A FAIR AND TRANSPARENT DISTRIBUTION SYSTEM CONNECTION CHARGE GUIDELINES FOR SARAWAK ENERGY

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DEDICATION

This thesis is dedicated to my family for their sacrifices, unconditional support, patience, and prayer throughout my journey in completing my study.

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ABSTRACT

Sarawak Energy Berhad (SEB) is the sole electricity provider for Sarawak's State in East Malaysia. SEB uses part of the revenue to construct, operate, maintain, and replace its network overtime via two primary sources, tariff and connection charge. This study was initiated by the recent increasing complaints amongst SEB's key stakeholders regarding existing connection charge guidelines. Its aims were to revise the guidelines, produce a transparent, fairer, and more efficient connection charge policy and improve the company's asset utilisation which leads to higher revenue through potential cost saving. Prior studies have shown that there is no one-size-fits-all model in setting the price for most industries including the energy sector. The reason is because each industry or company may have different factors to be considered in pricing their product. The present study involved gathering data using both qualitative and quantitative methods to understand the deficiencies and elements for improvement on the pricing structure of Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG). The first part of the study investigated the limitations of SEBCCG compared to other electric utility companies' connection charges guidelines, namely Tenaga Nasional Berhad and Sabah Electricity Sendirian Berhad using document analysis. One main key difference in these companies' pricing structure is that SEB's pricing structure is based on a deep approach whereas SESB and TNB are practising a shallow approach. Another two surveys were undertaken, namely Delphi and questionnaire surveys targeted on different groups of customers to ensure views were gathered from different perspectives. Three key limitations of SEBCCG were identified namely non-differentiation of shared and dedicated assets, variation in the charge and inconsistent treatment of applied load. The findings of these studies were validated by analysing selected projects to confirm the credibility and validity of the data obtained from the surveys. Moreover, this study also identified three key elements for improvement in SEBCCG. The elements identified were load requirement, asset utilisation as well as transparency and consistency. These elements appeared to be similar elements incorporated by various industries in computing their product pricing. The key elements were then incorporated into the revised SEBCCG, which was named as SEBCCG 2019 and accepted by the stakeholders. Overall, this study has provided some important information in revising the current SEBCCG to address the stakeholders' concerns. At same time, it also fulfils the government's social responsibility to the Sarawak people in ensuring the availability of electricity supply at an affordable and reasonable price. Besides that, this study adds to the currently limited literature on pricing structure study in energy industries. A full revision of the pricing structure is recommended to include the tariff structure to provide an overall view of this issue. Even though there were some limitations identified, this study has shown that a fair and transparent pricing structure can still be achieved by considering all relevant inputs from the stakeholders despite SEB being a monopoly company.

ABSTRAK

Sarawak Energy Berhad (SEB) adalah pembekal elektrik tunggal di negeri Sarawak, Malaysia Timur. SEB membina, menyelenggara, membaik pulih dan mengganti fasiliti melalui dua sumber pendapatan utama iaitu tarif dan caj sambungan. Kajian ini dimulakan apabila terdapat peningkatan aduan daripada pihak berkepentingan SEB akhir-akhir ini berkenaan garis panduan caj sambungan sedia ada. Ianya bertujuan untuk menyemak semula garis panduan, menghasilkan polisi caj sambungan yang lebih telus, adil dan lebih efisien serta meningkatkan pendapatan melalui penjimatan kos operasi dan meningkatkan penggunaan aset syarikat. Kajian-kajian lepas menunjukkan tiada model khusus yang boleh terus diguna pakai dalam menentukan harga produk oleh kebanyakan industri termasuk sektor tenaga. Ini adalah kerana setiap industri atau syarikat mempunyai pelbagai faktor yang berbeza untuk dipertimbangkan dalam penentuan harga produk. Kajian ini melibatkan pengumpulan data secara kaedah kualitatif dan kuantitatif untuk mendapatkan pemahaman mengenai kekangan serta elemen penambahbaikan struktur harga garis panduan caj sambungan Sarawak Energy Berhad (SEBCCG). Bahagian pertama kajian meneliti kekangan SEBCCG berbanding garis panduan caj sambungan elektrik syarikat utiliti lain iaitu Tenaga Nasional Berhad dan Sabah Electricity Sendirian Berhad dengan menggunakan kaedah analisa dokumen. Perbezaan utama dalam penstrukturan harga di antara ketiga-tiga syarikat adalah SEB menggunakan pendekatan dalam manakala TNB serta SESB menggunakan pendekatan cetek. Dua tinjauan berbeza telah dilakukan iaitu tinjauan Delphi dan soal selidik yang disasarkan kepada kumpulan pelanggan berlainan untuk memastikan pandangan yang diperolehi mewakili perspektif yang berbeza. Tiga kekangan utama SEBCCG telah dikenal pasti iaitu tiada perbezaan di antara perkongsian aset serta penetapan aset, perubahan dalam caj dan caj penggunaan tenaga yang tidak konsisten. Analisis ke atas beberapa projek terpilih telah dilakukan dengan menggunakan dapatan daripada kajian ini untuk tujuan pengesahan kebolehpercayaan dan kesahihan data soal selidik yang telah diperolehi. Di samping itu, kajian ini juga mengenal pasti tiga elemen penting untuk penambahbaikkan SEBCCG. Elemen-elemen yang dikenal pasti adalah keperluan tenaga, penggunaan aset serta ketelusan dan konsisten. Elemen-elemen tersebut merupakan elemen yang biasa digunakan oleh pelbagai industri lain dalam pengiraan harga barangan yang ditawarkan. Elemen-elemen ini telah dimasukkan dalam versi semakan semula SEBCCG yang dinamakan sebagai SEBCCG 2019 dan telah diterima oleh pihak berkepentingan. Secara keseluruhannya, kajian ini menyediakan maklumat penting dalam penyemakan semula SEBCCG sedia ada dalam menangani masalah yang diutarakan oleh pihak berkepentingan. Pada masa yang sama, ia memastikan tanggungjawab sosial kerajaan terhadap rakyat Sarawak dapat dipenuhi dengan menyediakan bekalan tenaga elektrik pada kadar yang berpatutan dan munasabah. Kajian ini turut menjadi tambahan kepada literatur sedia ada yang terhad berkenaan kajian struktur harga dalam industri tenaga. Semakan penuh ke atas struktur harga adalah disarankan dengan memasukkan struktur tarif untuk memberi pandangan yang lebih menyeluruh dalam masalah ini. Walaupun terdapat beberapa kekangan kajian yang dikenal pasti, kajian ini telah menunjukkan bahawa struktur harga yang adil dan telus masih boleh dicapai dengan mempertimbangkan semua maklum balas daripada semua pihak berkepentingan meskipun SEB adalah sebuah syarikat monopoli.

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LIST OF ABBREVIATIONS

ACEM	-	Association of Consulting Engineers Malaysia
DRM	-	Distribution Reinforcement Model
ESKOM	-	Electricity Supply Commission
ESU	-	Electricity Supply Utility
HT	-	High Tension
HV	-	High Voltage
IWC	-	Internal Wiring Contractor
Km	-	Kilometer
KVA	-	KiloVoltAmp
KW	-	Kilowatt
LT	-	Low Tension
LV	-	Low Voltage
MID	-	Ministry of Industry Development
MOH	-	Ministry of Housing
MOUs	-	Ministry of Utilities Sarawak
OFGEM	-	Office of Gas and Electricity Markets
P1 to P36	-	Participant number assigned to each Delphi Survey's participant (for example P1 for Participant 1).
R1, R2, R3	-	Round 1, Round 2, Round 3 of Delphi Survey
RO1, RO2, RO3	-	Research Objective 1, Research Objective 2, Research Objective 3
RQ1, RQ2, RQ3	-	Research Question 1, Research Question 2, Research Question 3
SEB	-	Sarawak Energy Berhad
SEBCCG	-	Sarawak Energy Berhad Connection Charge Guidelines
SESCO	-	Syarikat SESCO Berhad
SESB	-	Sabah Electricity Sendirian Berhad
SESBCCG	-	Sabah Electricity Sendirian Berhad Connection Charge Guidelines
SHEDA	-	Sarawak Housing and Real Estate Developers' Association

SLR	-	Systematic Literature Review
TNB	-	Tenaga Nasional Berhad
TNBCCG	-	Tenaga Nasional Berhad Connection Charge Guidelines

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The public utility, or often referred to as utility, is an organization or a company that provides essential public services. The services range from electricity, natural gas, water, sewage treatment, waste disposal, public transportation, telecommunication, cable television and postal delivery services. They are also the companies entrusted, appointed or licensed by the government to build, reinforce and maintain the infrastructure needed to provide the services to the people. Such services are to be made available to all regardless of income, race or any other factors that may deter them from getting the services. Such services are fundamental to modern society (Wagner, Berlo, Herr, & Companie, 2021).

There are three types of utility companies namely, for-profit companies, city-owned companies, and government-owned. Since the infrastructure required to produce and deliver services such as electricity or water is very expensive to build and maintain, most of the utility companies are often natural monopolies (Corneli & Kihm, 2016). Some examples of utility companies around the world are Tennessee Valley Authority (Hydropower generation) and Illinois Power (Gas and electricity distributor) in the United States, British Gas (Gas distributor) and Scottish Power (electricity distributor) in the United Kingdom and Telekom Malaysia (telecommunication) in Malaysia. These companies have the duty to build and maintain the infrastructures and provide customer service to their customers. The services include bill delivery, inquiry and restoring service in the event of an outage if severe weather or an accident may have damaged power, gas, or water lines. They are obliged to keep the utility industry running smoothly.

Electricity is an essential component of modern technology and has a high impact on people's lives. It is used as a source of power to many of the appliances used every day, no matter where people are and what people do. Without electricity, lives would be very different and, in many cases, more difficult. Electricity use has completely altered people's daily lives. Before electricity became available, houses were lightened with candles and kerosene lamps, food was kept in iceboxes, and in temperate regions, houses were heated using the burning of wood or coal. Nowadays, apart from lighting up everyone's homes, electricity helps in powering technology such as cell phones, computers, lights, and air conditioners.

Electricity can be extremely challenging to be set up and is often more expensive than different types of utilities. To ensure that supply connection is properly coordinated, electricity supply utility (ESU) companies are set up. These companies engage in the generation, transmission, distribution and selling of electricity. They are also the service providers to those premises that are connected to the existing distribution system. They also look into any system reinforcement work to ensure that the current distribution system is always readily available for connections to new customers. These new customers can be single-premise residential, industrial or commercial players and housing and shophouse developers who are required to provide utility facilities to the development areas.

It is a common practice that all relevant operation, maintenance and development costs on distributing and transmitting electricity supply are recovered through tariff charge and connection charge. The tariff charge is the electricity usage charge paid by the customers. This cost covers the operation and maintenance cost of all transmission and distribution assets and system reinforcement in ensuring enough upstream capacity to support new customers' connections. Meanwhile, connection charge is the charge incurred to every customer to construct new or additional capacity not recovered through the tariff. Depending on the companies, the tariff and the connection charge may vary from one company to another because they may have different charging methodology. It also depends on each utility company's financial standings and the rate of return of investment the companies wish to achieve.

As connection charge is directly recovered from customers, it is crucial that the best charging methodology that suits each utility company is formulated to avoid overcharging or undercharging the customers. Overcharging them will trigger dissatisfaction among them but undercharging will threaten the sustainability of the utility company, resulting in sub-optimal system performance and services.

Despite the efforts to ensure that customers are reasonably charged, dissatisfaction over the price charged has always been an issue. The pricing issue has always remained one of the most debated topics for politicians in Ontario, Canada (Morrow & Cardoso, 2017). In Australia, the government has raised over 10 billion in profit through charging for utility services and yet the charge is still increasing at all levels (Abelson, 2002). This has triggered economists to analyse the reasonable price that the government should charge for their services to maximize social welfare in a variety of market conditions.

The constant overcharging of electricity connection charges leads to low rates of electrification in many countries. The constant overcharging is evidenced in Sub-Saharan Africa where they are among the highest in the world with low electrification rates due to high connection charges imposed (Golumbeanu & Barnes, 2013). On the other hand, a high connection charge would also discourage potential investors from investing or setting up their premises in the country since it may take a longer time to get a return on the investment (Anyaka & Edokobi, 2014). It is foreseen that the lack of investors to the countries, may lead to the possible increase in the rate of unemployment due to lack of new industries set up and potential illegal connection that may increase utility companies' non-technical losses. It is thus necessary to have a reasonable charging methodology to be developed in all electricity utility companies.

1.2 Problem Statement

Complaints on issues and matters related to connection charges to electricity supply have been very common throughout the world because it involves dollars and cents that customers must pay to connect to the distribution electrical network.

Common issues raised are related to the computation of pricing, technical issues and application process and procedures, which directly and indirectly impact the customers requesting for connection to the system. Customers have a strong perception that natural monopoly utility companies have always overcharged their customers (Vaughan, 2018) and such companies have not prioritized their customers more than the companies' strategies.

Being the sole electricity supply provider and a state government-owned company in Sarawak, Sarawak Energy Berhad (SEB) also received complaints from customers related to the formulation and administration of SEB's existing policy regarding connection charges. Among those who lodged the complaints include individual customers (Appendix A) and non-individual customers (Appendix B). Individual customers cover all single-premise customers such as shopping malls, single residential customers and small factories. They are normally represented by the internal wiring contractor (IWC) registered with the company. These contractors are appointed by the customers to liaise with the company on application of electricity supply connection. Non-individual customers refer to all development projects such as housing developments, shophouses and industrial estates or parks. They are normally represented by the Association of Consulting Engineers Malaysia (ACEM), Sarawak Housing and Real Estate Developer Association (SHEDA) for private development. For any government housing, shophouses and industrial estate development projects, they are usually represented by personnel from the Ministry of Housing (MOH) and the Ministry of Industrial Development (MID), who act as the developer.

Besides complaints from the two categories of customers, the Members of Sarawak Parliaments have also recommended SEB to lower the connection charge and tariff to reduce the burden of the new and existing customers ("Sarawak Government Urged to Lower Electricity Connection Charge," 2018). The main reason was that SEB recorded profit after tax of RM752 million in 2016 (Sarawak Energy Berhad, 2017). As a state government-owned company, SEB is expected to reduce the Sarawak people's burden in getting their public utilities with higher profit earned.

The issue raised had triggered the attention of the Electrical Inspectorate Unit (EIU) under Ministry of Utilities Sarawak (MOUs) (previously known as the Ministry of Public Utility of Sarawak), the regulator for the electricity supply industry in Sarawak. Under the Electricity Ordinance of Sarawak, the role of EIU is to regulate policies and direction of utility companies with regards to providing an adequate, reliable, efficient, affordable, and safe power system in Sarawak.

EIU has arranged a series of engagement sessions in November 2014 to meet all the relevant complainants to address the issue with the existing connection charge guidelines (Appendix C and Appendix D). Ministry of Utility has also conducted a workshop on Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) with many government and non-government agencies to understand their issues (Appendix E). As a result of the engagements and the workshop, EIU requested that the guidelines be reviewed to address the customers' issues that relate to high connecting costs to connect to SEB system.

Reviewing SEBCCG is not a simple and straightforward task. The consequences for improper charging can be a problem. Continuous overcharging customers tend to burden them yet undercharging might jeopardize the company's financial standing and business sustainability. Thus, this study aimed to identify the deficiencies of SEBCCG and determine the elements that can be improved based on customers' concerns to provide fair and transparent guidelines. A new guideline for fairer pricing of the connection charge that takes into account the outcome of the proposed research would thus, help to strike a balance between the ESU companies with the end-users or customers.

1.3 Research Objectives

In this study, a thorough review of SEB's current connection charge guidelines was undertaken to address the objectives of this study as follows:

RO1: To identify the key limitations of SEBCCG compared to similar policies of other electricity supply utility companies.

RO2: To examine customers' concerns over SEBCCG.

RO3: To propose a set of prudent features of connection charge policy for the revision of SEB connection charge guidelines.

1.4 Research Questions

In order to propose a revised connection charge guideline for SEB that is considered fair to both the company and the new customers requesting for connection, the following research questions are to be addressed:

RQ1: What are the key elements in SEBCCG that are more costly and less transparent as compared to other electricity supply utility companies?

RQ2: Why are non-individual and individual customers complaining over SEBCCG when requesting connection to the system?

RQ3: How are the complaints of non-individual and individual customers over SEBCCG can be minimized?

1.5 Scope of the Study

This study was conducted to gather information only from customers' perspectives, namely individual and non-individual customers. Individual customers in this study covered all single-premise customers such as shopping malls, single residential customers and small factories. They were represented by internal wiring contractor (IWC) registered with the company to participate in the survey because they are the personnel assisting the individual customers to submit for electricity supply application and are familiar with SEBCCG.

Non-individual customers referred to all development projects such as housing areas, shophouses and industrial estates or parks. Two groups of non-individual customers were identified, namely private sector development projects and government development projects. Personnel who were well-versed and familiar with SEBCCG from various government departments and non-government agencies were invited to participate in the study. The views from the company management group as well as the regulator point of view were excluded from this study.

In addition to this, the information gathered only covers connection charges as in the SEBCCG. The tariff charges were excluded from this study because the tariff charges review is under the purview of MOUs. Any changes to the tariff charges need to put up to the state cabinet for further deliberation. Moreover, the tariff charges have just been revised in 2014 (Sarawak Energy Berhad, 2014).

1.6 Significance of the Study

The contributions of this study would be of interest and shall bring significant impacts to the government, organization, people of the state as well as scholars in this research area. The current study provides specific insights for SEB in understanding stakeholders' concerns over unreasonable connection charges imposed by SEB. This information is useful to incorporate into the revised guideline that would directly address frequently raised concerns by the stakeholders and would be able ensure a fairer and more transparency charging to the customers when they request for connection of supply. It will also change customers' common perception over SEB as a monopoly company, despite based on own perspectives, stakeholders' views were considered during the revision exercise.

On the other hand, Sarawak government has also constantly raised the issue on the quantum of connection charge imposed by SEB as there have been regular complaints lodged on comparing SEB's connection charge with Tenaga Nasional Berhad (TNB)'s connection charge, which SEB's charges are considerably higher than

TNB charges. This study has addressed the government's concerns on the charges in ensuring the Sarawak people's basic needs are at an affordable and reasonable price.

From the scholar's perspective, this study adds to the limited literature of pricing structure in the utility industry. It is found from the literature that there are various factors that contribute to the computation of product pricing. However, not all factors fit for SEB and able to address the concerns raised. This study has identified specific factors that fulfil the expectations of the stakeholders and fit into the SEB context. Most studies were mainly conducted in developed countries such as the USA, Europe, Australia and Canada (Abelson, 2002; Office of Gas and Electricity Market (OFGEM), 2002; Pineda, 2012). To the best of researcher's knowledge, none of such studies has been conducted in Malaysia and limited studies have been conducted in any other developing countries. Therefore, this study has provided additional inputs in this area of research from the perspective of developing countries, generally and Malaysia, specifically.

1.7 Analysis of Key Terms

1.7.1 Connection Charge

Connection charge is a one-off charge paid by new customers of a utility company or communication service provider to cover the cost of setting up the customer's services (HarperCollins Publisher, 2021). As for ESU companies, connection charge is a one-off upfront payment made by the customers who require connection to existing distribution network and this payment covers the cost of setting up new electricity supply infrastructure and/or an upgrade of existing infrastructure to cater for additional power supply (Trimble, Phillip, Kojima, Arroyo, & Mohammadzadeh, 2016) and it is also often called connection charge or connection fee. Similarly, for all ESU companies in Malaysia, are practicing and using the term connection charge as well. Thus, to ensure consistency, connection charge is used in this study.

1.7.2 Capacity Charge

Capacity charge is the common term used to refer to charges imposed to customer and is based on the highest amount of energy estimated to use or consume at any time of the year. It is payable to the utility company to ensure that the electricity the customer might use or required is available whenever needed. In other countries such as Australia, it is also often called demand charge (Passey, Haghdadi, Bruce, & Macgill, 2017) but it carries the same meaning as the capacity charge. To order to ensure that the required capacity is always available, the fee collected will be used to upgrade or install new infrastructure to meet this requirement. Similarly, in SEB, capacity charge is imposed on customers based on their amount of energy required. The amount collected could be used to construct high voltage electricity infrastructure to service the customers. In this study, the capacity charge used in this study refers to the charge imposed on the customers based on the energy needed and the fund collected are to be used to construct HV asset to service the customers or for the future upgrades on the asset.

1.7.3 Shared Asset / Dedicated Asset

Asset is anything of value owned by individuals or organizations (HarperCollins Publisher, 2021). Shared asset is associated with infrastructure built that will be used by a group of people and will bring about benefit to everyone utilizing the assets whereas dedicated asset is a term used to refer to assets or infrastructure specially built to serve one dedicated customer or only benefiting one customer (Cruz-Cunha, Goncalves, Lopes, & Putnik, 2011). From the ESU companies' point of view, all electricity infrastructure built to service the customers are the companies' assets. The assets built are also categorised into two categories, namely shared assets and dedicated assets.

1.7.4 Connection Charge Guidelines

Connection charge guidelines is a document that provides guidelines for customers to apply for electricity and the appropriate charges under which customers may obtain new or altered connection from the existing distribution system. It contains the connection charging methodology practised by the company and it is a mandatory document to be produced. In Sarawak, this document is governed under The Electricity Ordinance (Cap 50) whereas in Australia, it is required under the National Electricity Rules Paragraph 5A that requires all ESU companies to develop and publish such guidelines. The principles of the guidelines vary among company, but all companies shall develop based on the principles agreeable to the respective energy regulators.

