CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 60/MP/2014

Coram:
Shri Gireesh B.Pradhan, Chairperson
Shri A.K.Singhal, Member

Date of order: 27.11.2015

In the matter of

Petition under Section 94(f) of the Electricity Act, 2003 read along with part-7(4) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 seeking time extension for implementation of the Commission's order dated 19.12.2013 in Petition No.263/MP/2012 filed by SRLDC before CERC in the matter of SCADA visibility of AUFR and df/dt protection scheme in Kerala System.

And
In the matter of:

Kerala State Electricity Board Limited
Vyduthi Bhawan
Pattom, Thiruvananthapuram-695 004 **…..Petitioner**

Vs.

1. Southern Regional Load Despatch Centre
29, Race Course Cross Road,
Bangalore-560 009.

2. Southern Regional Power Committee
No. 29, Race Course Cross Road,
Bangalore-560 009 **… Respondents**

The following were present:

Shri G. Sreenivasan, KSEBL
Shri V. Suresh, SRLDC
Shri S.S. Barpanda, SRLDC
Shri Zaidi, POSOCO

Ms. Jyoti Prasad, POSOCO

ORDER

Southern Regional Load Despatch Centre had filed Petition No. 263/MP/2012 seeking directions to State Utilities to comply with the Regulation 5.2 (n) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code). After considering the submissions of the parties, the Commission came to the conclusion that some of the State utilities have not complied with the provisions of Regulations 5.2 (n) and 5.2 (e) of the Grid Code and vide order dated 19.12.2013 in Petition No. 263/MP2013 directed all the constituents of Southern Region to identify the additional feeders and to install UFR and df/dt relays to ensure the relief as decided by Southern Regional Power Committee (SRPC) from time to time and map these relays on SCADA system within three months of issue of the order. Relevant portion of said order dated 19.12.2013 is extracted as under:

"17. *All SR constituents are directed to identify the additional feeders and install UFR, df/dt relays to ensure the relief as decided by SRPC from time to time. We direct all constituents to submit compliance report duly certified by SRLDC and SRPC of implementation of quantum of relief by AUFR as per table above and proper functioning of df/dt relays within one month of issuing this order. We also make it clear that failure in this regard will amount to non-compliance of the directions of this Commission and render the constituent liable for proceedings under Section 142 of the Electricity Act, 2003 and other relevant provisions, against the Heads of defaulting entities.*

18. Further for monitoring of operation and relief by these UFR and df/dt relays SLDCs are directed to map these relays on the SCADA system within three months of issuance of this order. RPC/SRLDC shall submit a compliance report in this regard within four months of issuing this order."

2. The petitioner, Kerala State Electricity Board Limited (KSEBL), has filed the present petition seeking extension of time for implementation of the Commission`s direction dated 19.12.2013 in Petition No. 263/MP/2012.

3. Gist of the submissions of the petitioner is as under:

(a) The relays in feeders of Kerala system are not yet mapped to the SCADA system. However, steps have been taken to map the relays as early as possible.

(b) The feeders in the Kerala system can be monitored at present through SLDC SCADA system with no error in data. However, UFR and df/dt relays of these feeders are not mapped to SCADA system. KSEBL has taken steps to map these relays into SCADA system as early as possible. With the present arrangement, SCADA recognizes tripping of lines and the change in load is measurable. With the mapping of the relays, the operation of the relays also become visible, by which non-tripping of feeders in spite of relay operation can be discerned.

(c) List of feeders is visible in SCADA system. However, the values are not updating due to transducer errors. The shifting of control panels of these feeders are being arranged by transmission wing of KSEBL as part of renovation.

(d) The purchase of Remote Terminal Units (RTUs) for new twenty one (21) stations is under progress. Purchase order has been placed with M/s Crompton Greaves on 15.2.2014 and the equipments are expected to be delivered within three months. These RTUs are expected to be commissioned in September 2014 along with the new (upgraded) SCADA system. With the commissioning of these new RTUs, the SCADA visibility of the feeders installed with UFR would be increased to 649 MW (around 78% visibility).Total load relief expected through these feeders in UF relay scheme is 168 MW and in df/dt relay scheme is 53 MW.

