



## **Guide to Prudentials at the IESO:**

Setting Up and Maintaining Your Collateral for Trading in the Real-Time Markets

Marketplace Training

May 1, 2012



## Guide to Prudentials at the IESO

### **AN IESO MARKETPLACE TRAINING PUBLICATION**

This guide has been prepared to assist in the IESO training of market participants and has been compiled from extracts from the market rules or documents posted on the web site of Ontario's Independent Electricity System Operator. Users of this guide are reminded that they remain responsible for complying with all of their obligations under the market rules and associated policies, standards and procedures relating to the subject matter of this guide, even if such obligations are not specifically referred to herein. While every effort has been made to ensure the provisions of this guide are accurate and up to date, users must be aware that the specific provisions of the market rules or particular document shall govern.

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## 1. Introduction

If you<sup>1</sup> participate in the IESO real-time markets, you must provide collateral (called 'prudential support') to cover funds that might be owed to the market if your company were unable to make a payment.

This guide explains:

- Why we require prudential support
- How the prudential support amount is determined
- What type of collateral is acceptable
- When and why your prudential support amount might be reassessed
- What happens if you don't maintain your prudential support obligations

### **Why do we require prudential support?**

In the real-time electricity markets, there is no way to recover the physical commodity if the buyer is unable to pay – the electricity has already been consumed.

Under the market rules, the IESO must pay energy suppliers within 4 business days of when we issue invoices. Buyers must pay the IESO within 2 business days of when we issue their invoice so that we can then remit funds owed to suppliers.

If a buyer does not make the required payment, the IESO does not assume the debt – instead, all non-defaulting market participants assume any default. The prudential support process ensures that we have a reasonable amount of collateral on hand to cover potential default situations. The process provides a reasonable degree of protection to non-defaulting participants from the risk of having to cover a defaulted payment.

### **Do all market participants have to provide prudential support?**

Prudential requirements are based on your activities in the market – the requirements are not the same for all market participants. In some cases, your prudential support obligation may be zero – for example, if you supply energy to the market and are a net creditor in the market. During the market entry process, we will let you know if you initially need to provide prudential support. However, this obligation can change if your activity in the market changes.

### **How do we monitor your activity so that we know you always have enough prudential support posted?**

We assess your actual exposure against your trading limit and issue margin call warnings and margin calls as required. (See Section 8.)

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<sup>1</sup> In this document, 'you' refers to the market participant. 'We', 'us', and 'our' refer to the IESO.

In addition, if you are receiving a credit rating or good payment history reduction, changes to either your credit rating or good payment history may trigger changes to your prudential requirement.

**Where can you find additional information about prudentials?**

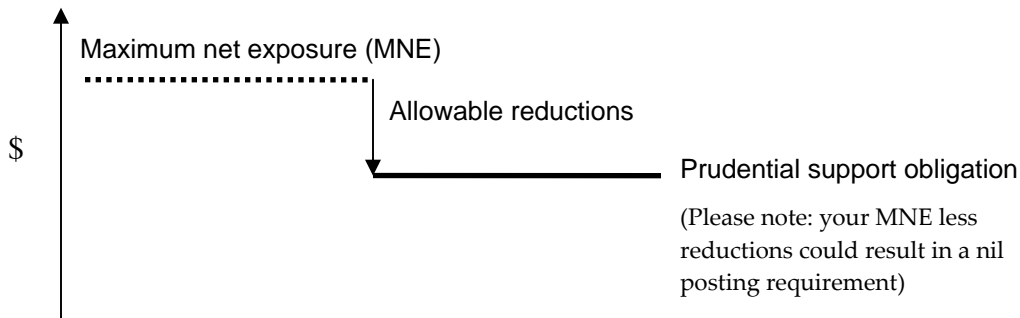
If, after reading this guide, you need additional information about your prudential support, please refer to:

- Market Rules, Chapter 2
- Market Manual 5.4
- Your account manager

## 2. Determining the Amount of Your Prudential Support

During the market entry process, we ask you to give us information about your expected trading activity in the real-time markets (you do this by completing Form 1044 'Prudential Support Information', along with the form attachment 'Prudential Support Spreadsheet').

You should have enough prudential support posted so that if your company were unable to make a payment, there would be enough collateral to cover any funds owing to the market, subject to any reductions in your prudential calculation. We use the information you provide to determine your prudential support obligation, which is a function of your maximum net exposure and any allowable reductions:



Both your maximum net exposure and allowable reductions depend on whether or not you have chosen the no margin call option. Also, your role and use of physical bilateral contracts in the market affect your prudential support obligation.

### Determining Prudential Support using the Margin Call Option

The margin call option is the way that we calculate your prudential support obligation; you must select the no margin call option on Form 1445 (Prudential Support Supplementary Form) if you want us to use that method.

To determine your obligation using the margin call option, we consider your:

- Maximum net exposure
- Self-assessed trading limit
- Minimum trading limit
- Default protection amount
- Credit information
- Payment history

### Maximum net exposure (MNE)

Your maximum net exposure is our estimate of the net amount you could owe in the real-time markets.

We estimate your maximum net exposure based on the information you provide in Form 1044. We look at:

- Your expected daily maximum energy injections and withdrawals
- For metered participants: your estimated peak load for upcoming billing periods
- For non-metered participants: your expected net settlement amount
- Your self-assessed trading limit

We calculate your MNE by adding your trading limit and your default protection amount (see page 9).

If your maximum net exposure is zero or negative, you do not need to provide any prudential support.

### Determining your trading limit

You set your own estimate of what your trading limit within the real-time markets should be, and the IESO also determines a minimum trading limit for you that is equivalent to approximately 7 days of market activity. The minimum trading limit provides you the lowest possible trading limit you are allowed under the market rules.

