

Alberta Power Industry Credit Issues

**A Discussion Paper to Stakeholders
On the Alberta Electrical System
Operator's Credit Rules**

Submitted by the Power Industry Credit
Sub-Committee

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1. Executive Summary

This paper focuses on the issues identified in the June 2004 letter to the Wholesale Market Policy Review Taskforce relating to the Alberta Electrical System Operator's ("AESO's") current credit policy and provides draft recommendations on those issues.

The Credit Sub-Committee believes that credit risk in the real-time electricity market is currently at a tolerable level and any significant weakening of the AESO's credit policies is not required at this time. However, the Credit Sub-Committee does feel that there are opportunities for further enhancement to the AESO's credit policy which will have a positive impact on the activities of participants.

After much discussion and analysis the Credit Sub-Committee arrived at the draft recommendations included in this paper. The paper should be read in its entirety for a full discussion of issues identified, as this executive summary is only a high level summary of the Credit Sub-Committee's findings. The Credit Sub-Committee recommendations are as follows:

a) Unsecured Credit Limits

Issue: Based on a sliding scale, is the amount of unsecured credit provided to BBB or higher rated companies appropriate?

Recommendation: No change in unsecured credit limits should be undertaken at this time for companies with unsecured bond ratings of BBB or higher.

b) Unsecured Credit Not Provided to Companies Rated Less Than BBB

Issue: Should unsecured credit be provided to BBB- and speculative grade companies?

Recommendation: No unsecured credit should be granted to companies with unsecured bond ratings of BBB- or lower.

c) No Unsecured Credit Provided to Non-Rated Companies

Issue: Should unsecured credit be provided to non-rated companies?

Recommendation: Some value in providing non-rated companies unsecured credit; however, any granting of unsecured credit should not increase credit risk in the market.

d) Rate Regulated Companies Are Not Required to Post Credit

Issue: Should rate regulated companies be subject to the same credit requirements as all other participants?

Recommendation: The Credit Sub-Committee determined that we would not continue to research this issue. This issue should be reviewed by the Department of Energy as part of the current review of the retail and wholesale electric markets.

e) Alternative Prudential Arrangements

Issue: Currently, the AESO accepts cash, letters of credit, and guarantees as forms of security. Should the AESO accept alternative forms of security or use alternative credit arrangements?

- Examples: pay downs, surety bonds, credit insurance

Recommendation: After researching these arrangements, the Credit Sub-Committee feels that surety bonds and credit insurance are expensive compared to other forms of security and provide a lower level of assurance of collection. Therefore, surety bonds and credit insurance should not be acceptable forms of credit used by the AESO. The AESO should consider using Asset Assignments and reduced settlement cycles for reducing participant security requirements.

f) Default Levy

Issue: Should the AESO change the current method of calculating the default levy?

Recommendation: The Credit Sub-Committee recommends that no change in the current method of calculating the default levy using metered volumes and allocating defaults to both load and generation. However, net settled volumes should be removed from the metered volumes for the purpose of allocating a default between generators and loads.

2. Introduction

This paper focuses on the issues identified in the June 2004 letter to the Wholesale Market Policy Review Taskforce relating to the AESO's current credit policy and provides draft recommendations on those issues. To the extent that issues are identified in this discussion paper, a detailed assessment of each issue is provided, options are explored, and draft recommendations are provided. The purpose of this paper is to put forth the recommendations of the Credit Sub-Committee for comment by the broader industry participant group, not to discuss the implementation of the recommendations contained within this paper.

Any financial/commodity market requires sound credit policies and have those policies applied on a consistent and timely basis. Any credit policy must be flexible enough to allow for participation in the market by credit-worthy participants, while still being rigorous enough to maintain the financial stability of the market and not putting participants at significant financial risk. A balancing act is required to ensure that any

changes in the AESO's credit policy which are perceived to be positive do not, in fact, have a negative impact on the market. Reducing credit requirements may allow for new participants to participate and allow for additional liquidity in the market place, however, significantly weaker credit policies may actually have the opposite impact. This may force participants to no longer participate in the market due to the increased financial risks resulting from a weakened credit policy which, in turn, could reduce market liquidity.

The Credit Sub-Committee has determined that certain changes to the AESO's credit policy may have a positive impact on participants and their activities. Overall, the current level of credit risk existing in the real-time electricity market at this point in time is at an acceptable level and that any significant weakening of the AESO's credit policy would not be acceptable to participants. Recommendations in this paper are based on this premise and any implementation of these recommendations will be subject to further refinement by the Credit Sub-Committee and will be subject to the AESO's rule change process.

The Credit Sub-Committee has deferred an examination of any credit risk issues that may impact those participants who participate in the forward energy market as being beyond the scope of this sub-committee.