(e) To avoid overlapping of different group of load relief schemes, the radial feeders are identified at non RTUs for some stages of UFR and df/dt relay scheme. Therefore, 205 MW load relief cannot be visible through SCADA system even with the implementation of new RTUs. However, these RTUs are expected to be visible with the implementation of GSES. Total load relief expected through such feeders in UFR and df/dt scheme is 205 MW and 55 MW respectively. These additional feeders have been identified to eliminate overlapping of feeders identified for different protection schemes including SPS and to include additional load relief from 11 kV sub-station's level to avoid tripping of 110kV/66kV feeders feeding other inter-connections/essential loads. The implementation of GSES is only at the preliminary stages and the date can be finalized only after the Commission`s approval for the proposal from PGCIL.

4. Against the above background, the petitioner has made the following prayers:

> "(a) Time extension may kindly be granted for mapping the relays at stations till 31.5.2014 so as to complete the wiring and integration works;
>
> (b) Time extension may kindly be granted for the relay mapping of the feeders submitted in annexure-7 (Load with SCADA visibility with new RTUs) till the commissioning of new SCADA system i.e. till 31.3.2015.
>
> (c) Extension may also be kindly granted for the relay mapping of the feeders submitted in Annexure-8 (Load without SCADA Visibility due to non existing RTUs and no New RTU proposal) till the implementation of GSES scheme."

5. The petition was admitted on 13.5.2014. The Commission directed the petitioner to implead SRLDC and SRPC as parties to the petition. Notice was issued to SRPC and SRLDC to file their replies.

6. Reply to the petition has been filed by Southern Regional Load Despatch (SRLDC). SRLDC in its reply dated 26.5.2014 has submitted as under:

(a) Time sought by the petitioner for mapping relays at its stations till 31.5.2014 to complete wiring and integration works should be allowed.

(b) With regard to time extension for mapping relays of feeders (Load with SCADA visibility with new RTUs) till 31.3.2015, it is appreciated that measures are being taken by the petitioner to ensure AUFR and df/dt mechanism. However, this issue is being agitated by SRLDC since 2013.

Seeking undue time for implementation of the Commission's order is not fit for the grid security.

(c) Time extension for mapping relays of feeders (Load without SCADA visibility due to non existing RTUs) has been sought till implementation of GSES scheme. Since the Commission in its order dated 20.2.2014 has observed that in the wake of frequency stabilization, there may not be any need for GSES scheme, linking the implementation of mapping of relays with GSES scheme should not be allowed.

(d) The visible progress on the implementation of AUFR and df/dt mechanisms by all the constituents of SR is dismally low. SRLDC has submitted the status of load relief in SR as under:

Status of Load relief in Southern Region:

SOUTHERN REGION							
S.No.	Under Frequency or df/dt stages	Average Load					
		Load relief to be given as per SRPC recommendation (in MW)	Implemented load relief			Additional Identified loads yet to be implemented	Additional loads to be identified & Implemented
			Implemented load relief (inMW)	SRLDC SCADA Monitorable (in MW)	Monitorable as % of Implemented		
1	AUFR Stage-I 49.2Hz	2350	1720	1256	73.03	191	439
2	AUFR Stage-II-49Hz	2360	1860	1374	73.84	120	380
3	AUFR Stage-III-48.8Hz	2390	1629	989	60.68	232	529
4	AUFR Stage-IV-48.6Hz	2400	1884	1439	76.38	221	296
	AUFR TOTAL	**9500**	**7093**	**5057**	**71.3**	**764**	**1643**

1	df/dt Stage-I at 49.5 HZ & 0.2Hz/sec fall of frequency	2000	1515.4	817.5	53.95	72	413
2	df/dt Stage-II at 49.3 HZ and 0.3Hz/sec fall of frequency	3238	2091.5	1641.5	78.48	223	924
DF/DT TOTAL		**5238**	**3607**	**2459**	**68.17**	**295**	**1336**
Grand Total (AUFR + DF/DT) MW		**14738**	**10700**	**7516**	**70**	**1099**	**2939**
Grand Total (AUFR + DF/DT) %		**100**	**72.5**	**51**		**7.45**	**19.94**

(e) The State-wise status of SCADA implementation is as under:

(i) **Andhra Pradesh**: Andhra Pradesh has mapped into its SCADA and accordingly, display screens are made. 58.67% loads have been implemented while the SCADA monitoring at SRLDC as percentage of implemented is 73.31%. Feeders to be implemented by AP are 2375. Out of which 146 have been identified and 2229 are yet to be identified. Average percentage for relief of implemented feeders for the period 11.5.2014 to 20.5.2014 is 56%

(ii) **Karnataka**: Feeders for overlap have been implemented. However, 913 MW identified feeders are yet to be implemented. Loads implemented are 74.20%. SCADA monitoring at SRLDC as percentage of implemented is 65.96%. SCADA monitoring at SLDC is yet to be implemented. Average percentage for relief of

implemented feeders for the period 11.5.2014 to 20.5.2014 is 75%.