If your self-assessed trading limit is higher than the IESO-determined limit, we use your self-assessed trading limit as your trading limit.

Your trading limit serves as a warning of potential over-exposure in the real-time markets. If your actual exposure reaches or exceeds your trading limit, we will issue you a margin call if you have not opted to use the no margin call option (see Section 8).

You may decide which assumptions to use in estimating your trading limit – we recommend that you try to reflect your expected exposure in the real-time markets for the upcoming billing period. If you do not wish to receive margin call demands, then it's best if you set the limit so that your actual exposure would not reach your trading limit before you make your next invoice payment. You must submit your self-assessed trading limit at least 7 days ahead of the billing period you want it to apply to. This limit will apply to all future billing periods unless it is changed.

### Determining your self-assessed trading limit

You should consider:

- What is your current, estimated actual exposure?
- What additional real-time market charges do you expect to incur by the time you make your next payment to the IESO?
- Do you have any physical bilateral contracts (see Section 5)?

### FOR METERED MARKET PARTICIPANTS:

You can use the following formula to determine the dollar amount of your self-assessed trading limit (see explanations below):

Your daily estimated withdrawals from the grid in megawatt hours (MWh)  
**X** number of billing days (range from 7-49 days)  
**X** price  
+ transmission charges  
= **self-assessed trading limit**

Explanation of formula items:

#### Billing days

We encourage you to use 49 days in your calculation – this takes into account our 30-day billing period, 15-day invoicing period, 2-day remittance period, and our 2-day review period.

#### Price

Price estimates <sup>2</sup>are in dollars per megawatt hour (\$/MWh)

|                    |   |
|--------------------|---|
| 80.69 <sup>3</sup> | Energy (estimated price)                    |
| 7.00               | Debt Reduction Charge                       |
| 1.10               | Rural or Remote Electricity Rate Protection |
| 0.822              | IESO Fee                                    |
| 0.551              | OPA Fee                                     |
| <u>4.20</u>        | Uplift and Ancillary                        |
| 94.36              |   |
| <u>X 1.13</u>      | Applicable Taxes (i.e. HST)                 |
| 106.63             |   |

---

<sup>2</sup> Please note: example is for illustrative purposes only.

<sup>3</sup> Please note: the estimated energy price will be adjusted for 'Class A' wholesale consumers. See "Global Adjustment" on page 22 of this guide for additional information.

### Transmission charges

Add transmission charges that apply to you (transmission charges are based on your estimated peak load for the upcoming billing period):

- Network Service Charge \$3.57/kW/month (+ applicable taxes)
- Line Connection Service Charge \$0.80/kW/month (+ applicable taxes)
- Transformation Connection Service Charge \$1.86/kW/month (+ applicable taxes)

### The IESO-set minimum trading limit

We set your minimum trading limit by estimating the net settlement amounts you would incur in the real-time markets over 7 days of market activity, ignoring the impact of physical bilateral contracts.

(If you have a credit rating of BBB– or higher, you may request that we take physical bilateral contracts into account when we determine your minimum trading limit. If you make this request, you must send us your physical bilateral contract information and immediately let us know when there are any changes to these contracts.)

Keep in mind that if your self-assessed trading limit is higher than the IESO-determined limit, we will use your self-assessed trading limit as your trading limit.

Following are examples of minimum trading limit calculations.

**Example 1: Minimum Trading Limit**  
**Wholesale consumer with 200 MW peak load**

|  |                      |
|--|----------------------|
| <b>Total daily energy consumption:</b> | <b>3,360 MWh/day</b> |
|--|----------------------|

### Minimum Trading Limit Calculation

|  |                    |
|--|--------------------|
| <b>Energy exposure</b>   |                    |
| $3,360 \text{ MWh/day} \times \$80.69 \times 7 \text{ days}$                                   | \$1,897,829        |
| <b>Transmission exposure</b>   |                    |
| $200 \text{ MW/month} \times 1000 \text{ kW/MW} \times 1 \text{ month} \times \$3.57\text{kW}$ | \$714,000          |
| $200 \text{ MW/month} \times 1000 \text{ kW/MW} \times 1 \text{ month} \times \$1.86\text{kW}$ | \$372,000          |
| $200 \text{ MW/month} \times 1000 \text{ kW/MW} \times 1 \text{ month} \times \$0.80\text{kW}$ | \$160,000          |
| <b>Debt Recovery Charge</b>  |                    |
| $\$7 / \text{MWh} \times 3,360 \text{ MWh/day} \times 7 \text{ days}$                          | \$164,640          |
| <b>Rural or Remote Electricity Rate Protection</b>   |                    |
| $\$1.10 / \text{MWh} \times 3,360 \text{ MWh/day} \times 7 \text{ days}$                       | \$25,872           |
| <b>IESO fee</b>  |                    |
| $\$0.822 / \text{MWh} \times 3,360 \text{ MWh/day} \times 7 \text{ days}$                      | \$19,333           |
| <b>OPA fee</b>   |                    |
| $\$0.551 / \text{MWh} \times 3,360 \text{ MWh/day} \times 7 \text{ days}$                      | \$12,960           |
| <b>Uplift &amp; ancillary charges</b>  |                    |
| $\$4.20 / \text{MWh} \times 3,360 \text{ MWh/day} \times 7 \text{ days}$                       | \$98,784           |
| <b>Subtotal</b>  | <b>\$3,465,418</b> |
| 13% (applicable taxes)   | \$ 450,504         |
| <b>MINIMUM TRADING LIMIT</b>   | <b>\$3,915,922</b> |

### Example 2: Minimum Trading Limit Generator with 200 MW peak generation capacity

|                                      |                        |
|--------------------------------------|------------------------|
| <b>Total daily energy production</b> | <b>(3,360) MWh/day</b> |
|--------------------------------------|------------------------|

#### Minimum Trading Limit Calculation

|  |                      |
|--|----------------------|
| <b>Energy exposure</b><br>3,360 MWh/day × \$80.69 × 7 days | <b>(\$1,897,829)</b> |
| <b>MINIMUM TRADING LIMIT</b>                               | <b>\$ 0</b>          |

#### FOR NON-METERED MARKET PARTICIPANTS:

For your self-assessed trading limit, you may choose any percentage greater than 25% of your estimated net settlement amount for the upcoming billing period – in other words, 25% of the ‘amount owing’ that you expect to see on your invoice.