3. Background

3.1 General

The credit requirements of the AESO are governed by the Independent System Operator Rules ("ISO Rules"). The ISO Rules relating to credit can be found at Section 2.1 - Prudential Requirements and 8.5 – Default Procedures and Charges. These rules were established in consultation with market participants, at the time, and reflected the credit risk tolerances of those market participants at the time they were established.

In 2001, concerns were raised by some industry stakeholders that the ISO Rules were in need of review to ensure they were functionally optimal given the then current state of the market. As a result, a review of the ISO Rules was performed by a Stakeholder Credit Task Force led by the AESO. The Stakeholder Credit Task Force consisted of a limited cross-section of industry participants. At the time of the review, global default rates were rising and reached historical highs during 2001. It was within this context that the 2001 Task Force proposed no changes to the ISO Rules.

The purpose of the AESO credit requirements is to mitigate certain credit risks, which is the risk that a debtor will not honour its obligations resulting in a default by the debtor. Credit risk, as it relates to the Alberta power market in its totality, can be defined as the following:

- In the *Real-Time Energy Market*, credit risk is the risk that a net load participant will fail to pay for the net energy received (“Receivable Risk”).
- In the *Forward Energy Market*, credit risk is the risk that a party will incur a loss in replacing a contract for future delivery made with a defaulting party (“Replacement Risk”), as well as Receivable Risk on physical volumes delivered but not yet settled with that party.
- In the *Financial Energy Market* (i.e. fixed-for floating price swaps), credit risk is the combination of both Receivable Risk for settlement of amounts calculated but not-yet paid by a defaulting party, as well as Replacement Risk on financial contracts not yet settled with that party.

3.2 ISO Credit Risks

The AESO concerns itself with receivables risk in the real-time energy market. The ISO Rules provide the framework under which the AESO manages such credit risk. Financial settlement of the real-time energy market occurs on the 20th business day of the month following the flow of energy, resulting in a maximum receivable risk equivalent to approximately two months. To reduce receivable risk security may be required from a participant for approximately two settlement months.

The AESO is not subject to any financial losses as a result of a receivable default, as any credit default losses flow through to participants.

The ISO Rules have provisions that allow for granting of unsecured credit. The unsecured credit limits are based on the long-term senior unsecured debt ratings of a participant. Security required from a participant is reduced by any unsecured credit limit granted to the participant.

Currently, the Alberta power market has approximately 229 real-time market participants, which includes generators, self-retailers, retailers and importers/exporters. Of the 229 market participants, approximately 115 market participants are currently required to provide some form of security to the AESO for power consumed. Approximately 56 per cent of the receivables for one month are unsecured and the remaining 44 per cent of the receivables are secured. Appendix A contains selected demographic information related to credit as it pertains to the real-time energy market.

4. Issues Identified Relating to Current ISO Credit Requirements

The Credit Sub-Committee identified several questions related to the AESO's current credit requirements. After much debate, discussion and analysis the Credit Sub-Committee has arrived at the draft recommendations included in this paper. The Credit Sub-Committee feels that the enclosed draft recommended changes to the AESO's credit

policy are positive in nature and do not significantly increase credit risk in the market place. Following is a list of issues examined and draft recommendations put forth by the Credit Sub-Committee:

4.1 Unsecured Credit Limits

a) Introduction

Under the ISO Rules, market participants may be granted unsecured credit up to \$25 million. Unsecured credit amounts are granted only to participants who have an acceptable long-term senior unsecured debt rating or an issuer rating provided by Dominion Bond Rating Services (or have an equivalent rating by a major reputable corporate rating service which is satisfactory to the AESO).

If a participant wishes to use the rating of an affiliated entity or third party, that entity must provide a guarantee that is an irrevocable, continuous and unconditional guarantee requiring the obligation to be paid on demand and is executed by a Person (“Guarantor”) that is an Affiliate or third party. The Guarantor must demonstrate that it has an acceptable long-term senior unsecured debt rating.

The unsecured credit amount granted to participants is based on their long-term senior unsecured debt rating (or Standard & Poors (“S&P”) equivalent) as follows:

<u>Rating</u>	<u>Unsecured Credit Limit</u>
AAA	\$ 25,000,000
AA	20,000,000
A	15,000,000
BBB+ & BBB flat	10,000,000
<BBB flat	0

Issue:

- (i) *Is the level of unsecured credit provided to investment grade companies appropriate?*

Facts:

- AESO currently has 30 participants who have a BBB or higher unsecured debt rating
- Of the 30 participants, 6 have exceeded their unsecured credit limit at January 31, 2005
- On average, these 6 participants have exceeded their unsecured credit limit by approximately \$13.5 million for a total of approximately \$80 million

- Estimated credit costs for these participants to provide security is \$600,000 per annum (based on 75 basis points)
- For the 24 remaining participants, they have utilized, on average, 27 per cent of their unsecured credit limits (with two participants utilizing more than 65 per cent of their unsecured credit and the remainder at 65 per cent or less)

Recommendation:

The Credit Sub-Committee recommends that current unsecured credit limits remain unchanged. The basis of this recommendation is that since there are very few participants who have exceeded their unsecured credit limits (six in total), given the minimal costs involved for these participants to provide security to the AESO, and that these participants are already active participants in the energy market, an increase in credit limits would have limited benefit for these six participants.

