

Message

From: Anthony Martinello [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3FB7D76317B34780B15D96309B995C31-ANTHONY MAR]
Sent: 2017-11-30 2:42:07 PM
To: Michael Boll [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4811917e15054407b665fe16d12ff415-Michael Bol]
CC: Jeannette Briggs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=148095610f7242f48a5a9da24b1a8a87-Jeannette B]
Subject: RE: EXTERNAL – LDC letter of credit

FYI

I informed Kim today at our direct reports meeting if she would consider doing more with OPG on the MTSA 3.15 clause re: L/C and formula. She did not raise any concerns.

Regards.

From: Anthony Martinello
Sent: November 28, 2017 1:02 PM
To: 'RYFA Ken -TREASURY'; Michael Boll; Jeannette Briggs; HAHN PARKER Janet -TREASURY; WONG Leslie -LAWDIV; GO Matthew -TREASURY; LEE John -TREASURY; Kim Marshall; LADAK Lubna -TREASURY; Georgia Ritchie-Wust; Susan Nicholson; TULLY Keegan -CBUSDEV&STRT; LAURETA LAPIRA May -TREASURY
Subject: RE: EXTERNAL – LDC letter of credit

Subject to final IESO legal/counsel review, see edits.

Kim and John Lee – your review on these values is vital, given that any costs for posting L/Cs are reverted back to the ratepayers. A balance between the L/C amount (i.e. cost) and covering the risks or fairness (i.e. risk of LDCs defaulting) is the goal.

Ken,

1.

Utilizing your formula example below, I propose the following to continue this draft:

LC amount = $20 / 70 \times \$2 \text{ billion} \times 45 / 365 \times 0.45 = \31.7 million. This \$31.7 million assumes that 45% of the unrated LDCs will have default (not limited to just CCAA/bankruptcy) issues – a conservative assumption and worthy of further thought by this group. I expect Moody/DBRS to not challenge this concept.

2.

The overall max cap of \$100 million is conservative to accommodate for future LDCs that revert from rated to unrated. For example, if you assume all LDCs become/are unrated in the future, then the formula example is as follows:

LC amount = $70 / 70 \times \$2 \text{ billion} \times 45 / 365 \times 0.45 = \110.958 million but the max cap of \$100 million will override now. This assumes HydroOne, Toronto Hydro, Hydro Ottawa and Alectra etc. all become un-rated in the future.

3.

I want to re-enforce that the IESO's preferred form of posting is a letter of guarantee and not a letter of credit – this should be made relevant to the RAs to get their ok.

Regards.

From: RYFA Ken -TREASURY [mailto:ken.ryfa@opg.com]

Sent: November 28, 2017 10:48 AM

To: Anthony Martinello; Michael Boll; Jeannette Briggs; HAHN PARKER Janet -TREASURY; WONG Leslie -LAWDIV; GO Matthew -TREASURY; LEE John -TREASURY; Kim Marshall; LADAK Lubna -TREASURY; Georgia Ritchie-Wust; Susan Nicholson; TULLY Keegan -CBUSDEV&STRT; LAURETA LAPIRA May -TREASURY

Subject: RE: EXTERNAL – LDC letter of credit

Anthony,

Amended document attached.

Some questions / comments:

- Annual review date of July 1 – any specific reason for this date?
- Item C definition – since there is no “aggregated clean energy adjustment” provided to the OEB then “aggregated” has been deleted.
- Item E – the maximum amount noted has been removed as this is the component that I anticipate is the most problematic which I have explained below.
- I want to ensure everyone has a consistent understanding of how the amount is calculated so here is an example:
 - A = 20 TWh; B = 70 TWh; C = \$2 billion; D = 45 days; for purposes of illustration E = 1
 - LC amount = $20 / 70 \times \$2 \text{ billion} \times 45 / 365 \times 1 = \70.45 million
 - This is an amount that does not factor in any default probability.
- For purposes of the MTSA could you make it \$100 million to make it far enough above what is estimated that it should not be an issue. As well, making the overall process subject to RAC should give the agencies sufficient comfort.
- For a securitization structure the rating agencies will not advise on components other than to indicate if it complies with their rating criteria, e.g. comments on the documents. For the default % the rating agencies will not tell us the % to use. Rather they will assess the rating to determine if it continues to satisfy the requirements for the rating level. This means we have to be careful with this component so as not to trigger a RAC on the debt. Generally, the rating agencies require the full amount (\$70 in example above) to be secured and not subject to default assessment.