To decrease the likelihood of receiving frequent margin calls, we encourage you to use 100% and 49 days in your calculation – this takes into account our 30-day billing period, 15-day invoicing period, 2-day remittance period, and our 2-day review period.

#### The IESO-set minimum trading limit

We set your minimum trading limit at 25% of your estimated net settlement amounts – based on either your recent market activity or on a forecast of your future market activity. As with metered market participants, if your self-assessed trading limit is higher than the IESO-determined limit, we will use your self-assessed trading limit as your trading limit.

### Example 3: Minimum Trading Limit

#### Marketer/retailer purchasing 200 MW from real-time energy market

Marketer/Retailer informs via IMO-FORM 1044 and 1044 attachment spreadsheet that their expected net settlement amount is \$1,525,000

#### Minimum Trading Limit Calculation

|                                       |                  |
|---------------------------------------|------------------|
| 25% of Expected Net Settlement Amount | \$381,250        |
| <b>MINIMUM TRADING LIMIT</b>          | <b>\$381,250</b> |

### Your default protection amount

This is our estimate of the additional debt you could accumulate in the real-time markets from the time you defaulted on a payment to the time you could be removed from the market, and prevented from incurring any further debt. We use this amount to determine your maximum net exposure.

**For metered market participants:** your default protection amount equals our estimate of the net settlement amount you would incur in the real-time markets over 21 days of market activity, ignoring the impact of physical bilateral contracts (see Section 5).

(If you have a credit rating of BBB– or higher, you may request that we take physical bilateral contracts into account when we determine your default protection amount. If you make this request, you must send us your physical bilateral contract information and immediately let us know of any changes to these contracts.)

Here are two examples of a default protection amount calculation for a metered market participant:

**Example 4: Default Protection Amount**  
**Wholesale consumer with 200 MW peak load**

|  |                      |
|--|----------------------|
| <b>Total daily energy consumption:</b> | <b>3,360 MWh/day</b> |
|--|----------------------|

**Default Protection Amount**

|  |                    |
|--|--------------------|
| <b>Energy exposure</b><br>3,360 MWh/day × \$80.69 × 21 days                                  | \$5,693,486        |
| <b>Transmission exposure</b>   |                    |
| 200 MW/month × 1000 kW/MW × 1 month × \$3.57kW   | \$714,000          |
| 200 MW/month × 1000 kW/MW × 1 month × \$1.86kW   | \$160,000          |
| 200 MW/month × 1000 kW/MW × 1 month × \$0.80kW   | \$372,000          |
| <b>Debt Recovery Charge</b><br>\$7 /MWh × 3,360 MWh/day × 21 days                            | \$493,920          |
| <b>Rural or Remote Electricity Rate Protection</b><br>\$1.10 / MWh × 3,360 MWh/day × 21 days | \$77,616           |
| <b>IESO fee</b><br>\$0.822 /MWh × 3,360 MWh/day × 21 days                                    | \$58,000           |
| <b>OPA fee</b><br>\$0.551 /MWh × 3,360 MWh/day × 21 days                                     | \$38,879           |
| <b>Uplift &amp; ancillary charges</b><br>\$4.20 /MWh × 3,360 MWh/day × 21 days               | \$296,352          |
| <b>Subtotal</b>  | <b>\$7,904,253</b> |
| 13% (applicable taxes)   | \$1,027,553        |
| <b>DEFAULT PROTECTION AMOUNT</b>   | <b>\$8,931,806</b> |

### Example 5: Default Protection Amount Generator with 200 MW peak generation capacity

|                               |                 |
|-------------------------------|-----------------|
| Total daily energy production | (3,360) MWh/day |
|-------------------------------|-----------------|

#### Default Protection Amount

|   |                      |
|---|----------------------|
| <b>Energy exposure</b><br>3,360 MWh/day × \$80.69 × 21 days | <b>(\$5,693,486)</b> |
| <b>DEFAULT PROTECTION AMOUNT</b>                            | <b>\$ 0</b>          |

**For non-metered market participants:** your default protection amount equals your minimum trading limit.

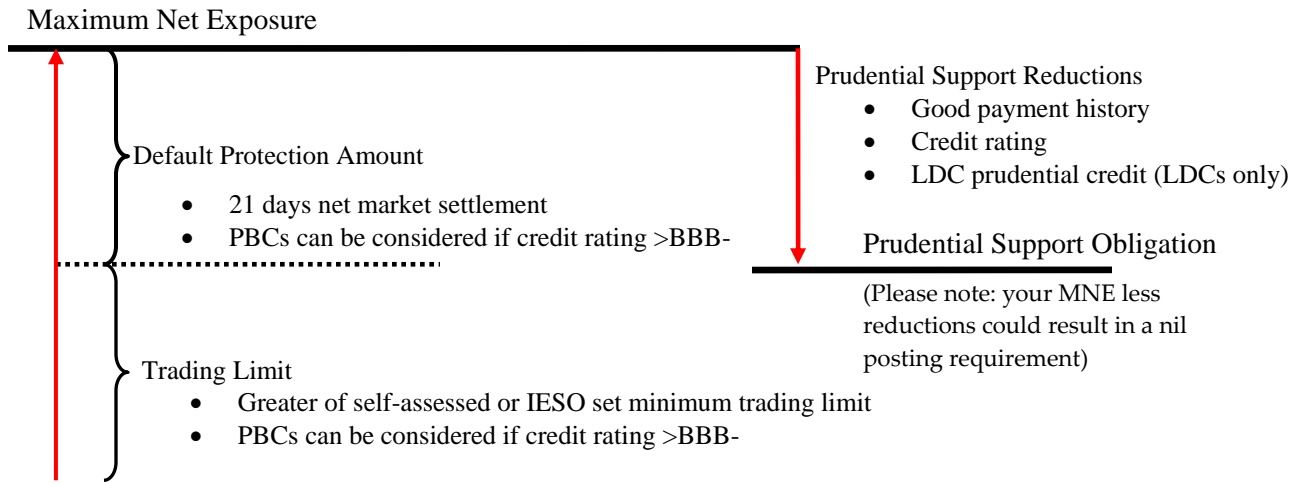
### Credit information and payment history