1.7.5 Pricing Structure

Pricing structure is an approach to determine the product or service pricing consistent with the organization's goals and strategies (MBA Skool Team, 2016) and pricing structure can affect how a company grows and determine the company brand image as a perception perceived by the customers. In the energy sector, pricing structure is also used to refer to the companies' pricing methodology to compute tariff charge and connection charge, the two sources of funds collected from the customers (Mitlin & Walnycki, 2020). The pricing structure varies between companies as different companies practise different organizations' goals, strategies, and growth rates. In this study, pricing structure shall refer to the components that contribute to the product pricing.

1.8 Outlines of the Thesis

This thesis consists of 6 chapters and the focus is on reviewing the current SEB connection charge guidelines gathering understanding related to the deficiencies and ways to improve the guidelines. Chapter 1 provides an overview of the background of the study, together with the research objectives and questions designed to address the

problem statement and an explanation of the key terms. A general concept of different industries' pricing policies, including ESU industries is discussed in Chapter 2. Chapter 3 discusses the research methodology used for this study, namely document analysis, Delphi survey and questionnaire survey. Chapter 4 presents the findings of the study followed by the discussions to the overall study's findings and the implications of the study to various parties. This report ends with concluding remarks alongside recognition of the limitations of the study and followed by suggested directions for future research in Chapter 5.

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APPENDICES

Appendix A Complaint letters from the individual customers

21st May 2015

Your Ref: KUC-150181/AMH/NA/ef

Regional Manager,
Sarawak Energy Berhad,
Western Region,
Jalan Belian, Sg. Biawak,
93450, Kuching.

Attn : Ms. Katherina Lee

Dear Ms.,

RE: UPGRADING OF HT/LT ELECTRICITY SUPPLY TO EMPURAU FISH FARM ON LOT 161, BLOCK 17, MUARA TUANG LAND DISTRICT, AT JALAN KETUP- SUBI, ASAJAYA

We refer to your letter dated 07th May 2015 in respect of the above captioned subject.

We are writing in to appeal for your consideration for the Additional HT cost amounting to RM 74,965.00 to be waived or reduced on the basis that this should have been either wholly absorbed by SESCO or to be apportioned to other consumers who would invariably apply to tap off supply from this newly reliable and more stable power source in the immediate future.

For your information, there are a total of six (6) other consumers along that stretch of road leading to our farm and one (1) km beyond. Among the other notable consumers who would capitalise on this upgrading work is M/S Syn Min Kong Sdn. Bhd. who has a 100 acres Oil Palm plantation estate operation at our immediate vicinity. They are also known to be the leading pepper and rubber exporter in Sarawak.

It is also noted that you have mistakenly computed the overall maximum demand of our application at 44.49KVA as against 39.09KVA with the difference at 5.4KVA accounted and already paid for in an earlier application exercise. We would therefore appreciate your rectification in your reply.

It is hoped that you will give our appeal a sympathetic consideration. Meanwhile, we look forward to a favourable response from you at your soonest please.

Thank you.

Yours sincerely,

Taw Electrical Work

c.c. Mr. Bill Lu Thian Tack,
23, Lot 120, Jalan Datuk Abang Abdul Rahim 5,
93450, Kuching.
Fax No.:082-336671

DISTRIBUTION
WESTERN REGION
RM
Mgr (P & P) 1
Mgr (P & P) 2
SM (O & M)
9/6
09 JUN 2015

Letter 1

Julia Binti Bohari (019-4875667)

53, Kampung Tupong Tengah,

Petra Jaya, 93050 Kuching,

93050 Kuching, Sarawak

18 Disember 2015

Sarawak Energy Berhad

Western Region,

JalanBelian, Sg. Biawak,

93450 Kuching, Sarawak

(U/P: Mastura Binti Sawawi/Encik Jaafar)

Tuan/Puan

Electricity Supply to Julia Binti Bohari, Lot 4479, Kpg. Sg. Lumut, Jalan Sultan Tengah

- SESCO Connection Charge

Sukacita merujuk kepada surat tuan/puan bernombor rujukan KUC-151338/OJ/LI/nsm bertarikh 10 Disember 2015 (seperti yang dilampirkan).

Disini saya ingin membuat rayuan daripada pihak tuan/puan untuk mengurangkan jumlah cas penyambungan SESCO untuk rumah saya yang beralamat disebut seperti perkara diatas. Memandangkan saya merupakan balu dan hanya menerima wang persaraan arwah suami sebanyak RM 1300.00 sebulan tidak mampu untuk melunaskan jumlah cas penyambungan tersebut.

Diharap permohonan saya ini mendapat pertimbangan yang sewajarnya daripada pihak tuan/puan dan saya dahului dengan ribuan terima kasih.

Yang benar,

Julia Binti Bohari

s.k. Naiman Al-Farouk Enterprise

Letter 2

Our Ref : 19/2011/KCH/(23)

Your Ref : KUC-150616/AMH/NA/ef

Date : 9th November, 2015

LEE, HON & ASSOCIATE (MALAYSIA)

Jurutera Perunding Mekanikal dan Elektrikal
Mechanical and Electrical Consulting Engineers

DISTRIBUTION
WESTERN REGION
RM
Mgr (P & P)
10 DEC 2015

Sarawak Energy Bhd.
Western Region
Jalan Belian,
Sungai Biawak,
93450 Kuching, Sarawak.

Attn : Ir. Katherina Lee

Dear Sir/Mdm,

Re : LT Electricity Supply To Proposed Extension And Alteration Of Dining Hall To Existing 3- Storey Building On Lot 1912, Block 10, KCLD, At Jalan Laksamana Cheng Ho, Kuching.
- SESCO Connection Charges.

Reference is made to your office letter ref : KUC-150616/AMH/NA/ef dated : 21st October, 2015 pertaining to the above caption.

Please be informed that the SESCO Connection Charges amounting to RM203,637.70 as released via the above mentioned letter is quite excessive for our client to accept.

Kuching Buddhist Society is a non-profit religious centre with the main source of income is from donation from general public. The extension of the centre is to provide better welfall services such as, essential needs, medical assistance etc to the needy and the general public.

As such, all fund received shall be channeled to good cause.

In view of the above, on behalf of our client, we would like to seek for your office assistance and special consideration to reduce or to adjust the connection charges so as to reduce the financial burden of the centre.

Your office kind attention to the above is appreciated.

Thank you.

Yours faithfully,
Lee, Hon & Associate (M)

Ir. Chai Chon Hon

cc.
Kuching Buddhist Society
Attn : Mr. Chua Beng Thian

697-B, 1ST Floor, Lot 13949 (SL15), Tabuan Square, Lorong Keranji 4F, Tabuan Desa Utara, 93350 Kuching, Sarawak, Malaysia.
Tel: 6 082 503983 Fax: 6 082 503402 Email: honanns@gmail.com

Letter 3

Appendix B Complaint letters from the non-individual customers

CIDB MALAYSIA

Rujukan : LPIPM:SM/ASET/09/1/12 Klt.4 (40)
Tarikh : 4 Mei 2016

SARAWAK ENERGY BERHAD
Western Region,
Jalan Belian ,
Sg. Biawak,
53450 Kuching Sarawak
(u.p: Puan Mastura Sawawi)

Melalui,

KONSORTIUM BUMI CONSULTANTS & SERVICES SDN BHD
Sub Lot 82, Lot 228
Premier 101 Mall
Jalan Tun Jugah
93350 Kuching, Sarawak
(u.p: Ir. Janang Bungsu)

DISTRIBUTION
WESTERN REGION
RM
Mgr (P & P) 1
Mgr (P & P) 2
SM (O & M)
09 MAY 2016

Tuan,

CADANGAN PEMBINAAN SEBUAH DEWAN KONVENSYEN, SEBUAH BLOK ASRAMA,KEMUDAHAN SUKAN DAN LAIN-LAIN KEMUDAHAN BERKAITAN DI KOMPLEKS CIDB SARAWAK DI ATAS LOT 299, BLOCK 14, SALAK LAND DISTRICT AT JALAN SULTAN TENGAH, KUCHING,SARAWAK UNTUK LEMBAGA PEMBANGUNAN INDUSTRI PEMBINAAN MALAYSIA (CIDB)
- Permohonan Pengurangan Caj Penyambungan Bekalan Elektrik, SESCO

Dengan hormatnya merujuk kepada surat tuan No.rujukan KUC-160365/OJ/JS/nsm bertarikh 12 April 2016 adalah berkaitan.

2. Untuk makluman pihak tuan, CIDB merupakan Badan Berkanun Persekutuan yang merupakan agensi dibawah Kementerian Kerja Raya yang telah ditubuhkan pada 1994 di bawah akta 520. Pihak CIDB bukanlah sebuah agensi yang ditubuhkan untuk memperolehi keuntungan tetapi sebuah agensi yang ditubuhkan untuk membangunkan industri Pembinaan di Malaysia.

3. CIDB telah meneliti harga caj sambungan bekalan elektrik, SESCO iaitu sebanyak RM 401,485.60. Berdasarkan kos tersebut, pihak kami mendapati kos tersebut agak tinggi berbanding dengan anggaran peruntukan bajet projek ini.

LEMBAGA PEMBANGUNAN INDUSTRI PEMBINAAN MALAYSIA
IBU PEJABAT
Tingkat 10, Menara Dato' Onn, Pusat Dagangan Dunia Putra,
No.45, Jalan Tun Ismail, 50480 Kuala Lumpur, MALAYSIA
t + 6 03-4047 7000 f + 6 03-4047 7070 www.cidb.gov.my

4. Sehubungan dengan itu, pihak CIDB memohon agar kos tersebut dapat dikaji semula memandangkan projek ini merupakan salah satu projek kerajaan, Pihak CIDB amat berbesar hati sekiranya pihak Syarikat SESCO Berhad dapat mempertimbangkan serta dapat mengurangkan kos penyambungan tersebut memandangkan peruntukan bajet kami adalah terhad dan perlu dioptimumkan untuk membangunkan prasarana yang lain.

5. Segala kerjasama dan perhatian awal dari pihak tuan amatlah kami hargai dan didahului ucapan terima kasih.

Sekian

"MEMBINA KEJAYAAN ANDA"

.....
NAIDATUL MAZIDAH LATIF
Pengurus Kanan
Bahagian Sumber Manusia & Pengurusan Fasiliti
b.p Ketua Eksekutif
Lembaga Pembangunan Industri Pembinaan Malaysia.

s.k Ketua Eksekutif - Dato' Ir. Ahmad Asri Abdul Hamid
Pengurus Besar, PSM - En Asnawi Alias
Pengarah Negeri CIDB Sarawak - En. Merzan Hashim
Arkiskape Sdn Bhd - Ar Sumardi Bin Ghazalee
Perunding Azra - Ir. Awang Abdul Halim Faisal
Juruukur Bahan Tema Sdn Bhd - Sr. Tsan Eng Kia

Letter 1

PEJABAT WILAYAH TENGAH,
JKR SARAWAK
TINGKAT 14 , WISMA SANYAN,
JALAN SANYAN, 96000 SIBU

Ruj. Kami : PWD/CRO/WW/HO/B005/2015 Pt.~~4~~ 5 (1) (~~54~~)

Tarikh : 28.01.2016

Regional Manager
Sarawak Energy Berhad,
Customer Service Department,
Pejabat Wilayah Tengah,
Jalan Deshon Timur,
96007 Sibu,
Sarawak.

Dear Sir/Madam,
Contract No.: PWD/HO/B005/2015
The Construction And Completion Of The Bekalan Air Mukah, Bahagian Mukah, Sarawak (Phase 2 Package 1: Proposed Upgrading Of Existing Water Treatment Plant And Associated Facilities)
- *Civil Works for SEB Substation*

We wish to refer to your letter ref: SIB-150269/HSY/geh dated 17th August 2015 pertaining on the connection charges and also the cost breakdown for Civil Works via letter ref: SIB-150269/HSY/geh dated 10th December 2015.

As per mentioned in our previous letter, there is a quoted amount stated in the contract for our Contractor to construct the SEB substation (civil work). After making comparison, the cost which was quoted by our Contractor is much lower compared to your amount which is **RM 232,402.50.** Hence, we would like to construct the substation and requested the mentioned amount to be deducted from the original Connection Charges.

Apart from that, we have been advice that part of the connection charges are used to upgrade the transformer (upgrade to 5MVA) of the existing substation. Since the existing substation will also supply to the nearest villages, we are much appreciate if you could consider reducing the connection charges.

We are looking forward to the revised amount of connection charge and please reply to us as soonest for our payment purposes. Thank you.

"CEPAT, EKONOMI DAN BERKUALITI"
"BERSATU BERUSAHA BERBAKTI"
"AN HONOUR TO SERVE"

Fax Sent On 28 JAN 2016

(JOHN ATEN ANAK PAWANG)
Regional Manager,
JKR Central Regional Office

Telefon Am: 084-334444 Faks: 084-334440
Kawat: "WORKS-SIBU" Teleks: JKR KG MA70112
Emel: corporatejkr@gmail.com; jkrsarawak@gmail.com
Laman Web: www.jkr.sarawak.gov.my www.facebook.com/jkrsarawak

Letter 2

pkm projek konsultant sdn. bhd.
consulting-mechanical-electrical engineers (Co. No. 760181-V)
马来西亚工程顾问有限公司
7F (1st Fl.) Ban Hock Road, P.O. Box 2184, 93744 Kuching, Sarawak.
Phone: 082-251412, 254441 Fax: 082-252248 E-mail: pkm@projekkonsultant.com

YOUR REF : SIB140413/HSY/geh
OUR REF : PKM 1053/SCM/YAP/L6

29th August 2014

The Regional Manager,
Syarikat SESCO Berhad,
Sibu.

Attn: Ir. Lai Fui Kee

Dear Sir,

TURNKEY: LT ELECTRICITY SUPPLY TO PROPOSED 18 UNITS OF 4 STOREY (COMMERCIAL) SHOPHOUSES AT AVTC & SUBDIVISION OF LOT 1005 & 1007, BLOCK 68, MUKAH L.D. AT BOULEVARD SETIA RAJA, MUKAH.
- *Connection Charge*

With reference to your letter Ref: SIB140413/HSY/geh dated 25th August 2014 on Connection Charge amounting to RM195,280.00, we wish to inform that it is not acceptable to our client Hock Peng Realty Sdn. Bhd. as the S/S together with 500kVA Transformer were contributed and completed by them under Turnkey.

Therefore, capacity charge under item 4 shall not be applicable in this case.

Kindly revise the Connection Charge and advise us as soon as possible.

Yours Faithfully,
PKM PROJEK KONSULTANT SDN. BHD.

(SOON CHOON MOH)

c.c. Hock Peng Realty Sdn. Bhd.

Letter 3

Appendix C Minutes of Meetings of engagement between Ministry of Utilities Sarawak with mechanical & electrical consultants

22/12 2014 2:37 PM FAX 0001/0015

KEMENTERIAN KEMUDAHAN AWAM SARAWAK,
(MINISTRY OF PUBLIC UTILITIES SARAWAK),
TINGKAT 2, WISMA SUMBER ALAM,
JALAN STADIUM, PETRA JAYA,
93050 KUCHING,
SARAWAK.

Ruj. Tuan :

Ruj. Kami : KKA/E/MISC/14(02/26)

Tarikh : 18 Disember 2014

General Manager (Planning and Strategy)
Level 9, North Wing
Menara Sarawak Energy
No. 1, The Isthmus
93050 Kuching
(Fax : 082-481098)

SARAWAK ENERGY BERHAD (CO. NO. 007199-D)
PLANNING & STRATEGY
22 DEC 2014
RECEIVED

Managing Director
Perunding CHL Sdn. Bhd
6, Jalan Song Thian Cheok
93100 Kuching
(Fax: 082-230911)

Managing Director
Uni-Kenyalang Engineering Sdn. Bhd.
51, Taman Tabuan Desa
Lorong 4, Off Jalan Keranji
93350 Kuching
(Fax: 082-363998)

Oakley Greenwood Pty Ltd
214C Maundrell Terrace
Aspley QLD 4034, Australia

Dear Sir,

MINUTES OF MEETING: ENGAGEMENT WITH M&E CONSULTANTS ON CONNECTION CHARGES

Referring to the above-captioned subject, attached herewith is the Minutes of Meeting for Engagement with M&E Consultants on Connection Charges held on 12 November 2014 for your reference, please.

Thank you.

"BERSATU BERUSAHA BERBAKTI"
"AN HONOUR TO SERVE"

Yours sincerely,

Sgd

(CHAN SENG YU)
for Director of Electricity Supply
Ministry of Public Utilities
SARAWAK

Pls verify that the MOM is appropriate

Planning & Strategy		
Date R'cvd		
GM		
Strategy & Analysis		
PPA		
Snr Technical Mgmt		
System Planning		

Tel : 082-440062/082-440063
Fax : 082-312055/312044
Website: www.mpu.sarawak.gov.my

MINUTES OF MEETING
ENGAGEMENT WITH M & E CONSULTANTS ON
CONNECTION CHARGES

Date : Wednesday, 12th November 2014
Time : 0900hrs – 1230hrs
Venue : Meeting Room, 11th Floor, Wisma Satok.

Present:

Ministry of Public Utilities (MPU):
Engr. Chan Seng Yu *(Chairman)*
Engr. Tan Chee Ming
Ms. Louella Octrice Michael Sinar
Mr. Chang Hwang Yang

Sarawak Energy Berhad (SEB)/Sarawak Electricity Supply Corporation (SESCo):
Ir. Alvin Lim
Ir. Haji Isa Zaidi Sahari
Ir. Tan Joo Kok
Ir. Edwina Mandak
Mr. Alex Chung

Perunding CHL:
Ir. James Ling

Uni Kenyalang Engineering:
Ir. Clarence Chieng

Oakley Greenwood:
Mr. Rohan Harris
Mr. John Wallace

No.	Item	Action
1	**Opening Remarks by the Chairman**	
	1.1 The Chairman welcomed all attendees to this meeting.	Info
	1.2 The purpose of this meeting was for the M&E consultants to address their concerns and point of views relating to connection charges to the	Info

	independent consultant who is appointed by SEB to carry out study on connection charges.	
2	**Discussions and issues**	
	2.1 The meeting was informed that since the late 1980's, developers have to engage consultants to certify the drawing plans for development projects with more than 20 units of houses. For development projects with less than 20 units of houses, contractors can certify the drawings.	Info
	2.2 The meeting was also informed that the capital contribution was charged based on fixed rate per premise whereby connection charges are charged based on load capacity (kVA) for each premise. Therefore, the developer would take advantage by applying insufficient transformer capacity for the project to reduce the project cost, and this resulted in the transformer being overloaded when the premises were occupied by the consumers.	Info
	2.3 The meeting was informed that SHEDA is complaining about the differences in connection charges for different projects and these charges are increasing annually. In addition, only few contractors are registered with SESCO to carry out the electrical installation projects and this has led to higher fee charged by the contractors.	Info
	2.4 The cost of connection charges increased due to policies affecting the design imposed by SESCO and also the price of materials especially copper. In the current SESCO's policies, transformer can be loaded up to 80%, maximum 15 pole span for each pillar, and	Info

	the voltage tolerance is ± 6%.	
2.5	The meeting was informed that 1 pole is to be erected at every 15 meters. This policy resulted in many transformers and feeders being required to be installed.	Info
2.6	Based on the policy, meter shall be installed at gate post (mini pillar). Electricity supply to every house shall be connected via service cable instead of service line. SESCO allows only 30 meters of cable length from central metering cabinet (CMC) to house and this has caused an additional cost increase of about RM5000 per house.	Info
2.7	All policies imposed by SESCO are solely at SESCO's advantage and SHEDA reckoned that these policies do not benefit them but instead increase the cost of connection and will affect the end users.	Info
2.8	SESCO stated that SESCO's policies are just a guideline. Consultant can choose whichever method they are comfortable with. However, the Consultant responded that Kuching Regional Office insisted that 30m is the maximum cable length from CMC to houses. Different Regional offices have different interpretations and practices.	Info
2.9	Development of light industrial estate also has to follow the policy of 30 meters cable length from CMC to premises. Thus, developers have to install many CMC and increase the numbers of distribution pillars and transformers as one transformer accommodates only 6 distribution pillars. Additional transformer has to	Info

		be installed unnecessarily to cater for additional distribution pillars and extra cables are also required to be laid. Light industrial buildings are usually been utilized for warehouse purposes. Shall the owner require higher load, they will apply from SESCO.	
	2.10	For domestic houses, the previously maximum 180A allowable loading requirement for supply line has been changed to a maximum 120A. Development project may expand up to few hundreds units. Thus installation of many substations and cables from substations to distribution pillars are required. All these limitations imposed by SESCO are based on non-technical reasons.	Info
	2.11	Fast development growth in Sarawak especially Bintulu has affected SESCO's planning for 33kV network at Bintulu. In the past SESCO had HT development fund (RM3000 contributed from each project) for 33kV development. Now, developer need to alienate 50m x 50m land which is about RM2.4 million land cost plus opportunity cost of 4 shop-houses to build a 33kV substation.	Info
	2.12	Another issue raised in the meeting was that developer may have to pay for additional capacity for substation as the rating for transformer is fixed. SESCO and developer from neighboring lots will benefit from the extra capacity. Developers are not willing to give up land for substation to benefit other developers. To overcome this issue, some developers work together with other developers who have nearby projects to share the substation capacity.	Info

	2.13 Developers prefer their projects to be constructed under turnkey basis. This is because if the project is constructed by SESCO, developer needs to pay upfront payment and SESCO tends to delay the project. Therefore, even-though turnkey projects may be more expensive, it is still preferable because it is faster. SESCO's processes take longer period even after Connection Charges are paid because SESCO needs to go through the tender process and also face situation like no stock of material etc. This will easily take 1 ½ year to get supply connected.	Info
	2.14 Consultant prefers to have compact substation rather than alienated the land for constructing substation but SESCO does not allow compact substation to be utilized.	Info
	2.15 Timeframe for connection charges application approval is slow. SESCO's KPI is 21 working days to release Connection Charges from complete application submission. However, it is almost never been achieved by SESCO and the process usually takes 3 to 6 months or up to more than 1 year.	Info
	2.16 During submission for indoor substation to SPA for site approval, SESCO usually requests detailed information which is not available during the planning stage and the design may subject to change.	Info
3	**Others**	
	3.1 Ir. James Ling will send an email to ACEM members to get their comments on connection charges.	Ir. James Ling
	3.2 The meeting requested to arrange a meeting with	MPU

	Association of Low Cost House Developers too as they may have different issues.	