(iii) **Kerala**: Loads implementation has been 100%. SCADA monitoring at SRLDC as percentage of implemented is 62.66% and SCADA monitoring at SLDC is yet to be implemented by Kerala. Average percentage for relief of implemented feeders for the period 11.5.2014 to 20.5.2014 is 62%.

(iv) **Tamil Nadu**: Loads implemented are 80.91% whereas SCADA monitoring at SRLDC as percentage of implemented is 80.44%. SCADA monitoring at SLDC is yet to be implemented. Overlap feeders of 797 MW is shown as feeders are to be identified and implemented. Average percentage for relief of implemented feeders for the period 11.5.2014 to 20.5.2014 is 62%.

(v) **Pondicherry** : Loads implementation has been 100%. SCADA monitoring at SRLDC as percentage of implemented is 0%. Presently, Telemetered data MW/current is not updating/reporting at Puducherry control centre due to SCADA problem (Front End Processor faulty) from 2nd week of January 2014. SCADA monitoring at SLDC is yet to be implemented. Therefore, average

percentage for relief of implemented feeders for the period 11.5.2014 to 20.5.2014 is not available.

(f) SRLDC has prayed as under:

(i) Uphold the directions given in Petition No 263/MP/2013 to ensure that the same is compiled with.

(ii) Six months time is sufficient for mapping relays of feeders (Load with SCADA visibility with new RTUS) till 31.3.2015.

(iii) Time should not be allowed for implementation of GSES scheme.

(iv) All SLDCs should be impleaded as parties to the petition to indicate the level of implementation.

7. The petitioner, vide its rejoinder dated 16.6.2014, has submitted as under:

(a) KSEBL has implemented UFR and rate of change of frequency relay scheme since long back and has been revising the settings/required load relief as per the action plan of SRPC and reported to SRPC and SRLDC. KSEBL has proactively responded to grid security by (i) providing load relief scheme slightly in excess of the requirement worked out at regional forums in view of ensuring required relief at any condition and technical feasibility in grouping of loads, and (ii) loads are identified at 11 kV level at selected sub-stations where facility for under frequency measurement exist and the same was implemented in the

Southern Region for the first time after proper discussion in the OCC forum. The identification of 11 kV load has been made by KSEBL to eliminate overlapping of different protection schemes on the same load to reduce the effective contribution.

(b) In Kerala system, the present relief proposed by SRPC and declared by KSEBL in different stages of settings are as under:

(i) The total UF load relief implemented is 854 MW against the proposed UF load relief of 826 MW; and

(ii) The total df/dt load relief implemented is 353 MW against the proposed UF load relief of 347 MW by SRPC

(c) As per the certification of UFR and df/dt quantum certified by SRPC and SRLDC, no additional load is identified and is implemented by KSEBL.

(d) All UFR and df/dt relays are functioning properly and the above stated load relief is available to the system.

(e) The time extension sought by KSEBL is only for extending the visibility of the feeders connected with AUFR and df/dt relays and not for the implementation of relays. Kerala has achieved 100% load relief

implementation and the same has also been admitted by SRLDC in its reply dated 26.5.2014.

(f) SRLDC`s statement “seeking undue time for implementation of the Commission’s order is not fit for grid” is confusing. Grid security cannot be ensured by monitoring alone by identifying load and making it available for relief when needed. KSEBL has completed the task required for maintaining the grid security, which was not acknowledged by SRLDC.

(g) Up-gradation of existing SCADA system is in progress as the present SCADA is in the verge of its life. The new SCADA system by M/s ALSTOM implemented through PGCIL is expected to be commissioned by the end of October 2014. Along with the SCADA up-gradation project, new RTUs are proposed at 21 critical major load centers in Kerala system.

(h) To avoid overlapping of different group of load relief scheme, the radial feeders are identified at non RTU stations for some stages of UFR and df/dt relay scheme. Therefore, 270 MW load relief cannot be visible through SCADA system even with the implementation of new RTUs.