You may be able to use your credit rating information or your payment history to reduce your prudential support amount. Please see Section 4 for more information on reducing your prudential support amount.

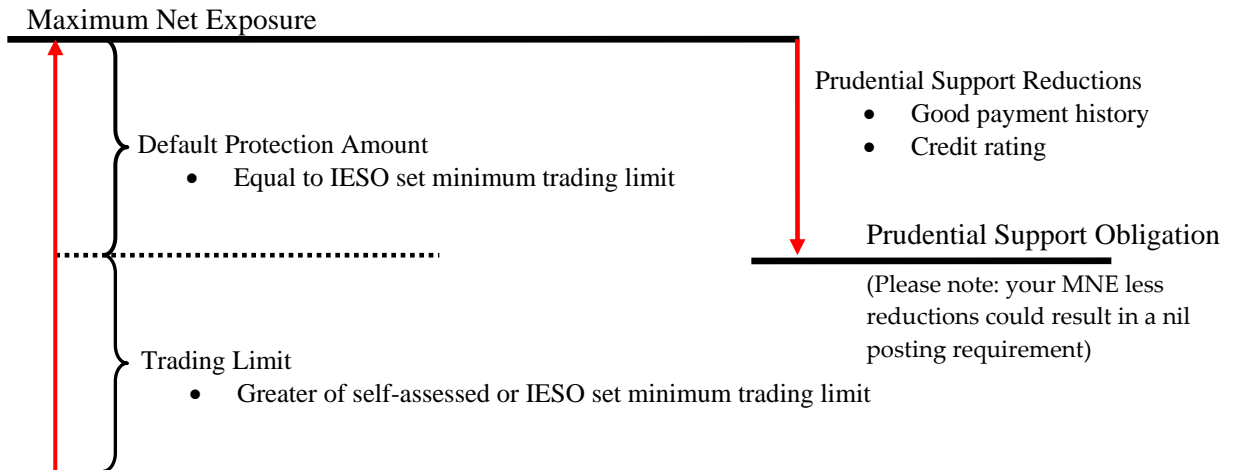
### Physical bilateral contracts (PBCs)

You may have a contract with another market participant to trade electricity directly, rather than through the real-time markets. If you use the IESO settlement process to settle your physical bilateral contract amounts, your prudential support obligation may be affected. Please see Section 5 for details.

### Margin Call Option: Metered Participants



### Margin Call Option: Non-Metered Participants



### Determining Prudential Support using the No Margin Call Option

If you wish, you may elect the ‘no margin call option’. This means you would not be subject to margin calls, regardless of the level of your actual exposure. (To satisfy a margin call, you must pay a portion of the amount you owe by a set time. For more information on margin calls, please see Section 8.) If you select this option, we will change how we calculate your maximum net exposure. If you select the no margin call option, you cannot claim a reduction in your prudential support for a credit rating, payment history, or – for local distribution companies (LDCs) – the LDC prudential credit (unless you are a ‘small distributor’<sup>4</sup>). You may wish to use the ‘no margin call option’ if you want to avoid the inconvenience and risk of margin calls, and you are able to arrange for low-cost prudential support equal to your maximum net exposure.

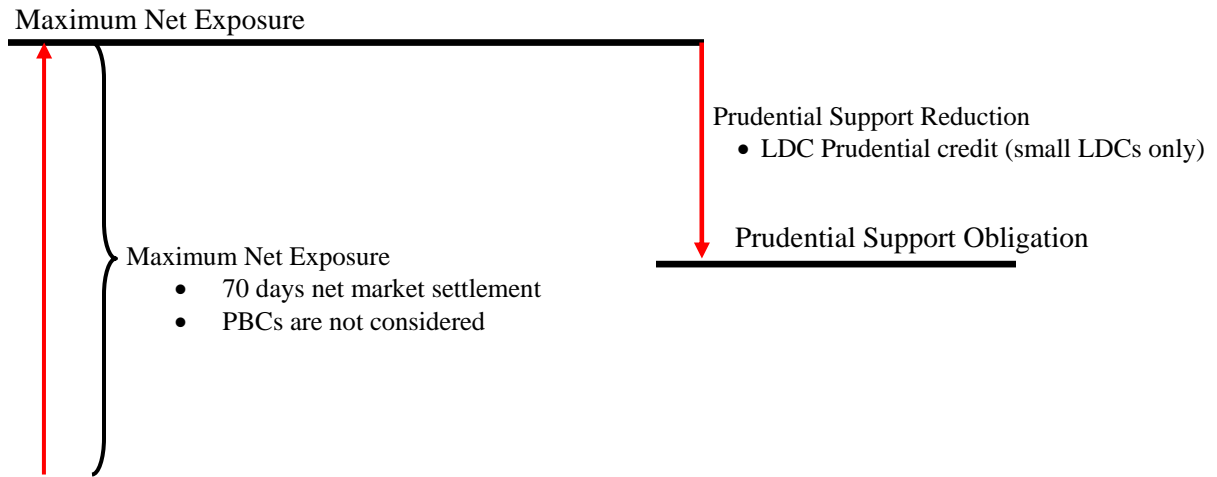
**For metered market participants (such as a wholesale consumer):** if you select the no-margin call option, we will calculate your maximum net exposure based on 70 days of market activity, instead of on the number of days in the upcoming billing period. In addition, we will not take into account any physical bilateral contracts.