Also, the Credit Sub-Committee reviewed the 24 participants who were utilizing less than 100 per cent of their unsecured credit limit to see if there would be any benefit to increasing the unsecured credit limits for these participants. Because these 24 participants, on average, were significantly below their unsecured credit limit (less than 65 per cent utilized), these participants were not being prevented from participating in the market as a result of the AESO’s credit requirements; therefore an increase in the unsecured credit limits would not create any additional trading activity from these participants.

Issue:

- (ii) *Is it appropriate to base the amount of the unsecured credit provided to investment grade companies solely on their long-term unsecured senior debt rating?*

For example, should Tangible Net Worth (“TNW”) be considered when providing unsecured credit to a participant?

Facts:

A review was performed of companies who have unsecured bond ratings of BBB or higher and that currently receive unsecured credit from the AESO. For the purposes of this calculation, ***TNW is defined as a company’s net assets less liabilities less intangibles*** and was based upon each company’s latest available audited financial statements.

The TNW calculations are based on the following percentages for each category of long-term unsecured credit rating, which is based on the percentages provided by NYISO and are currently being considered by other ISOs:

Long-term Unsecured	Percentage Applied to TNW
---------------------	---------------------------

Credit Rating	
AAA	7.5
AA	7.5
A+	7.5
A	6.5
A-	5.0
BBB+	4.0
BBB	2.5

The ISO calculated an estimated unsecured credit limit for each participant using the TNW approach. It was noted that all participants, except three, would have benefited from using a TNW calculation for determining unsecured credit (i.e. the TNW approach would provide the participant a higher unsecured credit limit than the current existing limits used by the AESO) and that no participant would have been required to post any security to the AESO. It should be noted that there were three participants that would have had their unsecured credit limit reduced using a TNW calculation, however, the participant's current credit exposure to the AESO is significantly below the unsecured credit that would have been provided to the participants under either approach, TNW or the current unsecured credit limits used by the AESO.

Recommendation:

The Credit Sub-Committee felt using TNW would have limited use as the unsecured credit limit calculated using TNW would have exceeded current unsecured credit limits currently provided to participants. Given the recommendation in (i) above, not to increase the current unsecured credit limits, the Credit Sub-Committee recommends that TNW not be implemented at this time.

Also, the Credit Sub-Committee concluded that there was limited benefit to using a TNW calculation to limit the amount of unsecured credit issued to participants as only three participants would have had their unsecured credit limit reduced, and given their credit exposures to the AESO are significantly below the AESO's current unsecured credit limit and the unsecured credit limit.

Issue:

(iii) *Are there any concerns about the current effectiveness of Dominion Bond Rating Services ("DBRS") and the other rating agencies as a proxy for determining investment grade credit?*

No. The Credit Sub-Committee felt that the use of unsecured bond ratings was an appropriate measure to use when determining unsecured credit limits. This assessment was based on the following facts:

- The ratings agencies utilization of both quantitative and qualitative factors when determining unsecured bond ratings;
- Unparalleled access by rating agencies to participant information to develop ratings;
- Ratings agencies significant knowledge base (industries, issues, current events, etc.) and expertise, which would be impossible for AESO to duplicate.

4.2 No Unsecured Credit is Granted to Companies with less than a BBB flat Debt Rating

Currently the ISO Rules do not allow for unsecured credit to be granted to companies who have a long-term senior unsecured debt rating of less than BBB flat, even though BBB- is still considered investment grade. Unsecured credit is not granted to non-investment grade rated companies.

Issue:

- (i) *Should unsecured credit be granted to companies that have a debt rating less than BBB flat?*

Facts:

There are 10 participants who have long-term unsecured debt ratings of less than BBB flat. These participants make up approximately 9 per cent of the customers/participants who currently post credit to the AESO. The participants are distributed, as follows, based on credit rating:

Long-term Unsecured Credit Rating	Number of Participants	Total Security Posted with AESO (millions)
BBB-	4	18.6
BB+	3	1.3
B+	1	.8
B	1	.4
CCC+	1	.2

The estimated cost of providing security by these participants using an LC rate of 1 per cent is approximately \$210,000 per annum.

Recommendation:

Since there are a limited number of participants with a BBB- or less unsecured long-term debt rating, given the limited security provided to the AESO and associated costs to these participants as a result of providing the AESO this

security, the Credit Sub-Committee has determined that there is limited value in pursuing this issue at this time.

