AGENDA NOTE
FOR
THE 9TH MEETING OF THE CO-ORDINATION FORUM

Date	**16th November 2011**
Time	**1130 hrs.**
Venue	**Sardar Patel Institute of Public Administration (SPIPA), Opp. "ISRO", Satellite Road, Ahmedabad**

AGENDA ITEM NO.	NOTES ON AGENDA
1	Approval of the minutes of the 8th Meeting of the Co-Ordination Forum held on 02nd April, 2011
2	Action Taken Report on the minutes of the 8th Meeting of the Co-Ordination Forum
3	Highlights of Tariff Orders
4	Discussion paper on Solar Tariff for the new control period
5	Standard of Performance (SoP)
6	Safety in the Electricity Industry
7	Status of Transmission Projects
8	Monitoring of RPO & it's Compliance
9	Proposed guideline for signing of PPA for Power Projects and Renewable Energy Projects
10	Status of Renewable Energy Projects - G.E.D.A
11	Presentation on Power Sector Scenario in Gujarat by GUVNL
12	Presentation on Merit Order of Power stations by Shri Gurdeep Singh, MD - GSECL
13	Presentation on Energy Efficiency Purchase Obligation (EEPO) by Shakti Foundation / A.F. Mercados EMI
14	Any other Item with the permission of Chair

Agenda Item No. 1

Approval of the minutes of the 8th Meeting of the Co-Ordination Forum held on 02nd April, 2011

The 8th Meeting of the Co-Ordination Forum was held on 2nd April, 2011. The minutes of the meeting were sent to all the members on 30th May, 2011. No comments have been received from any of the members. The minutes may, therefore, be approved.

Agenda Item No. 2

Action Taken Report on the minutes of the 8th Meeting of the Co-Ordination Forum

Item No. of the minutes	Detail of the Item	Action Taken Report
3	GUVNL was asked to give comments on the recommendations made by the consultant on Merit order dispatch principles.	GUVNL has submitted comments on the recommendations made by the consultant on Merit order dispatch principles. Copy of the same is attached as Annexure I
8	The Chief Electrical Inspector and GUVNL are to submit a combined report on fatal accidents; both animal and human.	No report received till date.
9	Open Access Regulations	Open Access Regulations notified vide notification no.3 of 2011, dated 1-6-2011
11	A committee was constituted to prepare a background paper on governance issues for safety in the Electricity Industry	Report is attached as Annexure II

Agenda Item No. 3

Highlights of Tariff Order

The Commission issued Tariff Orders for Kandla Port Trust and MUPL Pvt. Ltd. on 6th August 2011. The Tariff Orders for state owned DISCOMs and TPL were issued on 6th September 2011. The new tariffs are made applicable from 1st September 2011 for all the licensees.

The Commission has directed KPT to charge their consumers in accordance with the Tariff Schedule for PGVCL from time to time. A separate Tariff Schedule has been approved for the consumers of MUPL.

Though DISCOMs filed their MYT petitions in the month of May, i.e. after 6 months of the last date for filling the petitions as per the regulations, the Commission issued the Tariff Orders well within time so that the utilities can recover revenue based on new tariff at least for the period of half of the year.

The orders of DISCOMs and TPL comprise of Truing up for FY 2009-10, APR of FY 2010-11, determination of ARR for the control period of FY 2011-16 and determination of tariff for FY 2011-12. Truing up of FY 2009-10 and APR for FY 2010-11 was concluded based on the MYT Regulation 2007 while ARR for the 2nd control period and tariff for FY 2011-12 were determined based on the MYT Regulations 2011.

The Commission carried out APR of FY 2010-11 for better clarity to decide norms on various parameters for the five years of the next control period.

ARR for the five years was decided in the Tariff Orders subject to mid-term review as stipulated in the MYT Regulations 2011.

The salient features of the orders of DISCOMs and TPL are as under;

- The Commission agreed with the prayer of the DISCOMs for adoption of Differential Bulk Supply (BST) Mechanism for a uniform structure of retail supply tariffs in the four DISCOMs. BST ensures that consumers in similar categories in the State of Gujarat have similar tariff and there may not be any discrimination among the consumers. While deciding BST rates for various DISCOMs the Commission took care that the Bulk Supply Tariff reflects efficiency of the DISCOMs.

- The Commission carried forward the process of rationalization of tariff in order to ensure that the tariffs reflect, as far as practicable cost of supply. The Commission also tried to address operational and the field level issues – keeping in view the interest of consumers – while rationalizing the tariff structure.

  For example, the tariff rate commonly known as commercial tariff was applied to commercial establishments in respect of lighting and fan. Such establishments had to pay the industrial rate in respect of motive power. A consumer had to keep two meters, which means avoidable cost and inconvenience to both the consumer and the utility. The commercial tariff was also applied to a range of consumers i.e. shops, restaurants, theatres, IT units, telecom units, and even offices, hospitals and educational institutions. In other words, it was applied to almost entire service sector. In recent times, the structure of the economy has changed; the tertiary or service sector is playing a dominant role in the economic growth. In the context of development policy, a number of such activities are given priority and are treated as industrial activities. Thus, the tariff structure, which was designed in the past, has become anachronistic; in practice and very often it becomes difficult to distinguish between industrial activities and so called commercial activities, which are mostly service activities at present. This also results in confusion and ambiguity for field level officials of the utilities. In order to address these issues, the Commission had restructured the tariff in respect of High Tension power supply in the tariff order of 31st March 2010. It greatly helped to simplify the processes and procedures, particularly in the field and was well received by the utilities and consumers. As a sequel to the process of rationalization, the Commission has, in the present order, attempted to rationalize the tariff structure in respect of Low Tension power supply.

  Following rationalization for the state owned DISCOMs has been attempted by the Commission in the recent Tariff Orders;

  1) Lighting consumption and motive power consumption are combined into the same category.
  2) Residential premises category is renamed as “RGP” and modified to cover aggregate consumption of Residential premises having connected load up to 100 kVA.

