepfacea@rediffmail.com, ce.pfam.cea@gov.in

3. Director(Operation), Himachal Pradesh State Electricity Board Ltd, Vidyut Bhawan, Shimla-171004 , Himachal Pradesh, India (Email: directoro@hpseb.in)
4. Chairman, Paschim Gujarat Vij Company Limited, Registered & Corporate Office, "Paschim Gujarat Vij Seva Sadan", Off. Nana Mava Main Road, Laxminagar, Rajkot, Gujarat - 360004 (E-mail : info.pgvcl@gebmail.com)
5. MD, MESCOM, Corporate Office, 'MESCOM BHAVAN', Kavoor Cross Road, Bejai, Post Box No: 1130, Manglore, Karnataka – 575004 (Email: mdmescom@rediffmail.com)
6. CMD, Southern Power Distribution Company of A.P. Ltd,19-13-65/A, Srinivasapuram, Tiruchanoor Road, Tirupati, Dist – Chittoor, Andhra Pradesh - 517503 (Email: cmd@southernpowerap.co.in)
7. CMD, West Bengal State Electricity Distribution Company Limited, Vidyut Bhawan, Bidhannagar, Block-DJ, Sector-II, Kolkata-700091, West Bengal (Email: cmd@wbsedcl.in)
8. CEO, RECPDCL Ltd., Core-4, Scope Complex 7, Lodhi Road, New Delhi – 110003 (email: ceo@recpdcl.in)

Copy To:

1. DD (TS), CEA – with a request to book Conference room at 6th Floor for the said meeting starting at 15:00 Hrs onwards.
2. SO (GS), CEA – with a request to provide staffs for serving tea/snacks for the said meeting.
3. Security (i/c), MHA, Sewa Bhavan – with a request to allow the above members/nominees to attend the said meeting on 08/08/2019 starting at 15:00 hrs.

सेवा भवन, आर के पुरम-1, नई दिल्ली -110066 टेलीफैक्स : 011-26715396/26732607 वेबसाइट: www.cea.nic.in
Sewa Bhawan, R. K. Puram-1, New Delhi-110066 ई-मेल/E-mail: ceifacea@rediffmail.com, ce.pfam.cea@gov.in

Appendix III: First Five Character of Code

State Sl. No.	State/Region	Discom Sl. No.	Name of the DISCOMS/PDs/ Electric Cooperative societies	First Five Character of Code
Northern Region				
1	Haryana	1	Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)	HRDHB
		2	Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)	HRUHB
2	Himachal Pradesh	3	HPSEB Limited	HPSEB
3	Punjab	4	Punjab State Power Corporation Limited (PSPCL)	PBPCCL
4	Rajasthan	5	Jaipur Vidyut Vitran Nigam Limited (JVVNL)	RJJVV
		6	Ajmer Vidyut Vitran Nigam Limited(AVVNL)	RJAVV
		7	Jodhpur Vidyut Vitran Nigam Limited (JdVVNL)	RJJDV
5	Uttar Pradesh	8	Pashimanchal Vidyut Vitran Nigam Limited (PaVVNL)	UPPAV
		9	Poorvanchal Vidyut Vitran Nigam Limited,(PoVVNL)	UPPUV
		10	Madhyanchal Vidyut Vitran Nigam Limited,(MVVNL)	UPMVV
		11	Dhakshinanchal Vidyut Vitran Nigam Limited,(DVVNL)	UPDVV
		12	Kanpur Electricity Supply Company (KESCO)	UPKES
		13	Noida Power Co. Ltd (NPCL)	UPNPC
6	Uttarakhand	14	Uttarakhand Power Corporation Limited (UPCL)	UKPCL
7	Delhi	15	New Delhi Municipal Corporation(NDMC)	DLNDM
		16	BSES Yamuna Power Limited (BYPL)	DLBYP
		17	BSES Rajdhani Power Limited (BRPL)	DLBRP
		18	Tata Power Delhi Distribution Limited(TPDDL)	DLTPD
		19	Millitary Enengineering Services	DLMES
8	Chandigarh	20	Electricity Department, UT of Chandigarh	CHELD
9	J & K	21	Power Development Deptt.(PDD) of J&K .	JKPDD
Western Region				
10	Chhattisgarh	22	Chhattisgarh State Power Distribution Company Limited (CSPDCL)	CGSPD
		23	Bhilai Steel Plant	CGBSP
		24	Jindal Steel & Power Ltd.(JSPL)	CGJSP
11	Gujarat	25	Madhya Gujarat Vij Company Limited (MGVCL)	GJMGV
		26	Dakshin Gujarat Vij Company Limited,(DGVCL)	GJDGV
		27	Uttar Gujarat Vij Company Limited (UGVCL)	GJUGV
		28	Paschim Gujarat Vij Company Limited (PGVCL)	GJPGV
		29	Kandla Port Trust (KPT)	GJKPT
		30	Torrent Power Limited (TPL), Ahmedabad	GJTPA
		31	Torrent Power Limited (TPL)- Surat	GJTPS
		32	Torrent Energy Limited –SEZ -Dehaj	GJTPE
		33	Mundra Port SEZ Utilities Pvt Ltd (MUPL)	GJSEM
		34	Aspen Infrastructures Ltd (Synefra), SEZ, Vadodara	GJSEV