The meeting adjourned at 12.30 p.m.

Recorded by:

Louella Octrice Michael Sinar
Electrical Engineer

Checked by:

Tan Chee Ming
Electrical Engineer

Agreed by:

Chan Seng Yu
Electrical Inspector

Ministry of Public Utilities
Date: 12th November 2014

Appendix D Minutes of Meetings of engagement between Ministry of Utilities Sarawak with Sarawak Housing and Real Estate Developers' Association (SHEDA)

22/12 2014 2:39 PM FAX 0008/0015

KEMENTERIAN KEMUDAHAN AWAM SARAWAK,
(MINISTRY OF PUBLIC UTILITIES SARAWAK),
TINGKAT 2, WISMA SUMBER ALAM,
JALAN STADIUM, PETRA JAYA,
93050 KUCHING,
SARAWAK.

Ruj. Tuan :

Ruj. Kami : KKA/E/MISC/14(02/34)

Tarikh : 16 Disember 2014

Please refer to Distribution List

Dear Sir,

MINUTES OF MEETING: ENGAGEMENT WITH SHEDA ON CONNECTION CHARGES

Referring to the above-captioned subject, attached herewith is the Minutes of Meeting for Engagement with SHEDA on Connection Charges held on 13 November 2014 for your reference, please.

Thank you.

"BERSATU BERUSAHA BERBAKTI"
"AN HONOUR TO SERVE"

Yours sincerely,

(SYED MOHAMAD FAUZI SHAHAB)
Director of Electricity Supply
Ministry of Public Utilities
SARAWAK

DISTRIBUTION LIST

1. Chief Operating Officer
   Sarawak Energy Berhad
   Level 9, Menara SEB
   (Fax: 082-481 811)

2. Chief Financial Officer
   Sarawak Energy Berhad
   Level 8, Menara SEB
   (Fax: 082-331453)

3. General Manager (Planning and Strategy)
   Level 9, North Wing
   Menara Sarawak Energy
   No. 1, The Isthmus
   93050 Kuching
   (Fax : 082-481098)

4. Executive Secretary
   Sarawak Housing and Real Estate Developers' Association (SHEDA)
   Lot 42, 2nd floor, Tabuan Stutong Commercial Centre
   Jalan Setia Raja
   93350 Kuching, Sarawak
   (Fax: 082-365001)

5. Oakley Greenwood Pty. Ltd.
   214C Maundrell Terrace
   Aspley QLD 4034, Australia

MINUTES OF MEETING

ENGAGEMENT WITH SHEDA ON CONNECTION CHARGES

Date : Wednesday, 13th November 2014

Time : 0900hrs – 1230hrs

Venue : Meeting Room, 11th Floor, Wisma Satok.

Present:

Ministry of Public Utilities (MPU):
Engr. Syed Mohamad Fauzi Shahab *(Chairman)*
Engr. Chan Seng Yu
Ms. Louella Octrice Michael Sinar

Sarawak Energy Berhad (SEB)/ Sarawak Electricity Supply Corporation (SESCo):
Ir. Lu Yew Hung
Mr. Alexander Chin
Engr. Alvin Lim
Tuan Haji Isa Zaidi Sahari
Ir. Tan Joo Kok
Ir. Edwina Mandak

Sarawak Housing and Real Estate Developers Association (SHEDA):
Ir. Tan Teck Kian
Ir. Bong Joon Fah
Ir. Sing King Chen
Ir. Dennis Chin
Ir. Laurence Law
Ir. Christopher Ngui

Oakley Greenwood:
Mr. Rohan Harris
Mr. John Wallace

No.	Item	Action
1	**Opening Remarks by the Chairman**	
	1.1 The Chairman welcomed all attendees to this meeting.	Info
	1.2 The purpose of this meeting is for the SHEDA members to address their concerns and perspectives	Info

	relating to connection charges to the independent consultant appointed by SESCo to carry out study on connection charges.	
2	**Discussions and issues**	
	2.1 One of the issues addressed by SHEDA was the inconsistency and frequent changes of policies and guidelines related to connection charges. SHEDA requested that the changes in policies and guidelines must not be done too often. Any changes in policy will usually result in additional cost and developers will have to adjust the prices of houses accordingly. In Sarawak, houses are sold first before being built. As a result, any price increase due to change in connection charges policies and guidelines will increase the prices of houses that are unsold yet but for houses that are already sold, the developers will have to bear the additional cost.	Info
	2.2 Previously meters were installed at the front walls of houses, but with the introduction of a new policy, meters are moved out to be installed at the gate pillars. This required underground service cables which can result in additional cost of RM3, 000 to RM4, 000 per house. Since the policy was approved by the authority, SHEDA has to comply with it.	Info
	2.3 If there is a need to introduce a new policy, SHEDA appreciates that sufficient time should be given so that SHEDA knows about any changes in advance in order for them to factor any price increase into the cost of houses.	Info
	2.4 The connection charges policies and guidelines are to SESCo's advantage and SHEDA reckoned that these	Info

		policies and guidelines do not benefit them but increase the cost that affects the end users. Furthermore, the frequent changes and inconsistency in implementing the policies and guidelines caused the final cost of the houses to be unpredictable.	
	2.5	The meeting was informed during the late 80's, SESCo provides 50% subsidy but since the economic crisis especially with the fuel price increase, SESCo has stop giving this subsidy.	Info
	2.6	Another issue raised by SHEDA was that all the cost of installation of infrastructures e.g. HT lines, LT lines and substations were charged to the developers. This also affects the prices of the houses.	Info
	2.7	The meeting was also informed that for example, the first developer, having a development that requires a demand exceeding 2MVA, SESCo will require a substation with land contributed by this developer. If there is a second developer who has a development that requires 4.5MVA, SESCo's policy is to require the first developer to surrender a bigger piece of land for the substation to cater for the upgrading of transformer to supply the 2nd development. Hence, this situation is unfair to the first developer because the size of land (approximately 50m x 50m) can accommodate 6 units of semi-detached houses which have to be sacrificed. SHEDA wants consultant to carry out study on how to balance the situation to benefit all parties involved.	Info
	2.8	The meeting request for independent consultant to consider SHEDA's and authority's views in the study	Info

		so that the outcome will benefits everyone. SHEDA also request the consultant to study the cost implications and have dialogue sessions between SEB and developers and various involved parties before the Ministry decides to implement the recommendations from the study. SHEDA added by saying that the prices of houses nowadays is getting more and more unaffordable to the younger generations and any increase in connection charges will result in the prices of houses to be increased and this will further affect the younger generations who have yet to own a house.	
	2.9	SHEDA queried about the time taken for SESCo to process the connection charges applications. There are cases where it took up to 1 year to process. SESCo informed that their client charter states that the time taken to process Connection Charges is 21 days provided that all documentations are complete.	Info
	2.10	There are also cases where SESCo's poles are illegally erected on developer's land. However, SESCo will still require the developer to pay for the cost of removal of these types of illegally erected poles.	Info
	2.11	Usually developers prefer the infrastructures to be constructed under full turnkey basis rather than under SESCo where developers need to pay upfront to SESCo. Furthermore, SESCo tends to delay the project.	Info
	2.12	The meeting was informed that for low cost housing the construction cost is about RM100, 000.00 but	Info

	selling price is only RM50, 000.00.	
	2.13 The meeting suggested that the approval of the location of the substation, numbers of substation, and sizes of transformer needed for a project to be done by a competent electrical consultant instead of SESCo because it takes a long time for SESCo to approve. If the approval is done by competent electrical consultant, developer can commence the project immediately because usually it takes 1 to 2 months for SESCo to evaluate. When SESCo go through the plan and estimate the cost, they will also charge 3% administration fee to the developer should the development decides to construct under full turnkey.	Info
	2.14 SEHDA requested for the 3% administration fee to be abolish if developer chooses turnkey instead of SESCo to do the project.	Info
	2.15 The independent consultant was advised to compare the Connection Charges here with Tenaga Nasional Berhad (TNB)'s charges as a guideline for the study.	Oakley Greenwood
	2.16 The meeting was informed that for a total capacity exceeding 5MVA, a 33kV substation is needed to be built and developer will need to surrender their land to build this substation. This case happened in Kuching town, Miri – Permyjaya and Durin-Sibu. These towns are sizeable townships and need extra piece of land to build a 33kV substation each for incremental of total demand.	Info
	2.17 SHEDA also informed the meeting that for the approval process of a project, if there is a slight	Info

	change in the plan, developer will need to seek State Planning Authority (SPA) approval regardless of the size of the substation unless a compact substation is approved by SESCO.	
	2.18 Another issue raised was the numbers of SESCo-approved contractors. The limited numbers of these contractors will affect the prices of the project.	Info
3	**Others**	
	3.1 The Chairman thanks all attendees for their time and contributions to the meeting.	All

The meeting adjourned at 12.00 p.m.

Recorded by:

Louella Octrice Michael Sinar
Electrical Engineer

Checked by:

Chan Seng Yu
Electrical Engineer

Agreed by:

Syed Mohamad Fauzi Shahab
Director of Electricity Supply

Ministry of Public Utilities
Date: 13th November 2014

Appendix E Presentation material on briefing to YB MPU on SESCO Connection Charges

BRIEFING TO YB MPU ON SEB/ SESCO CONNECTION CHARGES

Ministry of Public Utilities
Electrical Inspectorate Unit

12 Sept 2012
Wisma Sumber Alam

• LAB FOR SEB / SESCO CONNECTION CHARGES

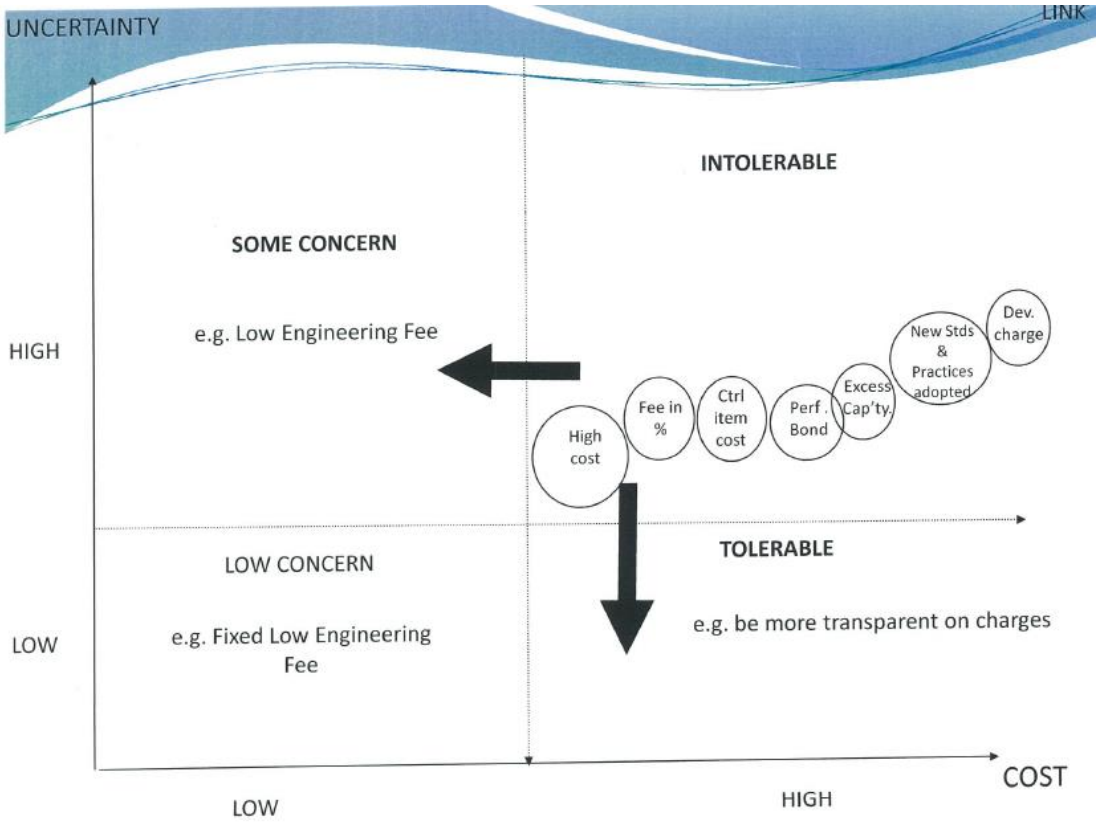
19-21 March 2012 at Four Points Hotel by Sheraton

AGENCIES INVITED AS LAB MEMBERS (19 – 21 March 2012)

- Kementerian Perumahan Sarawak
- Kementerian Pembangunan Perindustrian Sarawak
- Kementerian Kerajaan Tempatan dan Pembangunan Komuniti Sarawak
- Kementerian Pembangunan Luar Bandar Sarawak
- Kementerian Kemudahan Awam
- Unit Perancang Negeri
- Sarawak Energy Berhad
- Perbadanan Pembangunan Perumahan Sarawak
- Dewan Bandaraya Kuching Utara
- Majlis Bandaraya Kuching Selatan
- Lembaga Kemajuan Bintulu

SYNDICATED AGENCIES TO THE LAB* (ATTEND ONLY on 19 March 2012)

- Syarikat Perumahan Negara Berhad (Sarawak Branch)
- FMM (Sarawak office)
- Sarawak Manufacturers' Association
- Sarawak Chamber of Commerce & Industry
- Association of Consulting Engineers Malaysia (ACEM)
- Dewan Usahawan Bumiputera Sarawak
- The Associated Chinese Chambers of Commerce and Industry of Sarawak (ACCCIS)
- Dayak Chamber of Commerce and Industry (DCCI)
- Sarawak Housing and Real Estate Developers' Association



LAB OUTPUT

POLICY CONSIDERATION OF STATE

Issues	Considerations
Policy consideration requirements	To establish all electrical equipment in public areas contributed under connection charges transferred to Licensee.
	Approval of Connection Charges endorsed by Minister.
	Adoption of standards and practices with cost-impact to public endorsed by Minister.
	Adoption of standards and practices with no cost impact (direct or indirect) to public endorsed by Regulator / Minister.

LAB OUTPUT

IMMEDIATE ACTION (IN 2012):

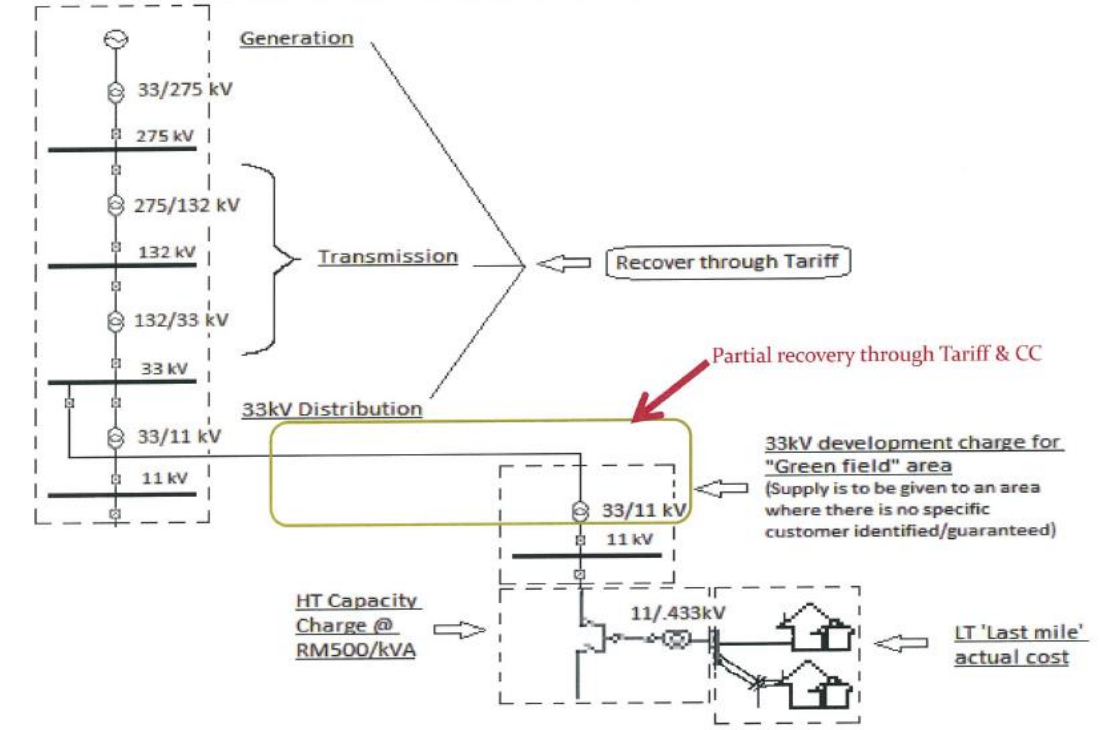
- Prepare Connection Charges Handbook for Public (Charging Principles and Rates)

- Prepare Connection Application Handbook for Public (Technical Standards and Procedural)

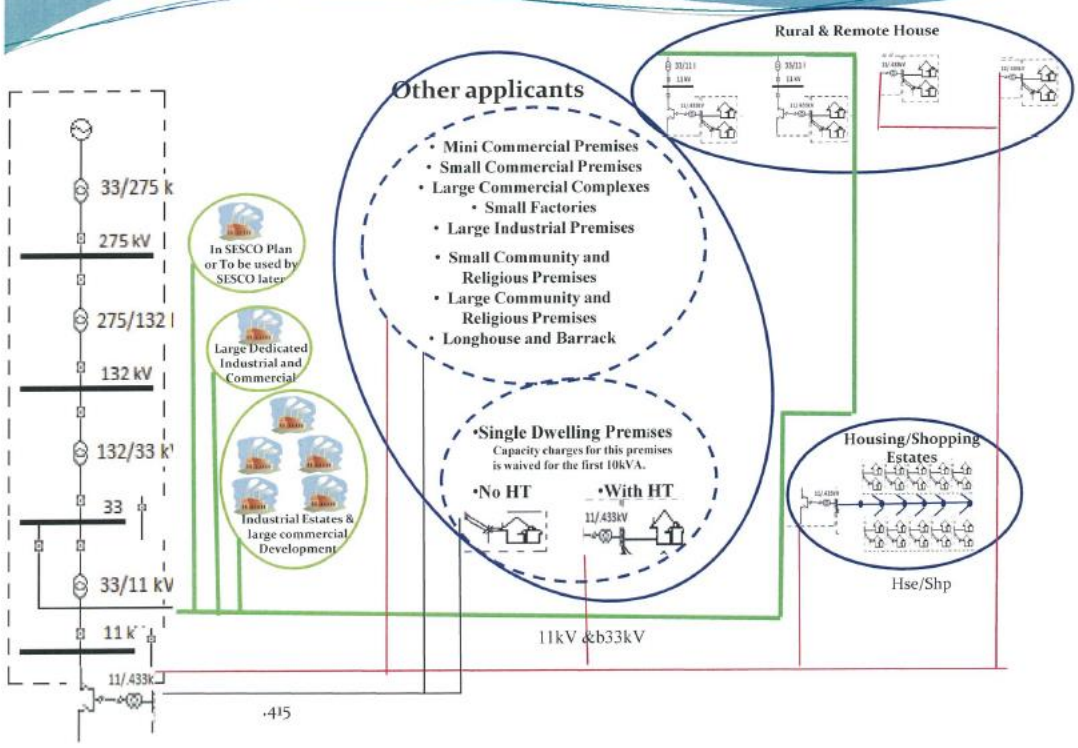
MEDIUM TERM ACTION (2014):

- Complete review of CC Charging Principles and Tariff.

TYPICAL DISTRIBUTION NETWORK

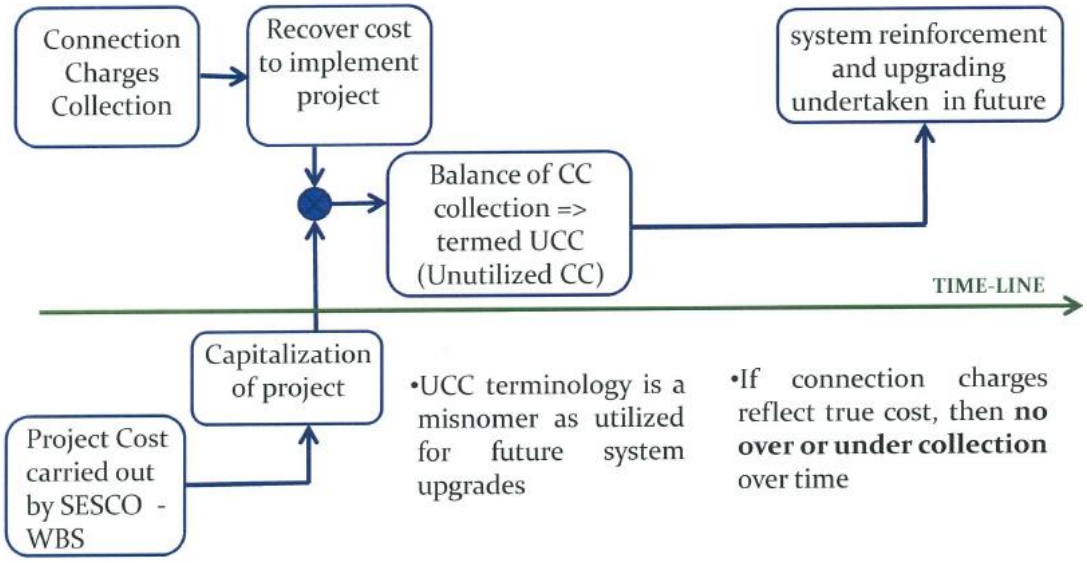


TYPICAL NETWORK AND CONSUMER GROUP



PURPOSE OF CONNECTION CHARGES

- Recover Portion of Development Cost Not Derived from Tariff
  - Required only when specific development occurs.