3) LFD II and LTP I categories are merged and installations having connected load up to 40 kW of commercial, industrial, office premises, institutional and other premises are clubbed into one category termed as “Non-RGP”. Installations having aggregate connected load above 40 kW of Commercial / Industrial / office / institutional premises are covered under existing LTP-III tariff category, which is renamed as “LTMD” category
4) The existing LFD-III and LTP-II categories applicable for educational and other institutions registered with Charity Commissioner and R&D laboratories are merged into one category and renamed as “GLP” category with appropriate tariff.
5) The proposal for the method of measurement of maximum demand and the additional condition for HT seasonal loads proposed to be introduced is approved.
6) Time of Use charges are introduced for HT consumers below 500 kVA.
7) The State owned Distribution Companies had proposed uniform tariff hike of 25 paise per unit for all consumers except BPL and Agricultural consumers. However, the Commission decided to allow an average tariff hike of 13 paise per unit i.e. 4.05% of the existing tariff.
8) The consolidated gap at previous tariff for state owned DISCOMs was Rs. 606.67 crore for FY 2011-12. Additional revenue due to revision in tariff is expected to be Rs. 611.88 crore, resulting into consolidated surplus of Rs. 5.21 crore.

Rationalization attempted by the Commission in the recent Tariff Orders of TPL is as follows;

1) Differentiation between tariff rates of lighting consumption and motive power consumption has been removed.
2) For TPL Ahmedabad (TPL-A), existing RGP and LTP-1 tariff categories are merged and cover the installations having connected load up to 15kW and named as tariff category “RGP”. Installations having aggregate connected load above 15 kW in the Residential premises and water works operated by local authorities are covered under the existing LTMD-I tariff category.

3) In TPL-A, CGP/IGP and LTP II categories are merged and the installations having connected load up to 15 kW in all non-residential premises, including Commercial, Industrial, office premises, institutional and other non-residential installations are combined to one category named as “Non-RGP”. Installations having aggregate connected load above 15 kW of commercial premises, institutional and other non-residential premises are covered under existing LTMD-II tariff category.
4) In TPL Surat (TPL-S), existing Residential category is modified to cover aggregate consumption of residential premises having connected load up to 100 kVA, and renamed as “RGP”.
5) In TPL-S, existing commercial and LTP categories are merged and installations having connected load up to 15 kW of Commercial, Industrial, office premises, institutional and other Non-residential are included in one category named as “Non-RGP”. Installations having aggregate connected load above 15 kW of Commercial, Industrial, office premises, institutional, and other Non-residential premises are covered under existing LTMD tariff category.
6) The ToU charge for HT consumer of TPL-S, with less than 500 kVA, is introduced.
7) Introduced Night Time Concessional Tariff (NTCT) for HT consumers in Ahmedabad area and has given concession to HT consumers who consume more than 33% of total consumption during night hours in order to reduce the demand during peak hours.
8) The TPL-A had proposed an average tariff hike of 90 paise per unit. However, the Commission decided to allow an average tariff hike of 22 paise per unit i.e. 4.68% of the existing tariff.
9) The TPL-S had proposed an average tariff hike of 48 paise per unit. However, the Commission decided to allow an average tariff hike of 12 paise per unit i.e. 2.63% of existing tariff.
10) The total revenue based on the previous tariff for FY 2011-12 was Rs. 1511.19 crore and the net gap was Rs. 38.74 crore. The Commission has revised the tariff which brings in additional revenue of Rs. 39.79 crore resulting into surplus of Rs. 1.05 crore. The Commission has decided that it will review the same during

true up for FY 2011-12 when the audited accounts would be made available to the Commission.

- The Commission revised base FPPPA for GUVNL as 61 Paise/kWh based on actual power purchase price of FY 2010-11 and base fuel prices approved for GSECL for FY 2011-12. Similarly, base FPPPA for TPL is 70 Paise/kWh based on actual fuel and power purchase price of FY 2010-11. DISCOMs and TPL have been directed to submit any claim of FPPPA, within one month from end of the relevant quarter to the Commission.
- In the earlier order dated 31st March, 2011 the Commission had introduced an optional kVAh based tariff for the Street Light connections of the MGVCL to have a pilot study. The results of the pilot study are encouraging and reflects that the adoption of kVAh based tariff leads to energy saving. Keeping this fact in view, optional kVAh based tariff for the Street Light connections for all the DISCOMs and TPL has been introduced by the Commission.
- The Commission has also advised the State Government to take necessary action for the rationalisation of electricity duty structure also in similar line.

Agenda Item No. 4

Discussion paper on Solar Tariff for the new control period

The Commission has determined the tariff for procurement of power by distribution licensee in the State of Gujarat from solar energy projects for the period up to 31st December, 2011 vide Order No. 2 of 2010 dated 29.01.2010.

The Gujarat Urja Vikas Nigam Ltd. has signed about 85 Power Purchase Agreements (PPA) with different project developers for about 968.5 MW capacity. The Power Purchase Agreements provides that the tariff stated in the PPA is valid up to 31st December, 2011. If the project is not commissioned by 31st December, 2011, the tariff rate will be based on the new tariff determined by the Commission or the tariff agreed between the parties whichever is lower. Hence, it was essential to decide the tariff for the further control period to provide clarity amongst the distribution licensees and project developers who have executed the PPAs for sale/ procurement of power generated from the solar energy projects. In view of the above, the Commission brought out a

discussion paper on determination of tariff for procurement of power by the distribution licensees from solar energy projects for the next control period.

