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WHY DOES TRANSMISSION LICENSEE SHOULD HAVE BULK SUPPLY TRANSACTION ACCOUNT IN VERTICALLY INTEGRATED UTILITY IN MONOPOLISTIC ELECTRICITY MARKET OF SRI LANKA

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Abstract

Sri Lanka has monopolistic electricity market dominated by Ceylon Electricity Board (CEB) in all three aspects of electricity i.e. Generation, transmission and distribution. The Public Utilities Commission of Sri Lanka (PUCSL) is the regulatory authority for the electricity sector. PUCSL has informed CEB for establishment of an effective and transparent mechanism to carry out Bulk Supply Transaction Account (BSTA) for implementation of a transparent Tariff Regime. However

still CEB has not agreed to establish the BSTA. Since this is an issue where both parties are arguing advantages and disadvantages it was studied qualitatively to figure out the reasons and solution. Hence the objective of the study is to reason out the importance of BSTA and to identify the obstacles of establishing BSTA. We interviewed Director General PUCSL, Transmission Licensee and Distribution licensees of CEB, Lanka electricity Company officials, Donor Agencies and independent experts. It was revealed that the reasons highlighted by the advantages of having BSTA are improvement of efficiency, monitoring by the management on functions and sound financial situation of utility and the counter arguments made by Senior officials of CEB are at present CEB has separate accounting system for transactions, threat of unbundling, no legal provision to do it. However, under the existing legal framework there is no requirement to establish separate physical bank accounts for each licensee of CEB, considering the reasons explained by both parties it can be concluded that implementation of BSTA is important to improve the effective and transparent financial system in the CEB. But it is necessary to have clear legal provisions. However, BSTA is an integral part of tariff methodology. Hence it is necessary to have good tariff methodology for the sector to ensure the financial viability of the utilities.

Keywords

Ceylon Electricity Board, Public Utilities Commission of Sri Lanka, Bulk Supply Transaction Account, Electricity Regulation

1. Introduction

1.1 Sri Lankan Electricity Sector Briefly

In Sri Lanka we have Government Owned enterprises as the Utilities of the Energy sector which ascertain them the status quo of Monopoly. If local energy utility provides all the energy services it is called Natural Monopoly (Schmidt, 2000) and does not provide any access potential to new players (Rupasinghe, 2002). Further as in a Natural Monopoly one firm produces or provides service for total consumer demand for a product or service the cost can be lower in the long run than two or more firms produce or provide it. Anyhow when natural monopoly is in existence, it is important to do regulation in controlling the activities of the utilities. One of the important aspect of the electricity business is the determination of tariff. If the sector is not brought in to a regulatory regime there is no particular organization to oversee the utilities activities. The Power Sector reforms were introduced in 2002 with establishment of Public Utilities Commission

of Sri Lanka (PUCSL). However, the reforms introduced through the Sri Lanka reform Act were not implemented due to political and social pressures from the stakeholders.

