

# TRINIDAD AND TOBAGO ELECTRICITY COMMISSION



## CAPITAL CONTRIBUTION POLICY

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## **1.0 Introduction**

New customers connecting to T&TEC's network or existing customers wishing to increase the capacity of their supply, may be required, in some instances, to make a payment or a 'contribution' towards the costs associated with the required infrastructure to establish or augment such a supply. Capital Contributions may be applied in a number of instances, including where connections are uneconomical and do not allow the Commission to recover the capital cost of the connection via user charges and rates from the customer, where the required infrastructure is dedicated to the customer, or where such works have not been included in the regulator approved Capital Expenditure Programme of the Commission.

This document outlines T&TEC's approach to the calculation of Capital Contributions and is consistent with the final decisions of the Regulated Industries Commission (RIC) in this regard.

## **2.0 Definitions**

- a. The Point of Connection is defined as the point at which use of the infrastructure is determined to be dedicated to the customer under consideration, as opposed to being shared by many customers.*
  
- b. Works downstream of the Point of Connection are regarded as extensions of the existing system.*
  
- c. All works upstream of the Point of Connection required to incorporate, or increase the capacity of the customer's supply, or for reinforcing the system in response to new demand imposed by this new/enlarged customer so as to maintain an acceptable level of system security, are referred to as system augmentation works.*

### 3.0 Principles of the Policy:

1. All very large load customers D5 and E1 through E5 pay full cost of **any and all** system augmentation, **whether local or remote**, required.
  
2. The full cost of **any and all** system augmentation works required for a connection, whether **LV or HV** is to be paid in the case of a Development, provided that it is for the exclusive use of the development. If these assets may be shared by customers outside of the development, the following will apply:
  - (i) Where single spur HV lines are used to extend to the development, the Commission will be responsible for the HV extension up to the development;
  - (ii) Where 2 or 3-phase HV is used, the Development will be responsible for two-thirds (2/3) of the HV costs.
  - (iii) The developer pays the full cost of the development infrastructure.

*Note: The above holds in all instances of Developments, whether the developer applies for the connection or has sold lots to owners without previously installing electricity supply. In instances of the latter, full costs will still apply.*

3. The capital cost of extensions as defined in **Section 2.0** (b) above, shall be fully for the customer's account.
  
4. Provided that the works upstream of the Point of Connection had not been previously included in T&TEC's rate base, the capital cost of the components dedicated to the customer shall be paid in full by the customer. If there are any components of the system augmentation that may be shared by other potential customers, the capital contribution will be calculated according to a predetermined formula, with the possibility of reimbursement, thereafter. Such capital contribution and reimbursement will be determined according to the following:



$$\text{Capital Contribution} = \text{Network Augmentation Capital Cost} - \text{Incremental Revenue}_{10}$$

where, *Incremental Revenue*<sub>10</sub> is the present value of the incremental revenue stream in the ten (10) years immediately following the capital expenditure, calculated using a discount rate equal to the cost of borrowing allowed in the price limits of the prevailing Rate Determination.

Reimbursement to be:

- (i) Limited to the amount of the original capital contribution adjusted for inflation.
- (ii) Based on a simple apportionment among the potential number of customers in the case of original Rate A and B customers.
- (iii) Limited to within six (6) years from the date of the original customer's application.
- (iv) Paid to the original customer only when the new customer(s) has paid all of the amounts due and has been connected to supply.
- (v) Such that a customer in a lower Tariff Class will not be required to reimburse a customer in a higher Tariff Class.

*For example, a Rate A customer will not reimburse a Rate B customer, nor will a Rate D1 reimburse a Rate D3 customer.*

**Reimbursements will not apply in cases of Developments.**

5. If a system augmentation is required and it is determined that there can be no potential customers, then this job can be treated as a dedicated supply to the customer and the customer will be required to pay the full cost. (Some consideration may be given in specific instances based on geographical location).
6. In the event that a capital contribution is paid for works by a customer (the first customer, "1<sup>st</sup>") and subsequent customers (2<sup>nd</sup>, 3<sup>rd</sup> etc.) benefit from that extension, T&TEC shall commensurately reimburse the first customer according to **Section 3.0(4)** above.
7. Should a customer that paid a capital contribution request a reduction in reserve capacity within the ten (10) year period immediately following receipt of a supply, the customer will

be required to pay an adjusting amount equal to the difference between the cost of the job and the incremental revenue expected from the customer at this reduced reserve capacity.