The Commission has framed the discussion paper for the next control period for solar PV power projects and Solar Thermal power projects. While preparing the discussion paper, the Commission has considered the prevailing price and the recent trends of the solar PV power projects at global as well as at national level. The Commission has also considered the price variation observed during the last two years particularly in solar PV module and inverters which consist about 75% of the total project cost. The Commission also considered the bidding process adopted at National level by NTPC and by MahaGENCO for awarding the contract to the EPC contractors. While determining the various parameters like interest on loan, interest on working capital, O&M charges, auxiliary consumption, etc. the Commission has decided to adopt the normative parameters based on prevailing market conditions. O&M charges and capacity utilization factor are at link with the actual performance of different power projects already commissioned. It is observed that the solar thermal power projects under construction are few in number during the last two years. In the State of Gujarat, there are two projects, one under NVVL Competitive Bidding being established at Porbandar and the other Cargo Power Ltd. had executed PPA with GUVNL. In this situation, the experience of the project developers at global level is considered by the Commission while deciding the normative parameters for solar thermal power projects as data for the few projects are available.

Agenda Item No. 5

Standard of Performance (SoP)

SOP reports of the Licensees for the Q-I of FY 2011-12 are attached as Annexure III.

Agenda Item No. 6

Safety in the Electricity Industry

A committee was constituted to prepare a background paper on governance issues for safety in the Electricity Industry. Report of the committee is attached as Annexure II.

Agenda Item No. 7

Status of Transmission Projects

The Commission has approved CAPEX of Rs. 2481 crore for various transmission projects of GETCO for FY 2011-12. The Commission desires to review the status of the transmission schemes associated with generating stations and renewable source projects including solar park. GETCO has been directed to submit the report on this every month to the Commission.

Managing Director – GETCO shall apprise the members about the progress of various projects and targets set for completion of the projects.

Agenda Item No. 8

Monitoring of RPO & Compliance

The Commission has notified GERC (Procurement of energy from renewable sources) Regulations, 2010. The aforesaid Regulation is applicable to distribution licensees, open access consumers and captive generating plants. However, the above Regulation at present applicable only to the distribution licensees. It is also provided that these Regulations shall be applicable to captive users and open access users from the date as would be notified by the Commission. The Commission has in Regulation No. 4.1 provided that the obligated entity shall require to procure the 5%, 6% and 7% of renewable energy of total consumption in the area of the distribution licensee for the years 2010-11, 2011-12 and 2012-13 respectively. It is also provided that in case of non-compliance of the Renewable Power Purchase Obligation, the entity concerned shall have to face the consequences as provided in the Regulations. The said regulations also provide that the Renewable Energy Certificate is a valid instrument for discharge of mandatory obligations of RPO as provided in the said Regulations. The Renewable Energy Certificate issued under CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations,2010 shall be the valid instrument for fulfilment of RPO. The Commission has also provided in Regulation no.6 that the Commission should designate an agency for accreditation for various purposes of the Regulations. According to above Regulations, the State Agency shall function in accordance with the directions issued by the Commission and also act in accordance with the provisions of the

CERC (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010. The State Agency shall also require to submit quarterly status to the Commission in respect of compliance of the RPO by the obligated entity in the prescribed format to the Commission for taking necessary action by the Commission. The Commission has issued Order No.7 of 2007 and notification No.4 of 2010 by which Gujarat Energy Development Agency is nominated as State Agency. Hence, the State Agency shall require to submit quarterly report to the Commission in compliance to the Regulations, stating that the RPO fulfilled by the obligated entity. It is observed that the State Agency has not provided any details on quarterly basis to the Commission uptil now. The distribution licensee and state agency are asked to provide the details for compliance of the RPO on quarterly basis to the Commission.

Agenda Item No. 9

Proposed guideline for signing of PPA for Power and Renewable Energy

Sections 42 and 43 of the Electricity Act, 2003 provides that it is duty of Distribution Licensee to provide electricity supply to the consumers within the licensed area of supply on request. Further, the Electricity Act, 2003 also empowers the State Commission to regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured. The power purchase cost is largest cost element in the aggregate revenue requirement of Distribution Licensee.

In order to ensure standardization and reduce ambiguity in power procurement and to protect consumers' interest through a transparent and economic procurement of power, the Commission would like to publish draft guidelines for procurement of power by Distribution Licensees. The proposed guidelines will cover:

- Compulsory initiation of long- term/ medium- term procurement of power by the Distribution Licensee.
- Procedure to be followed for approval of quantum of power and PPA.
- Detailed procedure for short-term procurement.
- Submission and publication of details.

Agenda Item No. 10

Status of Renewable Energy- G.E.D.A

Agenda Item No. 11

Presentation on Power Sector Scenario by GUVNL

Agenda Item No. 12

Presentation on Merit Order of Power stations by Shri Gurdeep Singh, M.D. - GSECL

Agenda Item No. 13

Presentation on Energy Efficiency Purchase Obligation (EEPO) by Shakti Foundation / AF Mercados EMI

Agenda Item No. 14

Any other Item with the permission of Chair

ANNEXURE I

-39

GUJARAT URJA VIKAS NIGAM LIMITED

[An ISO 9001:2008 Certified Organization]
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Ref. No.: GUVNL/COM/CEM(Trading)/ 514 Date: 31/3/2011

To
The Secretary,
Gujarat Electricity Regulatory Commission,
1st Floor, Neptune Tower
Opp. Nehru Bridge, Ashram Road,
Ahmedabad 380 009

Fax No 079 – 26584542

Sub: Comments on Study report submitted by Shri T Chatterjee on Merit Order operations performed by GUVNL/SLDC during the period 1.4.2009 to 31.03.2010.

Dear Sir,

This has reference to your letter dated 25th February 2011 addressed to MD, GUVNL forwarding copy of the study report submitted by consultant, Shri T. Chatterjee on Merit Order Operations performed by GUVNL/SLDC during the period 1.04.2009 to 31.03.2010 interalia covering some suggestions to perform Merit Order operations in better way.

In this regard, the clarifications / explanations were already provided during the course of Merit Order Operation verification 2009-10. However, we are once again submitting our clarifications / observation on the measures suggested by consultant in his study report.

