# EXHIBIT 7 – COST ALLOCATION

## 2020 Cost of Service

Algoma Power Inc.
EB-2019-0019

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# 7.2 COST ALLOCATION STUDY REQUIREMENTS

## 7.2.1 OVERVIEW OF COST ALLOCATION

API has prepared and is filing a cost allocation study consistent with its understanding of the Directions and Policies in the Board's Reports of November 28, 2007 Application of Cost Allocation for Electricity Distributors and March 31, 2011 Review of Electricity Distribution Cost Allocation Policy (EB-2010-0219) (the "Cost Allocation Reports") and all subsequent updates.

**Previously Approved Cost Allocation Study (2015)**

The cost allocation study filed in API's last Cost of Service application (EB-2014-0455) resulted in revenue-to-cost ratios outside of the OEB's filing guideline ranges for API's Seasonal and Street Lighting rate classes. In its Decision and Order in EB-2014-0055, the OEB approved a plan to adjust the revenue-to-cost ratio for the Seasonal rate class over the subsequent IRM years such that the ratio would gradually reach the lower end of the OEB's policy range. Further, the revenue-to-cost ratio for the Street Lighting class was required to be increased in each IRM year to the point which result in a 10% total bill impact. The OEB-approved revenue-to-cost ratios for the 2015-2019 period are summarized in the following table.

**Table 1 – Previously Approved Ratios (2015-2019)**

| Future Revenue-to-Cost Ratio Design Criteria from EB-2014-0055 | | | | | |
|---|---|---|---|---|---|
| | **2015** | **2016** | **2017** | **2018** | **2019** |
| Residential - R1 | 110.63% | Beneficiary | | | |
| Residential - R2 | 110.74% | Beneficiary | | | |
| Seasonal | 60.00% | 66.00% | 72.00% | 78.00% | 85.00% |
| Street Lighting | 25.04% | 10% Total Bill Impact | | | |

API notes that during the course of the EB-2014-0055 proceeding it had proposed the possibility of a revised cost allocation study to be filed as part of its 2016 IRM application that took into account the uniqueness of API's system configuration, such as its very low customer density and the use of bulk assets, in conjunction with a freezing of the then status quo revenue-to-cost ratios. As noted above the Board ultimately ordered API to implement a phase in of revenue-to-cost ratios based on the results of the 2015 Cost Allocation Study, asserting that it would be inappropriate for API to include a new cost allocation study as part of an IRM application. In rejecting API's proposal, the Board encouraged API to proceed with a new cost allocation study in an appropriate form of application. API has reviewed possible changes to the allocation of its costs that would be both appropriate and material in impact and as a result has proposed an allocation of the rate base amounts related to poles, overhead conductors and devices and underground conductors and devices to the category of "bulk delivery", an adjustment described in more detail below, with a corresponding change in the overall costs allocated to each rate class.

**Proposed Cost Allocation Study (2020)**

The Cost Allocation Study for 2020 allocates the 2020 test year costs (i.e., the 2020 forecast revenue requirement) to the various customer classes using allocators that are based on the forecast class loads (kW and kWh) by class, customer counts, etc.

API has used the most up to date OEB Cost Allocation Model (version 3.6, issued July 12, 2018) and followed the instructions and guidelines issued by the OEB to enter the 2020 data into this model.

API confirms that there are no new or eliminated customer classes, and no changes to the definition of existing classes. The separation of the R1 rate class into two sub-classes for rate-setting purposes (described below) does require changes to the cost allocation process, due to the use of equivalent rates for cost allocation.

**Use of Equivalent Rates - R1 and R2 Rate Classes**

Ontario Regulation 445/07 effectively reclassifies API's traditional GS < 50 kW and GS > 50 kW customers as residential rate class customers for the purpose of setting distribution rates, thereby allowing the revenue requirement associated with these groups of customers to be partially funded through RRRP. API's rate classes are therefore comprised of two residential rate classes, being R1 for energy-billed customers (traditional residential and GS < 50 kW), and R2 for demand-billed customers (traditional GS > 50 kW).

The details by which 2020 distribution rates for the R1 and R2 rate classes are updated through the application of a RRRP adjustment factor, and the determination of the 2020 RRRP funding amount for API are described in Exhibit 8. For the purpose of the cost allocation study, however, it is necessary to consider the allocation of the RRRP funding amount to the R1 and R2 rate classes in order to for the cost allocation model to produce appropriate revenue-to-cost ratios. This is achieved through the use of equivalent rates for the R1 and R2 rate classes in Sheet I6.1 of the OEB cost allocation model. The concept of equivalent rates was introduced for the purpose of cost allocation and rate design in API's 2010/2011 cost of service application (EB-2009-0278), and has been maintained throughout subsequent incentive rate-setting and cost of service applications. Equivalent rates are those rates that would be required to recover the approved revenue requirement allocated to each of the R1 and R2 rate classes in the absence of RRRP funding.

The calculation of equivalent rates begins with the class-specific revenue requirements calculated in API's 2019 IRM application (EB-2018-0017), as shown in Table 2 below. These 2019 class revenue requirements are the 2015 OEB-approved revenue requirements for each class, rebalanced according to achieve the 2019 revenue-to-cost ratios shown in Table 1, and then indexed by the 2016-2019 price-cap adjustment factors.