(ii) *If yes, what amount and how should that amount be determined?*

Recommendation:

See (i) above.

4.3 Security Required from Non-Rated Companies

In accordance with the ISO Rules, unsecured credit is not granted to non-rated companies. The AESO currently does not perform financial assessments on non-rated companies. Approximately half of the current market participants are either non-rated or have a less than a BBB flat debt rating.

Issue:

(i) *Should unsecured credit be granted to companies that have no debt rating?*

Facts:

- The AESO currently has 52 participants who are considered non-rated.
- The security requirements within the AESO for these companies is as follows:

Security Requirement	# of Participants
Greater than \$10,000,001	3
10,000,000 - 5,000,001	2
5,000,000 – 1,000,001	13
1,000,000 – 500,001	6
500,000 – 250,001	5
250,000 – 100,001	12
Remainder	12

- Of these 53 participants, 7 make up 68 per cent of the total security provided to the AESO and 72 per cent of the AESO's credit exposure (accounts receivable)
- The estimated costs to these participants to provide security is approximately \$1.8 million (based on 150 basis points for letters of credit and prime plus 2 per cent for cash and assuming that participants would have to borrow funds under their credit facilities to provide such cash to the AESO).

Recommendation:

The Credit Sub-Committee believes there is some benefit to providing unsecured credit to non-rated companies provided objective, transparent measures for assessing credit can be developed and if the methodology is acceptable to market participants.

Issue:

- (ii) *If unsecured credit is to be granted to non-rated companies, how should the unsecured amount be determined?*

Facts:

The intent of using a credit rating model would be in order for the AESO to provide companies who do not have a credit rating from DBRS, Moody's and S&P with a proxy credit rating. The amount of unsecured credit provided to non rated companies would be based on the proxy credit rating as determined by AESO and would be subject to any unsecured credit limits established, including any limitations of the unsecured credit limit based on a Tangible Net Worth calculation, as part of the ISO Rules which are yet to be developed should be determined that non rated companies should receive unsecured credit.

The AESO discussed processes and/or models for providing unsecured credit to customers with 5 participants. The objective was to determine if the AESO could develop and implement its own credit ratings model that would approximate unsecured long-term bond ratings issued by S&P, DBRS and Moodys. In addition, the AESO performed a review of credit models offered by KMV (Moodys) and S&P.

Two approaches became apparent based on the AESO's discussions:

- **Approach 1 - Credit Score:** A credit score (generally certain ratios, i.e. S&P industry ratios) was determined and unsecured credit was then allocated based on the score generated; or
- **Approach 2 - Proxy Credit Rating:** A credit rating (or default probability) was developed and amount of unsecured credit based on the credit rating achieved.

Advantages/Disadvantages to each approach are as follows:

1) Credit Score

Advantages:

- Simplistic approach
- Lower cost to develop and maintain compared to Approach 2

Disadvantages:

- Outcomes not as comprehensive as Approach 2
- Requires continuous testing to ensure correlation of outcomes with results achieved by companies with credit ratings.

2) Proxy Credit Rating

Advantages:

- More comprehensive approach than Approach 1
- Approximates external credit ratings which allow rated and non-rated companies to be treated similarly

Disadvantages:

- Costly to develop and maintain internally
- Requires significant expertise to develop and maintain internally
- Requires continuous testing to ensure correlation of outcomes with results achieved by companies with credit ratings

Recommendation:

The Credit Sub-Committee determined that development and implementation of an internal model would be too expensive to develop and maintain.

The Credit Sub-Committee examined opportunities if using external models from the ratings agencies for rating private companies and has determined that a model developed by a ratings agency be used.

The Credit Sub-Committee feels there are significant benefits to using such models:

- Expertise ratings agencies have in developing and maintaining such models
- The proxy credit rating approach would be a more comprehensive measure
- Using a ratings agency model would provide added credibility in the market given the model was developed by a ratings agency and eliminate any subjectivity that would occur had the AESO determined a proxy credit rating

Issue:

(iii) *Should unsecured credit be granted to income trusts based on a stability rating provided by DBRS or S&P?*

Facts:

Currently, the AESO’s participant energy trust demographics are as follows (by stability ratings category):

<u>Rating</u>	<u># of companies</u>	<u>Aggregate two months A/R (\$)</u>
STA – 1 to STA – 2	4	18,800,000
STA – 3 to STA - 4	4	4,000,000
STA – 5 to STA – 7	3	5,000,000
	11	27,800,000
By industry segment:		
Oil & Gas	6	
Power	2	
Other	3	

Recommendation:

The Credit Sub-Committee determined that unsecured credit should not be provided to income trusts based on stability ratings. This recommendation was based on the following factors:

- There is no correlation of stability ratings to unsecured debt ratings. The AESO examined current participants who have dual ratings, a stability rating and unsecured bond rating, and noted that while the participants had a stability rating of ST-2, those same participants had unsecured bond ratings that ranged from BB to BBB;
- For stability ratings there is no distinction between investment grade/non-investment grade ratings for a trust. A stability rating is simply an assessment of relative risk; and

- Finally, it was noted that a stability rating is not an estimate of the probability of a default, but rather the tolerance for distribution cuts by an income trust.