(i) Transparency is being maintained in identification of generating stations under "Must Run", Take or Pay obligation, or CERC Regulations etc.

Observation: No Comments

(ii) There should be transparency regarding the technical minimum requirement of generating stations even though the data will be enormous.

Observation: SLDC is asked to put the details of technical minimum operating level of each generating stations on website.

(iii) GUVNL / SLDC / Distribution Companies shall ensure that the data regarding technical minimum requirement of generating stations are available in their website and this is updated regularly at the time of any change in the database.

Observation: Yes, SLDC is asked to put the details of technical minimum operating level of each generating stations on website.

(iv) On days of huge surplus of power it may be explored whether generation of a few high variable costs units can be totally backed down and units of cheaper variable cost can be run in their place on a sustainable basis.

Observation: The above suggestion is already been implemented and in the scenario of low demand/load, SLDC is deciding as to whether to shut down high variable cost generating stations and to draw balance required power from grid looking to grid dynamics or to back down high variable cost generating stations to technical minimum operating level. However, unless such low demand period is expected to be over a couple of days it would be technically not feasible to do complete shut down of generating unit(s) as frequent start-stop of a plant have other adverse technical consequences.

(v) Data base management needs to be computerized in a planned manner for which services of a separate software firm may be engaged.

Observation: SLDC is doing data base management in computerized formats using Oracle base DBMS, ART software, back up facilities etc. Therefore no separate software is required.

(vi) There are many gas based generating stations which receive fuel from different sources. The variable cost of generating power in such cases is dependent on the cost of gas. This gives rise to a large number of stations whose merit order is to be decided and schedules prepared.

Observation: The generation cost of gas based power stations is dependent on availability of gas from various sources. Gas based power stations are utilizing mix of gases and prices of gases are different for each source like APM, PMT, GAIL/GSPL-RLNG and Spot RLNG which is source wise identifiable . In order to minimize the power purchase cost it is imperative that cheaper sources are to be scheduled first and therefore averaging the generation cost taking all sources of gas availability will lead to situation of scheduling of costlier gas based generation instead of cheaper available alternative generation. Therefore, it is not advisable to average out generation cost of various gases merely to reduce the number in Merit order list.

(vii) It may be considered if the generating stations with different sources of supply but under same management could be considered as a cluster and variable cost of generation can be decided on weighted average cost of supply of gas during last one month or fortnight period. This will effectively reduce the number of generating stations thereby making the task of scheduling under merit order much simpler.

Observation: The suggestion is not in line with basic principle of merit order dispatch wherein cheapest generation has to be scheduled first irrespective of ownership, fuel, location etc. It will hamper the economical merit order dispatch.

(viii) Suggestion as at (vi) above is in line with coal based power stations where coal of different grades, source and price are used in the boilers but yet the generating station has a composite rate of variable cost.

Observation: The coal is stocked in yard in mix form. It is very difficult to identify which grade of coal is being utilized for generation of power. Moreover, landed cost of coal is dependent on grade of coal, distance from coal mines and applicable taxes and duties at different mining location and there is not much difference between grade to grade prices of coal as in the case of mix of gases. Therefore, in view of this peculiarity it is appropriate to work out composite cost of Coal based generating stations.

(ix) Communication system needs to be strengthened with GIPCL and with other places wherever the communication links are to be improved.

Observation: Agreed with this suggestion. SLDC is asked to improve the Communication with Intra State Utilities to ensure timely implementation of SLDC's instructions on back down pick up, revision in scheduling etc.

(x) Increased use of power purchased through power exchange may be advantageous to act as a balancing mechanism. Market Discovery Price is likely to reduce with entry of more and more number of power exchanges due to competition. This will reduce dependence on UI mechanism for balancing on real time.

Observation: Presently the state is having adequate capacity with almost flat load curve of State. State is generally not drawing power under UI mechanism except in case of exigencies. Therefore suggestion to purchase power from Power Exchange for reducing UI overdrawl is out of place. UI mechanism is not part of load management planning in Gujarat and in the absence of real time power trading through power exchanges, the suggestion is not workable.

(xi) It may be considered if a small percentage of transmission capacity may be reserved for evacuation of power contracted through Power Exchange.

Observation: Since, there is adequate redundancy and margins in intra state transmission system; therefore there is no constraint for evacuation of power through Power Exchanges.

(xii) Real time scheduling may be made simpler for power purchased from Power Exchange.

Observation: State Utilities are not purchasing power through Power Exchanges/Traders. Further, scheduling procedures are followed as provided by Central Regulatory Commission.

(xiii) However, Gujarat State is currently surplus in power and no power is now-a-days purchased through Traders or Power Exchange. Hence, para (ix) and (xi) above are not of much significance currently.

Observation: No Comments

(xiv) Huge data is processed every day for merit order dispatch of the state. It has been informed that the Distribution Companies (DISCOMs) of Gujarat have been preparing the Day Ahead Merit Order Dispatch Schedule currently in the post ABT period by using software for implementation by SLDC. The data furnished by different DISCOMs need to be carefully integrated to ensure the objective of ensuring safe, secure and optimum dispatches by SLDC. Proper software may be developed by SLDC for this purpose.

Observation: At present, data furnished by DISCOMs are carefully integrated and processed with the help of special scheduling software and it is made available on SLDC's website.

(xv) Any deviation from the Merit Order shall be immediately brought to the notice of GUVNL/SLDC by any stakeholder. This may be done by telephonic message followed by confirmation in writing.

Observation: All the participants of Intra State Pool is monitoring their injections and drawls continuously and ensuring the minimum deviations from schedules. Further, the deviations are settled as per the intra state ABT regulations which provide appropriate commercial signals to the pool members. In case of any significant deviation, SLDC is issuing written instructions to cure the deviation.