**Table 2 – 2019 Class-Specific Revenue Requirements**

| IRM Indexed Revenue Requirement for 2019 (Excluding Transformer Ownership Allowance) | | | |
|---|---|---|---|
| **Customer Class** | **Revenues** | | |
| | **Fixed** | **Variable** | **Total Revenue** |
| **Residential - R1** | 2,223,200 | 14,067,890 | 16,291,090 |
| **Residential - R2** | 481,955 | 3,531,094 | 4,013,049 |
| **Seasonal** | 1,528,124 | 1,688,979 | 3,217,103 |
| **Street Lighting** | 25,060 | 266,340 | 291,401 |
| | **4,258,339** | **19,554,303** | **23,812,642** |

API notes that in its 2016 IRM application (EB-2015-0051), the OEB determined that its policy on transitioning traditional residential customers to fully fixed rates would apply to API's traditional residential customers and to its Seasonal rate class, but not to those customers required to be treated as residential under O. Reg. 445/07. The R1 rate class was therefore split into two subclasses[1] for the purpose of implementing the OEB's policy. For cost allocation purposes, it is not necessary to split the R1 rate class, since rates for both subclasses are set in accordance with RRRP regulations, and not based on the results of the cost allocation study. It is however necessary to consider the impact of the OEB policy of transition to fixed rates for the purpose of determining the appropriate 2019 equivalent rates for the R1 class. In Table 3 below, the 2019 revenue from rates from API's 2019 IRM decision for the R1(i) and R1(ii) subclasses are added together to determine the combined fixed/variable split for the entire R1 rate class.

**Table 3 – Calculation of Fixed/Variable Split for R1 Rate Class**

| Update R1 Fixed/Variable Split for Equivalent Rates to Reflect OEB Policy Transition for Fixed Residential Rates (Excluding Transformer Ownership Allowance) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Customer Class | Cust # | kWh | F/V Split | | Distribution Rates | | Revenues | | |
| | | | Fixed | Variable | Monthly Service Charge | Variable Charge | Fixed | Variable | Total Revenue |
| **Residential - R1(i)** | 7531 | 80,045,884 | 73.5% | 26.5% | 42.23 | 0.0172 | 3,816,435 | 1,373,158 | 5,189,592 |
| **Residential - R1(ii)** | 965 | 25,745,817 | 24.2% | 75.8% | 25.64 | 0.0361 | 296,874 | 929,003 | 1,225,877 |
| **Combined** | **8496** | **105,791,701** | **64.1%** | **35.9%** | **40.35** | **0.0218** | **4,113,309** | **2,302,161** | **6,415,470** |

The fixed/variable split calculated in Table 3 above is used for the purpose of determining 2019 equivalent rates for the R1 rate class, as shown in Table 4 below. For the R2 rate class, the fixed/variable split is based on the approved ratio of 12%/88% from EB-2014-0055. For the Seasonal and Street Lighting rate classes, which are not subject to RRRP funding, approved 2019 rates are used in Sheet I6.1 of the cost allocation model. The following table summarizes the

[1] The two classes are: R1(i) – traditional residential customers; and R1(ii) – customers with a demand < 50 kW that are treated as residential rate-class customers under O. Reg. 445/07.

equivalent rates (for R1 and R2) and actual rates (for Seasonal and Street Lighting) input in Sheet I6.1.

**Table 4 – Rates for Sheet I6.1**

| Equivalent / Actual 2019 Distribution Rates for Use in 2020 Cost Allocation (Excluding Transformer Ownership Allowance) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | F/V Split | | Distribution Rates | | Revenues | | |
| Customer Class | Cust # | kWh | kW | Fixed | Var | Monthly Service Charge | Variable Charge | Fixed | Variable | Total Revenue |
| Residential R1 | 8496 | 105,791,701 | | 64.1% | 35.9% | 102.45 | 0.0553 | 10,445,109 | 5,845,980 | 16,291,090 |
| Residential R2 | 50 | | 198,901 | 12.0% | 88.0% | 803.26 | 17.7530 | 481,955 | 3,531,094 | 4,013,049 |
| Seasonal | 3138 | 7,731,414 | | 64.1% | 35.9% | 54.75 | 0.1494 | 2,061,810 | 1,155,293 | 3,217,103 |
| Street Lighting | 1018 | 804,705 | | 8.6% | 91.4% | 2.05 | 0.3310 | 25,060 | 266,340 | 291,401 |
| Total | | | | | | | | 13,013,935 | 10,798,707 | 23,812,642 |

## Acquisition of Assets and Customers of Dubreuil Lumber Inc.

Dubreuil Lumber Inc. ("DLI") and API applied to the OEB on September 24, 2018 (EB-2018-0271) for approvals in connection with API's planned purchase of DLI's electricity distribution system in the Township of Dubreuilville and the incorporation of that system into API's existing regulated distribution business (the "MAAD Application"). As part of the MAAD Application, API requested that the OEB endorse a proposed approach to its 2020 cost allocation study that would allow the proposed transaction to proceed in a manner that would avoid adversely impacting its existing customers. In summary, based on the fact that all existing DLI customers are classified as either residential or commercial, API proposed that in its 2020 cost allocation study any costs that can be specifically attributed to the DLI service area would be allocated primarily to its R1 and R2 rate classes. API further clarified through responses to IRs that it would be appropriate to allocated a small portion of such costs to the Street Lighting rate class, to recognize that there are currently unbilled street lights in the DLI service area, and that API would begin receiving revenue from a newly created Street Light account for the Township of Dubreuilville.

In its April 4, 2019 Decision and Order, the OEB found that API's cost allocation proposal is a matter that should be determined by the OEB panel in the current Application, but agreed with API that its approach to integrating DLI costs into API's revenue requirement should be done in a manner that ensures there is no harm to API's existing customers. The treatment of allocating costs related to DLI, as described in this Exhibit 7, is consistent with the proposal put forward by API in the MAAD Application and API requests that the OEB make a determination on the appropriateness of this proposal as a preliminary issue, as described in Section 1.3.4 of Exhibit 1.

API prepared the current Application on the basis of fully integrating the DLI distribution system and DLI customers with its existing distribution business. As such, the 2020 cost allocation study includes the costs associated with the DLI service area, as well as the associated customer counts and load forecasts. Further details of the adjustments to the 2020 load forecast to remove the legacy DLI account and associated load from the R2 rate class and to add the corresponding customer counts and load to the R1 and Street Lighting rate classes can be found in Exhibit 3.