We are quickly running out of time on this and need to finalize it so it can be added to the MTSA which can be reviewed by the rating agencies.

Thanks,

Ken

From: Anthony Martinello [mailto:Anthony.Martinello@ieso.ca]

Sent: Monday, November 27, 2017 10:36 AM

To: RYFA Ken -TREASURY <ken.ryfa@opg.com>; Michael Boll <Michael.Boll@ieso.ca>; Jeannette Briggs <jeannette.briggs@ieso.ca>; HAHN PARKER Janet -TREASURY <j.hahnparker@opg.com>; WONG Leslie -LAWDIV <leslie.wong@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; LEE John -TREASURY <john.s.lee@opg.com>; Kim Marshall <Kim.Marshall@ieso.ca>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; Georgia Ritchie-Wust <georgia.ritchie-wust@ieso.ca>; Susan Nicholson <susan.nicholson@ieso.ca>; TULLY Keegan -CBUSDEV&STRT <keegan.tully@opg.com>; LAURETA LAPIRA May -TREASURY <may.lapira@opg.com>

Subject: EXTERNAL – LDC letter of credit

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Ken,

1.

See attached edits for review – please note this draft is still not passed by our internal legal for review.

You may notice that I suggest a cap maximum amount – the IESO Board is likely to want comfort that this is \$ not open-ended.

As you know, about 25% of the LDCs volume/CEA\$ will generally be from non-rated LDCs.

I examined May's email (see attached) and the estimated highest CEA \$ amount is noted in 2036 for about \$2B or @ 25% of \$2B is \$500 million for the non-rated LDCs.

With this in mind, I think a cap maximum should be considered in order not to leave an open-ended \$.

Also Moodys and DBRS should have decades of "utilities" data which they can approximate the highest default rate % for a typical LDC including those unrated.

2.

If the OPG Trust issues 15 year bonds – are those bonds likely to pay annual or semi-annual interest payments?

When OPG Trust sends those interest costs amounts as "carrying costs" back for the IESO to pay during the first 4 years – are you going to ask the IESO to pay the interest carrying costs monthly, annually, semi-annuallyis you are going to ask for the IESO to pay them as monthly payments will the OPG Trust will hold the interest in their bank account until the annual/semi payment is made to bondholders?

Regards.

From: RYFA Ken -TREASURY [mailto:ken.ryfa@opg.com]

Sent: November 23, 2017 5:50 PM

To: Anthony Martinello; Michael Boll; Jeannette Briggs; HAHN PARKER Janet -TREASURY; WONG Leslie -LAWDIV; GO Matthew -TREASURY; LEE John -TREASURY; Kim Marshall; LADAK Lubna -TREASURY; Georgia Ritchie-Wust; Susan Nicholson; TULLY Keegan -CBUSDEV&STRT; LAURETA LAPIRA May -TREASURY

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Anthony,

As discussed, below is a proposed amendment to the LC section 3.15 the MTSA.