(i) It is not possible for Kerala system to achieve 100% SCADA visibility with the present communication facility. For achieving 100%

SCADA visibility, Kerala has to identify radial load in the RTU station itself or extend the communication facility to 33 kV level. However, it is not possible to identify 50% of the Kerala system average load in the RTU station itself without over lapping.

(j) The visibility of relays require establishment of communication facility and RTU. Massive expenditure is required in this regard. Additional work involving establishment of communication facility and data acquisition system are planned as part of implementation of GSES/inter-connection with National Fibre Optic Network (NOFN).

(k) Since extension of the broad band communication to all sub-stations is planned at centralized level, the investment at this stage should be avoided as the requirement for the grid security is already met. Only the monitoring of about 20% of the expected relief immediately through SCADA remains. The actual relief possible can be computed from the data collected from these sub-stations through internet based data collection and this activity is being done regularly at SLDC and the details in this regard are furnished to SRLDC and SRPC.

8. The Commission vide Record of Proceedings for the hearing dated 19.6.2014 directed the petitioner to file the information regarding (i) Activities undertaken by KSEBL since issue of order dated 19.12.2013 in Petition No.

263/MP/2012; and (ii)Time line and PERT chart of the activities to be undertaken with their completion date.

9. The petitioner vide its affidavit dated 22.7.2014 has placed on record the time line and PERT chart of the activities and has submitted that the following activities were undertaken by KSEBL from the issue of order dated 19.12.2013 in Petition No. 263/MP/2012:

(a) UFR and rate of change of frequency relay scheme has been implemented and has revised the settings/required load relief as per the action plan of SRPC.

(b) A daily report of operation of UFR and df/dt relay is being forwarded to SRPC and SRLDC from Kerala SLDC. From the daily load monitoring, it is evident that the maximum relief obtained is greater than 100% of declared relief, the monthly average of relief is around 80% of maximum demand as almost 50% of the demand is domestic load.

(c) The implementation of all the stages of UFR settings and df/dt relay settings in Kerala system were completed before 1.10.2013 except the installation of df/dt relay at 220 kV Kalamassery sub-station. The df/dt relay at 220 kV Kalamassery sub-station was commissioned on 1.2.2014.

(d) KSEBL will require 193 days time (i.e. 11.7.2014 to 31.3.2015) to implement SCADA visibility of AUFR and df/dt relays.

(e) From the report of AUFR and df/dt protection scheme performance in Kerala system submitted to Member Secretary/SRPC, it is observed that maximum load relief obtained is greater than 100% of declared relief. The petitioner has placed on record the load relief status as under:

Abstract and observations of Kerala							
S.No.	**Under Frequency or df/dt stages**	**Average Load**					**Load Relief expected by SRLDC**
		Load relief to be given as per SRPC recommendations (in MW)	**Implemented load relief in (MW)**	**Load with direct SCADA Visibility/Computability with existing RTUs in MW**	**Monitorable as % of Implemented**	**Load without SCADA Visibility with existing RTUs but visible/Computable with new RTUs in MW**	
1	AUFR Stage-I-49.2Hz	204 (25%)	214	151	70.56	63.00	826
2	AUFR Stage-ll-49Hz	205 (25%)	217	197	90.78	20.00	
3	AUFR Stage-lll-48.8Hz	208 (25%)	212	81	38.21	131.00	
4	AUFR Stage-IV-48.6Hz	209 (25%)	211	194	91.94	17.00	
AUFR TOTAL		**826**	**854**	**623**	**72.95**	231.00	
1	df/dt Stage-I at 49.5 HZ &0.2Hz/sec fall of frequency	172	178	70	39.33	0.00	347
2	df/dt Stage-ll at 49.3 HZ & 0.3Hz/sec fall of frequency	175	175	175	100	0.00	
Df/dt TOTAL		**347**	**353**	**245**		0.00	
Grand Total (AUFR + df/dt) MW		**1173**	**1207**	**868**		231	

Analysis and decision:

10. We have considered the submissions of the petitioner and SRLDC. It is noticed that the petitioner has initiated action to implement the Commission`s direction dated 19.12.2013 in Petition No. 263/MP/2014 by providing adequate load relief through AUFR and df/dt schemes during contingencies. However, the petitioner is seeking extension of time to map the relays and the load of the feeders till 31.3.2015. According to the petitioner, the time is being sought only for extending visibility of the feeders connected with AUFR and df/dt relays and not for the implementation of relays**.** KSEBL has achieved 100% of connection of the relays. KSEBL has already completed monitoring of 59% of the implemented load relief which can be monitored through SLDC and SRLDC SCADA. Perusal of the daily load monitoring report reveals that the maximum relief obtained is greater than 100% of declared relief and the monthly average relief is around 80%.