Details on the direct allocation of costs that can be specifically attributed to the DLI service area are found in Sheet I3 and Sheet I9 of the cost allocation model. In Sheet I3, API identified the cost of fixed assets in the DLI service area as well as 2020 O&M costs specifically attributable to the DLI service area and entered these amounts into column G (Direct Allocation) of this worksheet. The OEB cost allocation model allows costs entered in column G of Sheet I3 to be manually allocated to specific rate classes in Sheet I9.

API notes that due to historical issues with large commercial metering installations in the DLI service area it does not have a sufficient demand history to classify commercial accounts as R2 (i.e. demand > 50 kW) at this time. As such, all residential and commercial customers are considered R1 for the purpose of directly allocating cost related to the DLI service area. In Sheet I9, the amounts identified for direct allocation in Sheet I3 were allocated 99.42% to the R1 rate class and 0.58% to the Street Lighting rate class, based on the following analysis of 2018 year-end customer count and load information for the DLI service area:

**Table 5 – 2018 Year-End Customer Counts**

| Dec 31, 2018 Customer Counts | Connections | Accounts |
|---|---|---|
| Residential (move to R1(i)) | 311 | 311 |
| Commercial (move to R1(ii)) | 46 | 46 |
| Street Light Connections | 50 | 1 |

**Table 6 – Calculation of DLI-Area Street Light Customer Base**

| | |
|---|---|
| DLI Area Street Light Connections | 50 |
| Street Lighting Adjustment Factor | 19.2736 |
| DLI Area Street Light Customer Base | 2.59 |

**Table 7 – DLI-Area Customer Base for Cost Allocation**

| Customer Base for Direct Allocation | Customer Base | % |
|---|---|---|
| Residential (R1) | 311 | 86.49% |
| Commercial (R1) | 46 | 12.79% |
| Street Light | 2.59 | 0.72% |
| Total | 359.59 | 100% |

**Table 8 – 2018 DLI-Area Load**

| 2018 kWh totals | kWh | % |
|---|---|---|
| Residential Billed | 4,394,227 | 58.90% |
| Commercial Billed | 3,039,143 | 40.74% |
| Street Light Estimated | 26,651 | 0.36% |
| Total Billed + Streetlights | 7,460,021 | 100% |

**Table 9 – Calculation of DLI-Area Street Light Cost Allocation Factor**

| Street Light Allocation Factor for Sheet I9 | | | |
|---|---|---|---|
| | Customer Base | Demand | Total |
| % Allocation | 0.72% | 0.36% | |
| Weight | 0.60 | 0.40 | 1.00 |
| Weighted Factor | 0.43% | 0.14% | **0.58%** |

**Summary of Steps to Populate the OEB Cost Allocation Model**

API populated the information in Sheet I3, Trial Balance Data with the 2020 forecasted data, Target Net Income, PILs, interest on long term debt, and the targeted Revenue Requirement and Rate Base. Certain costs related to the DLI service area were entered in column G of this worksheet and in Sheet I9 these same amounts were allocated directly to the R1 and Street Lighting rate classes as described above.

In Sheet I4, Break-out of Assets, API updated contribution, depreciation and amortization expense values based on 2020 values. In the 2015 cost allocation study, rate base amounts associated with poles, overhead conductors and devices, and underground conductors and devices, were broken out into primary and secondary costs only. During the 2015 EB-2014-0055 hearing process, API discussed that further consideration should be given in its next cost allocation study toward allocating a portion of these assets to "bulk delivery" in the cost allocation model, in order to appropriately reflect that the functionality of its 34.5 and 44 kV express feeder assets is to meet system demand as opposed to connecting individual customers. The required adjustments were made in Sheet I4 of the 2020 cost allocation study, in response to the Board's encouragement in its Decision in the EB-2014-0055 proceeding for API to consider refinements to its next cost allocation study.

In Sheet I5.1, Miscellaneous Data, API updated the deemed equity component of rate base, kilometre of roads in the service area, working capital allowance, and the proportion of pole rental revenue from secondary poles.

As instructed by the Board, in Sheet I5.2, Weighting Factors, API has used LDC specific factors rather than continue to use OEB approved default factors. Further discussion of these weighting factors is provided in Section 7.2.3 below.

Sheet I6.1 contains updated load forecast details by rate class, consistent with API's proposed load forecast, as presented in Exhibit 3. The existing rates entered in this sheet reflect the rates approved in API's 2019 IRM application for the Seasonal and Street Lighting rate classes. For the

R1 and R2 rate classes, API entered the Equivalent Rates, as described in the previous section of this Exhibit.

Sheet I6.2 has been updated with the required Bad Debt and Late Payment revenue data as well as the number of customers (and connections, where applicable), consistent with API's proposed load forecast, as presented in Exhibit 3.

API updated the capital cost per meter information in Sheet I7.1 and the meter reading information in Sheet I7.2 to reflect its completed deployment of smart meters, with consideration of additional metering activity in recent years.

The demand data entered in Sheet I8, Demand Data, reflects the continued use of the load profiles provided by Hydro One based on 2004 demand data, scaled for consistency with API's 2020 load forecast. The calculation of the scaling factor, and the rationale for continued use of the 2004 load profiles in provided in Section 7.2.2 below.

A live Excel version of 2020 cost allocation model has been filed along with this application. API confirms that it has also populated sheets 11 and 12 of the Revenue Requirement Work Form. API confirms that the inputs to the model are consistent with the test year load forecast, changes to customer classes and load profiles.

### 7.2.2 LOAD PROFILES

In a letter dated June 12, 2015, the OEB stated that it expected distributors to be mindful of material changes to load profiles and to propose updates in their respective cost of service applications when warranted. The OEB also stated that it did not plan to lead a generic update of distributor load profiles, and the Filing Requirements note that the OEB has recently required that load profiles for all classes be updated at the same time, not just selective updating.

In considering its ability to update load profiles for the 2020 cost allocation study, API determined that it does not have hourly data for the majority of its R2 customers since only 10 of 37 customers are interval metered as API is in the early stages of MIST meter installation. API anticipates having multiple years of accurate hourly load profile data available at the time of its next cost of service application, and confirms that it will put plans in place to update its load profiles at that time.