For those income trusts that do have an unsecured bond rating and a stability rating, the unsecured bond rating should be used for determining an unsecured credit limit.

4.4 Rate Regulated Companies are not Required to Provide Security

As required by the Electric Utilities Act, Regulated Default Supply Regulation, companies who serve rate-regulated load are not required to post security with the AESO. Companies that serve non-regulated load are required to provide security in accordance with the ISO rules. Rate regulated load is approximately 28 per cent of the AESO's unsecured credit exposure.

Issues:

- (i) What are the policy considerations that led to the current status under the Regulation of the rate regulated load providers, and are these policy considerations still valid?*
- (ii) Are retailers who are serving non-regulated load at a financial disadvantage because of the requirement to provide the AESO security?*
- (iii) If yes to (ii) above, taking into account all policy considerations, what can be done to level the playing field?*

Facts:

- The AESO currently has 12 participants who qualify for approximately \$62 million of unsecured credit
- Of these 12 participants, 2 are retailers and 10 are Rural Electric Associations ("REAs")
- The 2 retailers make up 91 per cent of the AESO's exposure to Rate Regulated Option ("RRO") load participants

Recommendation:

The Credit Sub-Committee determined that we would not go forward researching these issues at this time. The issues should be addressed in the RRO and related research and recommendations brought forth by the Department of Energy as part of the current review of the retail and wholesale electric markets currently ongoing.

Any changes as a result of the Department of Energy's review will have to consider the credit implications of such changes, the impact on the default levy, as well as the ability of the RRO load retailer's ability to recover any credit losses from their customers.

4.5 Types of Security Accepted

In accordance with the ISO Rules, the AESO accepts the following forms of security; Letters of Credit, Guarantees and Cash Deposits. The AESO also allows participants to prepay for energy consumed in order to reduce their security requirements. There are also alternative credit instruments or credit arrangements such as surety bonds, asset assignments, credit insurance and reserve funds that may be plausible, cost effective, alternatives to standard credit arrangements.

Issue:

(i) Should the AESO accept or use alternative credit arrangements; for example, surety bonds, netting arrangements, asset assignments, credit insurance, reserve funds and others?

Facts:

The AESO currently accepts Letters of Credit, Guarantees and Cash as acceptable forms of credit.

Recommendations:

The Credit Sub-Committee has determined that the use of insurance and surety bonds are not forms of security the AESO should accept;

- **Insurance** - due to cost concerns and effectiveness using insurance; and
- **Surety bonds** - in that there is a concern regarding the legal effectiveness of using surety bonds for security as it relates to operating accounts receivable.

In addition to accepting Letters of Credit, Guarantees and Cash, the Credit Sub-Committee felt the AESO should allow for an Assignment of Payments, at the AESO's discretion. The use of an Assignment of Payments would potentially allow generators to use their energy market receivable as security for their Supply Transmission System charges ("STS"), effectively allowing for netting.

The Credit Sub-Committee was in agreement that reducing settlement cycles from the current 60 days settlement cycle to a lesser period would reduce credit exposures and, ultimately, reduce credit risk in the market. The AESO examined other jurisdictions and noted that one jurisdiction had decreased their settlement cycle from 50 days to 14 days. This resulted in a 60 per cent decrease in credit exposures in the market. For the Alberta power market, which has a 60-day credit exposure of approximately \$400 million, a 60 per cent decrease would reduce the credit exposure in the market to approximately \$160 million. This would also reduce participant credit requirements with the AESO and free up participant capital.

Currently, several barriers/issues need to be examined prior to implementation of any reduction in the settlement cycle:

- IT systems are currently not capable of performing a shorter settlement cycle;
- Meter data would have to be reviewed to ensure accuracy of settlement information;
- Several process issues would have to be examined and resolved with industry participants;
- Possible mismatching of cash flows between wholesale and retail markets needs to be examined.

The Credit Sub-Committee recommends that reducing the current settlement cycle of 60 days down to approximately 14 days be considered in conjunction with the implementation of any market design changes that may occur as a result of the market review. If no changes to the market design occur, the issue should be examined as it relates to the existing real-time energy market.

4.6 Default Levy

In accordance with the ISO Rules, if a participant defaults then, after exhausting other remedies, the AESO must:

- Firstly, apply security held by the AESO from the defaulted participant to the defaulted amount.
- Secondly, any excess default amount is then collected from all participants that have exchanged energy in the settlement period in which the default occurred.