- UCC terminology is a misnomer as utilized for future system upgrades
- If connection charges reflect true cost, then **no over or under collection** over time

Appendix F Survey questionnaires for R2 and R3 of Delphi Survey

Delphi Questionnaire Round Two (R2)

Research Topic	Fair and Transparent Distribution System Supply Connection Pricing Model for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Norzaida Abbas
Company/University	Sarawak Energy Berhad / Razak School of Engineering & Advanced Technology, Universiti Teknologi Malaysia

Thank you for your contribution to the first round (R1) of this Delphi Survey. The issues/concerns raised were consolidated and themed into three categories: Pricing Structure, Processes and Procedures and Technical Standard.

The main objective of this round is to have you rate the issues raised in the order of least concern to most concern.

This round also consolidated all elements for improvement to SEBCCG and to have you rate the in the order of least useful to most useful to mitigate the current issue raised.

Instructions

Section A:

1. Please review the consolidated concerns raised on each item and comment on each item if you wish; then

2. Give your opinion from 1 (least concern) to 4 (Most concern).

Section B:

1. Please review the consolidated improvement proposals raised and comment on each item if you wish; then

2. Give your opinion from 1 (least useful) to 4 (most useful) to rate its usefulness on mitigate the current issues raised in Section A.

Return your response to jookok@gmail.com by 31 Aug 2016.

Section 1:

A total of fifteen (15) issues consolidated from R1 of Delphi Survey through engagement. Please RATE as MOST concern (4) to LEAST concern (1).

Categories	Description	Rate	Comments
Pricing Methodology	**Inconsistency in the charging:** The connecting cost varies from station to station with the same scope of work or connecting to same number of living units		
	Difficult to budget for connection charges: The connection cost per living unit come out to different values. This makes it difficult for developers to budget for connection cost.		
	No clear guidelines on assisting disadvantaged customer: Disadvantaged customers pay high connection cost to be connected to SEB network		
	Inconsistent treatment of charging: Different customers applying for the same energy demand but was charged differently		
	Inconsistent charging of shared and dedicated asset: Some customers pay full cost of the network development whilst some customers pay portion of the network construction cost		
	Manipulating of applied load: SEB connection charging policies allow for customers to pay less when applying for higher energy demand		
	Different customers make different contribution to shared HT System Development (11KV and below): RM500/KVA is imposed on all customers regardless of if any augmentation is required on HT system		
Process and Procedures	**Channel for appeal:** There is no proper contact to lodge a complaint on any "high" connecting cost imposed by the company		
	Time frames for approvals of application: Typical application for electricity supply takes a long time, typically up to 6 months.		
	Inconsistent / Unclear process for assessing application: For any application, there is no clear guidelines on how the company assesses an application.		
	Complexity and transparency: Clients are in the opinion that SESCO connection charges guidelines are being too complex and not transparent to the customers		
	Change of Policies/Regulations: SEB often changes policies without giving adequate lead time for implementation makes for an uncertain market to the developer		
Technical Standard	**Cost increases driven by SEB:** The price of connecting customers to electricity has been going up over time and it is due to change of SEB policy on electrical designs		
	Land for substation: The land required or constructing distribution substation and zone substation affect the overall project development cost		
	Positioning of substation: Developer is often requested to position the substation at a prime location within a development which significantly taken up the opportunity cost of the whole development.		

Section 2:

A total of eight elements for improvement consolidated from R1 of Delphi Survey through engagement. Please RATE as MOST useful (4) to LEAST useful (1) on mitigating the issue raised in Section 1.

Item	Description (Elements for improvement)	Rate	Comments
1	Consistent rate of charges throughout the company		
2	Customer shall only be charged based on asset utilized		
3	Customer shall only be charged based on the applied load		
4	Connection charge shall be transparent, fair and simple to understand		
5	Shared and dedicated asset to be clearly identified		
6	Proper procedures for changes of technical standards and policies		
7	Channel for appeal		
8	Enhance approval for application process		

Delphi Questionnaire Round Three (R3)

Research Topic	Fair and Transparent Distribution System Supply Connection Pricing Model for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Norzaida Abbas
Company/University	Sarawak Energy Berhad / Razak School of Engineering & Advanced Technology, Universiti Teknologi Malaysia

Thank you for your contributions to the second round of this Dephi survey. This is the final round of Delphi survey and it summarized all the responses from round one and round two. Please review the compiled results and do feel free to comment if any.

Section 1: Most concerned issues

A total of 15 issues on SEBCCG as derived from stakeholder engagements in Round 1 of the Delphi survey. These can be summarized under three categories: Pricing structure, policies and procedures as well as technical standards.

In the second round of Delphi survey, the aim is to request the participants to rate the most concerned issues. The findings are as summarized in table 1.

Section 2: Elements for improvement

A total of 8 elements for improvement for SEBCCG was derived from stakeholder engagements in Round 1 of the Delphi survey. These can be summarized under three categories: Pricing structure, policies and procedures as well as technical standards.

In the second round of Delphi survey, the aim is to request the participants to rate the usefulness of each elements for improvement. The findings are as summarized in table 2.

Section 1: Ranking of concerns/issues raised

The ranking of the main concerns that would contribute to most impact to high connection cost is shown in table below.

Ranking	Description
1	**Inconsistent treatment of charging:** Different customers applying for the same energy demand but was charged differently
2	**Inconsistency in the charging:** The connecting cost varies from station to station with the same scope of work or connecting to same number of living units
3	**Difficult to budget for connection charges:** The connection cost per living unit come out to different values. This makes it difficult for developers to budget for connection cost.
4	**Positioning of substation:** Developer is often requested to position the substation at a prime location within a development which significantly taken up the opportunity cost of the whole development.
5	**Paying higher capacity than required / Shared network being funded by developer:** Developers were asked to bear all the cost of constructing the network that may have higher capacity than required by the development, possibly to service other development
6	**Inconsistent charging of shared and dedicated asset:** Some customers pay full cost of the network development whilst some customers pay portion of the network construction cost
7	**Manipulating of applied load:** SEB connection charging policies allow for customers to pay less when applying for higher energy demand
8	**Land for substation:** The land required or constructing distribution substation and zone substation affect the overall project development cost
9	**Change of Policies/Regulations:** SEB often changes policies without giving adequate lead time for implementation makes for an uncertain market to the developer
10	**Complexity:** Clients are in the opinion that SESCO connection charges guidelines are being too complex
11	**Channel for appeal:** There is no proper contact to lodge a complaint on any "high" connecting cost imposed by the company
12	**Time frames for approvals of application:** Typical application for electricity supply takes a long time, typically up to 6 months.
13	**Inconsistent / Unclear process for assessing application:** For any application, there is no clear guidelines on how the company assesses an application.
14	**Cost increases driven by SEB:** The price of connecting customers to electricity has been going up over time and it is due to change of SEB policy on electrical designs
15	**No clear guidelines on assisting disadvantaged customer:** Disadvantaged customers pay high connection cost to be connected to SEB network

Do you agree or disagree on the above ranking? If you have any further comment, please note your objections/comments here.

_____

_____

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_____

Section 2: Ranking of elements for improvement

The ranking of elements for improvement that would be most useful to mitigate issues raised in section 1.

Rank	Description
1	Standardized schedule of rates and to be consistent
2	Customers shall only be charged based on asset utilized
3	Customers only pay for what they apply for
4	Simpler, transparent and fair charging concept to be introduced
5	Customer requires dedicated assets should pay the whole cost of construction whereas shared assets shall be shared among groups of customers
6	All relevant technical standard shall be spelt out in proper documentation for ease of stakeholders' references
7	A specific department to handle customer complaint for application of electricity
8	Enhance application of electricity supply process and procedures

Do you agree or disagree on the above ranking? If you have any further comment, please note your objections/comments here.

_____

_____

_____

_____

Thank you very much for your kind support!

Appendix G Questionnaire for Drop-Off-Pick-Up survey

SEB CC Survey

Research Topic	Fair and Transparent Distribution System Supply Connection Pricing Model for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Norzaida Abbas
Company/University	Sarawak Energy Berhad Razak School of Engineering & Advanced Technology, Universiti Teknologi Malaysia

SECTION I: DEMOGRAPHIC INFORMATION	
Instruction: Please tick only 1 (one) answer for each of the following questions in this section	
1. Please select the following which best described your company size:	
☐	< 5 employees
☐	5 – 20 employees
☐	21 – 50 employees
☐	> 50 employees
2. Please select the electricity supply application most submitted for the last two years?	
☐	Development projects (Housing and shop houses)
☐	Single premise dwelling units
☐	Government projects
☐	Installation of meter only
3. Please select the location your company is based at:	
☐	Kuching
☐	Sibu
☐	Bintulu
☐	Miri
4. Please select the most common ways you submit your electricity supply application to SEB	
☐	Hand delivery
☐	By post
5. Please select the reason for choosing the method of submission of item 4.	
☐	More convenient
☐	Reduce the risk of loss of documents
☐	Application can be processed faster
☐	Others, please state:

SECTION II: GENERAL UNDERSTANDING OF SEB CONNECTION CHARGES GUIDELINES

Instruction: Please tick only 1 (one) answer for each of the following questions in this section

1. Which of the following are component of SEB connection charges:

I. Capacity charge
II. 33KV development charge
III. LT Infrastructure charge
IV. HT cable cost exceeding 1KM

- ☐ I, II
- ☐ I, II, III
- ☐ I, III, IV
- ☐ I, II, III, IV

2. In the computation of connection charges, the capping of subsidy is limited to:

- ☐ 100% of the capacity charge imposed
- ☐ 300% of the capacity charge imposed
- ☐ 100% of total connection charge imposed
- ☐ 300% of LT infrastructure charge imposed

3. The subsidy is only applicable to the following group of customers:

I. Housing development projects
II. Shop house development projects
III. Temporary supply application
IV. Single premise application supply connection

- ☐ I, II
- ☐ II, III
- ☐ I, II, IV
- ☐ I, II, III, IV

4. Which of the following statement best described SEB connection charges:

- ☐ All applications for electricity supply above 100KW requires submission by a consultant registered with SEB
- ☐ Application with 6 or more dwelling will be considered as development projects
- ☐ Capacity charge waiver for low cost housing is up to 3KVA per dwelling
- ☐ The minimum assigned load for a semi-detached house is 5KVA

5. Waiver of capacity charge is only applicable for the following customers:

I. Government assisted scheme ie low cost housing, rumah bantuan rakvat etc
II. Small and medium industries under the government aided programme
III. Government premises
IV. Temporary supply application

- ☐ I, IV
- ☐ I, II
- ☐ I, II, III
- ☐ I, III, IV

SECTION III: COMMON ISSUES OF SEB CONNECTION CHARGES GUIDELINES	
Instruction: Give your opinion from 1 (least impact) to 4 (Most impact) to rate its impact of each issue on contributing to high connection cost / increase in complaint over unreasonable charging of SEB connection charge (10Q)	
1. Inconsistent treatment of charging: For different category of customer application, the level of subsidy from the company varies.	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
2. Inconsistency in the charging: For the same scope of work, different stations provide different estimated project cost to the customers.	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
3. Difficult to budget for connection charges: For the same type of premises, with the same applied load and similar scope of works, the cost per unit, appeared to be significant different. It is thus difficult for the customer to budget sufficient fund	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
4. Positioning of substation: It is often that the customer is requested to place a substation at a location inconvenient to the customers.	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
5. Paying higher capacity than required/Shard network being funded by developer: Customers are charged for paying higher capacity of asset than required	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
6. Inconsistent charging of shared and dedicated asset: Some customers pay part of the development cost for a dedicated asset whereas some customers pay full cost for the development of an asset that will be shared between customers.	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)

7. Manipulating of applied load: In order to reduce the connection charge, the applied load is adjusted to minimize payment	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
8. Land for substation: Customers are often requested to provide a substation land even a small development and the substation nearby is sufficient to cater for the applied load	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
9. Change of policies/regulations: SEB frequent change of policies and regulations without informing the customers	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
10. Complexity: SEB connection charges guidelines is hard to understand	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
11. Channel for appeal: There is no proper channel for customers to enquire or to lodge appeal for issue regarding connection charges	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
12. Time frames for approvals of application: SEB takes a long time to process an application	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
13. Inconsistent / Unclear process for assessing application: SEB process for assessing application is unclear and inconsistent	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)

14. Cost increases driven by SEB: SEB frequent change of technical standards drive the increase in customer connection cost	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
15. No clear guidelines on assisting disadvantaged customer: There is no clear guidelines on assisting disadvantaged customers	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)

SECTION IV: IMPROVEMENT TO SEB CONNECTION CHARGES GUIDELINES	
Instruction: Give your opinion from 1 (least impact) to 4 (Most impact) to rate its impact of each improvement initiative to contributing to a more reasonable connection cost (10Q)	
1. The customer will only be charged on the applied load (2)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
2. The customer will only be charged based on the asset utilized (6)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
3. The rate of charges shall be consistent throughout all the offices in Sarawak. (5)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
4. Set up of a proper channel for handling of appeal cases (8)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
5. Any changes of technical standards/policies shall be notified and a grace period shall be given prior to the changes (10)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)

6. Improvement and streamline the approval for application process (3)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
7. All assets shared by the customers shall be developed and paid by the utilities (3)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
8. The connection cost charged shall be transparent, fair, easily understood and available to public at all times (9)	
☐	1 (Least impact)
☐	2
☐	3
☐	4 (Most impact)
9. If only one area of improvement can be implemented, which area would you think best to be taken up first to create maximum impact to the customers: A) Improve process and procedure B) Improve in technical standard to increase asset utilization C) Revisit connection cost charged to customers	
Any other improvements initiatives that you would like to comment: 1. 2. 3. 4.	

Appendix H Questionnaire for Online survey

SEB CC Survey

Thank you for agreeing to participate. It will only take a few minutes to complete. All of your answers are private and confidential.

SECTION I: DEMOGRAPHIC INFORMATION

Instruction: Please tick only 1 (one) answer for each of the following questions in this section

*** Plese select the following which best described your company size:**

- ○ <5 employees
- ○ 5 - 20 employees
- ○ 21 - 50 employees
- ○ >50 employees

*** Please select the electricity supply application most submitted for the last two years?**

- ○ Development projects (Housing and shop houses)
- ○ Single premise dwelling units
- ○ Government projects
- ○ Installation of meter only

*** Please select the location your company is based at:**

- ○ Kuching
- ○ Sibu
- ○ Bintulu
- ○ Miri

* **Please select the most common ways you submit your electricity supply application to SEB**

- ○ Hand delivery
- ○ By post

* **Please select the reason for choosing the method of submission of item 4.**

- ○ More convenient
- ○ Reduce the risk of loss of documents
- ○ Application can be processed faster
- ○ Others, please state:

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SECTION II: GENERAL UNDERSTANDING OF SEB CONNECTION CHARGES GUIDELINES

Instruction: Please tick only 1 (one) answer for each of the following questions in this section

*Which of the following are component of SEB connection charges:

I. Capacity charge
II. 33KV development charge
III. LT infrastructure charge
IV. HT cable cost exceeding 1KM

- ○ I, II
- ○ I, II, III
- ○ I, III, IV
- ○ I, II, III, IV

*In the computation of connection charges, the capping of subsidy is limited to:

- ○ 100% of the capacity charge imposed
- ○ 300% of the capacity charge imposed
- ○ 100% of total connection charge imposed
- ○ 300% of LT infrastructure charge imposed

*The subsidy is only applicable to the following group of customers:

I. Housing development projects
II. Shop house development projects
III. Temporary supply application
IV. Single premise application supply connection

- ○ I, II
- ○ II, III
- ○ I, II, IV
- ○ I, II, III, IV

*Which of the following statement best described SEB connection charges:

- ○ All applications for electricity supply above 100KW requires submission by a consultant registered with SEB
- ○ Application with 6 or more dwelling will be considered as development projects
- ○ Capacity charge waiver for low cost housing is up to 3KVA per dwelling
- ○ The minimum assigned load for a semi-detached house is 5KVA

*Waiver of capacity charge is only applicable for the following customers:

I. Government assisted scheme ie low cost housing, rumah bantuan rakyat etc
II. Small and medium industries under the government aided programme
III. Government premises
IV. Temporary supply application

- ○ I, IV
- ○ I, II
- ○ I, II, III
- ○ I, III, IV

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SECTION III: COMMON ISSUES OF SEB CONNECTION CHARGES GUIDELINES

Instruction: Give your opinion from 1 (least concerned) to 4 (most concerned) over unreasonable charging of SEB connection charges guidelines

* **Inconsistent treatment of charging:**

For different category of customer application, the level of subsidy from the company varies.

1 (least concerned)
2
3
4 (most concerned)

* **Inconsistency in the charging:**

For the same scope of work, different stations provide different estimated project cost to the customers.

1 (least concerned)
2
3
4 (most concerned)

* **Difficult to budget for connection charges:**

For the same type of premises, with the same applied load and similar scope of works,

the cost per unit, appeared to be significant different. It is thus difficult for the customer to budget sufficient fund

1 (least concerned)
2
3
4 (most concerned)

* **Positioning of substation:**

It is often that the customer is requested to place a substation at a location inconvenient to the customers.

1 (least concerned)
2
3
4 (most concerned)

* **Paying higher capacity than required/Shard network being funded by developer:**

Customers are charged for paying higher capacity of asset than required

1 (least concerned)
2
3
4 (most concerned)

*Inconsistent charging of shared and dedicated asset:

Some customers pay part of the development cost for a dedicated asset whereas some customers pay full cost for the development of an asset that will be shared between customers.

1 (least concerned)
2
3
4 (most concerned)

*Manipulating of applied load:

In order to reduce the connection charge, the applied load is adjusted to minimize payment

1 (least concerned)
2
3
4 (most concerned)

*Land for substation:

1 (least concerned)
2
3
4 (most concerned)

* **Change of policies/regulations:**

SEB frequent change of policies and regulations without informing the customers

1 (least concerned)
2
3
4 (most concerned)

* **Complexity:**

SEB connection charges guidelines is hard to understand

1 (least concerned)
2
3
4 (most concerned)

* **Channel for appeal:**

There is no proper channel for customers to enquire or to lodge appeal for issue regarding connection charges

1 (least concerned)
2
3
4 (most concerned)

* **Time frames for approvals of application:**

SEB takes a long time to process an application

1 (least concerned)
2
3
4 (most concerned)

* **Inconsistent / Unclear process for assessing application:**

SEB process for assessing application is unclear and inconsistent

1 (least concerned)
2
3
4 (most concerned)

* **Cost increases driven by SEB:**

SEB frequent change of technical standards drive the increase in customer connection cost

1 (least concerned)
2
3
4 (most concerned)

* **No clear guidelines on assisting disadvantaged customer:**

There is no clear guidelines on assisting disadvantaged customers

1 (least concerned)
2
3
4 (most concerned)

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SECTION IV: IMPROVEMENT TO SEB CONNECTION CHARGES GUIDELINES

Instruction: Give your opinion from 1 (least useful) to 4 (most useful) of each improvement initiative to contributing to a more reasonable connection cost

* **The customer will only be charged on the applied load**

1 (least useful)
2
3
4 (most useful)

* **The customer will only be charged based on the asset utilized**

1 (least useful)
2
3
4 (most useful)

*** The rate of charges shall be consistent throughout all the offices in Sarawak**

1 (least useful)
2
3
4 (most useful)

*** Set up of a proper channel for handling of appeal cases**

1 (least useful)
2
3
4 (most useful)

*** Any changes of technical standards/policies shall be notified and a grace period shall be given prior to the changes**

1 (least useful)
2
3
4 (most useful)

*** Improvement and streamline the approval for application process**

1 (least useful)
2
3
4 (most useful)

* **All assets shared by the customers shall be developed and paid by the utilities**

1 (least useful)
2
3
4 (most useful)

* **The connection cost charged shall be transparent, fair, easily understood and available to public at all times**

1 (least useful)
2
3
4 (most useful)

* **If only one area of improvement can be implemented, which area would you think best to be taken up first to create maximum impact to the customers:**

- ○ A) Improve process and procedure
- ○ B) Improve in technical standard to increase asset utilization
- ○ C) Revisit connection cost charged to customers

Any other improvements intitiatives that you would like to comment:

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Finish

Appendix I Validation questionnaire survey (Offline)

Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) 2019 Survey

Research Topic	Towards a Fair and Transparent Distribution System Connection Charge Guidelines for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Nor Raihana Binti Mohd Ali
Company/University	Sarawak Energy Berhad Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia

Dear respondent, the survey consists of three sections and it is aimed to gather feedback and comments with regard to the recently launched Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) 2019. Do kindly fill in the questionnaire below and please contact Ir. Tan Joo Kok (jookok@gmail.com or 0172225035) if you have any query.