11. Regulation 5.2 (n) and 5.4.2 (e) of the Grid Code provides as under:

> "5.2 (n) All SEBS, distribution licensees / STUs shall provide automatic under frequency and df/dt relays for load shedding in their respective systems, to arrest frequency decline that could result in a collapse/disintegration of the grid, as per the plan separately finalized by the concerned RPC and shall ensure its effective application to prevent cascade tripping of generating units in case of any contingency. All, SEBs, distribution licensees, CTU STUs and SLDCs shall ensure that the above under-frequency and df/dt load shedding/islanding schemes are always functional. RLDC shall inform RPC Secretariat about instances when the desired load relief is not obtained through these relays in real time operation. The provisions regarding under frequency and df/dt relays of relevant CEA Regulations shall be complied with. SLDC shall furnish monthly report of UFR and df/dt relay operation in their respective system to the respective RPC. RPC Secretariat shall carry out periodic inspection of the under frequency relays and maintain proper records of the inspection. RPC shall decide and intimate the action required by SEB, distribution licensee and STUs to get required load relief from Under

Frequency and df/dt relays. All SEB, distribution licensee and STUs shall abide by these decisions. RLDC shall keep a comparative record of expected load relief and actual load relief obtained in Real time system operation. A monthly report on expected load relief vis-a-vis actual load relief shall be sent to the RPC and the CERC."

"5.4.2 (e) order to maintain the frequency within the stipulated band and maintaining the network security, the interruptible loads shall be arranged in four groups of loads, for scheduled power cuts/load shedding, loads for unscheduled load shedding, loads to be shed through under frequency relays/ df/dt relays and loads to be shed under any System Protection Scheme identified at the RPC level. These loads shall be grouped in such a manner, that there is no overlapping between different Groups of loads. In case of certain contingencies and/or threat to system security, the RLDC may direct any SLDC/ SEB/distribution licensee or bulk consumer connected to the ISTS to decrease drawal of its control area by a certain quantum. Such directions shall immediately be acted upon. SLDC shall send compliance report immediately after compliance of these directions to RLDC."

As per the above provisions, all SEBs and distribution licensees / STUs are required to implement df/dt and under frequency relays as per plan finalized by their respective RPCs.

12. SRPC vide it letter dated 23.4.2014 has informed that the average monitorable load relief is 70%. However, the petitioner has monitorable relief of 49% which is below the regional average. The Commission vide order dated 19.12.2013 directed SLDCs to map the relays on SCADA system within three months i.e by 31.3.2014. However, SRLDC has recommended six months time for mapping relays of feeders (Load with SCADA visibility with new RTUs) and has contended that GSES scheme should not be linked with the df/dt scheme.

13. We have perused the minutes of OCC meetings dated 27.10.2015 and 8.9.2015 available on SRPC`s website and the following is observed:

(a) In 112th OCC meeting held on 27.10.2015 at Bangalore, the following was deliberated:

(i) UF and df/dt relay Schemes: Regarding implementation of SRPC`s recommended quantum, it was noted that all the States had implemented AUFR and df/dt schemes fully.

(ii) KSEBL vide its letter dated 3.10.2015 informed that df/dt relay had been disabled temporarily at Ottappalam 110 kV sub-station due to circuit breaker problems on Pazhayannur and Vadakkenchery feeders and the circuit breakers would be replaced before 31.10.2015

(b) SCADA mapping of feeders of AUFR and df/dt schemes:

(i) It was noted that KPTCL and Puducherry had implemented 100% SCADA mapping. However, APTRANSCO, TSTRANSCO, KSEBL and TANTRANSCO have not fully implemented 100% SCADA mapping.

(ii) SRLDC pointed out that it is able to monitor only 60% of the feeders connected under AUFR and df/dt schemes and requested to improve the SCADA mapping.

(iii) During the 111th OCC meeting held on 9.9.2015, the representative of KSEBL informed that new RTUs has been installed at 21 sub-stations. However, the communication issues are to be resolved. Other feeder

mapping was linked with National Optical Fibre Networks (NOFN). Member Secretary, SRPC pointed out that the time lines given by the Commission to KSEBL to complete SCADA mapping has already been expired and requested KSEBL to implement the same at the earliest.