8. In cases of multi-meter bases the following will apply:

TARIFF CLASS	APPLICATION OF CAPITAL CONTRIBUTION
A 2A 3A 4A <b>5A and above</b>	Capital Contribution Formula to apply Capital Contribution Formula to apply Capital Contribution Formula to apply Capital Contribution Formula to apply <b>Customer to pay full cost of the job</b>
B A and B 2A and B 3A and B <b>4A and B</b> <b>1A and Two or More Non-Residential</b>	Capital Contribution Formula to apply Capital Contribution Formula to apply Capital Contribution Formula to apply Capital Contribution Formula to apply <b>Customer to pay full cost of the job</b> <b>Customer to pay full cost of the job</b>

Table 1

**Note:**

- *Customers requesting five (5) Rate A or more meters must pay for a dedicated transformer.*
- *The UT Engineer would decide on all other requests below five (5) Rate A meters based on the customer's load.*

### 4.0 Selected Applications of the Capital Contribution Policy

To assist with the interpretation and application of this policy, a few examples are provided below.

#### 4.1 An Individual Residential Customer Requiring an Extension

A new residential customer is to receive a new supply by an extension of length  $L$ , in “triplex”, from the existing low voltage mains. The advent of this customer requires no need for augmentation of the pre-existing system. This scenario is illustrated in Figure 1.