SECTION I: DEMOGRAPHIC INFORMATION	
Instruction: Please tick only 1 (one) answer for each of the following questions in this section.	
1. Please select the following which best described your company size:	
☐	< 5 employees
☐	5 – 20 employees
☐	21 – 50 employees
☐	> 50 employees
2. Please select the electricity supply application most submitted for the last two years?	
☐	Development projects (Housing and shop houses)
☐	Single premise dwelling units
☐	Government projects
☐	Installation of meter only
3. Please select the location your company is based at:	
☐	Kuching
☐	Sibu
☐	Bintulu
☐	Miri

SECTION II: GENERAL UNDERSTANDING OF SARAWAK ENERGY BERHAD CONNECTION CHARGE GUIDELINES 2019	
Instruction: Please tick only 1 (one) answer for each of the following questions in this section	
1. Which of the following is not the component of SEBCCG 2019:	
☐	Line capacity charge
☐	33KV development charge
☐	Substation capacity charge
☐	Schedules of rates
2. Waiver of capacity charge is only applicable to the following customer:	
☐	Housing development projects
☐	Shop house development projects
☐	Temporary supply application
☐	Normal single premise application
3. Which of the following statement best described SEBCCG 2019:	
☐	All applications for electricity supply above 100KW require submission by a consultant registered with SEB.
☐	Application with 6 or more dwelling will be considered as development projects.
☐	Capacity charge waiver for low cost housing is up to 3KVA per dwelling.
☐	The minimum assigned load for a semi-detached house is 5KVA.
4. Which of the following statement is true about SEBCCG 2019:	
☐	Customer can choose to pay RM500/KVA capacity charge or substation capacity charge of RM445/KVA.
☐	Line capacity charge is RM30/KVA.
☐	Government assisted scheme will enjoy total waiver of connection charge.
☐	Temporary supply application will only pay substation capacity charge.

SECTION III: IMPROVEMENT TO SEB CONNECTION CHARGE GUIDELINES 2019	
Instruction: State your opinion on SEBCCG 2019 that contributes to fair and transparent connection cost.	
1. The splitting of capacity charge to three different components ensures customers will only be charged based on asset utilized.	
☐	1 (Strongly disagree)
☐	2 (Disagree)
☐	3 (Somewhat agree)
☐	4 (Agree)
☐	5 (Strongly agree)
2. The capacity charge is now calculated based on the applied load, no longer using the categories of customers as the basis.	
☐	1 (Strongly disagree)
☐	2 (Disagree)
☐	3 (Somewhat agree)
☐	4 (Agree)
☐	5 (Strongly agree)
3. Introduction of schedule of rates provides more clarity and transparency to customers on the computation of connection cost.	
☐	1 (Strongly disagree)
☐	2 (Disagree)
☐	3 (Somewhat agree)
☐	4 (Agree)
☐	5 (Strongly agree)
4. The current SEBCCG 2019 has reduced the total connection cost imposed on most customers compared to SEBCCG 2008.	
☐	1 (Strongly disagree)
☐	2 (Disagree)
☐	3 (Somewhat agree)
☐	4 (Agree)
☐	5 (Strongly agree)
5. The current SEBCCG 2019 has provided more transparency, clarity and consistency on connection cost imposed on customers compared to SEBCCG 2008.	
☐	1 (Strongly disagree)
☐	2 (Disagree)
☐	3 (Somewhat agree)
☐	4 (Agree)
☐	5 (Strongly agree)

Thank you for your patience. Kindly leave your signature and company stamp. All information shall remain confidential.

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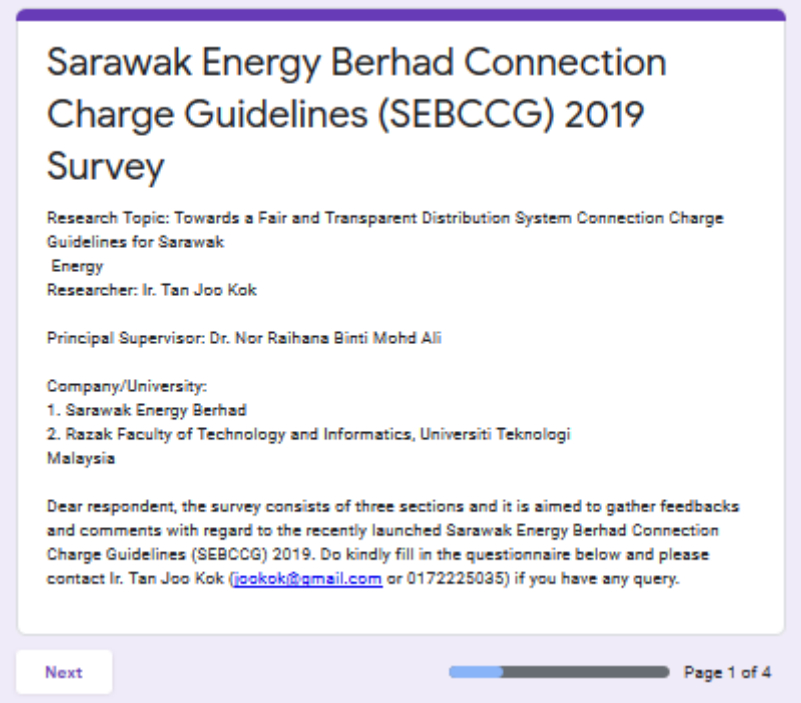
Appendix J Validation questionnaire survey (Online)



Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) 2019 Survey

Research Topic: Towards a Fair and Transparent Distribution System Connection Charge Guidelines for Sarawak Energy

Researcher: Ir. Tan Joo Kok

Principal Supervisor: Dr. Nor Raihana Binti Mohd Ali

Company/University:
1. Sarawak Energy Berhad
2. Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia

Dear respondent, the survey consists of three sections and it is aimed to gather feedbacks and comments with regard to the recently launched Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) 2019. Do kindly fill in the questionnaire below and please contact Ir. Tan Joo Kok (jookok@gmail.com or 0172225035) if you have any query.

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Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) 2019 Survey

* Required

Section I: Demographic Information

Instruction: Please tick only 1 (one) answer for each of the following questions in this section.

Please select the following which best described your company size: *

- ◯ < 5 employees
- ◯ 5 - 20 employees
- ◯ 21 - 50 employees
- ◯ > 50 employees

Please select the electricity supply application most submitted for the last two years?

- ◯ Development projects (Housing and shophouses)
- ◯ Single premise dwelling units
- ◯ Government projects
- ◯ Installation of meter only

Please select the location your company is based at:

- ◯ Kuching
- ◯ Sibu
- ◯ Bintulu
- ◯ Miri

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Section II: General Understanding of SEB Connection Charge Guidelines 2019

Instruction: Please tick only 1 (one) answer for each of the following questions in this section

Which of the following are not the component of SEBCCG 2019:

- ◯ Line capacity charge
- ◯ 33KV development charge
- ◯ Substation capacity charge
- ◯ Schedule of rates

Waiver of capacity charge is only applicable to the following customer:

- ◯ Housing development projects
- ◯ Shop house development projects
- ◯ Temporary supply application
- ◯ Normal single premise application

Which of the following statement best described SEBCCG 2019:

- ◯ All applications for electricity supply above 100KW require submission by a consultant registered with SEB.
- ◯ Application with 6 or more dwelling will be considered as development projects.
- ◯ Capacity charge waiver for low cost housing is up to 3KVA per dwelling.
- ◯ The minimum assigned load for a semi-detached house is 5KVA.

Which of the following statement is true about SEBCCG 2019:

- ◯ Customer can choose to pay RM500/KVA capacity charge or substation capacity charge of RM445/KVA.
- ◯ Line capacity charge is RM30/KVA.
- ◯ Government assisted scheme will enjoy total waiver of connection charge.
- ◯ Temporary supply application will only pay substation capacity charge.

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SECTION III: IMPROVEMENT TO SEB CONNECTION CHARGE GUIDELINES 2019

Instruction: State your opinion on SEBCCG 2019 that contributes to fair and transparent connection cost.

The splitting of capacity charge to three different components ensures customers will only be charged based on asset utilized.

- ◯ 1 (Strong disagree)
- ◯ 2 (Disagree)
- ◯ 3 (Somewhat agree)
- ◯ 4 (Agree)
- ◯ 5 (Strongly agree)

The capacity charge is now calculated based on the applied load, no longer using the categories of customer as the basis.

- ◯ 1 (Strong disagree)
- ◯ 2 (Disagree)
- ◯ 3 (Somewhat agree)
- ◯ 4 (Agree)
- ◯ 5 (Strongly agree)

Introduction of schedule of rates provides more clarity and transparency to customers on the computation of connection cost.

- ◯ 1 (Strong disagree)
- ◯ 2 (Disagree)
- ◯ 3 (Somewhat agree)
- ◯ 4 (Agree)
- ◯ 5 (Strongly agree)

The current SEBCCG 2019 has reduced the total connection cost imposed on most customers compared to SEBCCG 2008.

- ◯ 1 (Strong disagree)
- ◯ 2 (Disagree)
- ◯ 3 (Somewhat agree)
- ◯ 4 (Agree)
- ◯ 5 (Strongly agree)

The current SEBCCG 2019 has provided more transparency, clarity and consistency on connection cost imposed on customers compared to SEBCCG 2008

- ◯ 1 (Strong disagree)
- ◯ 2 (Disagree)
- ◯ 3 (Somewhat agree)
- ◯ 4 (Agree)
- ◯ 5 (Strongly agree)

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Appendix K The profile of the participants for Delphi survey

Label	Years of experiences in SEBCCG	Age	FGD Session	Representing Agencies	Highest Qualification Held
P01	3	32	Kuching	Ministry of Housing Sarawak	Degree
P02	3	36	Kuching	Ministry of Housing Sarawak	Certificate
P03	8	42	Kuching	SHEDA	Degree
P04	8	55	Kuching	SHEDA	Certificate
P05	8	55	Kuching	MID	Degree
P06	8	40	Kuching	MID	Degree
P07	8	60	Kuching	ACEM	Degree
P08	8	52	Kuching	ACEM	Degree
P09	8	51	Kuching	ACEM	Degree
P10	3	28	Sibu	Ministry of Housing Sarawak	Certificate
P11	6	40	Sibu	Ministry of Housing Sarawak	Diploma
P12	7	38	Sibu	SHEDA	Diploma
P13	4	44	Sibu	SHEDA	Certificate
P14	3	32	Sibu	MID	Diploma
P15	8	50	Sibu	MID	Certificate
P16	8	40	Sibu	ACEM	Degree
P17	6	38	Sibu	ACEM	Degree
P18	4	55	Sibu	ACEM	Degree
P19	3	28	Bintulu	Ministry of Housing Sarawak	Degree
P20	3	30	Bintulu	Ministry of Housing Sarawak	Certificate
P21	8	57	Bintulu	SHEDA	Diploma
P22	8	42	Bintulu	SHEDA	Diploma
P23	8	50	Bintulu	MID	Diploma
P24	4	40	Bintulu	MID	Certificate
P25	4	38	Bintulu	ACEM	Degree
P26	8	55	Bintulu	ACEM	Degree
P27	3	28	Bintulu	ACEM	Degree
P28	3	30	Miri	Ministry of Housing Sarawak	Certificate
P29	6	57	Miri	Ministry of Housing Sarawak	Certificate
P30	8	41	Miri	SHEDA	Degree
P31	8	50	Miri	SHEDA	Diploma
P32	4	40	Miri	MID	Certificate
P33	3	38	Miri	MID	Diploma
P34	8	45	Miri	ACEM	Degree
P35	5	37	Miri	ACEM	Degree
P36	5	45	Miri	ACEM	Degree

Appendix L Sample submission of R2 and R3 questionnaire form for Delphi Survey

Delphi Questionnaire Round Two (R2)

Research Topic	Fair and Transparent Distribution System Supply Connection Pricing Model for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Norzaida Abbas
Company/University	Sarawak Energy Berhad / Razak School of Engineering & Advanced Technology, Universiti Teknologi Malaysia

Thank you for your contribution to the first round (R1) of this Delphi Survey. The issues/concerns raised were consolidated and themed into three categories: Pricing Structure, Processes and Procedures and Technical Standard.

The main objective of this round is to have you rate the issues raised in the order of least concern to most concern.

This round also consolidated all elements for improvement to SEBCCG and to have you rate the in the order of least useful to most useful to mitigate the current issue raised.

Instructions

Section A:

1. Please review the consolidated concerns raised on each item and comment on each item if you wish; then

2. Give your opinion from 1 (least concern) to 4 (Most concern).

Section B:

1. Please review the consolidated improvement proposals raised and comment on each item if you wish; then

2. Give your opinion from 1 (least useful) to 4 (most useful) to rate its usefulness on mitigate the current issues raised in Section A.

Return your response to jookok@gmail.com **by 31 Aug 2016.**

Section 1:

A total of fifteen (15) issues consolidated from R1 of Delphi Survey through engagement. Please RATE as MOST concern (4) to LEAST concern (1).

Categories	Description	Rate	Comments
Pricing Methodology	**Inconsistency in the charging:** The connecting cost varies from station to station with the same scope of work or connecting to same number of living units	4	
	Difficult to budget for connection charges: The connection cost per living unit come out to different values. This makes it difficult for developers to budget for connection cost.	3	
	No clear guidelines on assisting disadvantaged customer: Disadvantaged customers pay high connection cost to be connected to SEB network	3	
	Inconsistent treatment of charging: Different customers applying for the same energy demand but was charged differently	4	
	Inconsistent charging of shared and dedicated asset: Some customers pay full cost of the network development whilst some customers pay portion of the network construction cost	3	
	Manipulating of applied load: SEB connection charging policies allow for customers to pay less when applying for higher energy demand	2	
	Different customers make different contribution to shared HT System Development (11KV and below): RM500/KVA is imposed on all customers regardless of if any augmentation is required on HT system	3	
Process and Procedures	**Channel for appeal:** There is no proper contact to lodge a complaint on any "high" connecting cost imposed by the company	2	
	Time frames for approvals of application: Typical application for electricity supply takes a long time, typically up to 6 months.	3	
	Inconsistent / Unclear process for assessing application: For any application, there is no clear guidelines on how the company assesses an application.	2	

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	Complexity and transparency: Clients are in the opinion that SESCO connection charges guidelines are being too complex and not transparent to the customers	2	
	Change of Policies/Regulations: SEB often changes policies without giving adequate lead time for implementation makes for an uncertain market to the developer	3	
Technical Standard	**Cost increases driven by SEB:** The price of connecting customers to electricity has been going up over time and it is due to change of SEB policy on electrical designs	2	
	Land for substation: The land required or constructing distribution substation and zone substation affect the overall project development cost	3	
	Positioning of substation: Developer is often requested to position the substation at a prime location within a development which significantly taken up the opportunity cost of the whole development.	3	

Section 2:

A total of eight elements for improvement consolidated from R1 of Delphi Survey through engagement. Please RATE as MOST useful (4) to LEAST useful (1) on mitigating the issue raised in Section 1.

Item	Description (Elements for improvement)	Rate	Comments
1	Consistent rate of charges throughout the company	4	
2	Customer shall only be charged based on asset utilized	4	
3	Customer shall only be charged based on the applied load	4	
4	Connection charge shall be transparent, fair and simple to understand	3	
5	Shared and dedicated asset to be clearly identified	3	
6	Proper procedures for changes of technical standards and policies	3	
7	Channel for appeal	2	
8	Enhance approval for application process	3	

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Delphi Questionnaire Round Three (R3)

Research Topic	Fair and Transparent Distribution System Supply Connection Pricing Model for Sarawak Energy
Researcher	Ir. Tan Joo Kok
Principal Supervisor	Dr. Norzaida Abbas
Company/University	Sarawak Energy Berhad / Răzak School of Engineering & Advanced Technology, Universiti Teknologi Malaysia

Thank you for your contributions to the second round of this Dephi survey. This is the final round of Delphi survey and it summarized all the responses from round one and round two. Please review the compiled results and do feel free to comment if any.

Section 1: Most concerned issues

A total of 15 issues on SEBCCG as derived from stakeholder engagements in Round 1 of the Delphi survey. These can be summarized under three categories: Pricing structure, policies and procedures as well as technical standards.

In the second round of Delphi survey, the aim is to request the participants to rate the most concerned issues. The findings are as summarized in table 1.

Section 2: Elements for improvement

A total of 8 elements for improvement for SEBCCG was derived from stakeholder engagements in Round 1 of the Delphi survey. These can be summarized under three categories: Pricing structure, policies and procedures as well as technical standards.

In the second round of Delphi survey, the aim is to request the participants to rate the usefulness of each elements for improvement. The findings are as summarized in table 2.

Section 1: Ranking of concerns/issues raised

The ranking of the main concerns that would contribute to most impact to high connection cost is shown in table below.

Ranking	Description
1	**Inconsistent treatment of charging:** Different customers applying for the same energy demand but was charged differently
2	**Inconsistency in the charging:** The connecting cost varies from station to station with the same scope of work or connecting to same number of living units
3	**Difficult to budget for connection charges:** The connection cost per living unit come out to different values. This makes it difficult for developers to budget for connection cost.
4	**Positioning of substation:** Developer is often requested to position the substation at a prime location within a development which significantly taken up the opportunity cost of the whole development.
5	**Paying higher capacity than required / Shared network being funded by developer:** Developers were asked to bear all the cost of constructing the network that may have higher capacity than required by the development, possibly to service other development
6	**Inconsistent charging of shared and dedicated asset:** Some customers pay full cost of the network development whilst some customers pay portion of the network construction cost
7	**Manipulating of applied load:** SEB connection charging policies allow for customers to pay less when applying for higher energy demand
8	**Land for substation:** The land required or constructing distribution substation and zone substation affect the overall project development cost
9	**Change of Policies/Regulations:** SEB often changes policies without giving adequate lead time for implementation makes for an uncertain market to the developer
10	**Complexity:** Clients are in the opinion that SESCO connection charges guidelines are being too complex
11	**Channel for appeal:** There is no proper contact to lodge a complaint on any "high" connecting cost imposed by the company
12	**Time frames for approvals of application:** Typical application for electricity supply takes a long time, typically up to 6 months.
13	**Inconsistent / Unclear process for assessing application:** For any application, there is no clear guidelines on how the company assesses an application.
14	**Cost increases driven by SEB:** The price of connecting customers to electricity has been going up over time and it is due to change of SEB policy on electrical designs
15	**No clear guidelines on assisting disadvantaged customer:** Disadvantaged customers pay high connection cost to be connected to SEB network

Do you agree or disagree on the above ranking? If you have any further comment, please note your objections/comments here.

Agreed.

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Section 2: Ranking of elements for improvement

The ranking of elements for improvement that would be most useful to mitigate issues raised in section 1.

Rank	Description
1	Standardized schedule of rates and to be consistent
2	Customers shall only be charged based on asset utilized
3	Customers only pay for what they apply for
4	Simpler, transparent and fair charging concept to be introduced
5	Customer requires dedicated assets should pay the whole cost of construction whereas shared assets shall be shared among groups of customers
6	All relevant technical standard shall be spelt out in proper documentation for ease of stakeholders' references
7	A specific department to handle customer complaint for application of electricity
8	Enhance application of electricity supply process and procedures

Do you agree or disagree on the above ranking? If you have any further comment, please note your objections/comments here.

Agreed.

Thank you very much for your kind support!

Appendix M Letter of acceptance and appreciation of study from Sarawak Energy Berhad

Syarikat SESCO Berhad (672931-A)
A Subsidiary of Sarawak Energy Berhad

sarawak energy

Tan Joo Kok
Regional Manager,
Northern Region,
Jln Pujut 1, 98000 Miri,
Sarawak.

Dear Mr. Tan Joo Kok,

Launching of Sarawak Energy Berhad Connection Charge Guidelines 2019

With reference to the above matter, we would like to congratulate you on the completion of the Sarawak Energy Berhad Connection Charge Guidelines (SEBCCG) study. We acknowledged the submission of your findings on the key deficiencies and elements for improvements of SEBCCG as per detailed in appendix A.

All the identified elements for improvement have been forwarded to the relevant department for further action and we are pleased to inform you that the key elements for improvement under pricing structure category has been incorporated in the enhanced version of SEBCCG 2019 launched in March 2019. The calculation of relevant charges is based on weight average mean as per recommended in your study.

Please do take note that all information provided by the company for your study is deemed to be restricted documents and shall not be disclosed openly to the public.

We would like to thank you for your contribution in the SEBCCG revision exercise and we look forward to your further collaboration with our division.

Yours Faithfully,

Chiong Ching Ping
Sr. Manager (Distribution Planning and Services)
Distribution Department, Sarawak Energy Berhad

Appendix A:

Categories	*Sub-category*	*Descriptions*
Pricing structure	Inconsistent treatment of applied load	Inconsistent treatment of charging Manipulating of applied load
	Non-differentiation of shared and dedicated asset	Inconsistent charging of shared and dedicated asset Different customers make different contribution to shared HT System Development
	Variation in HT/LT charges across regions	Inconsistency in the charging Complexity and transparency Difficult to budget for connection charge
Processes and procedures	*Not applicable*	Inconsistent / Unclear process for assessing application Time frames for approvals of application Channel for appeal No clear guidelines on assisting disadvantaged customer
Technical standard	*Not applicable*	Cost increases driven by SEB Positioning of substation Change of Policies/Regulations Land for Substation

Table 1. Key deficiencies of SEBCCG identified

Categories	*Sub-category*	*Descriptions*
Pricing structure	Load requirement	Customer shall only be charged based on the applied load
	Asset Utilization	Customer shall only be charged based on asset utilized Shared and dedicated asset to be clearly identified
	Transparency and consistency	Consistent rate of charges throughout the company Connection charge shall be transparent, fair and simple to understand
Processes and procedures	*Not applicable*	Enhance approval for application process Channel for appeal
Technical standard	*Not applicable*	Proper procedures for changes of technical standards and policies

Table 2. Key elements for improvement of SEBCCG identified

Key Elements for Improvement	*Descriptions*
Load requirement	Cancellation of 300% subsidy rules on different categories of customer and revised amount of capacity charge per KVA All components are charged based on per KVA basis
Asset Utilization	Introduction of shared and dedicated asset Introduction of different components of capacity charge ie Line capacity charge and substation capacity charge
Transparency and consistency	Introduction of schedule of rate

Table 3. Key elements for improvement incorporated to SEBCCG 2019

Appendix N Sarawak Energy Connection Charge Guidelines 2008

NEW CONNECTION CHARGE GUIDELINES 2008 (rev.2)

A. GENERAL

The New Connection Charge Guidelines 2008 (rev.1) is revised to streamlines the calculation of connection charge for connection of electricity supply to SESCO system up to 33,000 volts overhead lines. All applications for connection of electricity supply shall apply this revised guideline with immediate effect.