1.2 Legal Framework of Electricity Sector and Tariff Determination

In 2009 with the enactment of Sri Lanka Electricity Act 20 of 2009 the regulator was given a mandate for the regulation of the electricity sector. One of the most important aspect customer – utility relationship and in terms of an electricity supply agreement getting services from the utility by the customer is the price transaction, or in simple terms the tariff determination. If there is no regulator in the market, customers do not trust the calculation of tariff. Therefore, regulator should be there to determine the charges or tariff for the service transparently. As Pandey, (2015) explained that in any business they use business activities directly and indirectly to grab the funds. That gives clear indication and explanation on the importance of proper regulatory mechanism for regulation of electricity sector. The tariff determination is done based on the tariff methodology approved by the PUCSL. If a regulator is not there in the monopolistic electricity market, then the utility by itself determines the tariff considering the cost components of the electricity business. There will no entity to go through the tariff proposal to check the reasonability or justification of the figures to ensure the protection of electricity customers interest. Otherwise the monopolistic utility will recover every cost from the people even though the customer would not satisfy or agree with the prices there will not be any kind of check and balance system about the performance of the Utility. So it is clear that with the regulation of electricity sector, tariff determination could be regulated and it is one of the impact of the reforms on electricity sector. Further Clark., et al., (2005) stressed that regulation would enhance the financial strength of the utility. Jamasab et al., (2014) emphasized that cost-reflective pricing is very important as it determine the success or failure of the reforms. Because with the reforms one of the main aspect is to improve the financial position of the utility. The determination of the tariff to reflect the costs incur with the operations is very important. Kumar et al., (2013) stressed the important of Transmission Tariff reforms for Indian context as it ensure for acceleration of development of power sector, protecting interest of Customers and the stakeholders. PUCSL has informed to the Ceylon Electricity Board (CEB) to establish Bulk Supply Transaction Account (BSTA) with transmission Licensee (TL) as per the Tariff Methodology decision issued by the PUCSL. The requirement of PUCSL is to have separate physical accounts for each licensee. But CEB refuse to have such separate physical accounts for each licensee and they argue that they have established the BSTA with TL and other DLs have records of the transactions of licensee's activities.

Objective of the study is to quantitatively analyze the major stakeholders' perceptions, ideas and stance on the establishment of Bulk Supply Transaction Account in CEB and figure out the solution on the issue.

2. Methodology

It is important to analyze the perceptions of major stakeholders on the implementation of BSTA in CEB and its operation. To explore stakeholders' perceptions on the establishment of BSTA in the CEB, we used qualitative social research methods, including in-depth interviews. This approach was selected because it offers flexibility to explore and understand issues in their totality from the perspective of the Stakeholders. During the study we interviewed Officials from Regulatory Commission, CEB the utility, Officials from donor agencies and also energy sector independent professionals. Under the study we used snowball sampling to select and professionals to interview who could provide information on specific issue. Interviews were structured by using topic guides. This allowed continuous analysis of data and asking cross clarification while in the field. We collected some secondary data from government sources, including the CEB, PUCSL. Discussions were held with some interviewees on the results of our analysis as a means of validation of our interpretations

3. Bulk Supply Transaction Account

Sri Lanka electricity sector can be illustrated as follows for energy flow and financial cash flow.