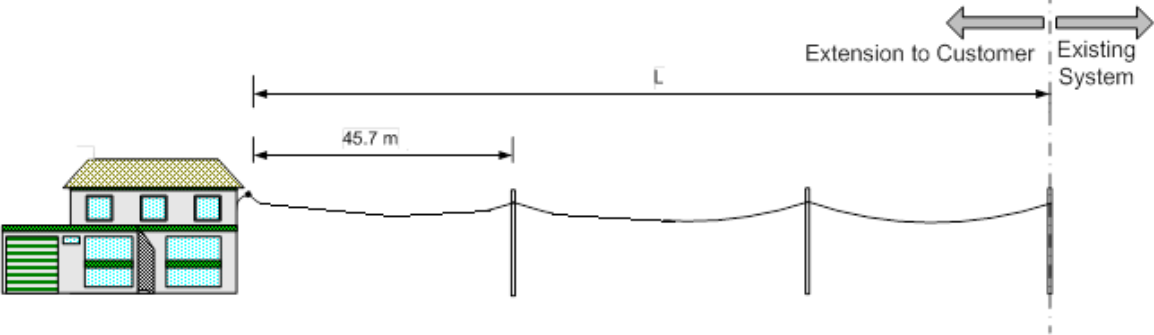


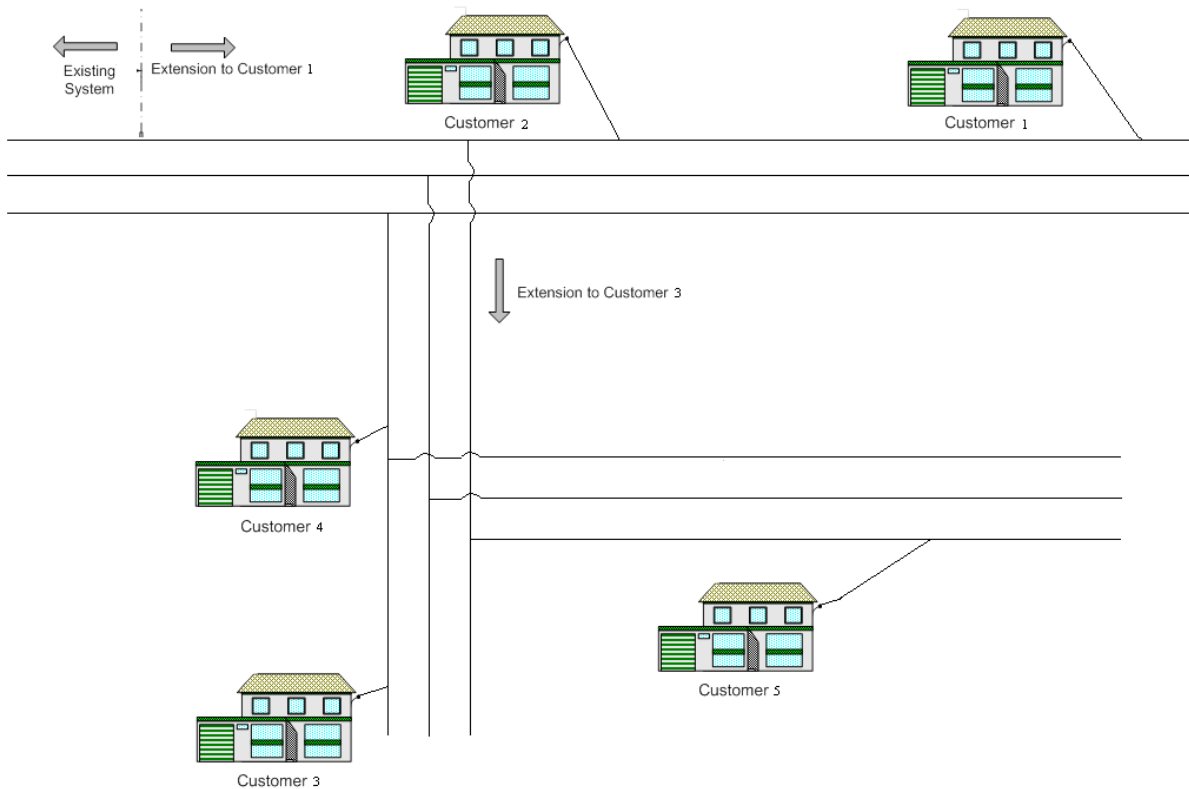
Figure 1

By statute, however, T&TEC must provide, free of charge, extensions of up to 50 yards (45.7 m), measured from the customer’s property. Therefore, the customer must pay a capital contribution for the extension,  $L$  from the existing system with the possibility of re-imbusement.

## 4.2 Residential Customers Requiring an Extension off an Extension

In figure 2 below, a new domestic Customer 1 requires an extension as there was previously no T&TEC infrastructure. Customer 1 will be required to pay a capital contribution. Customer 2 now comes and establishes on a previously empty lot and benefits from the infrastructure constructed for Customer 1, thus Customer 2 has to reimburse Customer 1.

Customer 3 now requires a supply but this entails extending the infrastructure that was initially constructed for Customer 1. Therefore, Customer 3 must reimburse Customer 1 and also pay a capital contribution for the new extension that is required.



**Figure 2**

Thus, Customer 4 and any other Customer(s) that would benefit from this new extension must reimburse Customer 3 and Customer 1. Customer 5 would have to pay the full capital contribution for his new extension.

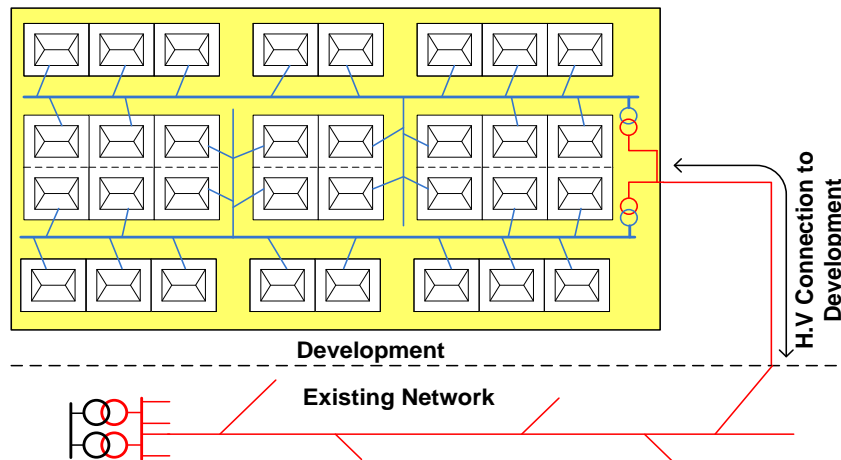
Only one extension from an original extension will be considered in the capital contribution policy.