For the 2020 cost allocation study, the following table summarizes that calculation of the scaling factor used to adjust the 2004 load profile values for consistency with the 2020 load forecast.

**Table 10 – Calculation of 2004 to 2020 Scaling Factor**

| | | Residential - R1 | Residential - R2 | Street Lighting | Seasonal |
|---|---|---|---|---|---|
| **2020 Forecast kWh** | A | 103,931,742 | 85,867,987 | 595,435 | 5,439,365 |
| **2004 kWh** | B | 116,405,256 | 67,202,505 | 1,082,423 | 12,689,695 |
| **Scaling Factor** | C = A/B | 0.89 | 1.28 | 0.55 | 0.43 |

The 2004 class-specific values for coincident and non-coincident peaks by customer class were combined to reflect current rate class structures[2], and were scaled using the factors calculated above. Further, non-coincident peak values for Line Transformer and Secondary for the R2 class were scaled to exclude demand from those customers that own their transformers and secondary systems (i.e. customers receiving the transformer allowance credit), based on the following ratio of 2020 CDM-adjusted forecast kW demand:

**Table 11 – Scaling of R2 NCP kW (Line Transformer and Secondary)**

| | | |
|---|---|---|
| **Total R2 kW** | A | 196,648 |
| **Total R2 kW - Transformer Allowance** | B | 145,265 |
| **Scaling Factor** | C = (A - B) / A | 0.26 |

A copy of Sheet I8, which details all of the coincident peak and non-coincident peak inputs is provided on the following page.

[2] 2004 values for Residential and GS < 50 kW values were combined for the R1 rate class; GS > 50 kW and Large User values were combined for the R2 rate class.

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# Sheet I8 Demand Data Worksheet - Application

This is an input sheet for demand allocators.

| CP TEST RESULTS | 4 CP |
|---|---|
| NCP TEST RESULTS | 4 NCP |

| Co-incident Peak | Indicator |
|---|---|
| 1 CP | CP 1 |
| 4 CP | CP 4 |
| 12 CP | CP 12 |

| Non-co-incident Peak | Indicator |
|---|---|
| 1 NCP | NCP 1 |
| 4 NCP | NCP 4 |
| 12 NCP | NCP 12 |

| Customer Classes | | Total | Residential | R2 | Street Light | Seasonal |
|---|---|---|---|---|---|---|
| | | | 1 | 3 | 7 | 12 |
| | | CP Sanity Check | Pass | Check 4CP | Check 4CP and 12CP | Check 4CP and 12CP |
| **CO-INCIDENT PEAK** | | | | | | |
| **1 CP** | | | | | | |
| Transformation CP | TCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| Bulk Delivery CP | BCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| Total Sytem CP | DCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| **4 CP** | | | | | | |
| Transformation CP | TCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| Bulk Delivery CP | BCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| Total Sytem CP | DCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| **12 CP** | | | | | | |
| Transformation CP | TCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| Bulk Delivery CP | BCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| Total Sytem CP | DCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| **NON CO_INCIDENT PEAK** | | | | | | |
| | | NCP Sanity Check | Pass | Pass | Pass | Pass |
| **1 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP1 | 48,275 | 28,408 | 18,116 | 166 | 1,585 |
| Primary NCP | PNCP1 | 48,275 | 28,408 | 18,116 | 166 | 1,585 |
| Line Transformer NCP | LTNCP1 | 34,892 | 28,408 | 4,734 | 166 | 1,585 |
| Secondary NCP | SNCP1 | 34,892 | 28,408 | 4,734 | 166 | 1,585 |
| **4 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP4 | 174,464 | 100,397 | 67,921 | 639 | 5,508 |
| Primary NCP | PNCP4 | 174,464 | 100,397 | 67,921 | 639 | 5,508 |
| Line Transformer NCP | LTNCP4 | 124,290 | 100,397 | 17,747 | 639 | 5,508 |
| Secondary NCP | SNCP4 | 124,290 | 100,397 | 17,747 | 639 | 5,508 |
| **12 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP12 | 414,892 | 224,266 | 177,922 | 1,691 | 11,013 |
| Primary NCP | PNCP12 | 414,892 | 224,266 | 177,922 | 1,691 | 11,013 |
| Line Transformer NCP | LTNCP12 | 283,459 | 224,266 | 46,490 | 1,691 | 11,013 |
| Secondary NCP | SNCP12 | 283,459 | 224,266 | 46,490 | 1,691 | 11,013 |

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## 7.2.3 WEIGHTING FACTORS

As part of its 2015 cost allocation study, API developed weighting factors based on input from staff with knowledge of each particular cost element. These weighting factors and supporting rationale were reviewed with API Customer Service and Engineering supervisors during the preparation of the 2020 cost allocation study and, based on this review, the values remain unchanged from the 2015 values. The weighting factors summarized below are input in Sheet I5.2 of the OEB cost allocation model.

**Weighting Factor for Services Account 1855**

Due to the very rural nature of the API distribution system, the ongoing practice has all customers providing their own service assets which are connected to API's distribution system by API personnel using API's connection assets. The weighting factors are based on an estimated of time and materials required to complete these connections.

**Residential – R1:** the weighting factor is set to a value of 1, per the Instructions worksheet in OEB's cost allocation model.

**Residential – R2:** the weighting factor is set to 10 to reflect that connection assets must be suited to larger services and to reflect that these connections are often more complex, and that additional labour is often required to coordinate connection and commissioning activities with the customer's contractor.

**Street Lighting:** the weighting factor is set to 0.25 to reflect that connection assets are both fewer in number and less costly for the smaller services associated with supply to street lights. Further, these types of connections are often scheduled such that multiple connections occur sequentially in a small area as a result of street light conversions or other projects involving upgrade, transfer, or relocation of street lights, minimizing the labour per connection.

**Seasonal:** the weighting factor is set to 1 since there is no appreciable difference between connection of the average Seasonal service as compared to Residential R1.