(iv) During the 112th OCC meeting held on 27.10.2015, KSEBL informed that the mapping of UFR and df/dt feeders to SRLDC and validation of the same by SRLDC has been completed. There were some issues with the new RTUs and associated communication which are being addressed and would be mapped shortly.

(v) APTRANSCO, KSEB, TSTRANSCO and TANTRANSCO were requested to complete 100% SCADA mapping to SRLDC at the earliest.

14. It is noted that all the States had implemented AUFR and df/dt schemes fully. The details of recommended and implemented quantum with respect to AUFR and df/dt schemes by all the constituents of SR are as under:

Sl No	AUFR and df/dt stages	AP		TS		KARNATAKA		KERALA				TN			PUDU
		Recommended	Implemented	Recommended	Implemented	Recommended	Implemented	Recommended	Implemented	Recommended	Implemented	Adl. feeders identified but yet to be implemented		Recommended	Implemented
		Average MW		Average MW		Average MW		Average MW		Average MW				Average MW	
	AUFR Stage-I (49.2 Hz)	392	392	417	419	576	571	204	214	740	804	35		21	21
	AUFR	393	393	419	420	578	578	205	217	744	808	5		21	22

	Stage-I (49.0 Hz)													
	AUFR Stage-I (48.8 Hz)	398	398	424	426	586	594	208	212	753	867	23	21	25
	AUFR Stage-I (48.6 Hz)	399	399	426	431	588	594	209	211	756	867	65	22	24
	AUFR total	**1582**	**1582**	**1686**	**1696**	**2328**	**2327**	**826**	**854**	**2993**	**9946**	**128**	**85**	**92**
1.	df/dt stage-I (at 49.5 Hz & 0.2 Hz/sec fall of frequency)	345	345	367	368	474	483	172	178	624	617	0	18	12
2.	df/dt stage-II (at 49.3 Hz & 0.3 Hz/sec fall of frequency)	855	855	912	914	737	735	175	175	559	561	0	0	6
	df/dt total	**1200**	**1200**	**1279**	**1282**	**1211**	**1218**	**347**	**353**	**1183**	**1178**	**0**	**18**	**18**

15. In view of the above, we are of the view that the petitioner has completed 100% load relief and achieved 73% of mapping of relays of feeders with SCADA system. The time line sought by the petitioner for completion of the mapping relays with feeders has already expired. We direct the petitioner to file a confirmation report regarding completion of UFR and df/dt relays mapped to the SCADA system of KSEBL to SRPC by 31.12.2015.

16. The Commission vide order dated 20.2.2014 in petition No.265/MP/2012 has observed and directed as under:

> "..we are of the view that the performance of Grid in regard to parameters envisaged to be controlled under GSES scheme should be monitored for six

months before considering the scheme for implementation of GSES. The petitioner is directed to file performance of Grid after 6 months from the date of issue of the order indicating necessity of GSES, even after implementation of ADMS, SPS, AUFRS. If the situation warrants need for implementation of GSES, the petitioner is at liberty to approach the Commission along with technical details of defense mechanism equipment, comprehensive scheme of OPGW, etc in accordance with law."

In view of the said direction, the petitioner should implement all df/dt relays in the State without linking it with GSES scheme.

17. With regard to other constituents of SR, perusal of the minutes of OCC meeting dated 27.10.2015 and 8.9.2015 reveals that load relief and df/dt scheme has been implemented 100% by all the States of SR. However, SCADA mapping to SRLDC has not been yet completed.

18. We allow time to the petitioner till 31.12.2015 to comply with Regulations 5.2 (n) and 5.2 (e) of the Grid Code, and the Commission`s direction given in order dated 19.12.2013 in Petition No.263/MP/2012. If the petitioner fails to comply with the order, it shall be liable for action under Section 142 of the Act as already observed in our order dated 19.12.2013 in Petition No. 263/MP/2012.

19. We direct Southern Regional Power Committee (SRPC) Secretariat to submit status of implementation of mapping of relays with SCADA system in respect of all the constituents of SR by 31.1.2016.

20. We direct SRLDC and SRPC to ensure compliance of Regulations 5.2 (n) and 5.4.2 (e) of the Grid Code and report instances of non-compliance.

21. The petition is disposed of with the above directions.

Sd/-	sd/-
(A.K.Singhal)	**(Gireesh B.Pradhan)**
Member	**Chairperson**