(xvi) There is a need of training of officials of SLDC. There may be an initial training for a longer duration and then the training of shorter durations for continuous up gradation of skills. Sometime back training scheme of load dispatching engineers were being evolved by a Committee in CEA in which PGCIL and NPTI were members among

others. GUVNL/SLDC may contact CEA, PGCIL and NPTI about the details of courses and the names of institutions finalized for taking further necessary action.

Observation: Suggestions are noted. SLDC has identified training areas and initiated training programs to train the officials at NPTI etc.

(xvii) GUVNL shall organize monthly review of merit order dispatch in a Committee which may be called Gujarat Merit Order Review Committee. All the stakeholders of the state shall participate in the meeting. Any deviation from the Merit Order Dispatch shall be discussed and sorted out to the extent possible. This may be attended by officers at Executive Engineer level.

Observation: Merit Order dispatch is followed by each participants of Intra State ABT considering it financial implication on their organization, real time dynamics of grid etc. Further, representative of Intra State ABT pool members are meeting at intervals to resolve the issues on scheduling, energy accounting etc wherein they can raise the issue related to merit order, if any. Hence, there is no need to form a separate Gujarat Merit Order Review Committee.

(xviii) Issues which cannot be resolved in the Merit Order Review Committee will be referred to Grid Code Review Committee.

Observation: Merit order has implication to individual concern beneficiaries and therefore there is no issue of any dispute.

Thanking you,

Yours faithfully,

(S.B.Khyalia)
Executive Director (Finance)

Copy to: The Chief Engineer (SLDC), Gotri.

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ANNEXURE II

REPORT ON

Issue of Right of Way, Safety and coordination amongst the various service providers for creation / maintenance of infrastructure

During the Coordination Forum meeting dated 4th April, 2011, it was decided by the Forum that a committee consisting of Shri S.R.Pandey, Legal Advisor, GERC, Shri Y.B.Dholakia, General Manager, Torrent Power Ltd. and Shri D.S.Doshi, Addl.Chief Engineer, UGVCL to study the Right of Way and Safety problems faced by the Electricity utilities in the cities/ nagar panchayats, etc. It is also decided that the said Committee will consider the issues faced by the different service providers and also suggest their views to overcome the difficulties faced by the electricity utilities and other service providers.

The Committee members met on various occasions and discussed the issues. They have also interact with the various peoples of the service providers and made their observation regarding the problems faced by the various service providers. Based on the above, the preliminary report is prepared by the Committee which is submitted to the Coordination Forum for its consideration.

BACKGROUND:

The State of Gujarat is ahead of other States in the Country in terms of Growth and Developmental activities. The State Government Policies and the support extended by the Government Authorities have encouraged the investments and business growth. This has resulted into phenomenal spurt in developmental activities in the major cities like Ahmedabad/Gandhinagar, Surat, Rajkot, Vadodara etc.

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The expected phenomenal growth also necessitates creation of corresponding infrastructure facilities to cater to the increasing demand. The same has

become all the more relevant for Ahmedabad as it is designated as Mega City and also Surat, Rajkot, Vadodara and other cities and Nagarpalika where the population increases very substantially. This would result into higher growth and more particularly in Commercial segment in all the cities. Further, the areas, within the city, which are predominantly residential, are being converted into commercial areas. Additionally, the vertical growth is being observed wherein the existing low-rise buildings are getting converted into high-rise building. This results into an increase in the electrical density of the existing area.

In order to cater to the increased demand, the Utility needs to augment the existing network for future growth in the existing area. Similarly, the Utility is also required to create infrastructure for the new areas considering the future growth.

It is observed that there is huge population in the cities / urban areas, nagar panchayats, etc. and the same is increased rapidly which create huge demand for various services and lead burden on the service providers like electricity, gas, telecommunication as well as transport system operators and water/ sewerage system to provide efficient and better services . The increase in the demand and limitation of the land / free space in the above areas it will difficult for the service providers to create necessary infrastructure to meet the demand of the population in their license area/ service area because the planning made by the licensee/ service providers based on the demand of the consumers. Every existing system laid down by the service provider with consideration of the some margin for incremental demand of the consumer with consideration of long term planning. However, the increase in the population in the cities, urban areas, nagar panchayat etc. depend on the economical conditions of the said area, industrial development in that area and other geographical conditions. Due to above, it is observed that new residential colonies, commercial centres,

industries and population living in chawls, increase very rapidly in the cities/ nagar panchayats etc. and same is sometime found to be in an unorganized manner. Moreover, the Central Government and State Government are also providing various benefits for the corporation/ nagar panchayat etc. with consideration of environmental aspects and public services aspects as a part of the policy. Due to which Municipal Corporation, Urban Development Agency, Nagar Panchayat, etc. make frequent changes in the existing transportation system and their services system by way of expansion of existing road, creation of bridge, bypass roads, introduction of BRTS system, water sewerage system, water supply system etc. while carrying out the above activities, the Municipal Corporation Local bodies are not asking the utilities about their existing network due to which the service provider network is affected and it will also affect the services rendered by the service provider.

Due to above reasons, the service providers found to create the new expansion network to meet the demand of the consumers. Moreover, it was also observed that to attend the fault is also become cumbersome. It is also observed that the assets which has been created by the service providers are affected very badly and the service providers are required to replace the existing network by laying down new network which will affect the service provider on monetary part as well as it is also affected to the consumers, service provider, state and nation as the network which was created by the service provider have not completed their life period but same is unable to utilize its optimum level. Due to expansion of the existing residential/ commercial buildings without approval of the concerned distribution licensee, the clearance from the overhead lines is observed reduced substantially and it may lead to the electrical accidents also sometime. Sometime it is also observed that there is encroachment below the overhead lines as well as the trees which are planted nearby the overhead line also create problems for maintenance etc. in case of underground cables, the

digging is carried out by various service providers frequently. However, while carrying out such activity, there is no mechanism available in which the other service providers will be intimated by the service provider who desires to carry out the digging activity on the particular area. During the digging process, it is also observed that the existing network of other service providers is badly affected by the contractors who are carrying out digging on behalf of the particular service provider. It hampers the services rendered by the service provider whose existing network is affected during such period.