If required by the Issuer, the IESO shall provide to the Issuer, on or prior to the first day of the first Billing Period when amounts are invoiced to Specified Consumers in respect of Clean Energy Adjustments, a letter of credit in an amount equal to \$■, or such other form of security as may be acceptable to the Issuer, as security for any failure of Electricity Vendors which are either not rated or are rated less than investment grade to remit their Electricity Vendor CEA Collections. The security would be subject to the Rating Agency Condition and would be calculated in accordance with the following formula which would be re-calculated on an annual basis:

(A / B) x C x D / 365 x E where A, B, C, D and E are as follows -

A = for the most recent 12 month period for which information is available the amount of energy consumed by specified consumers of LDC's where the LDC does not have a credit rating

B = for the same 12 month period used for A the amount of energy consumed by all specified consumers

C = the most recent CEA for a 12 month period calculated by the Financial Services Manager and provided to the OEB

D = the estimated number of days between the date CEA is collected by the LDC, based on a service period end date of the 15th of the month and using representative lags identified by the currently available lead / lag study published by the OEB, and the date these funds are remitted to the Trust by the IESO

E = a percentage rate representing the risk of default for LDC's captured in A

Most of these components should be supportable with appropriate data. I think that E will provide the most issues / concern of the rating agencies.

Thanks,
Ken

From: RYFA Ken -TREASURY

Sent: Thursday, November 23, 2017 9:47 AM

To: 'Anthony Martinello' <Anthony.Martinello@ieso.ca>; Michael Boll <Michael.Boll@ieso.ca>; Jeannette Briggs <jeannette.briggs@ieso.ca>; HAHN PARKER Janet -TREASURY <j.hahnparker@opg.com>; WONG Leslie -LAWDIV <leslie.wong@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; LEE John -TREASURY <john.s.lee@opg.com>; Kim Marshall <Kim.Marshall@ieso.ca>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; Georgia Ritchie-Wust <georgia.ritchie-wust@ieso.ca>; Susan Nicholson <susan.nicholson@ieso.ca>; TULLY Keegan - CBUSDEV&STRT <keegan.tully@opg.com>; LAURETA LAPIRA May -TREASURY <may.lapira@opg.com>

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Anthony,

Sure we can discuss but the amount will be determined by rating agency requirements which are driven by the amount that will be held by these unrated LDCs rather than any specific amount at risk of default. There are 2 ways to go – 1) identify a specific dollar amount for the security – this may be a problem since the amount increases until mid-2030's; 2) identify a methodology for establishing the amount however it needs to be reasonably specific as this could present a ratings issue.

I'm OK from 3 pm onwards.

Thanks,
Ken

From: Anthony Martinello [<mailto:Anthony.Martinello@ieso.ca>]

Sent: Thursday, November 23, 2017 8:20 AM

To: RYFA Ken -TREASURY <ken.ryfa@opg.com>; Michael Boll <Michael.Boll@ieso.ca>; Jeannette Briggs <jeannette.briggs@ieso.ca>; HAHN PARKER Janet -TREASURY <j.hahnparker@opg.com>; WONG Leslie -LAWDIV <leslie.wong@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; LEE John -TREASURY <john.s.lee@opg.com>; Kim Marshall <Kim.Marshall@ieso.ca>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; Georgia Ritchie-Wust <georgia.ritchie-wust@ieso.ca>; Susan Nicholson <susan.nicholson@ieso.ca>; TULLY Keegan - CBUSDEV&STRT <keegan.tully@opg.com>; LAURETA LAPIRA May -TREASURY <may.lapira@opg.com>

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Ken - let's you and I discuss today what time are you free. My preliminary thoughts are as follows:

Example:

For a month, assume all unrated LDCs send out the same \$100 bill + \$5 CEA to all specified customers = thus the each total bill is \$105 (ignore taxes).

Assume there are 5 million specific customers (\$5 x 5million) = CEA = \$25,000,000/month

The \$25 million is not 100% at risk of default but rather an estimated "%" of the \$25 million is at risk.... e.g. 1% or \$250,000.

Maybe we should look to the OEB's bad debt expense report as the proxy for helping to determine the %?