### 4.3 A Housing Development

A supply is to be made available to a housing development. This scenario is illustrated in Figure 3. If an extension of the existing network is required to supply the development, then this extension up to the boundary of the development is treated separately to the internal infrastructure of the development. The following cases apply up to the boundary:

- If a single phase HV line is needed, then the Commission bears full cost for the extension.
- If a single phase HV line exists, and a second HV line or three-phase is required, then the customer will pay two-thirds of the cost and the Commission bears one-third of the cost.
- If the job requires re-conductoring of the existing feeder to provide the necessary demand to development, then the developer pays full cost for this upgrade.

The cost of the infrastructure within the development is fully for the developer's account<sup>1</sup>.



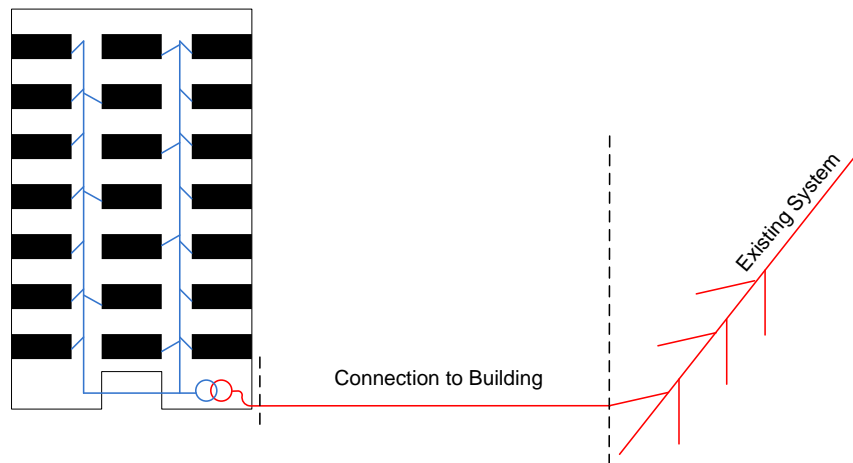
**Figure 3**

<sup>1</sup> And is typically provided by the developer. However it is permissible that the developer provide underground civil infrastructure and T&TEC provide the electrical infrastructure at the developer's expense.

**Note: If the developer vacates prior to any electrical infrastructure being installed, any customer requesting a supply in the development is subject to paying the full cost of the job needed for the said customer to receive a supply. This infrastructure should be the minimum required to provide a supply to the customer and should not include any additional infrastructure that this customer would not need.**

#### 4.4 Multi-Occupant Dwelling Building

In this scenario illustrated in Figure 4, a supply is to be made available to a multi-occupant dwelling building.



**Figure 4**

Because there will be many individual customers supplied via infrastructure within the building provided beforehand by the building owner/developer, this scenario is addressed in essentially the same manner as is a housing development.

These buildings are typically supplied from the existing HV network via an underground cable rather than overhead. Therefore, the use of this infrastructure likely will not come to be shared with other customers so would be designated an extension. Thus its cost will be completely for the account of the owner/developer. As such, Table 1 indicates for 5 rate A and above or 2 rate B and above, the customer pays full cost for the entire job.

#### 4.5 Commercial Customer with Dedicated Transformers

Here a commercial customer such as a supermarket is to be provided a low voltage supply via a dedicated transformer bank provided by the Commission. Two variants of this scenario, one featuring a pole-mounted transformer bank, the other featuring a kiosk-housed bank, are illustrated in Figure 5.