**For non-metered market participants (such as marketers):** if you select the no margin call option, we will calculate your maximum net exposure as 100% of your estimated net settlement amounts for the upcoming billing period, using the average of your net settlement amounts for the three most recent billing periods where you had market transactions. If you haven’t had any transactions for at least three months, we will use your estimate of net settlement amounts for the upcoming billing period.

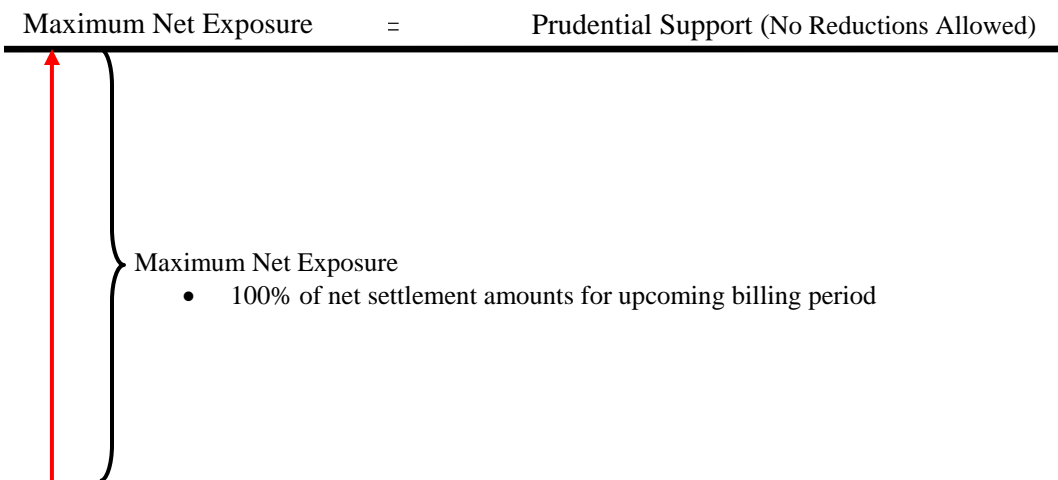
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<sup>4</sup> A ‘small distributor’ is a distributor with a projected annual energy consumption that is not more than 0.25% of the projected total system energy.

### No Margin Call Option: Metered Participants



### No Margin Call Option: Non-Metered Participants



### 3. Posting Your Prudential Support

Once we determine your prudential support amount, we will send you the information using Form 1443 *Prudential Support Obligation – Schedule A*. This form also shows any allowable reductions used in the calculation of the net amount you have to post (see Section 4 for details on reductions).

#### **Completing Schedule B of Form 1444**

At least two weeks before you enter the market, you must post your prudential support with us or with our custodian. You must also send us the completed Schedule B of Form 1444, listing the amount of each type of prudential support you are providing. The total amount listed on Schedule B should be at least as much as the amount listed on Schedule A.

#### **Acceptable types of collateral**

You can use the following types of collateral:

- A guarantee or irrevocable commercial letter of credit in a form acceptable to us, provided by:
  - A bank named in a Schedule to the Bank Act, S.C. 1991, c.46., with a minimum long-term credit rating of 'A' from an IESO-approved bond rating agency, *or*
  - A credit union licensed by the Financial Services Commission of Ontario with a minimum long-term credit rating of 'A' from an IESO-approved bond rating agency
- A guarantee in a form that is acceptable to us, provided by a person (other than one of your affiliates) who has a credit rating from an IESO-approved bond rating agency
- Marketable securities in the form of Canadian government treasury bills (treasury bills will be valued as cash at their current market value less two percent, to take market fluctuations into account)
- A guarantee in a form acceptable to us provided by a person who is one of your affiliates and who has a credit rating from an IESO-approved bond rating agency (subject to some limits – please see Market Rules, Chapter 2 for details)
- Cash deposits made with us by you or on your behalf, as long as you meet the following criteria:
  - You were already meeting your prudential support obligation in whole or in part through a cash deposit on November 4, 2004, and
  - Your prudential support obligation was \$200,000 or less on November 4, 2004 and it remains \$200,000 or less

## 4. Reductions in Your Prudential Support Obligations

You may be able to reduce the amount of your prudential support obligation based on your credit rating or your good payment history.

### **Reductions due to credit ratings**

We may reduce your prudential support obligation relative to your maximum net exposure based on your credit rating from a major bond rating agency on our IESO-approved list. The following table shows the reduction allowed for each credit rating category:

#### **Credit Rating Reductions for Non-distributors**

| <b>Credit Rating Category (using Standard and Poor's Rating Terminology)</b> | <b>Allowable Reduction in Prudential Support Obligation (For Non-distributors)</b> |
|--|--|
| AA- and above, or equivalent   | 100% of maximum net exposure   |
| A-, A, A+ or equivalent  | Greater of 85% of maximum net exposure or \$25,000,000                             |
| BBB-, BBB, BBB+ or equivalent  | Greater of 60% of maximum net exposure or \$10,000,000                             |
| BB-, BB, BB+ or equivalent   | Greater of 25% of maximum net exposure or \$3,000,000                              |
| Below BB- or equivalent  | \$0  |