Appendix III

State Sl. No.	State/Region	Discom Sl. No.	Name of the DISCOMS/PDs/ Electric Cooperative societies	First Five Character of Code
		35	Jubilant Infrastructure Ltd, Industrial Estate, Bharuch	GJJIB
		36	Gift Power Co Ltd, Gandhinagar	GJGIF
12	Madhya Pradesh	37	MP Madhya Kshetra Vidyut Vitran Company Limited,(MPMKVVCL)	MPMKV
		38	MP Paschim Kshetra Vidyut Vitran Company Limited (MPPaKVVCL)	MPPAK
		39	MP Poorvi Kshetra Vidyut Vitran Company Limited (MPPoKVVCL)	MPPUK
13	Maharashtra	40	Maharashtra State Electricity Distribution Company Limited(MSEDCL)	MHSED
		41	Brihan Mumbai Electric Supply Company (BEST)	MHBES
		42	Adani Electricity Mumbai Limited (AEML) (erstwhile-Reliance Infra Ltd.)	MHAEM
		43	Tata Power Co. Ltd.	MHTPC
		44	Mindspace Bussiness Parks Pvt Ltd (SEZ -IT Park Airoli)	MHMBP
		45	Maharashtra Airport Development Corporation(MIHAN Nagpur)	MHMAD
		46	Ixora Construction Pvt Ltd(SEZ Panvel)	MHICP
		47	Quadron Business Park Ltd(SEZ IT Park Hinjewadi, Pune)	MHQBP
		48	Gigaplex Estate Pvt Ltd(SEZ-IT & ITES at Airoli)	MHGEP
14	Goa	49	Electricity Department , Goa.	GAELD
15	UT of DNH	50	Dadra & Nagar Haveli Power Distribution Corporation Ltd	DNPDC
16	UT of D&D	51	Electricity Department, UT of Daman & Diu	DDELD
Southern Region				
17	Andhra Pradesh	52	Eastern Power Distribution Company of A.P Limited (APEPDCL)	APEDC
		53	Southern Power Distribution Company of A.P Limited (APSPDCL)	APSPD
		54	Cheepurupalli Rural Electric Cooperative Society, Vizianagram dist	APCRE
		55	Anakapalle Rural Electric Cooperative Society, Andhra Pradesh	APARE
		56	Kuppam Rural Electric Cooperative Society, Andhra Pradesh	APKRE
18	Telangana	57	Southern Power Distribution Company of Telangana Limited (TSSPDCL)	TSSPD
		58	The Northern Power Distribution Company of Telangana Limited (TSNPDCL)	TSNPD
		59	Cooperative Electric Supply Society, Sircilla Telangana	TSCES
19	Karnataka	60	Mangalore Electricity Supply Corporation Limited(MESCOM)	KAMES
		61	Chamundeshwari Electricity Supply Corporation Limited(CESE)	KACES