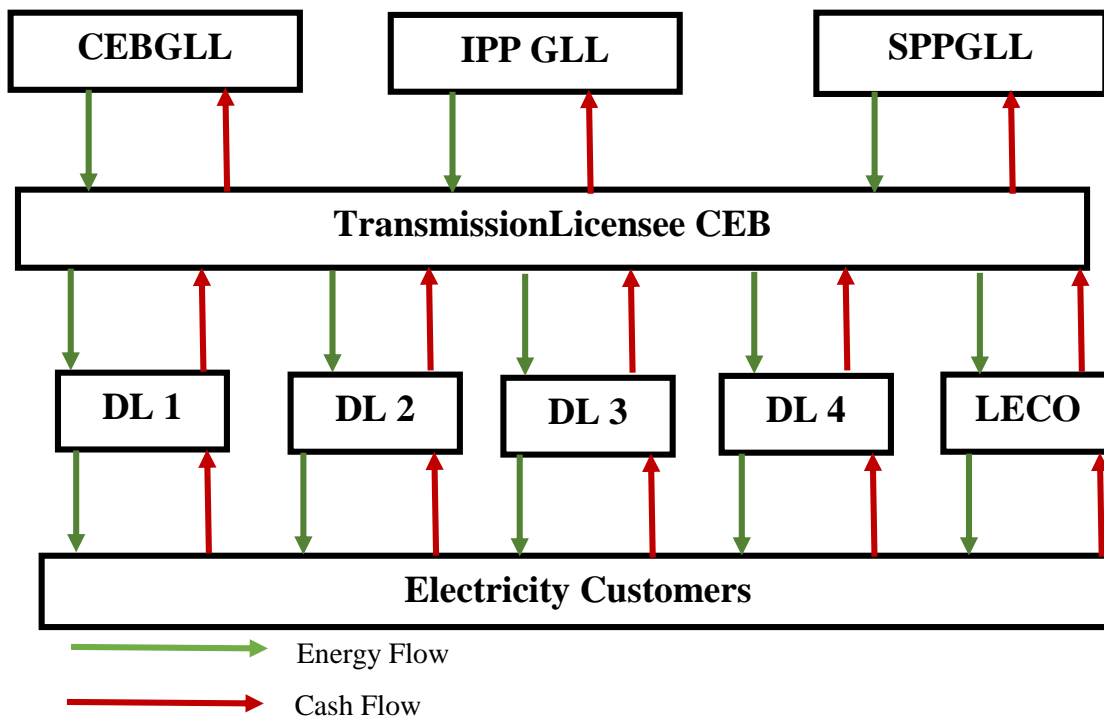


Figure 1: Energy Sector Organization, Cash Flow and Energy Flow

The Transmission Licensee is required to enter into Power Purchase Agreements (PPA) in order to purchase electricity from generators or purchase electricity under generation license issued to the CEB by PUCSL based on the transfer tariffs determined under such generation license. The Transmission Licensee is required to enter into Power Sales Agreements (PSAs) with the DL or Transmission Customers for bulk supply or sale of electricity. The applicable charges in the PSA shall be the Bulk Supply Tariffs approved by the PUCSL. The TL shall operate merit order for dispatch of generation units based on the approved methodology subject to central dispatch, on daily basis. Licensees are required to maintain separate accounts and keep accounting records in respect of each licensed business activities as would be required to be kept if they were carried on by a separate entity. Further, the TL is required to maintain separate accounting records with respect to Transmission Business and Bulk Supply and Operations Business (BSOB). Further, as per the approved Tariff Methodology, the TL is required to establish a ‘BSTA’ to operate all bulk supply transactions. In situations of cash shortfalls, the Transmission Licensee’s liability will be limited to the funds available in the Bulk Supply Transactions Account (PUCSL, 2015).

According to the tariff methodology issued by PUCSL as per the section 30 of SLEA, transactions shall take place in the BSTA are payments made by DL and Transmission Customers

for the purchase of Bulk Supply Electricity (including generation, transmission and bulk supply services), according to the relevant Power Sale Agreements (PSAs), Payments to the Transmission Licensee (Transmission and Bulk Supply Operations Business), Payments to Generation Licensees for selling of generation according to the Power Purchased Agreements (PPAs) and Standardized Power Purchase Agreements(SPPAs), Other transactions as directed by the Commission.

In the monopolistic utility market, efficiency can only be achieved if government regulates the price the monopolist can charge from the public (Crocker and Masten, 1996). According to the PUCSL officials once the bulk supply transaction accounts established with transmission licensee, distribution licensees are supposed to established their own revenue account and they can transfer the revenue to the BSTA while keeping allowed revenue determined by PUCSL for maintenance works and development of distribution licensee. Director General of PUCSL (DG/PUCSL) emphasized the requirement of publication of Power Purchase Agreement, Transfer price regulation and trading arrangement regulation in this regard. According to DG/PUCSL any given time cash situation of the sector is reflected by the BSTA. Any decision making authority like Board of Management of CEB, Ministry of Finance, the line Ministry, PUCSL can monitor the cash flow of the sector in real time. Hence with the real time data any interesting party can see the cash flow situation of the CEB at real time. With the implementation of the BSTA any Monitoring agency will have hard data on real time. DG/PUCSL reiterate that with the BSTA it can be published and update daily which will give credibility to the general public and ensure the transparency of the sector and can make timely decisions either on tariff revision or providing subsidiary for bridging the financial gap if any. Further CEB can justify that this is the financial requirement of CEB based on the existing tariff method with BSTA. Since the electricity tariff system has bottom to top approach it is important to get GOSL subsidiary.