### Credit Rating Reductions for Distributors

| Credit Rating Category (using Standard and Poor's Rating Terminology) | Allowable Reduction in Prudential Support Obligation (For Distributors) |
|---|---|
| AA- and above, or equivalent  | 100% of maximum net exposure  |
| A-, A, A+ or equivalent   | Greater of 90% of maximum net exposure or \$30,000,000                  |
| BBB-, BBB, BBB+ or equivalent   | Greater of 75% of maximum net exposure or \$15,000,000                  |
| BB-, BB, BB+ or equivalent  | Greater of 50% of maximum net exposure or \$5,000,000                   |
| Below BB- or equivalent   | \$0   |

#### Example 6:

#### Prudential support obligation for a wholesale customer (with credit rating reduction)

|  |                      |
|--|----------------------|
| Minimum Trading Limit  | \$3,915,922          |
| <u>Default Protection Amount</u>   | <u>+ \$8,931,806</u> |
| <b>Maximum Net Exposure :</b>  | <b>\$12,847,728</b>  |
| <br>   |                      |
| <b>Allowable reduction for credit rating</b> , assuming a BBB rating :   |                      |
| Greater of : 60% of Maximum Net Exposure (\$7,708,637) or (\$10,000,000) |                      |
| Allowable reduction for credit rating (\$10,000,000)                     |                      |
| <b>Total Prudential Support Obligation</b>                               | <b>\$2,847,728</b>   |

### Reductions due to payment history

We may reduce your prudential support obligation on evidence of good payment history for your electricity purchases in Ontario.

If you have a credit rating from a major bond rating agency on the IESO-approved list, you cannot have a reduction for good payment history.

### Reduction amounts for good history payment

If you are not a distributor:

| Good Payment History                         | Allowable Reduction in Prudential Support Obligation<br>(for non-distributors) |
|--|--|
| Six years or more                            | The lesser of \$6,000,000 or 40% of maximum net exposure                       |
| Five or more years but less than six years   | The lesser of \$5,000,000 or 25% of maximum net exposure                       |
| Four or more years but less than five years  | The lesser of \$4,000,000 or 20% of maximum net exposure                       |
| Three or more years but less than four years | The lesser of \$3,000,000 or 15% of maximum net exposure                       |
| Two or more years but less than three years  | The lesser of \$2,000,000 or 10 % of maximum net exposure                      |
| Less than two years                          | \$0  |

### Example 7:

**Prudential support obligation for a wholesale customer  
(with reduction for 3.5 years good payment history)**

|  |                     |
|--|---------------------|
| <b>Maximum Net Exposure :</b>  | <b>\$12,847,728</b> |
| Allowable reduction for payment history<br>(Lesser of \$3,000,000 or<br>15% of maximum net exposure) | <b>\$1,927,159</b>  |
| <b>Total Prudential Support Obligation:</b>  | <b>\$10,920,569</b> |

If you are a distributor:

| Good Payment History                         | Allowable Reduction in Prudential Support Obligation<br>(for distributors) |
|--|--|
| Six or more years                            | The lesser of \$7,000,000 or 70% of maximum net exposure                   |
| Five or more years but less than six years   | The lesser of \$6,000,000 or 60% of maximum net exposure                   |
| Four or more years but less than five years  | The lesser of \$5,000,000 or 40% of maximum net exposure                   |
| Three or more years but less than four years | The lesser of \$4,000,000 or 30% of maximum net exposure                   |
| Two or more years but less than three years  | The lesser of \$3,000,000 or 20% of maximum net exposure                   |
| Less than two years                          | \$0  |

### Reductions due to provision of prudential support by distributor's customers (available to local distribution companies only)

If you are a distributor, and:

- You have not selected the no margin call option, or
- You qualify as a small distributor,

we will reduce your prudential support obligation by 60% of the qualifying prudential support you have collected from your customers. You must provide us with an affidavit (use Form AFF\_0001) and proof of these amounts.

We will deduct 60% of your collection of prudential support from your maximum net exposure before applying any other prudential support obligation deductions.

## 5. Impact of Physical Bilateral Contracts

A physical bilateral contract is an agreement between a seller and a buyer to trade electricity directly, rather than through the real-time markets. If you use the IESO settlement process to settle the contract amounts, the contracted quantities of electricity:

- Decrease the amount we owe to the seller
- Decrease the amount the buyer owes us

This lowers the buyer's actual exposure, and raises the seller's actual exposure.

### **Impact on buyers**

(Please note that only the seller can submit the physical bilateral contract to us for inclusion in our settlements process.)

If your physical bilateral contract is part of our settlement process, we will not include the dollar amount associated with the contract when we calculate your real-time energy charges. This will lower your actual exposure. You may wish to factor this in when calculating your self-assessed trading limit so that you do not post unnecessary prudential support.

Depending on how your contract is drawn up, you may still have some charges such as transmission, debt reduction, etc. Keep in mind that you should include these charges when you calculate your self-assessed trading limit.

### **Impact on sellers**

(Please note that only the seller can submit the physical bilateral contract to us for inclusion in our settlements process.)

If you submit the contract to us, we will not include the dollar amount associated with the contract when we calculate your real-time energy payment. This will raise your actual exposure, and you will need to factor this in when you calculate your self-assessed trading limit.

If you are injecting at least as much electricity into the grid as the amount of your contract, you will likely remain a net creditor to the market – that is, your actual exposure will remain negative and you will not have to post prudentials. This would also be the case if you have a back-up physical bilateral contract with another generator for at least the contracted amount. In either of these cases, there would be no impact on your actual exposure.