The revision is also done in the spirit of equity to the owner of the premises. All relevant memorandum, addendum and revision released in relation to the New Connection Charge Guidelines 2008 (rev.1) shall be superseded with immediate effect.

B. DEFINITIONS

"Actual Cost" means the estimated cost to be incurred by SESCO as generated through SAP PS (Project System) module based on bill of quantities.

"Connection" means the electrical connection between SESCO's existing power system and SESCO's meter point at customer's premises. For all connection of supply, SESCO has the sole discretion to decide on the point of connection and whether to use overhead or underground network systems.

"Connection Charge" means the amount required to be paid by customer who requires new connection or increase supply of electricity.

"Capacity Charge" means the charge a customer has to pay for the development of HT system regardless there is HT installation works.

"Low Tension Charge" means the charge a customer has to pay for the development of LT system. It is necessary for all low tension installation works that include **underground, overhead lines, pillars, street lighting and services** that are required for connection of electricity supply to the development.

"Customer" means any applicant including developer, consultant, contractor and any other person who has the interest to obtain electricity supply from SESCO.

"LT" means low tension voltage at 415 volt (V).

"HT" means high tension voltage at 11 and 33 kilovolt (kV).

"O/H, U/G" mean overhead, underground respectively.

"kV, kVA" mean kilovolt, kilovolt-ampere respectively.

"Premises" means any conventional house, building or other erection and the land legally occupied or used in connection therewith, being under one ownership, occupation or management.

"RES" means Rural Electrification Scheme funded by the Federal Government.

"Single-phase supply" means supply provided by one live and one neutral wires with voltage level of 240V.

"Three phase supply" means supply provided by three live and one neutral wires with voltage level of 415V.

"Turnkey Project" means project undertaken by customer at his own cost for all the installation works, designed or approved by SESCO, necessary for the connection of his load to SESCO's supply system at a point decided by SESCO.

C. CATEGORY OF PREMISES

Under this new guidelines premises will be categorized as follows:-

1. **Housing**
Residential premises consisting of 2 units or more and multi floor residential flat, apartment or condominium.

2. **Single Premises**
Single premises is individual house built in urban or rural areas or resettlement areas, large mansion or villa. Include longhouses, rumah mesra rakyat, rumah mampu milik, rancangan perumahan rakyat, projek bantuan rumah.

3. **Shophouse**
Shophouse is multi-storey premises built normally with its ground floor for commercial and the other floor for office or domestic usage.

4. **Industrial and Other Premises**
Industrial and other premises built for commercial or business purpose likes agricultural farm, bakery, car dealer, carpentry workshop, cineplex, clubhouse, cold storage, garage workshop, petrol station, restaurant, mini market, supermarket, showroom, store and warehouse, transmitting station, multi-storey car park, park, multi-storey office building, community and religious premises etc. and the list is not exhaustive.

5. **Government Premises and Projects**
Premises built and paid by government agencies likes school, hospital, sport complex, museum, water works, library, exhibition hall, multipurpose hall, convention centre, airport, road construction, drainage, dam, flood mitigation, street lighting, hawker/food stall and market under council's administration, etc. and the list is not exhaustive.

6. **Temporary Premises**
Premises built normally as site office. Connection of supply to the premises shall be for a maximum period of three (3) years.

D. CONNECTION CHARGES

1. Category (1) and (3)

The Connection Charges equals **Capacity Charge** plus **Low Tension Charge.**

The charge is applicable for development that requires not more than **1000 m of HT underground cable or 20 pole-spans of HT overhead line** to connect to the nearest point of connection decided by SESCO based on current planning criteria.

For those premises outside the **1000 m of underground cable or 20 poles span of overhead lines** electrical distance from available existing network measured along the official road reserve boundary, **additional HT mains charge** for underground cable on per metre basis or overhead line on per pole span basis as shown in **Table 1** will be added to the Connection Charges.

Additional HT Mains Charge	Electrical Distance	Rate in RM
HT Underground cable	1,000 m to 2,000 m	100/m
	> 2,000 m	200/m
HT Overhead line	> 20 pole span	10,000/pole span

Table 1. Rate of HT Underground cable and HT Overhead line

2. Category (2) and (4)

The Connection Charges equals **Capacity Charge** plus **Low Tension Charge.**

The charge is applicable where **HT Actual Cost** does not exceed **300% of the Capacity Charge**.

If **HT Actual Costs** exceed **300% of the Capacity Charge** the Connection Charges equals **Capacity Charge** plus **Low Tension Charge** plus **additional cost** beyond the **300% of the Capacity Charge.**

3. Category (5) and (6)

The Connection Charges equals **HT Actual Cost** plus **Low Tension Charge**

Where supply is connected on temporary basis, the return of major materials (Transformer, Switchgear and Pillar) to SESCO store within the 3 years period shall be considered for refund at the prevailing value of the materials returned. No refund shall be allowed after 3 years from date of commissioning of transformer.

E. METER FEES

Meter fees may be included in the connection charge or bill separately. Cost of various types of single-phase and three-phase meters and other necessary equipment, if included, will be charge as per rates tabulated in **Appendix 1**.

All unit rates in the table do not include installation costs. These will be charged separately if applicable

F. TURNKEY PROJECTS

Customers and Developers are allowed to undertake the construction of **HT and/or LT installation works on turnkey basis**. Customers and Developers who undertake the construction works on turnkey basis shall bear the full cost of the works required to connect

his load to the existing network at a point to be determined by SESCO. Meter fees will be payable to SESCO as in **Appendix 1**.

Temporary supply shall not be allowed under turnkey basis.

Customers and Developers who undertake the construction works on turnkey basis for **LT installation works only will still be charged the Capacity Charge.**

As part of SESCO's statutory function to secure electricity supply to all its customers in the most economical manner possible, SESCO has the full right to make use of the land, site or space if so provided under **turnkey projects**, for electricity supply in and around the area. Substation site provided shall be alienated to SESCO free of charge.

G. TECHNICAL DEVELOPMENT POLICY

The developer shall consult SESCO regarding substation site requirement before submission of subdivision plan to Land and Survey Department for all types of development.

With the rule of thumb a substation is required under the following conditions:-

(i) Development size of 30 units or more premises
(ii) The maximum distance of LT pole-span from substation is 15 pole-spans
(iii) Development with a transformer size of 160 kVA and above
(iv) One substation for every 200 units and part thereof

H. DECLARATION OF CAPACITY

Developments that are found to have **grossly under-declared** their capacity requirement shall be charged **additional capacity charge 200% of the standard rate per kVA for the undeclared capacity. However there shall be no refund for unrealized load.**

I. ASSIGNED LOAD FOR SINGLE-PHASE ELECTRICITY SUPPLY

The assigned load for the various premises is as follows:-

Housing Premises	Assigned Load
Detached Double Storey House	5 kVA
Detached Single Storey House	4 kVA
Semi-Detached Double Storey House	4 kVA
Semi-Detached Single Storey House	3 kVA
Terrace Double Storey House	3 kVA
Terrace Single Storey House	2 kVA
Barrack	2 kVA
Low Cost Plus House/Flat - government approved and stated in building plan	2 kVA
Low Cost House/Flat - government approved and stated in building plan	1.5 kVA
Condominium/Apartment > 3 Bedroom Unit-Floor	5 kVA
Condominium/Apartment ≤ 3 Bedroom Unit-Floor	4 kVA

Table 2. Assigned load for Housing Premises

Shophouse, Industrial and Other Premises	Assigned Load
Shophouse Commercial Unit-Floor**	5 kVA
Shophouse Office Unit-Floor**	3 kVA
Shophouse Residential Unit-Floor	3 kVA
Multi-storey Office Unit-Floor**	3 kVA
Light Industrial Commercial Unit-Floor**	10 kVA
Religious Premises/Community hall > 200 m^2 floor area**	5 kVA
Religious Premises/Community hall ≤ 200 m^2 floor area**	3 kVA
Lockup/Hawker/Food stall**	2 kVA
Others*	not applicable

Table 3. Assigned load for Shophouse, Industrial and Other Premises

Single Premises	Assigned Load
Kampung Concrete House and others > 220 m^2 floor area	5 kVA
Kampung Concrete House > 165 m^2 and ≤ 220 m^2 floor area	4 kVA
Kampung Concrete House ≤ 165 m^2 floor area	3 kVA
Kampung Semi-Concrete/Wooden House > 165 m^2 floor area	2 kVA
Kampung Semi-Concrete/Wooden House ≤ 165 m^2 floor area	1.5 kVA
Longhouse Concrete	1.5 kVA
Longhouse Semi-Concrete/Wooden	1 kVA
Rumah Mesra Rakyat/Rumah Mampu Milik/Rancangan Perumahan Rakyat/ Projek Bantuan Rumah	1.5 kVA
Rakyat Termiskin - registered with government agencies	1 kVA

Table 4. Assigned load for Single Premises

Note:-
1. *Shall be based on applied load (total connected load).
2. **Shall be based on assigned or applied load (total connected load) whichever is higher.
3. Domestic premises application for 3-phase supply with total connected load of less than 20kVA shall be based on assigned load. Above 20kVA shall be based on applied load (total connected load)

J. CONNECTION CHARGE RATE

The approved rate for the various premises is as follows:-

1. **Capacity Charge** at **RM500/- per KVA**
2. **Low Tension Charge** at **Actual cost**
3. A **50% discount** on the **Capacity Charge** for Government Low Cost Plus House
4. **Waiver** on the **Capacity Charge** for Rakyat Termiskin, Projek Bantuan Rumah, Longhouse, Kampung House, Rumah Mesra Rakyat, Rumah Mampu Milik, Rancangan Perumahan Rakyat, Government Low Cost House and existing Resettlement Scheme area, provided the assigned load does not exceed 1.5KVA.

APPENDIX 1

STANDARD RATES FOR METER FEES

Item	Description	Unit Rate (RM)
1	Single phase whole current kWh meter for RES, Resettlement Scheme and Low Cost Housing customers	70
2	Single phase whole current kWh meter	150
3	Three phase whole current kWh meter	500
4	CT-operated kWh/kVarh meter for normal low voltage applications where the applied load is ≤ 1,000kVA	1,570
5	PT/CT-operated kWh/kVarh + MD meter (Class 0.5s) for normal high voltage applications and/or applications requiring summation function where the applied load is < 5,000kVA	2,060
6	PT/CT-operated kWh/kVarh + MD meter (Class 0.2s) for normal high voltage applications and/or applications requiring summation function where the applied load is ≥ 5,000kVA	8,000
6	Low voltage current transformers (CTs) with available ratios: 200/5, 400/5, 800/5, 1200/5, 1600/5 & 2000/5 (set of 3)	300
7	Test terminal block for CT & PT/CT installations, complete with voltage fuse carriers	300
8	Metal meter cabinet - for single phase meter	180
9	Metal meter cabinet - for three phase meter	220
10	60A Service Cutout	36
11	100A Service Cutout	38
12	Neutral Link	10

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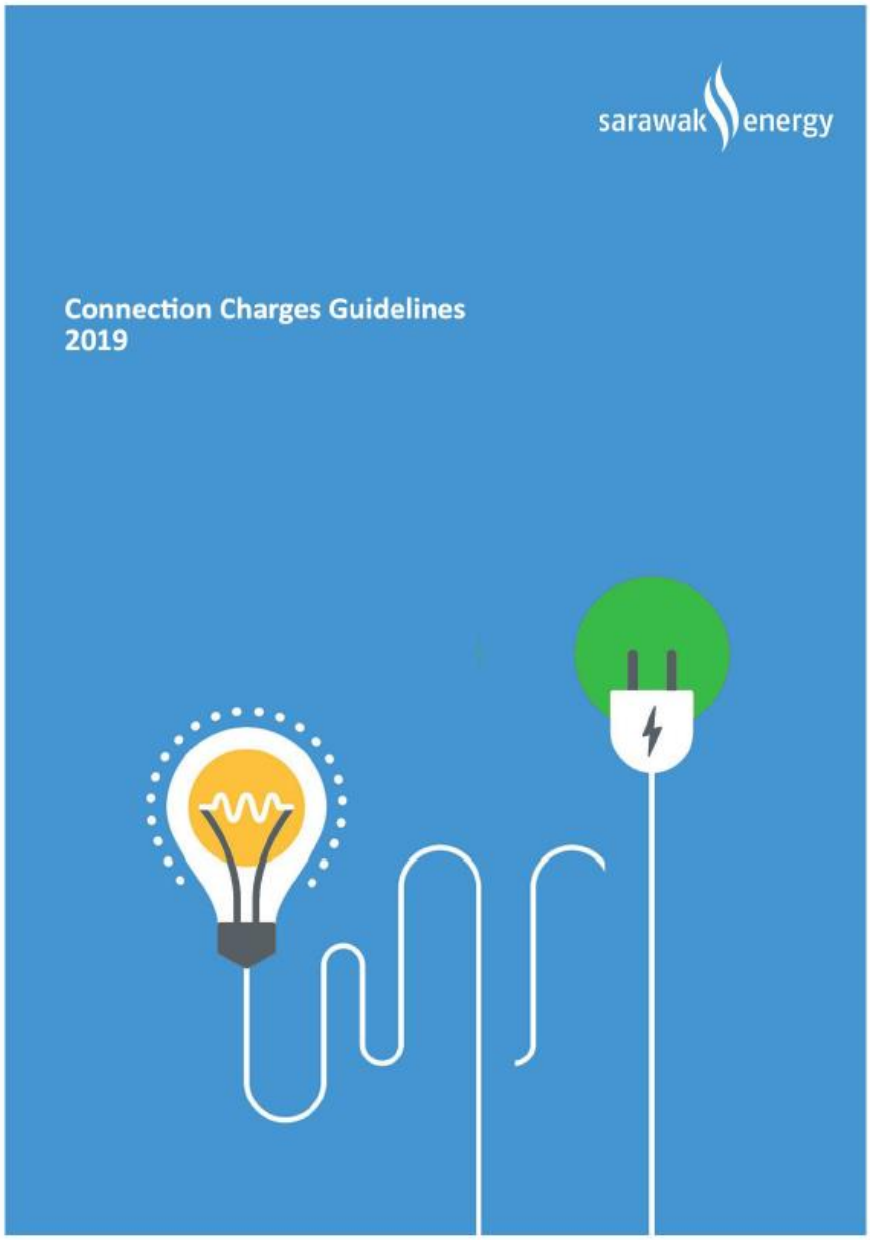
Appendix O Sarawak Energy Berhad Connection Charge Guidelines 2019



GENERAL

Syarikat SESCO Berhad (SESCO) is an electricity utility licensee responsible for the generation, transmission, distribution and retail of electricity in Sarawak. SESCO is wholly-owned by Sarawak Energy Berhad (SEB).

This document provides guidelines for customers to apply for electricity and the appropriate charges under which customers may obtain new or altered connection from the Grid System. It contains the Connection Charging Methodology and the Schedule of Rates and may be revised subject to the approval of the Minister.

This document has been prepared in accordance with the requirements of the License issued under the Electricity Ordinance 2007 and any subsequent amendments and additions thereof.

This Connection Charges Guidelines 2019 supersedes all earlier Connection Charges Guidelines.

CUSTOMER COMPLAINTS FOR SUPPLY CONNECTION

Complaints related to the supply connections and the charges and handling of electricity supply application are to be referred to SESCO office where the application is made i.e. Divisional, Regional or Departmental Office. If the complaints were not resolved to the complainant's satisfaction, the customer may refer the complaints to the Connection Policy Ombudsman either:

i. by writing to:
   Connection Policy Ombudsman
   CEO's Office (Syarikat SESCO Berhad)
   Menara Sarawak Energy
   No. 1, The Isthmus
   93050 Kuching, Sarawak
   MALAYSIA
   Telephone No.: 082-388388

or

ii. by e-mail to:
   ombudsman@sarawakenergy.com.my

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1. DEFINITIONS

"33kV Asset" means 33/11kV Distribution Zone Substation and 33kV distribution backbone line or cable (otherwise referred to as sub-transmission 33kV)

"Active Power" means the real or actual power to perform useful work by the equipment and. Active power is measured in kilowatt (kW), megawatt (MW) etc.

"Apparent Power" means the voltage on an alternating current system multiplied by all the current that flows in it. Apparent power is measured in volt-ampere (VA), kilo volt-amperes (kVA) etc.

"Applied Load" means the Maximum Demand in unit of kVA as declared by the customer during supply application

"Assigned Load" means demand in unit of kVA of an individual premise for the types as listed in Section 5

"Company" means Syarikat SESCO Berhad

"Connection" means the electrical connection between SESCO existing power system and meter point at Customer's premises. For all connection of supply, the connection point will be decided by SESCO based on the least cost technical design (LCTD) and in compliance with the State Grid Code and any other requirements imposed upon SESCO by other Authorities such as Local Councils.

"Connection Charge" means the amount required to be paid by customer who requires new connection or alter (increase or reduce) supply of electricity

"Customer" means an individual, developer, Consultant, Contractor and/ or any other person who applies for electricity supply

"Demand" means the apparent power demand in unit of kilo volt-ampere (kVA), unless otherwise stated, at any particular time or during a time period. See also "Apparent Power" and "Maximum Demand"

"Distribution Substation" means a substation that provides the final of voltage transformation from High Voltage to lower voltage, up to the level to be used by. This includes 33/.240kV, 11/.240kV, 33/.433kV, 11/.433kV and small 33/11kV substations (typically single transformer of capacity lower than 5MVA)

"Distribution System" means the electrical system voltage of 33kV and lower

"Distribution Zone Substation" means major 33/11kV substation (typically of two or more transformers of capacity 5MVA or higher)

"Electric Power" is the rate at which electric energy is transferred. Also referred to as "Wattage"

"High Tension" refers to conductors, equipment or structures subjected to carrying, or capable of operating at a high voltage

"High Voltage" means distribution network nominal voltage at 11kV and 33kV

"Load" means electrical load in unit of kVA

"Low Tension" refers to conductors, equipment or structures subjected to carrying, or capable of operating at low voltage

"Low Voltage" means distribution nominal voltage at 240V and 415V.

"Maximum Demand" means the maximum value of apparent power demand in unit of kilo volt-ampere (kVA), unless otherwise stated, at any particular time or during a time period.

"Overhead line" means a structure which consists of aerial conductors, suspended by poles or towers, to transmit and distribute electrical energy.

"Premise" means houses, building or other erection and the land legally occupied or used in connection therewith, being under one ownership, occupation or management

"Reactive Power" means the power that magnetic equipment (transformer, motor and relay) needs to produce the magnetizing flux. Reactive power is measured in kilo volt ampere reactive (kVAR)

"RES" means Rural Electrification Scheme funded by the Government

"Total Connected Load" means the electrical load in unit of kVA, unless otherwise stated, that is or to be connected to the supply source.

"Underground cable" means a single or multiple conductor cables laid below earth surface, either directly buried or in conduit for the purpose of transmitting and distributing electrical energy. Underground cable may be installed above ground, typically for connections to equipment and poles.

"Voltage" refers to the potential difference in charge between two points in an electrical field. Voltage is measured in Volt (V), kilovolt (kV) etc.

2. SUPPLY VOLTAGES AND CATEGORIES

2.1. SUPPLY VOLTAGE FROM DISTRIBUTION SYSTEM

Customer may apply service connection at the following supply voltages:

a. Low Voltage (Single phase) 240V (+5% and -10%);
b. Low Voltage (Three phase) 415V (+5% and -10%);
c. High Voltage 11kV (±5%); and
d. High Voltage 33kV (±5%).

2.2. CATEGORIES

Connection Charging Methodology are based on types of premises, which are classified into four (4) categories. Category 1, 2 and 3 are for permanent supply while Category 4 is for temporary supply.

Category 1 – Individual (Residential)

This category refers to:

a. individual houses and longhouses in urban or rural areas;
b. individual houses and longhouses under Government-assisted program; and
c. residential development of less than five (5) units of houses with loading less than 2kVA.

Government-owned residential premises are excluded under this category.

Category 2 – Housing and Shophouse Developments

This category refers to housing and shophouse development as follows:

a. A development consisting of 5 or more residential landed house units (detached, semi-detached, terrace and/ or quadrant houses) not exceeding three (3) storey high.
b. A development consisting of 5 or more of low-cost or low-cost plus flats/apartments.
c. A development consisting of 5 or more of shophouse units not exceeding four (4) storey high.

Category 3 – Other Individual and Development

This category refers to:

a. individual application for commercial and industrial premises;
b. conversion of shophouse units into single entity business which requires new supply source;
c. Development of multi-tenanted buildings such as apartment, condominium, town house and small office home office (SOHO);
d. Community halls and religious premises and they are eligible for SESCO's contribution subject to prevailing Sarawak Energy's policy;
e. Government houses or premises and projects such as street lighting, industrial estates and resettlement areas;
f. Agricultural and farming area; and
g. Structures such as telecommunication tower, billboard and private compound lighting.

Any other individual or development premises that are not in Category 1 and 2 will be considered in this category.

Category 4 - Temporary Supply

This category refers to premises or sites requiring temporary supply, typically site office, temporary plant or structure, which is needed by customer at the construction project site. Temporary supply connection shall be for an initial period of maximum three (3) years, and may be extended subject to relevant approval, if necessary, from other authorities. Substation equipment, lines and cables that are erected to provide temporary supply may be removed after disconnection of the supply.