4. Results

The main findings of the study are explained as follows.

4.1 Legal aspect of the BSTA

In exercising functions of PUCSL, section 3(d) of the Sri Lanka Electricity Act 20 of 2009 (SLEA) provides provision to regulate tariff and other chargers of licensees to ensure the providing of most economical and efficient services to the customers. Electricity sector regulators focus by far directly or indirectly regulating price (Kahn, 1988). Therefore, regulators duty is regulation the electricity tariff. BSTA is one of the financial tool which can be used to regulate the financial

position, pricing of the utilities for services. According to the PUCSL officials it is required to establish the BSTA by TL as per the tariff methodology issued by the PUCSL under the provisions of section 30 of SLEA. CEB officials emphasized that they have already established BSTA with TL and they keep the records of all the transaction from the BSTA with generation licensees and also distribution licensees. But the PUCSL requirement is to have separate physical bank accounts for each licensee. But CEB officials stressed that there is no legal provision to have separate bank accounts for each licensee. Even the officials from CEB finance stream emphasized that there is no requirement to have separate bank accounts for each licensee. They explained about the basis of the SLEA is to keep the CEB as single entity while implementing regulatory mechanism hence there is no basis to have separate bank accounts for each licensee. Further CEB officials explained that TL provides information on BSTA in each month to the PUCSL and TL is already recording in the BSTA the transaction pertaining to expenditure and income as the tariff methodology. In addition, they emphasized that the allowed revenue for bulk supply and operation business is indicated in the BSTA separately and hence an effective and transparent mechanism is already established for the implementation of the tariff regime. The opinion of the some of the members of executive grade trade unions of CEB is same. They explained their stance on the matter in similar way.

4.2 Requirement of Tariff Methodology

In terms of Section 30 of the Sri Lanka Electricity Act No. 20 of 2009, PUCSL has issued Decision Document on Electricity Tariff - 2011, effective for the period 2011 – 2015. In 2015 PUCSL has issued Electricity tariff methodology 2015 for the period of 2016-2020. The Licensees are required to implement provisions of the above, which includes allowed revenues of each licensee, Transfer prices between licensees, End-use customer prices, and transition arrangements for metering. In Sri Lanka there are 5 Distribution Licensees (DL) as 4 distribution licensees in CEB and one licensee of LECO. The distribution customers, customer density, geography all are different in each area of distribution Licensee. All most all the interviewees expressed that since the electricity tariff in Sri Lanka has been determined from the Customer point of view and not in the cost recovery basis from the customers, it is important to have proper tariff methodology to ensure the financial sustainability of the utilities.

Following table gives comparison of basic information of each licensee.

Table 1: Comparison of Basic information of DLs

Licensee	No. of Accounts	Revenue (LKR)	%	Electricity (GWh)	%	Average distribution Prices LKR
DD1	1,701,790	66,698	30.5	3,703	27.6	3.32
DD2	2,045,063	63,468	29.1	4,133	30.8	3.44
DD3	1,214,109	34,604	15.8	2,239	16.7	3.56
DD4	1,003,230	28,497	13.0	1,762	13.1	4.44
LECo	600,000	25,182	11.5	1,595	11.9	2.84(at 11kV level)