Keep in mind that there is a risk that you may have to buy energy from the real-time market to meet your physical bilateral contract obligation to the buyer. This could happen if your generation or back-up generation does not actually inject the contracted amount into the grid – you could become a net debtor to the market. If this happens, your actual exposure could become a positive amount and you would be subject to a margin call. (See Section for information on margin calls.)

## 6. Maintaining Your Prudential Support

**You** must maintain your prudential support at all times. However, your maximum net exposure and your obligations may change depending on your activities and on conditions in the marketplace. For example, price fluctuations may affect your trading levels.

You need to keep us informed with information about your operations, your credit rating and the status of your existing prudential support. We assess your market activity on a regular basis (see below). You also need to let us know when there are changes to your information – for example, if part of your prudential support is due to expire.

### **IESO review**

We review your minimum trading limit, trading limit, default protection amount and maximum net exposure:

- Before each billing period
- Within two business days after your actual exposure exceeds your trading limit
- Within two business days after receiving notice from you of a change in status that would affect your maximum net exposure (e.g., operational changes, such as increase or decrease in load, peaks, etc.)
- For non-metered market participants: if we have adjusted your trading limit after you have not had any transactions in the market for three months
- If we have adjusted our price basis (see Appendix for details)

If your maximum net exposure changes as a result of our review, we will send you an updated Schedule A. If you need additional prudential support as a result of the change to your maximum net exposure, you must provide it within five business days from the effective date of the change.

### **Other circumstances that could change your prudential support obligation**

- If your prudential support obligation has been reduced based on your credit rating or payment history, and there is a change to your credit rating or payment history, your prudential support obligation may change. If you need to add to your prudential amount, you will have five business days to provide the additional amount.
- If any part of your prudential support is due to expire, you must provide a replacement that comes into effect no later than the expiry date. You must provide the replacement at least 10 days before the expiry date.
- If any part of your prudential support is no longer current or if it becomes invalid, you must provide a replacement within two business days.
- If we draw or claim any part of your prudential support, you must provide a replacement within five business days of receiving notice from us.
- If an event of default occurs as defined in Chapter 3 of the Market Rules.

## 7. Calculating Your Actual Exposure

We verify that each market participant has provided enough prudential support to cover their trading activity in the real-time markets. We calculate your actual exposure and compare it to your trading limit. (We do not carry out this step for market participants who have elected the no margin call option – see Section 8 for information on margin calls.)

Your actual exposure is the sum of the following three amounts:

- Amount invoiced but not paid
- Amount settled but not invoiced – this is the total of amounts on your preliminary and final settlement statements that have not yet been billed to you, plus the settlement amount that has been calculated but has not yet appeared on a settlement statement
- Amount cleared but not settled:
  - **Dispatchable participants:**  
This is the net amount of dispatched energy and operating reserve that has not yet been settled.
  - **Non-dispatchable participants:**  
We do not use this category. Instead:
    - For metered market participants:** we use an estimated amount, based on information in your form 1044. We also take into account the OEB regulated price plan and, for non-distributors, the average hourly Ontario energy price (HOEP) for the trade day.
    - For non-metered market participants (e.g., retailers, marketers):** we divide your estimated net settlement amount (from your form 1044) by 30 to calculate an estimated daily settlement amount.
  - For both dispatchable and non-dispatchable participants, we include an estimate of other settlement charges (e.g., debt reduction fee, transmission tariffs, etc.)

If your actual exposure reaches a certain percentage of your prudential support obligation, we will issue a margin call warning or a margin call as applicable.

### Global adjustment

The global adjustment is the difference between the total payments made to certain contracted or regulated generators and demand management projects, and any offsetting market revenues. The adjustment may be positive or negative, and appears as a debit or a credit on your monthly invoice.

When the global adjustment is a credit, including it in your daily actual exposure reduces your daily actual exposure. If the global adjustment is a debit, including it increases your daily actual exposure. (Please note that we use the estimated global adjustment amount, which may be different from the actual global adjustment amount that appears on your monthly invoice.)

Customers with an average peak demand over five megawatts (MW) during a defined Base Period will be considered 'Class A' customers. The monthly GA amounts for these customers will be based on their coincident peak demands. This change is a result of [Regulation 398/10](#) amending Regulation 429/04.

GA amounts for 'Class A' customers will now be based on the percentage that their peak demand contributes to overall system demand during the five peak hours of a defined Base Period.

For 'Class A' customers, we will adjust the Estimated Energy Price which is used to determine the amount of prudential support required as follows:

$$(Average RPP - RPP GA) + [(Total GA * PDF) / Estimated Annual Consumption]$$

As defined :

Average RPP is the Ontario Energy Board's estimate of Average Supply Cost for RPP Consumers (\$ / MWh).

RPP GA is the Impact of the Global Adjustment (\$ / MWh) on the Average Supply Cost.

Total GA is Ontario Energy Board's estimate of the total annual Global Adjustment cost.

PDF is the Peak Demand Factor assigned to each 'Class A' customer based on their five coincident peak demands.

Estimated Annual Consumption is the estimated annual electricity consumption for the customer

## 8. Margin Calls

Your actual exposure represents the size of your debt in the marketplace. Your trading limit represents your credit limit.

### **Credit warning**

If your actual exposure reaches 70% of your trading limit, we will issue you a warning. If you receive a warning, you may wish to make a prepayment to reduce your actual exposure, or you may take other action to ensure that your actual exposure does not reach your trading limit. (You are not required to do this.)

### **Margin call**

If your actual exposure equals or exceeds your trading limit, we will issue you a margin call requiring you to bring your actual exposure back within acceptable limits.

- To satisfy a margin call, you must pay a portion of the amount owed so that your actual exposure is no higher than 75% of your trading limit. (We do not pay interest on these payments.)
- You must make the payment by 4:00 p.m. on the second business day following the date of the margin call.