The default levy is calculated as a pro-rata share of the total default based on total volumes exchanged in the market within the settlement period in which the default occurred. The default levy is calculated on an individual participant basis as follows:

Default levy per participant

Equals:

Unsecured default amount

Multiplied by:

Participant metered volumes (generated and consumed) in the period

Total Market metered volumes (generated and consumed) in the period

Issue:

- (i) *Should the AESO change the method by which defaults are allocated to participants?*

Facts:

- Under the current default levy method and the metered volumes method, the 10 participants with the largest metered volumes are responsible for approximately 71 per cent of the default levy.
- The participant with the largest metered volumes would be responsible for 21 per cent of the default levy.

Recommendation:

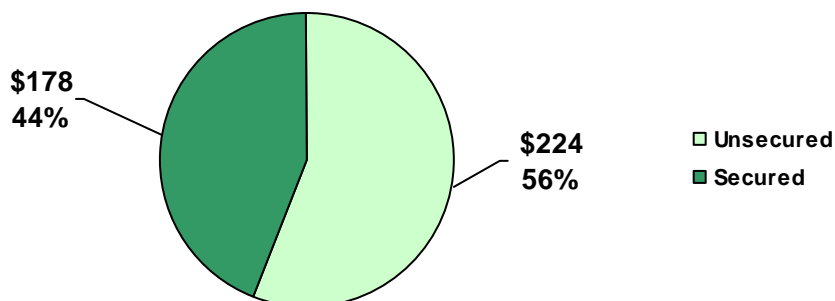
- The Credit Sub-Committee determined that the default levy should continue to be calculated based on meter volumes and allocated between generators and load participants. The Credit Sub-Committee continues to believe this is the fairest way to allocate a default and that the burden of any default be shared by all participants.
- The Credit Sub-Committee also recommends that the meter volumes used to calculate a default levy should be adjusted for net settlement volumes (registered bilateral agreements) as the credit risk for these transaction is between the counter-parties and managed by the counter-parties to the agreement. Therefore, any credit default should not be attributed to these volumes.

APPENDIX A

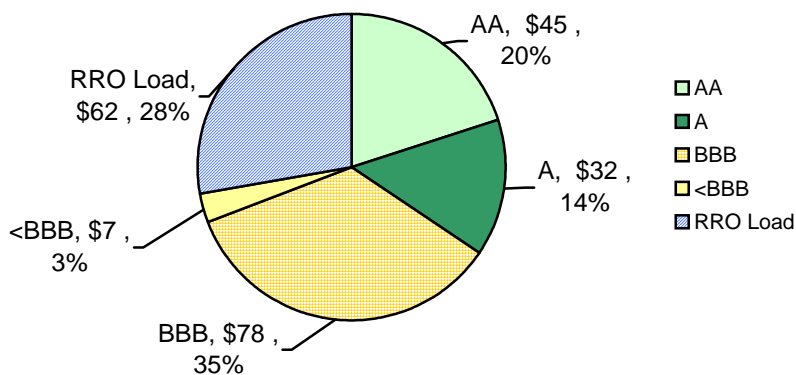
Market Demographics

The following graphs depict the market demographics of AESO participants for December 2004/January 2005.

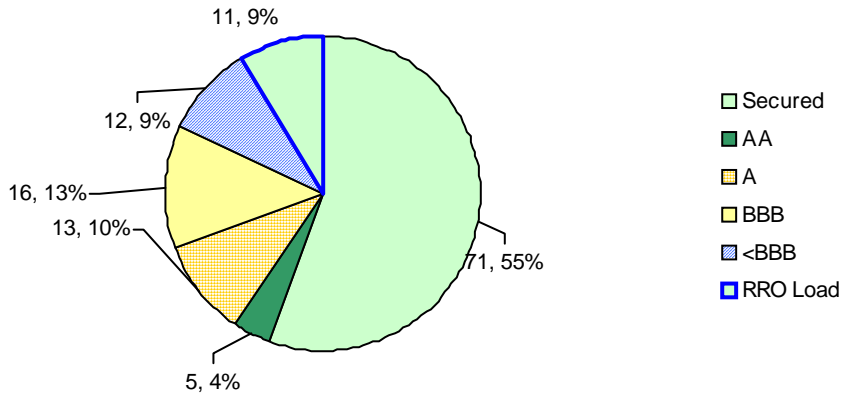
Comparison of Unsecured Credit to Secured Credit Utilized for Dec 2004/Jan 2005 (in percentage and in millions of dollars, total \$402 million)