It is also observed that the service providers are laying down their network in the cities as well as Nagar panchyats and sometimes nearby Railways and National Highways also. In some cases, it is observed that whenever widening of the roads or railway system is carried out by the Municipal Corporation, NHAI, and State Highway authorities, they are not providing any space to create necessary infrastructure by service providers like distribution licensee, transmission licensee, etc. In such case, it is difficult to erect new feeders to provide the services to the consumers by the distribution/ transmission licensees. The right of way is one of the biggest issue faced by the transmission licensees as well as distribution licensees due to which in some of the cases, it is observed that generating facility is created. However, it is difficult to evacuate power from the existing generating stations. Hence, generating stations are required to operate on some optimum level which is loss to the state as well as nation also. The above problems create difficulties to the distribution licensees in release of connections. Sometime it will delay for number of months/ years also. The same is majorly observed in the case of HT/ EHT lines. The same problems might be faced by the other service providers. However, no specific data is available to the Committee at present in this regard.

ISSUES:

The utility faces various problems mainly in augmenting and laying the network due to non-availability of corridors and reservation of lands for constructing the Substations for bringing the power from the generating stations.

- The non-availability of corridors amounts to congestion in the infrastructure network and making the network more vulnerable and prone to accidents. The encroachments on existing network including the lines and assets have made it impossible to upgrade the existing network as well. Thus, it increases the risk of electrical accidents.
- The electrical utility has to plan its network and generation facilities to cater to the future electrical demand. Accordingly, the utility adds the generation capacity as demand increases as part of its long term planning. However, the utility also requires suitable space for setting up EHV/ HV Substation for bringing power from the generating stations through appropriate network. The existing town planning system does not provide for reservation of such land/ plot for such requirement in future. Therefore, it becomes difficult for the utility to avail such plots for the setting up receiving stations at required locations. This not only hinders the growth but also impacts the developmental activities of the area including employment opportunities.

- The diversity in jurisdictions that a utility faces for obtaining permission for laying or putting infrastructure equipment is also a point of concern. Municipalities, Urban Development Authorities, Nagarpalikas, GIDC, R & B Department, Private Owners, State and National Highway Authorities, Forest Department, Railways etc. have their own rules and regulations to be followed by the Utility Company although the above agencies do have a liberty to encroach electric utility installations. Further to this, various service providers like telephone companies, gas companies, oil companies

also have their own ROW rules for safety reasons. However, they do not take in to consideration safety aspects of electrical utilities assets and do not take any permission for laying their infrastructure. They insist on MoU and ask for the fees to be remitted unilaterally. The entire procedure is bureaucratic and takes a long time and delays are occurring for infrastructure development.

- Due to non availability of Right of Way (ROW)/ Corridors for laying the overhead network, the utility is required to lay the underground network. However, underground network also necessitates the provisioning of suitable corridor for laying the networks. In the current scenario, the utility is finding it difficult to lay even the underground network due to congestion on account of increase in number of network operators lead to less availability of space, sometime lead to congestion which is observed when widening of road in the city or urban development agency area, nagarpalika, highways and railway tracks took place.

  In future, the non-availability of suitable land and corridors may result into inability to cater to the demand, in the cities, nagarpalika, nagar panchayat, etc. which may seriously impact the developmental activities and growth of the city.

- The other common problems faced by electric utility company are damage to assets by the different agencies and service providers working in isolation. Instances are available where such work has resulted in fatality over and above power interruptions.

- The objection raised for the installation of electric utility equipments at Public place is also causing inordinate delay in extending the services to

the people. In the absence of any guidelines to common man on permitting the work under law, has resulted in delays on many occasions.

- The continuous advancement in public infrastructure facilities like transportation (for railway, roads, etc) gas supply, water supply, sewerage, telecommunication, etc. have also caused tremendous burden on utilities for shifting of their assets to a new place which is in some of the occasions found not possible resulting finally into a compromise on the safety aspects.

- The undergrounding on safety reasons of overhead network due to rampant planning at the public places adds to the woe of electric utility as it costs additional work burden over and above the additional costs.

- Due to illegal extension and improper planning and expansion of the residential, commercial premises or creation of new building nearby the overhead system installed in the cities/ nagar panchayats of the urban development agency area leads to convert the overhead system into underground system or to take necessary action to avoid electrical accidents due to reduction in the necessary clearance in the existing lines. Moreover, the encroachment under the overhead system also lead to fatal accidents. The above aspect lead to increase financial burden on the utility to avoid such incidents.

- At present, there is no provision in any rules /regulations etc. in the Municipal Corporation, National Highway Authority of India, Railways, GIDC, R7B Department, Urban Development Authority, etc. regarding providing specific corridor or right of way to the various service providers. Moreover, there is no law which is commonly applicable to the above

utility which provides that above utilities viz. electricity, water sewerage system, gas supply system, telecommunication system, etc. shall have separate corridor to lay down their infrastructure to meet the demand of their consumers as ensured in the services by such utilities. As regards electricity utility is concerned, due to non availability of corridors, the utility is unable to upgrade the existing network to cater to the increase in demand of the consumers. As for example, if any consumer is having contract demand of 3900 KVA with TPL licensee or UGVCL. PGVCL, DGVCL or MGVCL desires to increase his contract demand of 1000 KVA, he is able to get the power supply on 66 KV only. In such case, the power supply which was available to the consumers at 11 KV is required to be catered through 66 KV only. In such cases, the consumer desires to pay necessary charges and avail the higher contract demand benefit due to expansion of existing industrial unit but sometime they are unable to get the power supply due to constraints in the space availability which lead to right of way problem and such consumers are unable to increase their power requirements. In some of the cases, the demand of power from the consumers increased. However, due to space constraints it is difficult to expand the capacity of the existing line and in such case the distribution licensee sometimes required to cater the demand of the consumers on the existing lines which lead to overloading of the network and an increase in losses.