**Weighting Factors for Billing and Collecting**

**Residential – R1:** the weighting factor is set to a value of 1, per the Instructions worksheet in OEB's cost allocation model. This base case reflects monthly billing, based primarily on automated meter reads. It also reflects that most customer service and collection calls for these customers are often settled in a single call, without escalation.

**Residential – R2:** the weighting factor is set to 5 to reflect that billing is significantly more complex due to validating, editing and adjustment of interval data, incorporation of manual reads for non-MIST meters, and review of global adjustment amounts. From a customer service and collections perspective, these accounts often require escalation to a supervisor, increased follow up, and occasionally face-to-face meetings.

**Street Lighting:** the weighting factor is set to 1.75 to reflect the additional effort in maintaining, reviewing and auditing data on street light connections with associated parameters for billing.

**Seasonal:** the weighting factor is set to 1 since Seasonal customers are, like R1 customers, also billed monthly, and there is no appreciable difference in resolving customer service and collection calls for Seasonal customers as compared to Residential R1.

## 7.2.4 SELECTED INPUT AND OUTPUT SHEETS

In accordance with the Filing Requirements, distributors using the OEB-issued model must file a hard copy of input sheets I6 and I8, and output sheets O1 and O2 (first page only). The required information is included as Appendix A to this Exhibit.

Sections 7.3 and 7.4 below provide an analysis and summary of the results from the 2020 cost allocation study contained in output sheets O1 and O2.

## 7.2.5 SPECIFIC CUSTOMER CLASSES

Section 2.7.1.1 of the Filing Requirements provides policy guidance on cost allocation matters for specific customer classes.

**Embedded Distributor Class**

API provides service to DLI as an embedded distributor, and has historically categorized DLI as a Residential R2 customer. As discussed in Section 7.2.1 above, DLI and API have applied to the OEB for approval of API's purchase of DLI's electricity distribution system, and API's 2020 cost allocation study incorporates the removal of the legacy R2 account, and the addition of individual accounts in the R1 and Street Lighting rate classes. As such, API does not anticipate providing service to an embedded distributor in 2020, and the filing requirements related to this class are not applicable.

**Unmetered Loads (Including Street Lighting)**

API acknowledges the OEB's change in cost allocation policy for the Street Lighting rate class, and confirms that the "street lighting adjustment factor" has been appropriately calculated by the OEB cost allocation model, and reflected in other aspects of its 2020 cost allocation study, such as determining the appropriate factor for direct allocation of a portion of DLI service area costs to the Street Lighting rate class. API has discussed changes to the OEB's policy with respect to cost allocation for street lights to its municipal customers during annual stakeholder meetings.

API's unmetered scattered load customers are included as general service customers in its R1(ii) rate class. As such, rates for these customers are adjusted annually in accordance with RRRP regulations, as described in Exhibit 8, and are unaffected by changes in cost allocation.

**MicroFIT**

API applies the generic rate of $5.40 per month, and has not included MicroFIT in the cost allocation model.

**Standby Rates**

API confirms that it does not have approved standby rates, and is not requesting approval of standby rates in this Application.

# 7.3 CLASS REVENUE REQUIREMENTS

## 7.3.1 CLASS REVENUE ANALYSIS

Table 12 below shows the results of the 2020 cost allocation study.

**Table 12 – Results of the Cost Allocation Study**

| | REVENUE ALLOCATION (sheet O1) | | | | | | | CUSTOMER UNIT COST PER MONTH (sheet O2) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Class Name** | **Service Rev Req (row40)** | | **Misc. Revenue (mi) (row19)** | | **Base Rev Req** | | **Rev2Cost Expenses %** | **Avoided Costs (Minimum Charge)** | **Directly Related** | **Minimum System with PLCC * adjustment** |
| Residential R1 | 17,734,283 | 68.37% | 29,966 | 57.75% | 17,704,317 | 68.40% | 104.57% | $12.33 | $19.24 | $90.06 |
| Residential R2 | 4,673,684 | 18.02% | 16,609 | 32.01% | 4,657,075 | 17.99% | 88.33% | $300.86 | $455.77 | $588.76 |
| Seasonal | 3,349,675 | 12.91% | 3,633 | 7.00% | 3,346,042 | 12.93% | 90.06% | $10.41 | $16.26 | $83.68 |
| Street Lighting | 179,424 | 0.69% | 1,681 | 3.24% | 177,742 | 0.69% | 137.69% | $0.72 | $1.24 | $12.53 |
| **TOTAL** | **25,937,065** | **100.00%** | **51,889** | **100.00%** | **25,885,176** | **100.00%** | | | | |

Table 13 below shows the allocation percentage and base revenue requirement allocation resulting from (a) the results of 2020 cost allocation study, (b) distribution revenue at "Status Quo Rates" (i.e. row 25 of Sheet O1), and (c) API's proposed 2020 allocation resulting from the adjustment of revenue-to-cost ratios, as further described in Section 7.4.

**Table 13 – Base Revenue Requirement Under 3 Scenarios**

| **Customer Class Name** | **Proposed Base Revenue Requirement %** | | | | | |
|---|---|---|---|---|---|---|
| | **Cost Allocation Results** | | **Status-Quo Rates** | | **Proposed Allocation** | |
| Residential R1 | 68.40% | 17,704,317 | 71.53% | 18,515,174 | 71.53% | 18,515,174 |
| Residential R2 | 17.99% | 4,657,075 | 15.88% | 4,111,620 | 16.01% | 4,143,355 |
| Seasonal | 12.93% | 3,346,042 | 11.64% | 3,013,020 | 11.64% | 3,013,020 |
| Street Lighting | 0.69% | 177,742 | 0.95% | 245,362 | 0.83% | 213,627 |
| **TOTAL** | **100.00%** | **25,885,176** | **100.00%** | **25,885,176** | **100.00%** | **25,885,176** |

Table 14 below shows the revenue offset allocation which resulted from Cost Allocation Study (Sheet O1).