Source: Ceylon Electricity Board 2017 and LECO 2018

Apparently it shows the differences among the DLs. Owing to the requirement of maintain a uniform National Tariff and meet the different and varying costs of DL the bulk supply transaction cost has been adjusted by PUCSL to enable each DL to recover their full allowed revenues through the customer tariff. Under the existing tariff mechanism CEB cannot recover all the costs. Hence in year 2017 CEB incurs LKR Bn. 49.2 loss (Ministry of Finance, Annual Report 2017). If utility wants to recover the cost of the electricity service it is necessary, either adjust the tariff or subsidized by GOSL to recover the cost. However, if the utility adjusts the tariff to recover the cost that will negatively affect the welfare of poor households that consume electricity (Silva et al., 2007) then the option is providing the subsidiary to the utility. To provide the subsidiary it is important to identify the real financial requirement in monetary terms. PUCSL is in the view that they are unable to increase the tariff and also the Treasury is not in a position to provide of subsidiary as the financial gap includes the inefficiencies of the licensees. Therefore, if the BSTA is there that will ease to identify the real requirement of subsidiary and also the performance of each licensee. CEB officials emphasized that they have already implemented BSTA hence the requirement has been fulfilled and they are following the BSTA procedure to maintain the cash flow information and also financial information. LECO officials stressed that with separate accounts with DLL, the performance would be improved as the level of efficiency can be compared with the figures of each licensee.

4.3 Financial complications with BSTA within the CEB

At present TL is the only entity which purchased electricity from Generation Licensees (GL). At present CEB is only one agency and there are few licensees within CEB. Once BSTA established all the transaction of TL has to be done through the account. CEB officials raised the issue of huge sum of money requirement for purchasing of fuel purchasing such as coal supply. If the TL pay the amount appropriate to the electricity purchased from the GL. But there is no

procedure to make the payment in advance to meet the cost of such purchasing. Then GL has to borrow money from the financial institute. According to the DG/PUCSL this is the requirement of working capital for supplying of Coal or other fuel. At the outset the tariff methodology allows to raise the working capital for GL to meet fuel expenditure. Working capital requirement should be financed initially as an equity or bank financing. DG/PUCSL further stated that the banks be in comfort zone as they can see the BSTA situation of CEB. He stressed the requirement of availability of good financing skills with CEB.

Some of the CEB officials highlighted that if DLs give financial autonomy and DL can be separated from CEB. But with the profit making DL it is difficult to separate DLs from TL as per the legal provisions of SLEA DLs cannot be separated from CEB. One of other concern highlighted by CEB officials is obtaining financial facilities for development. If DL need future development, there is a procedure in Tariff Methodology. Presently we have only one entity that is CEB. CEB can get loan and get it to the BSTA and transfer in to the respective DL. According to DG/PUCSL that can be defined under allowed revenue. Further CEB officials highlighted the one important aspect of Tariff Methodology Guideline issued by PUCSL in 2015. According to it TL responsibility pointed out in tariff Methodology by PUCSL as follows.

“The Transmission Licensee (Bulk Supply Operations Business) shall make payments from the funds available in the Bulk Supply Transactions Account. In situations of cash shortfalls, the Transmission Licensee’s (Bulk Supply Operations Business) liability shall be limited to the funds available in the Bulk Supply Transactions Account.”

This is a method called Ring Fencing which gives the definition of any DL/TL will responsible only the matters coming under the purview. According to CEB officials they pointed out if the TL adhere such policy if TL has no money in BSTA it wants to purchase electricity from the GLs. Then power shortage could happen which is not in par with GOSL policy as the policy declared on power supply is to ensure uninterrupted power supply continuously. However, there are some of the electricity business, for instance, if the government decided to give the concessional tariff for identified customer category it is necessary to provide funds by the GOSL to meet the cost. Some of the independent consultant view is, it is important to implement ring fencing as particular licensee should responsible for the matters coming under licensees’ purview and matters beyond the licensee has to look after by the particular agency. For instance, the tariff concessions provided by the government has to finance by the Treasury. If the Subsidy component of the institute cannot be identified properly without calculating inefficiencies of the Licensee, it is not possible to identify the exact subsidiary component where the GOSL should provide funds.