Regards

From: RYFA Ken -TREASURY [mailto:ken.ryfa@opg.com]

Sent: November 21, 2017 9:32 AM

To: Anthony Martinello; Michael Boll; Jeannette Briggs; HAHN PARKER Janet -TREASURY; WONG Leslie -LAWDIV; GO Matthew -TREASURY; LEE John -TREASURY; Kim Marshall; LADAK Lubna -TREASURY; Georgia Ritchie-Wust; Susan Nicholson; TULLY Keegan -CBUSDEV&STRT; LAURETA LAPIRA May -TREASURY

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Anthony,

Previously we discussed the requirements for LC from unrated LDC's and we had provided a spreadsheet showing various levels of LC. Per question 3.14 from DBRS below is a method for establishing the amount of the LC to answer their question:

- Calculate the consumption of specified consumers in unrated LDC's and consumption for all specified consumers. Express consumption of specified consumers in unrated LDC's as a percentage of consumption for all specified consumers. Perform calculation for the most recent 12 month period that is available.
- Alternatively, following the charging of CEA to specified consumers, the estimate of percentage attributable to unrated LDC's could be done on the basis of CEA charged by unrated LDC's as a percentage of total CEA charged to all specified consumers over the most recent 12 month period. Current estimate of percentage is about 25%. Review components annually.
- Estimate of lag between customer billing and receipt by Trust using a lead/lag study published by the OEB -
 - Average service end date for billing is 15th of month 2 which represents 50% of month 1 and 50% of month 2.
 - Billing lag is 18 days which puts it at 3rd day of following month (assuming 30 day month).
 - Collection lag is 22 days later which puts it at the 25th of month 3.
 - LDC reports this amount to IESO for remittance to IESO in month 4.
 - IESO remits to trust by 18th business day (approximately 25th of month 4).
 - Lag between service period end and remittance to Trust is just over 2 months (15th of month 2 to 25th of month 4).
 - Lag between billing date and remittance to Trust is just under 2 months (3rd of month 3 to 25th of month 4).
 - Lag between receipt from specified consumers and remittance to Trust is about 1 month (25th of month 3 to 25th of month 4).
- I think the most appropriate lag period is 30 days as this represents the period during which funds reside outside of the Trust.

Thanks,
Ken

From: RYFA Ken -TREASURY

Sent: Monday, November 20, 2017 6:29 PM

To: 'Anthony Martinello' <Anthony.Martinello@ieso.ca>; 'Michael Boll' <Michael.Boll@ieso.ca>; 'Jeannette Briggs' <jeannette.briggs@ieso.ca>; HAHN PARKER Janet -TREASURY <j.hahnparker@opg.com>; WONG Leslie -LAWDIV <leslie.wong@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; LEE John -TREASURY <john.s.lee@opg.com>; 'Kim Marshall' <Kim.Marshall@ieso.ca>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; 'Georgia Ritchie-Wust' <georgia.ritchie-wust@ieso.ca>; 'Susan Nicholson' <susan.nicholson@ieso.ca>; TULLY Keegan - CBUSDEV&STRT <keegan.tully@opg.com>

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Anthony,

Forecast timeline for term debt issuance

Pricing of debt issuance – target Dec 12 (includes amount issued)

Closing of debt issuance - Dec 19 (T+5)

Denomination of amount issued –

- 1) term debt – minimum would be multiple of million
- 2) warehouse – no specific minimum

thanks,
Ken

From: RYFA Ken -TREASURY

Sent: Monday, November 20, 2017 5:08 PM

To: 'Anthony Martinello' <Anthony.Martinello@ieso.ca>; Michael Boll <Michael.Boll@ieso.ca>; Jeannette Briggs <jeannette.briggs@ieso.ca>; HAHN PARKER Janet -TREASURY <j.hahnparker@opg.com>; WONG Leslie -LAWDIV <leslie.wong@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; LEE John -TREASURY <john.s.lee@opg.com>; Kim Marshall <Kim.Marshall@ieso.ca>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; Georgia Ritchie-Wust <georgia.ritchie-wust@ieso.ca>; Susan Nicholson <susan.nicholson@ieso.ca>; TULLY Keegan - CBUSDEV&STRT <keegan.tully@opg.com>

Subject: RE: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

Anthony,

Per our discussion today below are the questions from DBRS related to the agreements. As indicated during today's call most of the questions / comments are legal items related to their legal criteria for Canadian Structured Finance which I have attached. Tory's is working through these items. For some other items the dealers are discussing what was communicated to the rating agencies last week that we have 4 years to work through the mechanics of the collection and reporting processes. Also, the comments on the MTSA may be to an earlier version as some of these items were corrected / changed in the Nov 7 version which went to them. FYI – RAC means Rating Agency Condition – to paraphrase a long definition it refers to the rating of a debt issuance not being reduced or rating withdrawn.