3. CONNECTION CHARGING METHODOLOGY

3.1. COMMON CONNECTION CHARGING METHODOLOGY

3.1.1. Normal Project and Turnkey Project

Connection projects may be undertaken by SESCO, or alternatively by the Company on a Turnkey basis. "Normal Project" refers to installations and works fully undertaken by SESCO for supply connection. "Turnkey Project" refers to installations and works undertaken by the customer for supply connection at the customer's own cost and designed by a Professional Engineer/ Contractor and approved by SESCO. The connection for the installation to the distribution system to supply the load will be at the connection point to be determined by SESCO.

3.1.2. Least Cost Technical Design (LCTD) Scheme and Enhanced Scheme

Least Cost Technical Design (LCTD) Scheme

The LCTD is the minimum scheme with the lowest overall capital cost, necessary to meet the capacity of the customer. The LCTD will be subject to:

a) requirements of Electricity Ordinance, Electricity Rules, utility and/ or current industry practices and standards;
b) the status and configuration of the relevant distribution network;
c) the standard sizes and types of equipment currently in use by SESCO for the distribution system;
d) the level of supply reliability to critical loads e.g. hospital, water treatment plant and water pumping station;
e) the design and construction standards used by SESCO in the distribution system; and
f) shall be consistent with statutory and license obligations including the requirement to develop, maintain and operate an efficient, coordinated and economical electricity Distribution System.

Enhanced Scheme

Enhanced Scheme has additional features or designs resulting in cost increase from the LCTD, which includes, but not limited to the following:

a) additional assets not required as part of the LCTD;
b) assets of larger capacity than required by the LCTD; and
c) assets of a different specification than required by the LCTD.

For Normal Project:

Where the customer and/ or local authorities requires and/ or requests implementation of Enhanced Scheme, then the customer will be charged based on the Enhanced Scheme.

Where SESCO requires implementation of the Enhanced Scheme, the customer will bear the full cost of LCTD scheme only and SESCO will bear the cost in excess of the LCTD Scheme.

For Turnkey Project:

Where Enhanced Scheme needs to be implemented as required by any other party (customer, local or other authorities), the Enhanced Scheme implemented under the Turnkey Project, shall be borne by the customer. This Enhanced Scheme shall be accepted and approved by SESCO prior to implementation.

In the case where any Enhanced Scheme are at SESCO's request after the acceptance and approval of the design, SESCO will bear the cost in access of the original approved design scheme.

Technical information or connection data on SESCO's system which is necessary shall be provided by SESCO for the design scheme under turnkey.

3.1.3. Dedicated and Shared Distribution Substation

A dedicated distribution substation is constructed for utilisation by one customer.

A distribution substation is considered dedicated if:

a) The customer is taking a direct supply from the transformer low voltage terminal;
b) The substation is the within customer's premise.

A shared distribution substation is constructed for utilization by more than one customer.

3.1.4. Schedule of Rates

This Guideline provides a list of standardised rates ("Schedule of Rates") which includes SESCO's rates for common materials and standard installation works required for connection projects.

When a connection project requires materials and/ or services that are not listed in the Schedule but are chargeable to the customer, the cost shall be based on the prevailing rates. SESCO shall specify such materials and/ or services, which may vary from project to project, and such rates shall be timely provided by SESCO.

3.1.5. Meter Fee

Meter fee covers the cost of providing the meter for the purpose of measuring the consumption of electricity supply by a customer.

3.1.6. Low Tension Cost

Low Tension Cost refers to the cost of installing low tension overhead lines, underground cables, equipment and devices, for the purpose of electricity distribution at low voltage level.

3.1.7. High Tension Cost

High Tension Cost refers to the cost of installing high tension overhead lines, underground cables, equipment and devices, for the purpose of electricity distribution at high voltage level.

3.1.8. Substation Cost

Substation Cost refers to the cost for installing distribution substation, which consists of equipment such as transformer, switchgear, distribution pillar, connection cables and other ancillary equipment.

3.1.9. Capacity Charges

Substation Capacity Charge is the proportionate cost of a distribution substation which a customer has to pay when he is connected to a shared substation.

Line Capacity Charge is the proportionate cost of high tension line/ cable which a customer has to pay when he is to be connected to an existing high tension or low tension line/ cable. Line Capacity Charge will not be charged to customer whose supply scheme involves installation of a new high tension line/ cable connected directly from Distribution Zone Substation.

Refer to Section 5.2 for calculation of Capacity Charges.

3.1.10. Per House Fee

Per House Fee is applicable exclusively for Category 2. It is the cost for supplying a unit house within a development. The fee covers low tension, substation capacity charges, and extension of high tension up to 1km circuit length.

Per House Fee is based on the LCTD scheme. Any additional features are charged separately and the requesting party i.e. either the customer or SESCO will bear the additional charges. Where such additional features are imposed by Local Councils or any other authorities, or are required due to site specific conditions, such cost will be borne by the customer. Examples of additional features are street lighting, horizontal directional drilling for underground cable road crossing, constructions of special trenches or facilities for cable laying, etc.

Customer paying for the relevant Per House Fee will be supplied using the following low voltage schemes:

a) low cost residential landed houses using service line scheme.
b) low cost plus residential landed houses using mini pillar/ centralised metering cabinet scheme and service line.
c) low cost and low cost plus flats/apartment houses using either service line or service cable to the blocks.
d) other types of residential landed houses using mini pillar/ centralised metering cabinet scheme.
e) shophouses using underground cable to service intake.

3.1.11. Administration Fee

Administrative Fee is charged to cover SESCO's cost of carrying out site inspection works, witness installation testing, supply commissioning, shutdown notices, wayleave processing fees to local authorities, salary, transport and other relevant expenses incurred for the duration of a Turnkey Project implementation. Administrative Fee is charged based on the Turnkey Project Scope of Work.

3.1.12. Testing Fee

Where the customer requested for SESCO to carry out the testing of the installation which is undertaken on Turnkey Project basis, the testing fees will be charged based on the listed standard installation testing.

3.1.13. Controlled Items

Controlled items refer to materials that must be supplied by SESCO for Turnkey Project and such materials will be released within the stipulated time period agreed between both parties.

Unless stated otherwise, the controlled items are standard padlock, low voltage current transformer meter cabinet, Freestanding Outdoor Metering Unit (FOMU) for HT Metering, cut-out and neutral link.

3.1.14. Engineering Fee

An Engineering Fee of RM3,000 is charged if a customer opts for Turnkey Project after SESCO has released the Connection Charges in the case where SESCO has been appointed in writing to undertake the installations and works as Normal Project which includes design of the installation.

Upon payment, SESCO shall provide the customer with the design, drawings and other information related to the release of the Normal Project Connection Charge.

3.1.15. Value of Removed Transformer

Refund value of removed transformer is applicable for Turnkey Project involving replacement of an existing transformer with a new transformer of a higher capacity rating (upgrading of substation capacity), and refund shall only be given after commissioning of the Turnkey installation. The refund shall be based on the type and capacity of transformer of which the amount shall be based on the Schedule of Rates.

3.1.16. Refunds Value of Removed Equipment for Temporary Supply

Where a temporary supply is connected on a Normal Project basis, the dismantling of substation equipment (transformer, switchgears and distribution pillar) from the site not exceeding three (3) years shall be considered for refund at the prevailing value of the materials returned. No refund shall be allowed after three (3) years from date of commissioning of temporary supply.

3.1.17. SESCO Contribution

a. Capacity Charges for residential houses, longhouses, residential houses built under relevant Government assisted scheme, low cost and low cost plus housing units, and Resettlement Scheme area, with applied load that does not exceed 2kVA per unit.
b. Category 1 applicants for work scope involving single phase service line with/without belian riser only, where built up area not exceeding 755sq-ft (based on the size of Spektra Medium or any such requirements as declared by the Authorities) and with load not exceeding 2kVA per unit.
c. Discounted single-phase meter fee applies to the same customers as in (a).
d. Community halls and religious premises and they are eligible for SESCO's contribution subject to prevailing Sarawak Energy's policy.

3.1.18. Connection Charges Information

The design scheme, description and breakdown of the connection charges are to be provided to the customer. Any additional features and/ or enhancement requiring the customer to bear the cost shall be clearly indicated and specified.

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3.1.18. Connection Charges Information

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3.2. CONNECTION CHARGING METHODOLOGY BY CATEGORY

Category 1 – Individual (Residential)

SCOPE OF WORK	CONNECTION CHARGES (NORMAL)	CONNECTION CHARGES (TURNKEY)
Low Tension Only	Low Tension Cost + Substation Capacity Charge + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Substation Capacity Charge + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with Upgrading of Existing Substation and/or HT Line	Low Tension Cost + Substation Capacity Charge + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with New Substation and/or Extension HT Line	Low Tension Cost + [1]Substation Capacity Charge + [2]Line Capacity Charge + 50% High Tension Extension Cost + Meter Fee	Administration Fee + Testing Fee + [2]Line Capacity Charge + Controlled Items + Meter Fee
High Tension only	Not Applicable	Not Applicable

Category 2 – Housing & Shophouse Developments

SCOPE OF WORK	CONNECTION CHARGES (NORMAL)	CONNECTION CHARGES (TURNKEY)
Low Tension Only	Per House Fee + Low Tension Cost for Street Lighting (where applicable) + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Substation Capacity Charge + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with Upgrading of Existing Substation and/or HV Line	Per House Fee + Low Tension Cost for Street Lighting (where applicable) + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with New Substation and/or Extension HT Line	Extension existing HV Line within 1000m Per House Fee + Low Tension Cost for Street Lighting (where applicable) + [2]Line Capacity Charge + Meter Fee Extension existing HV Line beyond 1000m Per House Fee + Low Tension Cost for Street Lighting (where applicable) + [2]Line Capacity Charge + High Tension Cost in excess of 1000m + Meter Fee	Administration Fee + Testing Fee + [2]Line Capacity Charge + Controlled Items + Meter Fee
High Tension only	Not Applicable	Not Applicable

Category 3 – Other Individual and Development

SCOPE OF WORK	CONNECTION CHARGES (NORMAL)	CONNECTION CHARGES (TURNKEY)
Low Tension Only	Low Tension Cost + Substation Capacity Charge + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Substation Capacity Charge + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with Upgrading of Existing Substation and/or HT Line	Low Tension Cost + Substation Capacity Charge + Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + Line Capacity Charge + Controlled Items + Meter Fee
Low Tension with New Substation and/or Extension HT Line	Low Tension Cost + Substation Cost + [2]Line Capacity Charge + High Tension Extension Cost + Meter Fee	Administration Fee + Testing Fee + [2]Line Capacity Charge + Controlled Items + Meter Fee

High Tension only	High Tension Extension Cost + Substation Cost (where applicable) + [2]Line Capacity Charge + Meter Fee	Administration Fee + Testing Fee + [2]Line Capacity Charge + Controlled Items + Meter Fee

Category 4 – Temporary

SCOPE OF WORK	CONNECTION CHARGES (NORMAL)	CONNECTION CHARGES (TURNKEY)
Low Tension Only, taking supply from existing Substation and Line	Low Tension Cost + Meter Fee	Administration Fee + Testing Fee + Controlled Items + Meter Fee
Low Tension with Upgrading of Existing Substation and/or HT Line	Low Tension Cost + Substation Cost + Meter Fee	Administration Fee + Testing Fee + Controlled Items + Meter Fee
Low Tension with New Substation and/or Extension HT Line	Low Tension Cost + Substation Cost + HT Extension Cost + Meter Fee	Administration Fee + Testing Fee + Controlled Items + Meter Fee
High Tension only	High Tension Extension Cost + Substation Cost (where applicable) + Meter Fee	Administration Fee + Testing Fee + Controlled Items + Meter Fee

[1]If new substation is dedicated, full Substation Cost is charged instead of Substation Capacity Charge.
[2]If new high tension line is constructed from Zone Substation, Line Capacity Charge is not applicable.

3.3. 33KV ASSET DEVELOPMENTS

Construction of 33kV asset may become necessary to supply large-scale development or bulk load.
If 33kV Asset is dedicated, the customer will provide land for the 33kV Zone Substation without cost to SESCO and the customer will bear the construction cost of the 33kV Asset in full.
This includes 33kV Asset built for infrastructure development in area (e.g. industrial area, resettlement area), where supply is to be made available but there is no specific customer identified yet.

If 33kV Asset is shared, the cost of land and construction shall be borne by either party as follows:

(a) If the development is in-sequence with SESCO System Development Plan:
The customer will provide the land for 33kV Zone Substation and the cost of the land may be borne by SESCO. The construction cost of 33kV Assets is to be borne by SESCO.

(b) If the development is out-of-sequence:
The customer will provide land for the 33kV Zone Substation. The construction cost of 33kV Assets is to be equally shared between customer and SESCO.
If the utilisation of substation capacity reaches 50% within 5 years from the supply made available, SESCO shall refund 50% of the amount paid by the customer.

4. SCHEDULE OF RATES

This Guideline provides a list of standardised rates ("Schedule of Rates") which includes rates for common materials and standard installation works provided by SESCO. When a connection project requires materials, assets and/ or services that are not listed in the Schedule but are chargeable to the customer, the cost shall be based on the prevailing rates. SESCO shall specify such materials, assets and/ or services, which may vary from project to project, and such rates shall be provided by SESCO.

Under specific site conditions, enhanced features and/ or works beyond standard installation may become necessary, customer shall be informed in writing on the specific conditions requiring the enhanced features and/ or works beyond the standard installation and such additional cost shall be borne by the customer. Examples are additional piling for installation substation on soft ground, excavation of rocky ground for pole installation and others.

Where such additional features are imposed by Local Councils or any other authorities, such cost will be borne by the customer.

The rates shown are **exclusive** of Service Tax and are subject to review.

Table 4.1 Meter Fees

METER AND ANCILLARIES	UNIT	RATES (RM)
Single Phase whole current kWh meter (Normal)	each	150.00
Single Phase whole current kWh meter (Discounted)	each	70.00
Three Phase whole current kWh meter	each	500.00
Three Phase CT-operated kWh/kVarh meter for low voltage applications	each	1,570.00
Three Phase PT/CT-operated kWh/kVarh + Maximum Demand meter (Class 0.5s) for high voltage abd/or applications requiring summation function where the applied load in <5,000kVA	each	2,060.00
Three Phase PT/CT-operated kWh/kVarh + Maximum Demand meter (Class 0.5s) for high voltage and/or applications requiring summation function where the applied load in =>5,000kVA	each	8,000.00
Low Voltage current transformers (CTs) : 200/5, 400/5, 800/5, 1200/5, 1600/5 & 2000/5 (set of 3)	set	300.00
Test terminal block for CT & PT/CT installation, complete with voltage fuse carriers	each	300.00

Table 4.2 per House Fee

TYPE OF HOUSE	UNIT	RATES (RM)
Detached House (1-phase supply)	each	11,100.00
Semi-Detached House (1-phase supply)	each	8,800.00
Terrace/Quadrant House (1-phase Supply)	each	6,700.00
Detached House (3-phase Supply)	each	14,500.00
Semi-Detached House (3-phase Supply)	each	11,900.00
Terrace/Quadrant House (3-phase Supply)	each	9,700.00
Low Cost Plus Housing Terrace/Quadrant/Semi-Detached/Detached (1-phase supply, Service Cable Scheme)	each	5,300.00
Low Cost Plus Walk-Up Flat for based design of centralised metering (1-phase supply)	each	700.00
Low Cost / Low Cost Plus Housing Terrace/Quadrant/Semi-Detached/Detached (1-phase supply, Service Line Scheme)	each	1,500.00
Low Cost Walk-Up Flat for based design of centralised metering (1-phase supply)	each	600.00
Shophouse Unit 1 storey or 2-storey (1-phase or 3-phase supply)	each	8,000.00
Shophouse Unit 3 storey or 4-storey (1-phase or 3-phase supply)	each	12,500.00

Table 4.3 Low Tension Cost (Part 1)

LOW TENSION INSTALLATION	UNIT	RATES (RM)
Low Voltage CT Metering Cabinet (400A)	each	5,400.00
Low Voltage CT Metering Cabinet (800A)	each	5,700.00
Low Voltage CT Metering Cabinet (2000A)	each	9,400.00
1-phase service line	each	1,350.00
1-phase service line Twin-twisted	each	1,000.00
3-phase service line	each	2,100.00
Uprate service line from 1-phase/2-phase to 3-phase	each	900.00
Belian riser and steel bracket for service line	each	430.00
1-phase service cable 2C 25mmsq Al, 2C 16mmsq Cu (first 30m)	each	2,500.00
1-phase service cable 2C 25mmsq Al, 2C 16mmsq Cu (per m beyond 30m)	meter	75.00
3-phase service cable 4C 25mmsq Al, 16mmsq Cu (first 30m)	each	4,800.00
3-phase service cable 4C 25mmsq Al, 16mmsq Cu (per m beyond 30m)	meter	130.00
3-phase service cable 4C 70mmsq Al or 4C 35mmsq Cu	meter (circuit length)	150.00
3-phase service cable 4C 150mmsq Al	meter (circuit length)	170.00
3-phase service cable 4C 300mmsq Al	meter (circuit length)	185.00
3-phase service cable 4 x 1C 500mmsq Al	meter (circuit length)	330.00
3-phase service cable 7 x 1C 500mmsq Al	meter (circuit length)	565.00
3-phase service cable 11 x 1C 500mmsq Al	meter (circuit length)	895.00
3-phase overhead line + switch wire (5-wire) pole span	per span with pole	3,805.00
3-phase overhead line + switch wire (5-wire) span	per span without pole	2,385.00
3-phase overhead line (4-wire) pole span	per span with pole	3,480.00
3-phase overhead line (4-wire) span	per span without pole	2,060.00
1-phase overhead line (2-wire) pole span	per span with pole	2,570.00
1-phase overhead line (2-wire) span	per span without pole	1,140.00
Additional 1-wire overhead line	per span without pole	820.00
1-phase overhead line (Twin-Twisted) pole span	per span with pole	2,530.00
1-phase overhead line (Twin-Twisted) span	per span without pole	1,130.00
Low Tension Single Pole only	each	2,100.00
Low Tension H-Pole only	each	3,800.00
3-phase underground cable 4C 70mmsq Al or 4C 35mmsq Cu	meter	150.00
3-phase underground cable 4C 150mmsq Al	meter	170.00
3-phase underground cable 4C 300mmsq Al	meter	185.00
Category 1 applicants for work scope involving single phase service line with/without belian riser only, where built up area not exceeding 755sq-ft (based on the size of Spektra Medium or any such requirements as declared by the Authorities) and with load not exceeding 2kVA per unit	per house	500.00

Table 4.3 Low Tension Cost (Part 2)

LOW TENSION INSTALLATION	UNIT	RATES (RM)
Distribution Pillar 7W6F	each	12,600.00
Mini Pillar 4-Way	each	5,420.00
Service Intake 250A	each	2,820.00
Service Intake 400A	each	3,350.00
6-Way Centralised Metering Cabinet (CMC)	each	5,100.00
9-Way Centralised Metering Cabinet (CMC)	each	6,750.00
Street Lighting Control Box (1-phase & 3-phase) - Wall mounted or Pole mounted	each	1,135.00
Street Lighting Control Box (1-phase & 3-phase) - Ground mounted	each	1,500.00
Bracket Street Lighting wall mounted (100W) with wiring	each	1,100.00
Bracket Street Lighting wall mounted (150W) with wiring	each	1,397.00

Bracket Street Lighting on pole (100W) with wiring	each	500.00
Bracket Street Lighting on pole (150W) with wiring	each	680.00
Single lamp column street lighting (150W) with underground cable	each	3,000.00
Twin/Double lamp column street lighting (150W) with underground cable	each	7,400.00
Single lamp column street lighting (250W) with underground cable	each	3,100.00
Twin/Double lamp column street lighting (250W) with underground cable	each	7,550.00

Table 4.4 High Tension Cost

HIGH TENSION INSTALLATION	UNIT	RATES (RM)
11kV Overhead Lines with Single Pole span	per span with pole	8,700.00
11kV Overhead Lines with H-Pole span	per span with pole	11,700.00
11kV Overhead Lines span	per span without pole	4,300.00
33kV Overhead Lines with Single Pole span	per span with pole	12,250.00
33kV Overhead Lines with H-pole span	per span with pole	16,800.00
33kV Overhead Lines	per span without pole	6,200.00
11kV Single Pole only	each	4,600.00
11kV H-Pole only	each	7,550.00
33kV Single Pole	each	6,700.00
33kV H-Pole	each	11,800.00
11kV Air Break Isolator (ABI) exclude pole	each	18,700.00
33kV Air Break Isolator (ABI) exclude pole	each	22,280.00
11kV underground cable 3C 185mmsq AL	meter	260.00
33kV underground cable 3 x 1C 630mmsq Cu	meter (circuit length)	900.00
33kV underground cable 3 x 1C 630mmsq Al	meter (circuit length)	500.00
33kV underground cable 3C 240mmsq Al	meter	350.00
33kV underground cable 3C 95mmsq Al	meter	320.00
Shutdown Notice (advertisement through local newspapers)	each	3,000.00

Table 4.5 Substation Cost

SUBSTATION AND OTHER INSTALLATION	UNIT	RATES (RM)
11kV or 33kV Switching Pole with 1 set Air Break Fused Isolator (ABFI)	each	17,040.00
11kV Switching Sub with 1 no. RMU	each	39,710.00
Substation 11/.433kV 50kVA (Pole mount)	each	36,590.00
Substation 11/.433kV 50kVA (Platform mount)	each	40,550.00
Substation 11/.433kV 160kVA (Platform mount)	each	60,690.00
Substation 11/.433kV 160kVA (Ground mount / Suspended)	each	90,890.00
Substation 11/.433kV 300kVA (Ground mount / Suspended)	each	106,410.00
Substation 11/.433kV 500kVA (Ground mount / Suspended)	each	127,860.00
Substation 11/.433kV 1000kVA (Ground mount / Suspended)	each	188,060.00
Substation 11/.433kV 1500kVA (Ground mount / Suspended)	each	214,770.00
Substation 33/.433kV 50kVA (Pole / Platform mount)	each	41,210.00
Substation 33/.433kV 160kVA (Platform mount)	each	64,130.00
Substation 33/.433kV 160kVA (Ground mount / Suspended)	each	81,120.00
Substation 33/.433kV 300kVA (Ground mount / Suspended)	each	113,990.00
Substation 33/.433kV 500kVA (Ground mount / Suspended)	each	144,680.00
Substation 33/.433kV 1000kVA (Ground mount / Suspended)	each	177,120.00
Substation 33/11kV 1000kVA (Platform Mount)	each	198,880.00
Pad Mount Substation 11/.433kV 300kVA	each	190,580.00
Pad Mount Substation 11/.433kV 500kVA	each	211,320.00
Brickwall Fencing for Double Transformer Substation (Ground mount only)*	each	36,180.00
Brickwall Fencing for Single Transformer Substation (Ground mount only)*	each	29,870.0
Chainlink Fencing for Double Transformer Substation	each	11,480.00