Appendix III

State Sl. No.	State/Region	Discom Sl. No.	Name of the DISCOMS/PDs/ Electric Cooperative societies	First Five Character of Code
		62	Gulbarga Electricity Supply Corporation Limited (GESCOM)	KAGES
		63	Bangalore Electricity Supply Corporation Limited(BESCOM)	KABES
		64	Hubli Electricity Supply Corporation Limited(HESCOM)	KAHES
		65	Hukkeri Electric Rural Co-Op Society	KAHER
20	Tamil Nadu	66	Tamil Nadu Generation and Distribution Company Limited (TENGEDCO)	TNGNC
21	Kerala	67	KSEB Limited	KLSEB
		68	Infopark, Kochi	KLINF
		69	Technopark , Trivandrum	KLTEC
		70	Rubber Park India Pvt Limited, Ernakulam	KLRPI
		71	Cochin Special Economic Zone Authority (CSEZA), Kochi	KLCSE
		72	Cochin Port Trust, Kochi	KLCPT
		73	Thrissur Corporation, Thrissur	KLTCO
		74	Kanan Devan Hills Plantations Company Limited (KDHP)	KLKDH
		75	KINESCO Power Utility Ltd, Kochi	KLKPU
22	UT of Lakshadweep	76	Electricity Deptt., UT of Lakshadweep.	LKELD
23	UT of Puducherry	77	Electricity Deptt., UT of Puducherry.	PUELD
24	UT of A&N	78	Electricity Deptt., UT of Andaman & Nicobar Islands	ANELD
Eastern Region				
25	West Bengal	79	West Bengal State Electricity Distribution Company Limited (WBSEDCL)	WBSED
		80	Damodar Valley Coproration(DVC)	WBDVC
		81	Calcutta Electricity Supply Co. (CESC)	WBCES
		82	Indian Power Corporation Ltd. (IPCL)(erstwhile DPSCL)	WBIPC
26	Sikkim	83	Sikkim Power Development Corporation Limited	SKPDC
27	Bihar	84	North Bihar State Power Distribution Company Ltd	BHNBC
		85	South Bihar State Power Distribution Company Ltd	BHSBC
28	Jharkhand	86	Jharkhand Bijli Vitran Nigam Limited (JBVNL)	JHJBV
		87	Damodar Valley Coproration(DVC)	JHDVC
		88	Jamshedpur Utility & Services Company Ltd (JUSCO)	JHJUS
		89	Tata Steel Limited, Jamshedpur	JHTSL
		90	SAIL, Bokaro Steel Plant	JHBSP
		91	Military Engineering Service	JHMES
29	Odisha	92	North Eastern Supply Company Limited (NESCO)	ODNES
		93	Western Electricity Supply Company Limited (WESCO)	ODWES
		94	Southern Electricity Supply Company Limited (SOUTHCO)	ODSOV

Appendix III

State Sl. No.	State/Region	Discom Sl. No.	Name of the DISCOMS/PDs/ Electric Cooperative societies	First Five Character of Code
		95	Central Electricity Supply Company Limited (CESCO)	ODCES
North Eastern Region				
30	Assam	96	Assam Power Distribution Company Limited (APDCL)	ASPDC
31	Tripura	97	Tripura State Electricity Corporation Limited	TRTSE
32	Meghalaya	98	Meghalaya Energy Corporation Limited	MLMEC
33	Manipur	99	Manipur State Power Distribution Company Ltd	MNSPD
34	Arunachal Pradesh	100	Department of Power, Arunachal Pradesh	ARDPT
35	Mizoram.	101	Power & Electricity Department, Mizoram.	MZPED
36	Nagaland.	102	Department of Power, Nagaland.	NLPDD