Further independent professionals explained that BSTA is needed because it is the only account published online under the tariff methodology. BSTA should be balanced every 6 months. Electricity customer can see the details through online, which will ensure the credibility of the utilities activities. According to LECO officials there is no point if CEB established bulk supply account if regulator does not resolve the cash flow issue of CEB. Tariff methodology is important and BSTA is part of the tariff methodology. They reiterate the bottom up approach to prepare tariff for CEB tariff determination. Further some of the DLs of CEB highlighted that getting financial facilities from donor agencies. At present financing are obtained by CEB for all the development in every licensees and repayment also will be done by CEB, If BSTA is there this would be difficult. However, DG/PUCSL and representatives from donor agencies explained the mechanism for such kind of incidents can be addressed through the national tariff policy. Even LECO officials emphasized the requirement of National Tariff policy to implement the proper financial mechanism including BSTA.

4.4 Availability of Physical Financial Accounts for TL and DL of CEB

According to the interviews conducted with TL and DL of CEB they explained the availability of the BSTA within the CEB. They explained that though PUCSL highlighted that CEB has no BSTA as given in the Licenses, CEB has the BSTA and all the transaction with such account can be given and they have already provided it. The argument of PUCSL is if there is the BSTA with TL anybody can see the situation of BSTA and anybody can get the real time data which will be useful for decision makers for improvement of inefficiencies of the DLLs. Officials of the financial stem of the CEB have explained that they have kept relevant information on transactions of licensees according to the guideline issued by PUCSL. CEB Licensees explained that at present CEB has the BSTA. According to the provisions of the Act there is no requirement of separate physical accounts for each licensee. They emphasized that CEB is governing under the legal provisions of SLEA 20 of 2009 and the intention of SLEA is to keep CEB as one legal entity and to have separate Strategic business units. The requirement is to have separate records of the transaction of each licensee where CEB is performing in that way. Conditions of Licensee can be imposed by the regulator to regulate the utility. TL has informed clearly by PUCSL on the requirement of BSTA according to it separate records should be maintained by CEB. However, some of the DLs of CEB and also LECO. Has explained the advantages of separate accounts physically and even within existing legal framework this can be possible to be established. LECO officials explained that they are maintaining separate accounts and every transaction can be seen

with the account. Based on the monthly invoices issued by CEB they paid energy cost while keeping the allowed revenue.

4.5 Risk of Unbundling the Utility

During the interviews some of the CEB officials explained that if the licensees established separate physical account there is a risk of unbundling. However according to the existing legal framework there is no such risk as legal framework has ensured the existence of CEB with licensees’ mechanism. This is the idea of the officials of the PUCSL and also donor agencies. This was emphasized by the independent professionals. Since the Sri Lanka Electricity Act has identified the requirement of continue electricity sector with CEB as a monopolistic entity and maintain it further, there is no risk about the privatization of the CEB. The view of the PUCSL and Independent Professionals they emphasized that there is no risk are being facing on privatization/unbundling of CEB as existing legal provisions do not permit such movement. Even one DL of CEB and LECO have stated that there is no risk of unbundling with BSTA and separate physical account for each licensee.

5. Summary of the Results

Table 2: Summary of the Findings of Qualitative Study

Stakeholder	Requirement of BSTA and separate accounts for other licensees	Legal provisions	Unbundling risk	Provision of Subsidiary	Performance improvement
PUCSL	Yes ,it is necessary to have separate physical accounts or all Licensees	Yes	No	Yes but it is necessary to separate out inefficiencie s and provide subsidiary	Yes. each licensee will concentrate on their cost activities and try to improve efficiency

CEB DL	No need existing BSTA is enough. But some of the DL explained to have separate accounts is important	No there is no enough legal provisions to have separate accounts	Yes	Yes, GOSL should provide	Yes
CEB TL	No need existing BSTA is enough	No enough legal provisions	Yes	Yes GOSL should provide or provide proper tariff structure to recover the cost	Yes
LECO	BSTA is required but it is necessary to sustain tariff Methodology	With existing legal provisions this can be done	No	Yes but with the enactment of National Tariff Methodology only this can be effective	Yes
CEB executive level trade unions	No need existing BSTA is enough	Legal provision does not provide mandate	Prevailing legal provision does not provide the provisions.	Yes	Yes