It is observed that there is no coordination amongst various department of public/ private utilities/ authorities regarding the works whenever initiated by any of the agency/ utilities. As for example, in the Ahmedabad city, the Ahmedabad Municipal Corporation has widened the road and made change in the transportation system by introducing BRTS system. Due to above reason, the existing underground cables, pipelines of gas supply,

telecommunication system cables as well as drainage system are undergone in the widened road by the corporation. In such condition, the electricity cables laid by the Torrent Power Ltd. are affected and it become difficult for the Torrent Power Ltd. to attend the fault as and when it happened on the existing cables/ electricity system laid down by it. In such condition, Torrent Power Ltd. required to lay down new electricity network to cater the demand of the consumers which will create burden on the licensee as a part of asset creation and under-utilization of the existing network and ultimately it will burdensome on the consumers.

The growth: in the population in the cities particularly Ahmedabad, Surat, Rajkot, Vadodara, etc. is in exponential rate while the availability of the land is fixed. It will be increased as and when the notified area of the Corporation/ AUDA increase by the Government/ Corporations. However, the increase in the space is quite low in comparison to population increase in the cities which lead to scarce in availability of free space to create necessary infrastructure to the licensees. Moreover, in the scarcity of the free space the price of the land is increased in manifold and it affect the licensee on creation of their assets. Due to higher cost and absence of necessary provisions in the building byelaws, the developers are unwilling to provide space for laying the network. This also creates dissatisfaction and resentment amongst the consumers.

INITIATIVES UNDERTAKEN:

To address above issues, various efforts needs to be taken such as (i) Initiating legal proceedings to address the issue of encroachment (ii) Approaching the local authority for removal of encroachment (iii) Requesting local authorities for suitable amendment in land related laws to provide space for Electrical substations/ network. However, these initiatives have not yielded the desired

results. Therefore, there is an urgent need to address these issues; else it would be difficult to cater to the growing demand while maintaining the high service standards with consideration of safety aspects.

SAFETY

Overhead Lines

While electricity has become a basic human necessity, it is hazardous. As an electricity distribution licensee, the company is responsible for all safety issues that arise out of its operations. Safety is amongst the most important performance parameters for electricity distribution/ transmission licensee which do not compromise for safety aspects. It is also necessary for electricity distribution/ transmission licensee to comply with onerous safety requirements of relevant statutes. Safety in the electricity industry is under increasing focus of consumer groups and authorities. As a result, intensive monitoring and mitigation has been initiated at various levels. On the other hand, safety concerns are increasing in urban areas. As a responsible licensee it is required to mitigate the same by them.

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The distribution licensee distributing power in its license areas sometime consisted of limited populated areas islanded in vast open areas. The only prevailing means of transmitting power were overhead lines. The network of overhead lines communicated bulk power from generating stations or import points to load centers where it was stepped down for onward distribution. The sub-transmission and the high tension distribution systems were also overhead. These overhead lines were duly laid in corridors complying with required statutory clearances. The rapid and pervasive urban development over last two decades has engulfed all open areas. Corridors of overhead lines, historically violated by illegal encroachments, have worsened with time. The required safe clearances have been compromised in several large areas. Public in such areas neither heeds warnings nor exercises required caution in proximity of these

lines, and simple acts such as cutting a tree have caused accidents. Unsafe proximity to the distribution network leads to safety concerns.

Live overhead lines exists not only in areas where safe distances are compromised but also in all other areas which are vulnerable to accidental contact when people unknowingly use metallic objects in their proximity. Metallic kites and conductive yarn are used during kite flying season. There is tendency to climb towers or throw metallic strings or tape at lines to retrieve stuck kites. Use of vehicles parts of which can enter the induction zone or touch EHV lines have resulted in accidents. Unauthorized cable TV and other wires accidentally touching or in induction zone of EHV lines have also resulted in fatalities. These also lead to serious safety concerns

The capacities of municipal infrastructure have also been upgraded. Roads have been widened, and facilities for mass transportation implemented. Paucity of available space has brought many transportation infrastructure facilities like major roads, flyovers and BRTS routes in close proximity of EHV lines, creating new safety concerns. EHV towers have come right on edge of roads with the overhead lines crossing large, crowded roads. A vehicular impact on a tower leading to a broken EHV conductor falling on a road would impact adversely substantial population under it during peak hours. This has grave safety concerns. sometimes an encroachment below the tower or nearby it done by the public which create problem on safety aspects.

The licensee required to undertake several initiatives to mitigate safety concerns. The company carries out annual drives to sensitize people living close to overhead lines about the hazards of trying to gain unauthorized access or touching these lines. The company has distributed pamphlets demonstrating unsafe acts and dos and don’ts and

also put up banners at key locations. The licensees also issued notices to occupants whose premises have encroached on the safe clearances of these lines for its removal. The licensee also, from time to time, appraised and reported to relevant authorities about the worsening situation. The licensee undertakes periodic maintenance to ensure safety of equipment and lines. The company also monitors unsafe conditions and acts during critical periods. Despite this, the sheer volume of exposure renders a reliable control on accidents impossible.

The licensee increased capacity of its over-head, networking tandem with growth in demand and over time the highest capacities for given voltage levels have been reached. The inability to increase capacity further is posing crippling constraints to cater to increasing demand. Further, it is now impossible to locate corridors for new overhead lines in crowded urban areas away from other major infrastructure to create alternatives to existing lines or to add further capacities. After few years of service, the new lines would also have the same problems as the existing. Hence it is not possible to mitigate current vulnerability with other overhead lines and it is necessary to explore other alternatives.