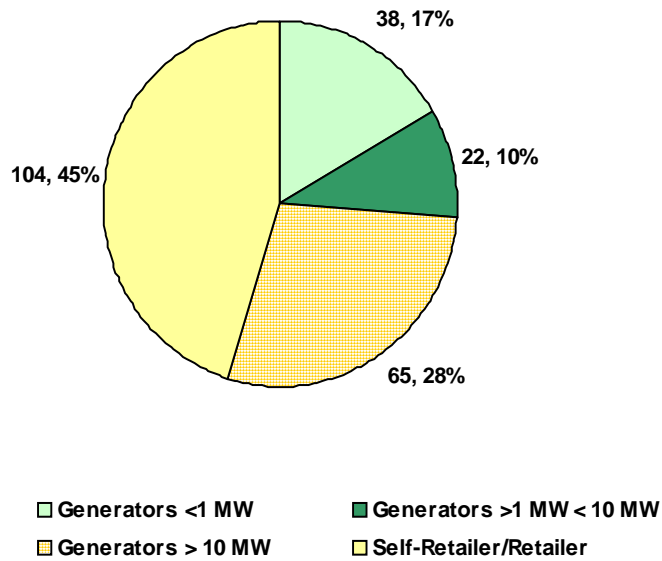
Comparison of Unsecured Credit Based on Bond Ratings Utilized for Dec 2004/Jan 2005 (in percentage and in millions of dollars, total \$224 million)



Comparison of Number of Unsecured versus Secured Participants for Dec 2004/Jan 2005 (Net Load Participants Only, in percentage and number)



Comparison of Types of Participants for Dec 2004/Jan 2005 (in percentage and number)



APPENDIX B

ISO Comparisons

ISO Unsecured Credit Comparison

ISO Name	Basis of Unsecured Credit Limit
AESO	<ul style="list-style-type: none">• Sliding scale; Assigned dollars values based on long-term unsecured credit rating• No credit for BBB- or non-investment grade• No credit for non-rated participants
IEMO (Ontario)	<ul style="list-style-type: none">• Sliding scale; Greater of Maximum Net Exposure and assigned dollar limits based on long-term unsecured bond rating• BBB- is greater of 50 per cent of Maximum Net Exposure and \$5 million• No credit for non-investment grade and non-rated participants
CAISO (California)	<ul style="list-style-type: none">• Unlimited for long-term unsecured credit rating of A or better and for short-term credit rating A-1 and A-2.• No credit for any other credit rating or non-rated participants
NYISO (New York)	<ul style="list-style-type: none">• Sliding scale; Percentage of Tangible Net Worth based on long-term unsecured credit rating• BBB- is 1.5 per cent of tangible net worth• No credit for non-investment grade and non-rated participants
NE-Pool (New England)	<ul style="list-style-type: none">• All participants: Sliding scale; Lesser of:<ul style="list-style-type: none">▪ 1) Percentage of Tangible Net Worth▪ 2) \$125 million and▪ 3) 20 per cent of outstanding obligations.
MISO (Midwest)	<ul style="list-style-type: none">• Maximum of \$50 million based on internal assessment

Default Levy Comparison

ISO Name	Basis of Unsecured Credit Limit
AESO	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of total metered volumes • Issued to all market participants
IEMO (Ontario)	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of absolute dollars invoiced in the settlement period • Issued to creditors first on unpaid amounts and the remainder to all market participants
CAISO (California)	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of accounts receivable and accounts payable in the settlement period • Issued to creditors only
NYISO (New York)	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of accounts receivable and accounts payable in the settlement period • 85 per cent issued to debtors and 15 per cent issued to creditors
NE-Pool (New England)	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of accounts receivable and accounts payable in the settlement period • Issued to all market participants
MISO (Midwest)	<ul style="list-style-type: none"> • Default levy calculated as the pro-rata share of accounts receivable in the settlement period • Issued to all transmission owners

APPENDIX C

Responses from Participants on the Alberta Power Credit Issues Discussion Paper dated June 2004 with comments from the Credit Sub-Committee.

We received eight (8) responses from participants related on the **Alberta Power Credit Issues Discussion Paper dated June 2004** that was issued. We have summarized the content of those letters below and provided comments.

Respondent 1:

Response:	Comment:
We support strong credit policies, especially when there is a mutualization of credit risks such as with power pools.	Sub-Committee is in agreement. See Introduction section 2 of the discussion paper.
Support ratings based unsecured credit.	Sub-Committee is in agreement. See section 4.1 of the discussion paper.
Support no unsecured credit for companies with below investment grade ratings.	Sub-Committee is in agreement. See section 4.2 of the discussion paper.
Support limited unsecured credit to non rated companies (as long as transparent, objective criteria are involved).	Sub-Committee fees there is some value in providing unsecured credit to non rated companies provided there is transparent and objective criteria involved. See section 4.3 of the discussion paper.
Would be concerned with any weakening of the exist credit polices.	Sub-Committee is in agreement. See Introduction section 2 of the discussion paper.