**Table 14 – Revenue Offset Allocation as per Cost Allocation Study**

| Customer Class Name | Revenue Offsets | |
|---|---|---|
| | % | $ |
| Residential R1 | 57.75% | 29,966 |
| Residential R2 | 32.01% | 16,609 |
| Seasonal | 7.00% | 3,633 |
| Street Lighting | 3.24% | 1,681 |
| **TOTAL** | **100.00%** | **51,889** |

Table 15 shows the allocation of the service revenue requirement under the same three scenarios as Table 13:

**Table 15 – Service Revenue Requirement Under 3 Scenarios**

| Customer Class Name | Service Revenue Requirement $ | | |
|---|---|---|---|
| | Cost Allocation | Status-Quo Rates | Rate Application |
| Residential R1 | 17,734,283 | 18,545,140 | 18,545,140 |
| Residential R2 | 4,673,684 | 4,128,229 | 4,159,964 |
| Seasonal | 3,349,675 | 3,016,653 | 3,016,653 |
| Street Lighting | 179,424 | 247,043 | 215,308 |
| **TOTAL** | **25,937,065** | **25,937,065** | **25,937,065** |

## 7.4 REVENUE-TO-COST RATIOS

### 7.4.1 COST ALLOCATION RESULTS AND ANALYSIS

The tables below show the results from Sheet 11 of API's 2020 Revenue Requirement Work Form (RRWF). The calculations below show that the status quo revenue-to-cost ratio for the Street Lighting rate class is above the OEB's policy range of 80-120%. As a result, API has proposed a rebalancing of revenue-to-cost ratios as further detailed in Section 7.4.2 below.

**Table 16 – RRWF Sheet 11**

**A) Allocated Costs**

| Name of Customer Class | Costs Allocated from Previous Study | % | Costs Allocated in Test Year Study (Column 7A) | % |
|---|---|---|---|---|
| Residential R1 | $15,134,936 | 65.00% | $17,734,283 | 68.37% |
| Residential R2 | $3,731,937 | 16.03% | $4,673,684 | 18.02% |
| Seasonal | $3,719,751 | 15.98% | $3,349,675 | 12.91% |
| Street Lighting | $696,314 | 2.99% | $179,424 | 0.69% |
| **Total** | $23,282,938 | 100.00% | $25,937,065 | 100.00% |

**B) Calculated Class Revenues**

| Name of Customer Class | Column 7B | Column 7C | Column 7D | Column 7E |
|---|---|---|---|---|
| | Load Forecast (LF) X current approved rates | L.F. X current approved rates X (1 + d) | LF X proposed rates | Miscellaneous Revenue |
| | | | | |
| Residential R1 | $16,946,668 | $18,515,174 | $18,515,174 | $29,966 |
| Residential R2 | $3,763,306 | $4,111,620 | $4,143,355 | $16,609 |
| Seasonal | $2,757,773 | $3,013,020 | $3,013,020 | $3,633 |
| Street Lighting | $224,576 | $245,362 | $213,627 | $1,681 |
| **Total** | $23,692,323 | $25,885,176 | $25,885,176 | $51,889 |

**C) Rebalancing Revenue-to-Cost (R/C) Ratios**

| Name of Customer Class | Previously Approved Ratios | Status Quo Ratios | Proposed Ratios | Policy Range |
|---|---|---|---|---|
| | Most Recent Year: 2019 | (7C + 7E) / (7A) | (7D + 7E) / (7A) | |
| | % | % | % | % |
| Residential R1 | 105.07 | 104.57 | 104.57 | 85 - 115 |
| Residential R2 | 105.06 | 88.33 | 89.01 | 80 - 120 |
| Seasonal | 85.00 | 90.06 | 90.06 | 80 - 120 |
| Street Lighting | 42.79 | 137.69 | 120.00 | 80 - 120 |

**D) Proposed Revenue-to-Cost Ratios**

| Name of Customer Class | Proposed Revenue-to-Cost Ratios | | | Policy Range |
|---|---|---|---|---|
| | 2020 | 2021 | 2022 | |
| | % | % | % | % |
| Residential R1 | 104.57 | 104.57 | 104.57 | 85 - 115 |
| Residential R2 | 89..01 | 89.01 | 89.01 | 80 - 120 |
| Seasonal | 90.06 | 90.06 | 90.06 | 80 - 120 |
| Street Lighting | 120.00 | 120.00 | 120.00 | 80 - 120 |

## 7.4.2 REBALANCING REVENUE-TO-COST RATIOS

The status quo revenue-to-cost ratio of 137.69% for the Street Lighting rate class exceeds the upper limit of the OEB's policy range of 80-120%. The status quo revenue-to-cost ratios for all other rate classes are within the OEB's applicable policy ranges.

API therefore proposes to rebalance its revenue-to-cost ratios for the 2020 Test Year such that the ratio for the Street Lighting class is reduced to the upper limit of the OEB's policy range (i.e. 120%). In order to achieve this rebalancing, API has decreased the amount of revenue requirement allocated to the Street Lighting rate class by $31,734.98 as compared to the amount that would be recovered through the use of status quo rates. In order to maintain revenue neutrality, an equivalent amount is added to the allocation to the R2 rate class, since this class has the lowest revenue-to-cost ratio out of any other class. The proposed reallocation is shown in the table below.

**Table 17 – Revenue Reallocation to Achieve Proposed R/C Ratios**

| Customer Class Name | $ Reallocation |
|---|---|
| Residential R1 | 0.00 |
| Residential R2 | 31,734.98 |
| Seasonal | 0.00 |
| Street Lighting | (31,734.98) |
| **TOTAL** | **(0)** |

# APPENDICES

| | |
|---|---|
| Appendix 7A | Cost Allocation Model – Selected Sheets |

# Appendix 7A

Algoma Power Inc.