Donor Agencies	Separate BSTA and Separate accounts for DLs	Yes	No	In-Efficiencies have to be minimized	Yes
Independent Professionals	Separate BSTA and Separate accounts for DLs	Yes	No	In-Efficiencies have to be minimized	Yes

Source: Authors

6. Discussion and Conclusion

The electricity sector is governed by the Sri Lanka Electricity Act No.20 of 2009. With the enactment of the Act the regulatory mandate of electricity sector was given to the Public Utilities Commission of Sri Lanka. As per the objectives described in the Act, one of the objective of PUCSL inter alia is to protect the interests of consumers in relation to the supply of electricity, by promoting efficiency, economy and safety of the commercial activities relevant to the generation transmission and distribution. Therefore, there is a requirement of PUCSL to ensure the efficiency, and economy of each licensees' activities. The tariff methodology is vital aspect of the sector development, BSTA is a part of the tariff methodology. Hence BSTA is a good tool to ensure the aspects of the commercial activities. In Sri Lanka utilities are not getting the tariff properly to recover the cost without the cost incurs with inefficiencies it is necessary to have proper mechanism to recover such costs as subsidiary provided by the Treasury. Hence it is necessary to ensure the proper mechanism to identify the cash flow issues of the utility. Further there are 5 DLs in Sri Lankan electricity sector and it is apparent as if that LECO is earning profits but other DLs are not. Actually this outlook is not correct. All DLs are earning profit as they are ring fenced by the tariff methodology. Though CEB is at a loss, it is only the transmission licensee is responsible for the total loss. All DLs and GLs are ring fenced as an inherent characteristic of the tariff methodology and thereby they are earning a profit. The Sri Lankan tariff regulation ensures an asset related profit to these licensees. All allowed costs to licensees are paid through the tariff including a margin for allowed losses. In the event that these costs are not referred to the customer tariff it reflects on the Bulk Supply Tariff or Generation charges and aggregated within the Transmission Licensee's BSTA. As the BSTA is not prepared this segregation cannot be seen.

Further it can be argued that CEB DLs are providing services for comparatively difficult areas than the LECO area. There is no mechanism to compensate the utility for uneconomical maintenance functions unless CEB gets cross subsidiary (Siyambalapitiya, 2000). Since CEB is still working as a single legal entity it is difficult to see which DL is performing efficiently and which one is not. As CEB emphasized that they have already established the BSTA and has ensured the transparency of the transaction while providing the information of licensees to PUCSL there is no requirement of separate physical accounts. According to the intention of the legal framework is to ensure government control over the electricity sector while regulating by the PUCSL there is no risk of having separate physical bank account would lead unbundling of the utility. The issue in the electricity sector is recovery of the cost of the service of electricity through the prevailing tariff mechanism. Hence subsidiary is integral part of the revenue of the utility. But Treasury has requirement to identify the inefficiencies and separate out such costs and to subsidized the really they need to provide the actual financial cost. According to (Ruet, 2003) Utilities are focusing tariff increases, governments focuses on utilities inefficiencies and costs. However, it is vital to have proper legal provisions to have separate physical accounts for each licensee. Otherwise, that cannot be implemented. Further PUCSL has to declare proper tariff methodology to ensure financial viability of the utilities and to take action to make sure that utility gets required subsidiary from the Treasury, incur with any GOSL policy initiatives. Electricity sector is highly political interest discipline (Dornan, 2014), Transmission pricing is complicated (Kumar et al., 2013) and any increase of electricity tariff would create political complications. Hence it is vital to have proper tariff mechanism for Sri Lanka. However, based on the stakeholders' viewpoints it recommends to established BSTA with TL of CEB in order to strength the financial soundness of the Utility.

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