Old and Obsolete Equipment

The second area of safety concerns is on account of equipment. While the licensees periodically replaced old/obsolete, vulnerable and unreliable equipment, some still remain in system, posing serious safety concerns to; operating staff. Old Oil Circuit Breakers (OCBs) are still in service in the EHV network to provide protection with electromechanical relays. These OCBs do not operate reliably. The least implication of a nail-operation during a fault results in lack of gradation and operation of upstream breaker causing more consumers being affected. In the worst case the breaker itself may burst,

leading to flashover and spilled burning oil, creating unsafe conditions for operators standing nearby. OCBs in HV networks have| air insulated bus-bars, and there are spontaneous flashovers in the high humidity conditions. Flashovers may also be triggered by operations, with the operator standing close. There have been accidents involving high degree burns as well as broken pieces of switchgear flying off and inflicting serious wounds to the operator. Similarly, old isolators in EHV network fail to operate normally and are forcefully opened manually. The resultant unsafe operations are heightened during rains and high humidity conditions, when flashovers can lead to burns as well as electrocution.

In conclusion, there are serious challenges to locating conventional electrical networks in close proximity of congested urban areas with dense populations, clustered buildings and vehicular traffic due to safety.

SUGGESTION:

Presently, the Local Authority and Electricity Utility and various service providers operate in isolation for setting up the substation and laying the network to cater to the existing and future demand. It is therefore desirable to have comprehensive coordination and planning with consideration of various service providers future requirement so as to ensure coordinated development and all round excellence in Infrastructure facilities with long term perspective. This necessitates coordination amongst the Local Authority and Electricity Utility and other service providers formulate future long-term, medium term and short term planning by framing common guidelines to carryout various activities which required to be done by the above utilities/ service providers as a part of their duty towards consumers.

In this background, we suggest that a Co-ordination committee of all service

providers under the aegis of Municipal Corporation, AUDA along with the electrical utilities be formed to adopt a multi-pronged and well rounded approach to the development of the infrastructure.

This would help in the appropriate planning and identifying and preparing the overall infrastructure requirements for future. This would not only support growth but also enhance the safety and security of the public at large. It would also help in providing better services to the public at large by reducing the interruption and damage to the electrical network by the other service operators and in turn fatal/ non-fatal accidents.

Based on the above, the Committee propose that it is necessary to create necessary Co-ordination Forum amongst various service providers consisting of persons from Municipal Corporation, Urban Development Authorities, Electricity, Gas, Telecommunication service providers, National Highway authorities, GIDC, railways and some of the private agencies who own and operate transportation/ service providing on BOOT /BOO model to avoid the problem faced by the service providers and frame out necessary norms to overcome the problems observed by the various service providers. It is also proposed the necessary guidelines/ rules/ regulations if necessary to frame out to create necessary right of way in the Municipal Corporation, AUDA, NHAI, SHAI, GIDC, etc. areas with prescribed norms and provide separate right of way to different service providers with consideration of the requirement of the consumers. It is also proposed necessary planning on long term, medium term and short term basis to overcome the future requirements of the service providers. It is also proposed to explore the possibility that the above service of ROW will be created by some independent agency and same will maintain the same by charging necessary charge from the service provider who desires to utilize the benefit of ROW. In this regard, it is essential to invite a joint meeting of the senior officials of the Central/ State Governments Municipal Corporation,

Urban Development Authorities, Electricity, Gas, Telecommunication service providers, National Highway authorities, GIDC, railways and some of the private agencies who are part of the policy makers of the above institutions/ organizations and based on their views, some common guidelines will be prepared which will help to overcome the various problems faced by the service providers.

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ANNEXURE III

Compilation of SOP Reports submitted by Discoms
Quarter I of 2011-12

Discom	FH	FA	NFH	Number and % Complaints Redressed within Stipulated Time	Nature of Majority of Complaints	Number and % Meters Repaired during the Quarter	System Losses at 66KV or Below	Failure of DTR (%)
PGVCL.	24	45	42	198848 & 79%	▪ Interruption in Power supply ▪ defective meters ▪ Billing ▪ Reconnection	34570 & 33.59%	-	3.4
UGVCL	13	12	11	65581 & 100%	▪ Interruption in Power supply ▪ defective meters ▪ O/H-loose wires	25919 & 64.58%		1.53
MGVCL	9	11	20	87624 & 100%	▪ Interruption in Power supply ▪ defective meters ▪ Billing ▪ Reconnection	12734 & 12.8%		1.14
TPL Ahd	11	-	6	124570 & 99.86%	▪ Interruption in Power supply ▪ defective meters	7525 & 100%		0.31
TPL Surat	1	-	-	5129 & 99.82%	▪ Interruption in Power supply ▪ defective meters	6141 & 99.98%		0.09
DGVCL	12	22	16	110749 & 100%	▪ Interruption in Power supply ▪ defective meters ▪ Billing	4488 & 9.28%	-	3.04

FH=Human Fatal Accidents
FA= Fatal Animal Accidents
NFH=Nonfatal Human Accidents

Compilation of SOP Reports submitted by Discoms
Quarter I of 2011-12

Discom	Month	SAIFI	SAIDI	MAIFI
PGVCL.	Apr. May June	1.51 1.99 3.00	2.04 2.76 4.27	10.90 10.81 13.81
UGVCL	Apr. May June	0.30 0.39 0.88	0:16:13 0:22:43 0:58:30	6.28 6.05 7.58
MGVCL	Apr. May June	1.97 3.23 5.13	4:03 10:25 16:57	15.64 18.77 23.26
*TPL Ahd	Apr. May June	1.01 1.08 1.39	1.03 1.27 1.62	0.04 0.21 0.38
*TPL Surat	Apr. May June	0.12 0.36 0.20	0.14 0.20 0.09	0.00 0.00 0.00
DGVCL	Apr. May June	5.46 8.35 13.93	5:07 7:05 17:35	10.41 15.39 23.80

SAIFI: System Average Interruption Frequency Index
SAIDI: System Average Duration Frequency Index
MAIFI: Momentary Average Interruption Frequency Index