2020 Cost of Service

EB-2019-0019

Ontario Energy Board

# 2019 Cost Allocation Model

**EB-2019-0019**

## Sheet I6.1 Revenue Worksheet - Application

| | |
|---|---|
| **Total kWhs from Load Forecast** | 195,834,528 |

| | |
|---|---|
| **Total kWs from Load Forecast** | 198,303 |

| | |
|---|---|
| **Deficiency/sufficiency ( RRWF 8. cell F51)** | - 2,192,853 |

| | |
|---|---|
| **Miscellaneous Revenue (RRWF 5. cell F48)** | 51,889 |

| | | | 1 | 3 | 7 | 12 |
|---|---|---|---|---|---|---|
| | **ID** | **Total** | **Residential** | **R2** | **Street Light** | **Seasonal** |
| **Billing Data** | | | | | | |
| Forecast kWh | **CEN** | 195,834,528 | 103,931,742 | 85,867,987 | 595,435 | 5,439,365 |
| Forecast kW | **CDEM** | 198,303 | | 196,648 | 1,655 | |
| Forecast kW, included in CDEM, of customers receiving line transformer allowance | | 145,265 | | 145,265.28 | | |
| Optional - Forecast kWh, included in CEN, from customers that receive a line transformation allowance on a kWh basis. In most cases this will not be applicable and will be left blank. | | - | | | | |
| KWh excluding KWh from Wholesale Market Participants | **CEN EWMP** | 195,834,528 | 103,931,742 | 85,867,987 | 595,435 | 5,439,365 |
| | | | | | | |
| Existing Monthly Charge | | | $102.45 | $803.26 | $2.05 | $54.75 |
| Existing Distribution kWh Rate | | | $0.06 | $0.00 | $0.33 | |
| Existing Distribution kW Rate | | | $0.00 | $17.75 | $0.00 | |
| Existing TOA Rate | | | $0.00 | $0.60 | $0.00 | |
| Additional Charges | | | $0.00 | $0.00 | $0.00 | $0.15 |
| Distribution Revenue from Rates | | $23,779,483 | $16,946,668 | $3,850,465 | $224,576 | $2,757,773 |
| Transformer Ownership Allowance | | $87,159 | $0 | $87,159 | $0 | $0 |
| Net Class Revenue | **CREV** | $23,692,323 | $16,946,668 | $3,763,306 | $224,576 | $2,757,773 |
| | | | | | | |
| | | | | | | |

Ontario Energy Board

# 2019 Cost Allocation Model

**EB-2019-0019**

## Sheet I8 Demand Data Worksheet - Application

This is an input sheet for demand allocators.

| | |
|---|---|
| CP TEST RESULTS | 4 CP |
| NCP TEST RESULTS | 4 NCP |

| Co-incident Peak | Indicator |
|---|---|
| 1 CP | CP 1 |
| 4 CP | CP 4 |
| 12 CP | CP 12 |

| Non-co-incident Peak | Indicator |
|---|---|
| 1 NCP | NCP 1 |
| 4 NCP | NCP 4 |
| 12 NCP | NCP 12 |

| Customer Classes | | Total | 1<br>Residential | 3<br>R2 | 7<br>Street Light | 12<br>Seasonal |
|---|---|---|---|---|---|---|
| | | CP Sanity Check | Pass | Check 4CP | Check 4CP and 12CP | Check 4CP and 12CP |
| **CO-INCIDENT PEAK** | | | | | | |
| **1 CP** | | | | | | |
| Transformation CP | TCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| Bulk Delivery CP | BCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| Total Sytem CP | DCP1 | 40,831 | 26,664 | 13,738 | 6 | 423 |
| **4 CP** | | | | | | |
| Transformation CP | TCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| Bulk Delivery CP | BCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| Total Sytem CP | DCP4 | 149,896 | 91,026 | 56,345 | 131 | 2,394 |
| **12 CP** | | | | | | |
| Transformation CP | TCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| Bulk Delivery CP | BCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| Total Sytem CP | DCP12 | 359,642 | 201,361 | 147,873 | 663 | 9,744 |
| **NON CO_INCIDENT PEAK** | | | | | | |
| | | NCP Sanity Check | Pass | Pass | Pass | Pass |
| **1 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP1 | 48,275 | 28,408 | 18,116 | 166 | 1,585 |
| Primary NCP | PNCP1 | 48,275 | 28,408 | 18,116 | 166 | 1,585 |
| Line Transformer NCP | LTNCP1 | 34,892 | 28,408 | 4,734 | 166 | 1,585 |
| Secondary NCP | SNCP1 | 34,892 | 28,408 | 4,734 | 166 | 1,585 |
| **4 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP4 | 174,464 | 100,397 | 67,921 | 639 | 5,508 |
| Primary NCP | PNCP4 | 174,464 | 100,397 | 67,921 | 639 | 5,508 |
| Line Transformer NCP | LTNCP4 | 124,290 | 100,397 | 17,747 | 639 | 5,508 |
| Secondary NCP | SNCP4 | 124,290 | 100,397 | 17,747 | 639 | 5,508 |
| **12 NCP** | | | | | | |
| Classification NCP from Load Data Provider | DNCP12 | 414,892 | 224,266 | 177,922 | 1,691 | 11,013 |
| Primary NCP | PNCP12 | 414,892 | 224,266 | 177,922 | 1,691 | 11,013 |
| Line Transformer NCP | LTNCP12 | 283,459 | 224,266 | 46,490 | 1,691 | 11,013 |
| Secondary NCP | SNCP12 | 283,459 | 224,266 | 46,490 | 1,691 | 11,013 |