Security Agreement:

- Section 2.1 – Please clarify the Collateral that the IESO will be granting a security interest to the Trust. Is the Collateral solely the collection accounts in which the LDCs make deposits to in their ordinary course of business? Do those deposits would include amounts that IESO receives on behalf of the generation and transmission companies?
- Section 6.8 (c): Please clarify how the Moneys will be allocated if the amount is insufficient.
- Section 6.9: Does the Grantor pay the amount of such deficiency from its own funds?
- Section 7.1 – DBRS legal criteria expects prompt written notice on all waivers and material waivers to be subject to the satisfaction of RAC.
- Section 7.7 – DBRS legal criteria expects prior notice on an assignment.
- Section 7.9 – DBRS expects notice on all amendments and material amendments to be subject to the satisfaction of RAC.

Master Transfer and Servicing Agreement

- Section 2.2 (b)(vi) – please provide a sample worksheet/demonstration of how IESO and OPG will reconcile amounts paid from LDC's that appropriately reflects the monthly allocation to the CEA relative to the Regulatory Asset created.
- Section 3.4(a) – please provide copy to DBRS.
- Section 3.4(b) – is the second reference to (j)(ii) supposed to be (j)(iii)? If not, are there any reporting requirements on the occurrence of what is referenced in Section 3.3(j)(iii)?
- Section 3.6 (b)(c)(d) – the IESO is not responsible for confirming/verifying/auditing the Clean Energy Adjustment invoiced from the Electricity Vendors (LDCs) to customers nor is it responsible for the accuracy of the information reported by the LDC in relation to the amounts in the Electricity Vendor

Billing Period Report. Is there a control mechanism in place to ensure that the LDCs are performing their obligations as expected? How does IESO ensure that information provided and amounts remitted by the LDCs are accurate and reliable?

- Section 3.11 – please provide prompt written notice if IESO merges or amalgamates with another entity.
- Section 3.14 – DBRS understands that a LOC (from a provider consistent with DBRS counterparty criteria) will be in place at all times for all LDC's that are not rated above investment grade. Please clarify how the amount of the LOC required will be determined.
- Section 5.2: What Lien is being contemplated to be granted by the Issuer to IESO in this section?
- Section 7.3 - DBRS expects prompt written notice on all waivers and waivers of material defaults to be subject to the satisfaction of RAC as per DBRS legal criteria.
- Section 7.4 – please provide prompt written notice of Servicer Default to DBRS.
- Section 8.12 – DBRS expects material waivers to be subject to the satisfaction of RAC.

Thanks,
Ken

-----Original Appointment-----

From: Anthony Martinello [<mailto:Anthony.Martinello@ieso.ca>]

Sent: Sunday, November 19, 2017 11:56 AM

To: Anthony Martinello; Michael Boll; Jeannette Briggs; HAHN PARKER Janet -TREASURY; WONG Leslie -LAWDIV; GO Matthew -TREASURY; LEE John -TREASURY; Kim Marshall; LADAK Lubna -TREASURY; RYFA Ken -TREASURY; Georgia Ritchie-Wust; Susan Nicholson; TULLY Keegan -CBUSDEV&STRT

Subject: EXTERNAL – Nov 20 IESO-OPG discussion on matters - e.g. OPO, forecasts, DBRS, etc.

When: Monday, November 20, 2017 3:30 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Conference Call : [REDACTED] ID: [REDACTED]

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Moderator name: Anthony Martinello

Toll-free dial-in number: [REDACTED]

Local dial-in number: [REDACTED]

Conference ID: [REDACTED]

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