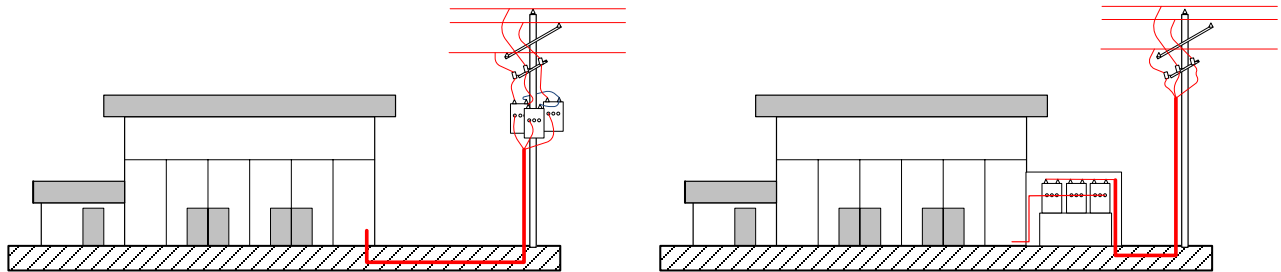


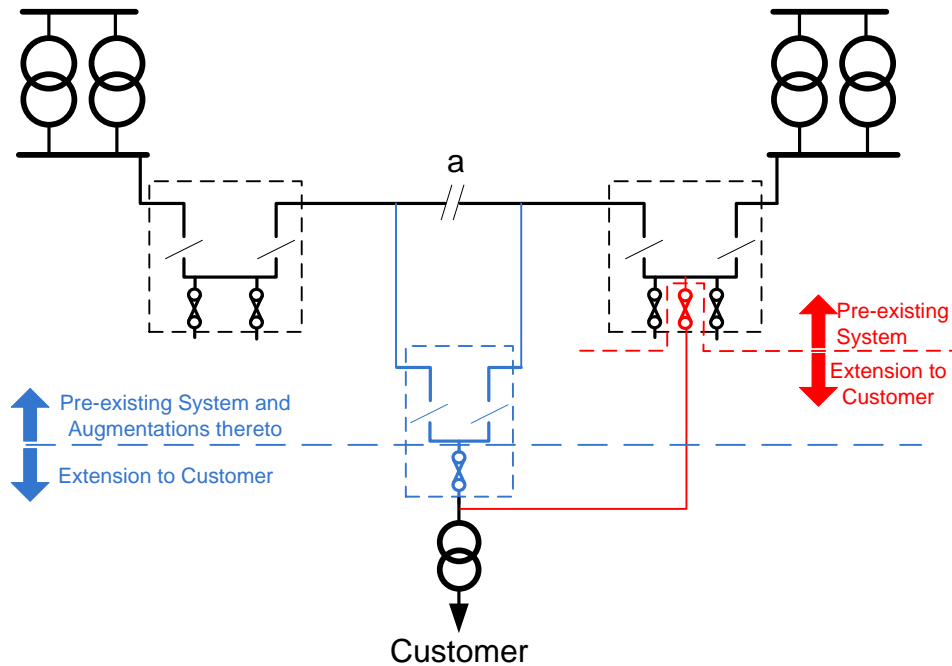
Figure 5

Since in both variants, all of the works, i.e., cut-outs, transformer bank and LV cable, will be dedicated to the customer, they are an extension of the existing system and therefore completely for the customer's account. Of course if, on the other hand the capacity of the pole-mounted bank is expected to be shared with other customers, then it must be regarded a network augmentation and its cost included, instead, in the calculation of a capital contribution to be paid by the first customer, and upon which the reimbursement mechanism may operate when other customers arrive.

If any other augmentation of the local network is also required, it too must be included in the same capital contribution calculation.

## 4.6 Supply from Ring-Mains

In this scenario, to supply an urban D1 or D2 customer, an existing underground ring-main has been diverted and a new ring-main unit (RMU) installed. In Figure 6 these works are shown in blue.



**Figure 6**

The fuse-switch, HV cable, transformer and LV cable dedicated to supplying the customer must be paid for in full by the customer.

The underground diversion and the RMU that was installed specifically for the incorporation of the customer is regarded as system augmentation and the capital contribution should be applied. Therefore, the two (2) non-fuse switch and HV cable on the main circuit would be categorized as shared resources.

Therefore, generally speaking, this solution ought to be applied to this type of customer only where there is a high likelihood that other customers will soon appear nearby and make use of the RMU. In this way this Commission-borne augmentation cost would be amortized over the revenue stream of the group of customers, rather than just the one.

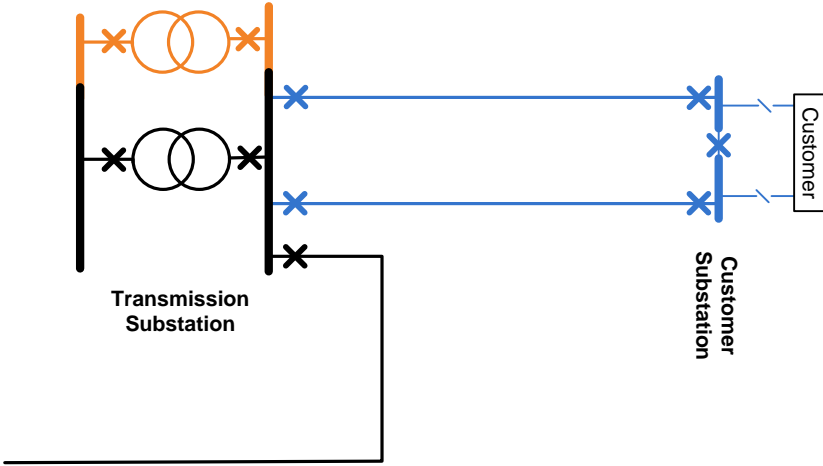
The alternative supply arrangement for such a customer would be to install a new fuse-switch at an existing RMU and run out a radial cable to the customer, as shown in red in the Figure 6. In this case all of these works legitimately comprise an extension of the existing system and thus would be fully for the account of the customer.