### 9. Market Participant Default and the Default Levy

There are circumstances where a market participant is considered to be in default. For example, this happens if the participant:

- Does not pay an invoice within the two-day remittance period,
- Does not provide the required prudential support within the specified time limits, or
- Does not satisfy a margin call.

Within two business days of the default, we may send the defaulting market participant a default notice or a notice of intent to begin suspension proceedings:

- If the participant does not remedy the default amount within the time specified in the notice, we may take action to suspend the defaulting market participant and recover the payment from the participant's posted prudential support
- Defaulting participants are also responsible for default interest, as well as any costs or expenses we incur as a result of their default

#### **Default levy**

Keep in mind that the IESO does not assume the debt in case of a payment default – instead we would issue a default levy to non-defaulting participants. If we cannot recover all of the default amount from the defaulting participant, we will issue a 'Notice of Default Levy' to all non-defaulting market participants who were active in the real-time markets at the time of the default. Under the default process:

- The 'Notice of First Default Levy' provides details about the default and the amount of the first levy. It includes an estimate of the amount of the second default levy, if one is necessary. We issue the notice at least 10 days before the first default levy is invoiced.
- The second default levy accounts for any outstanding amounts. We issue the notice of the second levy at least 10 days before the levy is invoiced.

## 10. Summary of Your Steps

- During the market entry process, complete Form 1044 *Prudential Support Information*, along with the form attachment *Prudential Support Spreadsheet*.
- Once we have sent you Form 1443 *Prudential Support Obligation – Schedule A*, send us the completed Schedule B.
- Post your prudential support.
- For sellers with physical bilateral contracts: let us know if you wish to have the contract settled through the IESO settlement process.
- If you are an LDC claiming the LDC prudential credit reduction:
  - Send us your affidavit showing the amount of collateral you have collected from your customers (use Form AFF\_0001)
  - Attach copies of bank statements showing any cash deposits and any letters of credit, guarantees, or Government of Canada T-bills you hold as prudential support
  - Send us a completed Form 1445 *Prudential Support Supplementary Form*
- Keep us informed of any changes to your operations that might impact your prudential support obligation.
- Submit any update to your self-assessed trading limit at least 7 days prior to the billing period to which you want it to apply
- Monitor your posted prudential support for expiring or terminating securities or letters of credit.

## 11. Summary

In the real-time electricity markets, we cannot recover the physical commodity if the buyer is unable to pay – the electricity has already been consumed. Because of this, participants in the IESO real-time markets must provide collateral to cover any amount that they might owe to the market if their company is unable to make a payment.

We determine the amount of collateral (called prudential support) you must post by considering information you provide about your expected energy injections and withdrawals, your estimated peak load, your expected net settlement amount (for non-metered participants) and your role in the market.

We may reduce the amount of your prudential support depending on your credit rating and your payment history, and the amount may also be increased or decreased if you have physical bilateral contracts that we settle.

The IESO does not assume the debt in case of a payment default – instead we would issue a default levy to non-defaulting participants. To avoid this happening, we monitor your actual exposure to ensure that it does not exceed a certain percentage of your posted prudential support – we may issue a margin call warning or a margin call if this happens.

### **Additional information**

For additional information about prudentials, please refer to:

- Market Rules, Chapter 2
- Market Manual 5.4
- Your account manager

## Appendix

### Price Basis Used to Determine Minimum Trading Limit and Default Protection Amount

The energy prices in this guide are for illustrative purposes only – they are based on the Ontario Energy Board's (OEB's) price forecasts under its regulated price plan (RPP):

- The energy price basis for distributors is the lower tier RPCMT1.
- The price for other market participants is the average RPP forecast by the OEB.
- We review the price basis annually. If there is a change of 15% or more from what we are currently using, we will change the basis for our prudential calculations.

#### EXAMPLE:

##### Assumptions:

- Base year is April Year 1 – price basis published in the OEB Price Report and established as the prices used by the IESO:
  - Distributors: RPCMT1 as reported by the OEB = \$55/MWh
  - All other market participants: RPP supply cost as reported by the OEB = \$58.95/MWh
- October Year 1 – Price basis published in the OEB Price Report:
  - Distributors: RPCMT1 as reported by the OEB = \$46.00/MWh
  - All other market participants: RPP supply cost as reported by the OEB = \$50.00/MWh
- April Year 2 – Price basis published in the OEB Price Report:
  - Distributors: RPCMT1 as reported by the OEB = \$60.00/MWh
  - All other market participants: RPP supply cost as reported by the OEB = \$63.00/MWh

##### Case 1:

Applicant XYZ Company, a metered market applicant who is a non-distributor, applies to become a market participant on October 1, Year 1.

The price basis used in the IESO's calculation of the minimum trading limit and default protection amount is \$58.95/MWh, even though the October Year 1 price basis published in the OEB Price Report has changed by more than 15%.

This is because \$58.95/MWh was established as the price basis in April, Year 1 and is in effect until the next annual review which will occur in April, Year 2.

**Case 2:**

Applicant LDC Company, a metered market applicant who is a distributor, applies to become a market participant on November 1, Year 2.

The price basis used in the IESO's calculation of the minimum trading limit and default protection amount for this distributor is \$55.00/MWh.

Because the annual review in this example occurs in April of each year, we can compare the established price basis to the current OEB forecast:

- First, we must identify the 15% price range to determine if the IESO-established price basis should change.
- The price range is determined using the established price basis of \$55.00/MWh from April Year 1 and is \$63.25/MWh to \$46.75/MWh.
- We will change the price basis only if the price is equal to or greater than the higher end of the range, or equal to or lesser than the lower end of the range.

In this case, the RPCMT1 price basis published by the OEB in April Year 2 is \$60.00/MWh, falling within the 15% price range. Therefore, our price basis will remain at the \$55.00/MWh price established in April Year 1.