Respondent 2:

Would be concerned with any significant weakening of existing collateral requirements.	Sub-Committee is in agreement. See Introduction section 2 of the discussion paper.
AESO should look at credit capacity (through a rigorous financial review) not just ratings.	Sub-Committee felt that the use of ratings continue to be the best approach to providing unsecured credit. See section 4.1 (iii) for discussion.
Current limits should be increased modestly	Sub-Committee felt that there was

(\$5 million by category) and up to \$1 million of unsecured credit should be provided to participants who have < BBB flat unsecured credit rating (subject to financial review).	limited value to increasing unsecured credit limits at this point in time due to limited number of companies that would benefit. See section 4.1 of the discussion paper.
AESO should be able to provide unsecured to credit to non rated companies at its discretion based on a financial review.	Sub-Committee feels there is some value in providing unsecured credit to non rated companies provided there is transparent and objective criteria involved. See section 4.3 of the discussion paper.
Regulated default supply credit requirements should be reviewed.	To be reviewed by the Department of Energy as part of their current review of the whole and retail electricity markets. See section 4.4 of the discussion paper.
Alternative types of security should be accepted.	The Sub-Committee determined that Insurance and Surety Bonds were not forms of security that should be accepted by the AESO, however, an Assignment of Payments may be acceptable. See section 4.5 of the discussion paper.
No desire to change the default levy method at this time.	The Sub-Committee agreed that the current method using metered volumes should not be changed, but metered volumes should be reduced by any metered volumes covered by net settlement instructions. See section 4.6 of the discussion paper.
Do not believe there are any overlapping credit issues at this time.	To be addressed in future discussion paper on the topic.

Respondent 3:

Believes there should be a significant increase in unsecured credit limits,	Sub-Committee felt that there was limited value to increasing unsecured credit limits at this point in time due to limited number of companies that would benefit. See section 4.1 of the discussion paper.
Participants who have BBB negative unsecured credit rating should receive up to \$5 million of unsecured credit,	Sub-Committee felt that there was limited value in providing unsecured credit limit to BBB-companies at this point in time. See

	section 4.1 of the discussion paper.
No credit to non investment grade rated entities or to entities who are not rated unless criteria are established with an industry working committee (unsecured credit limit not to exceed \$5 million),	Sub-Committee feels there is some value in providing unsecured credit to non rated companies provided there is transparent and objective criteria involved. See section 4.3 of the discussion paper.
Prepayments, letters of credit and guarantees should be used for security,	The Sub-Committee determined that Insurance and Surety Bonds were not forms of security that should be accepted by the AESO, however, an Assignment of Payments may be acceptable. See section 4.5 of the discussion paper.
Open to further discussion around unsecured credit provided to Rate Regulated Companies.	To be reviewed by the Department of Energy as part of their current review of the whole and retail electricity markets. See section 4.4 of the discussion paper.

Respondent 4:

Credit requirements could be reduced by AESO implementing a shorter pay/collect cycle.	The Sub-Committee is in agreement that shortening settlement cycles can reduce credit requirements. Several issues will have to be resolved prior to the implementation of a shortened settlement cycle. See section 4.5 of the discussion paper.
Overlapping credit is a major impediment to liquid physical and forward markets. Over arching credit solution will encourage more liquid forward market.	To be addressed in future discussion paper on the topic.

Respondent 5:

Any review must consider generally accepted credit industry risk principles and procedures.	Agreed.
Default risk shared through the default levy. It is in appropriate to lower the bar to accommodate particular commercial interests.	The Sub-Committee agreed that the current method using metered volumes should not be changed, but metered volumes should be reduced by any metered volumes covered by

	net settlement instructions. See section 4.6 of the discussion paper.
Does not believe the RRT providers should be required to provide credit and the issue should not be revisited has already went through a stakeholder consultation process.	To be reviewed by the Department of Energy as part of their current review of the whole and retail electricity markets. See section 4.4 of the discussion paper.

Respondent 6:

Agree with the credit issues in the issues paper.	Noted.
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Respondent 7:

Making any changes in credit must result in a benefit. Participants who share a greater portion of the default levy must be in agreement.	Sub-Committee is in agreement. See Introduction section 2 of the discussion paper. Any changes in the credit policy will consider comments from all participants including those from participants who are subject to a greater share of the default levy.
Granting credit to unrated companies increases subjectivity of the process increasing the reliance on the AESO. Again the participants who share a greater portion of the default levy must be in agreement.	Sub-Committee feels there is some value in providing unsecured credit to non rated companies provided there is transparent and objective criteria involved. See section 4.3 of the discussion paper.

Respondent 8:

Agree with the credit issues in the issues paper.	Noted.
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