If any other augmentations in the local system, e.g. an increase in the capacity of the ring-main unit cable or a transformer capacity increase at either source substation, be required, capital contribution calculation would apply to those works.

Note if there are no possible customers to benefit from the above extension, including the non-fuse switch, then the entire cost will be for the customer’s account.

**4.7 Industrial Customer – Extension from Existing Substation**

In this scenario an industrial customer is supplied from a dedicated substation energized from a transmission busbar via two new circuits, each requiring the establishment of a new circuit bay at the transmission substation. In Figure 7 all of these works are rendered in blue; they comprise an extension of the existing system and as such their capital cost is completely for the customer’s account.



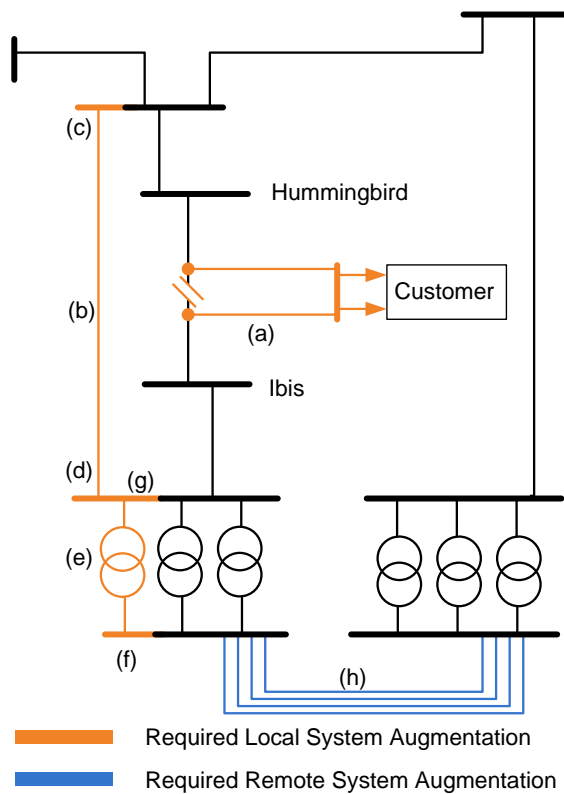
**Figure 7**

Further, in the case of a customer in an industrial Tariff Class up to and including D4, any augmentation of the local network required, such as the installation of the transformer and

associated switchgear, rendered in orange in Figure 7, the capital contribution would be determined by the application of the formula. In the case of a customer in the Tariff Classes D5 and E1 through E5, any and all system augmentation whether local or remote (i.e. beyond the first transformation), must be fully paid for by the customer.

#### 4.8 Industrial Customer – Inserted into a Ring

This scenario is different from that of **Section 4.7** in that the customer substation, which is identical in form to that described in that earlier example, is inserted into an existing circuit rather than being energized from an existing bus.



**Figure 8**

The works required to physically incorporate the customer consist of the customer substation and the diversion of the existing transmission circuit between Ibis and Hummingbird substations (a). However, just as in **Section 4.6**, these must be considered system augmentations. Other local system augmentations are the establishment of a new transmission line (b) and the new circuit bays this necessitates (c) and (d), the installation of a new transformer (e) and the circuit bays that that

necessitates (f) and (g). Item (h), the re-conductoring of existing transmission circuits, being beyond the first transformation, is a remote system augmentation.

If this new customer is D4 or smaller, full cost applies to item (a) and a capital contribution must be calculated based on items (b) through (h); if the new customer is a D5 or E1 through E5 customer, the full cost of items (a) through (h) must be paid by the customer.