Chainlink Fencing for Single Transformer Substation	each	9,700.00
Belian Platform for Single Transformer	each	9,230.00
11kV Auto Recloser	each	80,410.00
33kV Auto Recloser	each	101,360.00

**Site specific conditions requiring substation on suspended floor with brickwall fencing shall use prevailing rates.*

Table 4.6 Controlled Items

	UNIT	RATES (RM)
Standard Padlocks (33kV, 11kV, LV)	each	50.00
Low Voltage CT Metering Cabinet (400A) exclude installation	each	5,000.00
Low Voltage CT Metering Cabinet (800A) exclude installation	each	5,300.00
Low Voltage CT Metering Cabinet (2000A) exclude installation	each	8,800.00
100A Service Cutout	each	38.00
60A Service Cutout	each	36.00
Neutral Link	each	10.00
Meter Cabinet (1-phase)	each	180.00
Meter Cabinet (3-phase)	each	220.00

Table 4.7 Capacity Charge

CAPACITY CHARGE	UNIT	RATES (RM)
Substation Capacity Charge	RM/kVA	445.00
Line Capacity Charge	RM/kVA	30.00

Table 4.8 Administration Fee

SCOPE OF WORK	UNIT	RATES (RM)
Substation Civil Works	Per Substation	1,500.00
Substation Electrical Works	Per Substation	1,000.00
High Voltage Cables/Lines with equipment	Per 1km circuit	500.00
Low Voltage Cables/Lines with equipment	Per 500m circuit	200.00

Table 4.9 Testing Fee

TEST	UNIT	RATE (RM)
LT Overhead Lines/Underground Cables commissioning test	Per feeder/cct length	700.00
HV Circuit Breakers (with Relays and Metering) commissioning test	Per Panel	1,500.00
Ring Main Units commissioning test	Per Unit	500.00
Isolation Switches and Fused Switches commissioning test	Per Unit	500.00
Distribution Transformer commissioning test	Per Unit	500.00
HT Overhead Lines/Underground/Submarine Cables (without HV pressure test)	Per km	1,500.00
HT Overhead Lines/Underground/Submarine Cables (with HV pressure test)	Per feeder/length	3,500.00

5. DEMAND ESTIMATES AND CALCULATION OF CAPACITY CHARGES

5.1. MINIMUM ASSIGNED LOAD

Customer's applied load will indicate the required supply voltage and scheme for connection of supply. Table 5.1 shows the minimum assigned loads by type of premises.

Table 5.1 Minimum Assigned Load

TYPE OF PREMISE	MINIMUM ASSIGNED LOAD (KVA)
[1] Small Residential House	2kVA
[2] Residential House built under relevant Government assisted scheme	1.5kVA
Longhouse Double Storey Unit/Bilik	2kVA
Longhouse Single Storey Unit/Bilik	1.5kVA
Low Cost Plus House or Flat	2kVA
Low Cost House or Flat	1.5kVA
Detached House up to 3-Storey	5kVA
Semi-Detached House up to 3-Storey	4kVA
Terrace or Quadrant House up to 3-Storey	3kVA
Apartment or Condominium Unit > 1000ft^2 (92.9m^2)	5kVA
Apartment or Condominium Unit < 1000ft^2 (92.9m^2)	4kVA
Light Industry Unit	10kVA
Shophouse Unit Floor (Commercial)	5kVA
Shophouse Unit Floor (Residential)	3kVA

[1] Small Residential House refers to a house with total floor area not exceeding 755ft^2 (70.1m^2) (based on the size of Spektra Medium or any such requirements as declared by the Authorities) and with load not exceeding 2kVA per unit

[2] Houses applied load (maximum demand) not exceeding 2kVA. Examples of Government assisted scheme are Program Bantuan Rumah, Rumah Mesra Rakyat, Rumah Mampu Milik, Rancangan Perumahan Rakyat, Spektra Light and Spektra Medium.

For both [1] and [2]; If customer's applied maximum demand exceeds single phase 2kVA or three-phase supply, the premise shall be classified as Detached, Semi-Detached or Terrace/ Quadrant House.

5.2. CALCULATION OF SUBSTATION CAPACITY CHARGE AND LINE CAPACITY CHARGE

5.2.1. Customer Applying for Single Phase Supply

a) For premises listed in Table 5.1 (except Light Industry Unit and Shophouse Unit, which at minimum requires three phase supply)
   Substation Capacity Charge* = RM445/kVA x Minimum Assigned Load (kVA)
   Line Capacity Charge = RM30/kVA x Minimum Assigned Load (kVA)
   ** Specific to Category 2, Substation Capacity Charge is inclusive in the Per House Fee*

b) For premises not listed in Table 5.1
   Substation Capacity Charge = RM445/kVA x Applied Load (kVA)
   Line Capacity Charge = RM30/kVA x Applied Load (kVA)

5.2.2. Customer Applying for Three Phase Supply

a) For **residential premises** listed in Table 5.1
   Substation Capacity Charge = RM445/kVA x 10kVA
   Line Capacity Charge = RM30/kVA x 10kVA

b) For all **non-residential premises**
   Substation Capacity Charge = RM445/kVA x Applied Load or 10kVA, whichever is higher
   Line Capacity Charge = RM30/kVA x Applied Load or 10kVA, whichever is higher

5.2.3. Customer Applying for Supply Upgrading

The customer shall be charged the differences between the old and new capacity requirement.
The customer shall bear the incremental cost of capacity.

6. PROVISION OF SUBSTATION SITE

New connection to the supply system may require the construction of new Distribution Substation(s). A customer shall consult SESCO regarding substation site requirement prior to submission of his development's subdivision plan for approval by Land and Survey Department.

A distribution substation site may be required under any of the following conditions:

a) The load is located at a distance of not less than 800m (residential) or not less than 200m (non-residential) from the nearest available substation* as measured along official road reserve boundary and within the customer's land, where the low voltage underground cable or overhead line is to be run.

   * *Available substation means a substation which can be upgraded to a higher capacity to sufficiently cater for the new load, or a substation which is not dedicated to a particular customer.*

b) The applied load is not less than 45kVA.

Customers of large-scale development or with substantial demand may also require construction of a new Distribution Zone Substation(s).

The final decision on type, number and location of Substation will be based on the system study.

The requirement of substations for various demand levels of single customer or Development (more than 1 customer), total maximum demand including all phases/ parcels in the development shall be in compliance with the requirement in SESCO's Electricity Supply Application Handbook.

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Menara Sarawak Energy,
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Appendix P Minutes of Meeting for Stakeholders Engagement for Validation of SEBCCG 2019

KEMENTERIAN UTILITI SARAWAK
(MINISTRY OF UTILITIES SARAWAK)
LCDA TOWER, 7-10TH FLOOR,
LOT 2879, THE ISTHMUS,
OFF JALAN BAKO,
93050 KUCHING,
SARAWAK, MALAYSIA

Kementerian Utiliti
SARAWAK

Ruj. Tuan :
Ruj. Kami : S/KKA/600-8/5 JLD3(15)
Tarikh: 27 December 2019

Refer Distribution List.

Tuan,

STAKEHOLDER ENGAGEMENT WITH MINISTRY OF UTILITIES ON CONNECTION CHARGES GUIDELINES 2019

Reference is made to the above captioned.

2. Please find attached herewith minutes of meeting on 30th October 2019 for your perusal and further action.

Thank you.

"BERSATU BERUSAHA BERBAKTI"
"AN HONOUR TO SERVE"

(SYED MOHAMAD FAUZI SHAHAB)
Acting Permanent Secretary
Ministry of Utilities Sarawak

Contact Officer : Happy Fadzilla Ali / 082-551000/ happfapa@sarawak.gov.my

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Distribution List:

1. **Permanent Secretary,**
   Ministry of International Trade & Industry,
   Industrial Terminal & Entrepreneur Development Sarawak,
   Level 12 & 13,
   Wisma Sumber Alam,
   Jalan Stadium,
   93050 Petra Jaya Kuching.
   (Tel: 082-313212, Fax: 082-445337)

2. **Permanent Secretary,**
   Ministry of Local Government and Housing,
   Level 2, Bangunan Baitulmakmur
   Medan Raya, Petra Jaya,
   93050 Kuching.
   (Tel:082-319614, Fax: 082-311216)

3. **Director,**
   Public Works Department of Sarawak,
   Level 7, Wisma Saberkas,
   Jalan Tun Abang Haji Openg,
   93582 Kuching.
   (Tel: 082-203101, Fax: 082-251908)

4. **Vice President (Distribution)**
   Sarawak Energy Berhad,
   Menara Sarawak Energy
   No. 1, The Isthmus
   93050 Kuching, Malaysia.
   Fax: +6082-313588

5. **Executive Secretary,**
   Sarawak Housing and Real Estate Developers' Association (SHEDA),
   Sub-Lot 42, 2nd Floor, Tabuan Stutong Commercial Centre,
   Jalan Setia Raja, Sarawak, Tabuan Laru,
   93350 Kuching.
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MINUTES OF MEETING

Title	:	Stakeholder Engagement with Ministry of Utilities on Connection Charges Guidelines 2019
Date	:	Wednesday, 30 October 2019
Time	:	2:30PM
Venue	:	MOU Meeting Room, 8th Floor, LCDA Tower

Present:

1	My. Syed Mohamad Fauzi Shahab	MOU (Chairman)
2	Mr. Chan Seng Yu	MOU
3	Mdm. Happy Fadzilla Ali Punjabi	MOU
4	Mr. Azian Sa'at	MOU
5	Mr. Wan Abdul Aziz Bin Wan Habib	MOU
6	Mr. Yusri Safri	SEB
7	Mdm. Hjh. Peridah Binti Samawi	SEB
8	Mr. Tan Joo Kok	SEB
9	Mdm. Isma Khuzaima Mansor	SEB
10	Mdm. Edwina Mandak	SEB
11	Mdm. Chiong Ching Ping	SEB
12	Ms. Sita Dini Bolhan	SEB
13	Mdm. Connie Christopher Kesa	MINTRED
14	Ms. Nora Syella	MINTRED
15	Mr. Nurul Asyilah Binti Romzi	MLGH
16	Mr. Firas Fadzil	MLGH
17	Mr. Wong Siong Shyong	JKR
18	Mr. Joseph Lijas	MBKS
19	Mr. Goh Thiam Ho	MPP
20	Mr. Akei Misit	MPP
21	Ms. Emil Rosaimie Binti Mohamad Husaini	DBKU
22	Mr. Mohamad Dahlan	DBKU
23	Mr. Azizan Saie	DBKU
24	Ir. Wong Leong Teck	ACEM
25	Ir. Hii Tiong Koon	ACEM
26	Mr. Clerence Chieng	SHEDA
27	Mr. Peter Pau	SHEDA
28	Mr. Tan Teck Kian	SHEDA
29	Mr. Jonathan Lim	SHEDA
30	Ms. Michelle Liu	SHEDA
31	Mr. Lawrence Lau	SHEDA
32	Mr. Chu Gwo Jiun	SHEDA
33	Mr. Then Jee Khian	SEA
34	Mr. Dong Foo Kok	SEA
35	Dr. Lu Jye Ying	SEA

No.	Description	Action
1	**OPENING REMARKS BY THE CHAIRMAN**	
1.1	The Chairman welcomed and thanked all attendees to the meeting.	
1.2	The Chairman informed that the agenda of the meeting is to gather feedback from stakeholders on the implementation of the Connection Charges Guidelines 2019.	
2	**DISCUSSIONS**	
2.1	Mr. Tan Joo Kok from SEB gave a brief presentation to the Meeting on Connection Charges Guidelines, 2019 and responded to feedbacks gathered from the stakeholders prior to this meeting. The presentation slides are as per attachment 1.	
2.2	SEB has gathered the following feedbacks from stakeholders from previous engagements and responded as follows: 2.2.1 Schedule of Rates **FEEDBACK:** a. New rate is generally higher than previous rate and proposed to have different rates for urban and rural area. b. Shutdown notice fee too expensive. **RESPOND:** The CCG 2019 is computed based on the current material cost and contract charges based on average cost and the new schedule of rate has been approved by the Cabinet. **NEXT ACTION:** a. SEB will collect data on the Connection Charges Guidelines, 2019 schedule of rates and will refer to MOU if the rates need to be revised. b. Shutdown notice will not only appear in newspapers but all other electronic media. 2.2.2 Substation Land Size Requirements **FEEDBACK:** To maintain the previous practice where substation is only required with applied load of not less than 160KVA, and to allow the use of 4.6m x 4.6m compact substation or commercial development in fully built up area. **RESPOND:** In the CCG 2019, the required substation land size is now smaller, and SEB allows the use of reduced size ground-mounted substation with fenced-in area of 4.6m x 4.3m for new residential development without shophouses, as well as the use of pad-mounted substation for non-residential development. 2.2.3 Project Scheme **FEEDBACK:** SEB to maintain old policy where developers have the flexibility to opt for either to do fully SEB, to do fully turnkey or only half (either HT or LT) through turnkey. **RESPOND:** a. Under CCG 2019, all the new projects will be either fully implemented by SEB, or fully undertaken on turnkey basis.	

b. Under the Distribution Service Circular No. 2/2009 for Turnkey Scheme, cable laid on Turnkey basis could be utilized by others which are catered for under substation capacity charge and cable capacity charge in CCG 2019.

NEXT ACTION:

a. SEB is reviewing Distribution Service Circular No. 2/2009 – Design, Construction and Supervision of Electrical Works by Professional Engineers, to ensure it is in line with the CCG 2019.
b. SEB is open to consultant/contractor to discuss on propose scheme of supply and connection point for all types of applications.

2.2.4 Testing and Commissioning

FEEDBACK:

SEB does not provide test results for Turnkey Contractor's reference for the testing carried out by SEB for Turnkey Projects.

RESPOND:

SEB will provide the test results to the Turnkey Contractor accordingly.

2.2.5 Low Cost and Affordable Housing

FEEDBACK:

To waive capacity charge for all types of low cost and affordable housing under the purview of the Government whereby the selling pricing is capped.

RESPOND:

a. Under CCG 2008, capacity charge waiver is applicable only for applied load not more than 1.5KVA, and 50% discount of capacity charge for government low cost plus house. With the implementation of New CCG 2019, Residential Houses under Government Assisted Scheme, and Small Individual House are entitled for the waiver of connection charges with work scope which includes the installation of single phase service line with/without belian riser, and with applied load not exceeding 2KVA per unit.
b SEB clarified that low cost housing are defined as Government Assisted Scheme such as Projgram Bantuan Rumah, Rumah Mesra Rakyat, Rumah Mampu Milik, Rancangan Perumahan Rakyat, Spektra Light and Spektra Medium and any others with supporting documents from the Government. Any type of housing equivalent to low cost and low cost plus housing as per declared and approved by MOH shall be taken into account.

2.2.6 Administrative Fee

FEEDBACK:

SEB is charging SEB's cost of carrying out site inspection works, witness installation testing, supply commissioning, shutdown notices, wayleave processing fees to local authorities, salary, transport and other relevant expenses incurred for the duration of a Turnkey Project implementation when in the ned the assets will be hand over to SEB and sometimes SEB dirl not do the site inspection.

RESPOND:

a. Assets handed over to SEB will incur Operation and Maintenance cost to SESCO.
b. Customer may request refund from SEB for work not carried out by SEB.

3	**MATTERS ARISING**	
3.1	SEB clarified to the meeting that: a. Any application with applied load of 100Amp or more is required to be submitted through a registered electrical consultant. The works can be undertaken either on full SEB or full turnkey basis. b. Any application with applied load not exceeding 100Amp can be submitted via a registered electrical contractor, and to be implemented by SEB. If the works is to be carried out under turnkey basis, the service of an electrical consultant is required.	Infor
3.2	This shall be stated clearly in the revised SEB Application Handbook.	SEB
3.3	Customer such as Government agencies may request budgetary connection charges estimate from SEB.	SEB
3.4	SEB informed that project delivery timeframe is as stated in their Application Handbook and they are taking proactive actions in resolving material shortage issues.	SEB
3.5	SEB will consider reviewing and introduce a range for Category 1 and the assigned load for Kampung house with floor size of more than 755sqft.	SEB
3.6	SEB shall clarify some of the definition in the CCG 2019 such as high voltage, professional engineer and total connected load.	SEB
3.7	SEB shall execute enforcement of the processes throughout its region in order to ensure consistency between departments and between regions in its calculation such as for types of controlled items to charge, shutdown advertisement fee and testing fee.	SEB
3.8	SEB must standardize format of it connection charges released and itemize all charges.	SEB
3.9	SEB must ensure that the scheme and charging is based on Least Cost Technical Design.	SEB
3.10	SEB shall consider to add-in/revise its Schedule of Rate from time to time. The followings are some identified and proposed during the Meeting: a. To add in rates such as HDD rate and underground cable road crossing b. To decide if they need to add in copper cable rate c. To review its street lighting price	SEB
3.11	SEB has to work out the methodology on refund value of removed transformer (in the case of upgrading under turnkey basis) and refund value of removed equipment for temporary supply.	SEB
3.12	MOU informed that all connection charges released before the review shall not be revised to add the Substation Capacity Charge. All customers affected shall write in to SESCO for SESCO consideration.	SEB
3.13	SESCO shall give ample grace period to its customers if there are any future reviews to the Guideline. Any review to the guideline shall require the approval of the Ministry.	SEB

3.14	During the Meeting, stakeholders provided general feedback on the CCG 2019 as follows:	SEB
3.15	3.15.1 SHEDA representatives expressed their appreciation to SEB on inviting them to participate in the revision exercises and congratulated MOU and SEB for the job undertaken. The guideline is generally acceptable and addressed their key issues with regards to their concerns or inconsistency of charging. However, they highlighted that the cost of some items may be further reviewed to ensure competitive rates compared to market rates. 3.15.2 JKP & DBKU representing government agencies generally happy with the schedule of fee as it provides better transparency for them during their budgeting exercises. 3.15.3 SEA expressed their attitudes to SEB as they see an immediate reduction of capacity charge from RM500/KVA to range between RM445/KVA – RM475/KVA.	Infor
3.16	MOU expressed his appreciation to MID, MOH, SHEDA, ACEM and their respective stakeholders for their willingness to participate in the earlier survey.	Infor
5.0	**<u>Any Other Business</u>** 5.1 The Meeting was adjourned at 4:30pm.	

Recorded by:	**Checked By:**	**Agreed by:**
Azlan Bin Sa'at Assistant Engineer	Chan Seng Yu Senior Head Electrical Engineer	Syed Mohammad Fauzi Shahab Director of Electricity Supply
Date: 27 Dec 2019	Date: 27 Dec 2019	Date: 27 Dec 2019

Ref No.: S/KKA/600-6/5 Jld.3(15)

LIST OF PUBLICATIONS

Indexed Conference Proceedings

1. Joo Kok, T., & Abas, N. (2017). Distribution network pricing framework and methodology: Identification of deficiencies of Sarawak Energy Berhad connection charges guidelines through modified Delphi method. *IOP Conference Series: Materials Science & Engineering, 217*. https://doi.org/10.1088/1757-899X/217/1/012029 **(Indexed by SCOPUS)**

2. Joo Kok, T., & Abas, N. (2017). Electricity Breakdown Management for Sarawak Energy: Use of Condition-Based Equipment for Detection of Defective Insulator. *IOP Conference Series: Materials Science & Engineering, 217*. https:// doi:10.1088/1757-899X/217/1/012030 **(Indexed by SCOPUS)**

Non-Indexed Journal

1. Joo Kok, T., & Abas, N. (2017a). Distribution network connection pricing framework and methodology: Comparative analysis on connection charges of utility companies in Malaysia. *Science International (Lahore)*, *29*(1), 81–85.

2. Joo Kok, T., Mohd Ali, N. R., & Abas, N. (2020). Identification of Deficiencies of Electricity Connection Charges Guidelines. *Science International (Lahore)*, *32*(4), 501–505.

Presentation at Conferences

1. Paper titled "**Distribution Network Connection Pricing Framework and Methodology: Comparative Analysis on Connection Charges of Utility Companies in Malaysia**" dated 03 – 04 October 2016, International Conference on Engineering held in Kuching, Sarawak.

2. Paper titled "**Distribution Network Connection Pricing Framework and Methodology: Identification of Deficiencies of Sarawak Energy Berhad Connection Charges Guidelines through Modified Delphi Method**" dated 20-21 April 2017, International Conference on Materials Technology and Energy 2017 held in Miri, Sarawak.

3. Paper titled "**Electrical Breakdown Management for Sarawak Energy: Use of Condition-Based Equipment for Detection of Defective Insulator**" dated 20-21 April 2017, International Conference on Materials Technology and Energy 2017 held in Miri, Sarawak.

4. Paper titled **"Identification of Deficiencies of Electricity Connection Charges Guidelines"** dated 23-25 August 2019, 7th International Conference on Engineering Management 2019 (ICEM 2019) held in Kuala Lumpur, Malaysia.