Ontario Energy Board

# 2019 Cost Allocation Model

**EB-2019-0019**

## Sheet O1 Revenue to Cost Summary Worksheet - Application

**Instructions:**
Please see the first tab in this workbook for detailed instructions

### Class Revenue, Cost Analysis, and Return on Rate Base

| | | | 1 | 3 | 7 | 12 |
|---|---|---|---|---|---|---|
| Rate Base Assets | | Total | Residential | R2 | Street Light | Seasonal |
| crev | Distribution Revenue at Existing Rates | $23,692,323 | $16,946,668 | $3,763,306 | $224,576 | $2,757,773 |
| mi | Miscellaneous Revenue (mi) | $51,889 | $29,966 | $16,609 | $1,681 | $3,633 |
| | | Miscellaneous Revenue Input equals Output | | | | |
| | **Total Revenue at Existing Rates** | $23,744,213 | $16,976,634 | $3,779,914 | $226,258 | $2,761,406 |
| | Factor required to recover deficiency (1 + D) | 1.0926 | | | | |
| | Distribution Revenue at Status Quo Rates | $25,885,176 | $18,515,174 | $4,111,620 | $245,362 | $3,013,020 |
| | Miscellaneous Revenue (mi) | $51,889 | $29,966 | $16,609 | $1,681 | $3,633 |
| | **Total Revenue at Status Quo Rates** | $25,937,065 | $18,545,140 | $4,128,229 | $247,043 | $3,016,653 |
| | **Expenses** | | | | | |
| di | Distribution Costs (di) | $5,971,340 | $4,057,534 | $1,001,583 | $52,216 | $860,006 |
| cu | Customer Related Costs (cu) | $1,948,620 | $1,431,937 | $107,176 | $9,718 | $399,789 |
| ad | General and Administration (ad) | $5,609,826 | $3,914,246 | $786,839 | $43,364 | $865,377 |
| dep | Depreciation and Amortization (dep) | $4,043,341 | $2,674,716 | $922,498 | $22,908 | $423,219 |
| INPUT | PILs (INPUT) | $329,469 | $217,873 | $76,528 | $2,023 | $33,046 |
| INT | Interest | $3,411,465 | $2,255,944 | $792,403 | $20,942 | $342,176 |
| | **Total Expenses** | $21,314,061 | $14,552,249 | $3,687,026 | $151,171 | $2,923,615 |
| | **Direct Allocation** | $375,228 | $373,052 | $0 | $2,176 | $0 |
| NI | Allocated Net Income (NI) | $4,247,776 | $2,808,982 | $986,658 | $26,076 | $426,060 |
| | **Revenue Requirement (includes NI)** | $25,937,065 | $17,734,283 | $4,673,684 | $179,424 | $3,349,675 |
| | | venue Requirement Input equals Outp | | | | |
| | **Rate Base Calculation** | | | | | |
| | **Net Assets** | | | | | |
| dp | Distribution Plant - Gross | $180,489,624 | $119,303,561 | $40,902,697 | $1,131,068 | $19,152,298 |
| gp | General Plant - Gross | $15,580,942 | $10,304,864 | $3,613,936 | $95,903 | $1,566,240 |
| accum dep | Accumulated Depreciation | ($79,332,866) | ($52,906,353) | ($17,087,545) | ($507,893) | ($8,831,074) |
| co | Capital Contribution | ($998,410) | ($670,807) | ($194,368) | ($7,995) | ($125,240) |
| | **Total Net Plant** | $115,739,291 | $76,031,264 | $27,234,719 | $711,083 | $11,762,224 |
| | **Directly Allocated Net Fixed Assets** | $1,518,697 | $1,509,889 | $0 | $8,808 | $0 |
| COP | Cost of Power (COP) | $21,076,878 | $11,224,506 | $9,205,415 | $63,833 | $583,123 |
| | OM&A Expenses | $13,529,786 | $9,403,717 | $1,895,597 | $105,298 | $2,125,173 |
| | Directly Allocated Expenses | $266,002 | $264,459 | $0 | $1,543 | $0 |
| | ***Subtotal*** | *$34,872,665* | *$20,892,682* | *$11,101,012* | *$170,674* | *$2,708,296* |
| | **Working Capital** | $2,615,450 | $1,566,951 | $832,576 | $12,801 | $203,122 |
| | **Total Rate Base** | $119,873,438 | $79,108,104 | $28,067,295 | $732,692 | $11,965,346 |
| | | Rate Base Input equals Output | | | | |
| | **Equity Component of Rate Base** | $47,949,375 | $31,643,242 | $11,226,918 | $293,077 | $4,786,139 |
| | **Net Income on Allocated Assets** | $4,247,776 | $3,619,839 | $441,203 | $93,696 | $93,038 |
| | **Net Income on Direct Allocation Assets** | $58,078 | $57,741 | $0 | $337 | $0 |
| | **Net Income** | $4,305,854 | $3,677,580 | $441,203 | $94,033 | $93,038 |
| | **RATIOS ANALYSIS** | | | | | |
| | **REVENUE TO EXPENSES STATUS QUO%** | 100.00% | 104.57% | 88.33% | 137.69% | 90.06% |
| | EXISTING REVENUE MINUS ALLOCATED COSTS | ($2,192,853) | ($757,649) | ($893,769) | $46,834 | ($588,269) |
| | | Deficiency Input equals Output | | | | |
| | STATUS QUO REVENUE MINUS ALLOCATED COSTS | ($0) | $810,857 | ($545,455) | $67,620 | ($333,022) |
| | RETURN ON EQUITY COMPONENT OF RATE BASE | 8.98% | 11.62% | 3.93% | 32.08% | 1.94% |

Ontario Energy Board

# 2019 Cost Allocation Model

**EB-2019-0019**

## Sheet O2 Monthly Fixed Charge Min. & Max. Worksheet - Application

**Output sheet showing minimum and maximum level for Monthly Fixed Charge**

## Summary

| | 1 | 3 | 7 | 12 |
|---|---|---|---|---|
| | **Residential** | **R2** | **Street Light** | **Seasonal** |
| Customer Unit Cost per month - Avoided Cost | $12.33 | $300.86 | $0.72 | $10.41 |
| Customer Unit Cost per month - Directly Related | $19.24 | $455.77 | $1.24 | $16.26 |
| Customer Unit Cost per month - Minimum System with PLCC Adjustment | $90.06 | $588.76 | $12.53 | $83.68 |
| Existing Approved Fixed Charge | $102.45 | $803.26 | $2.05 | $54.75 |