

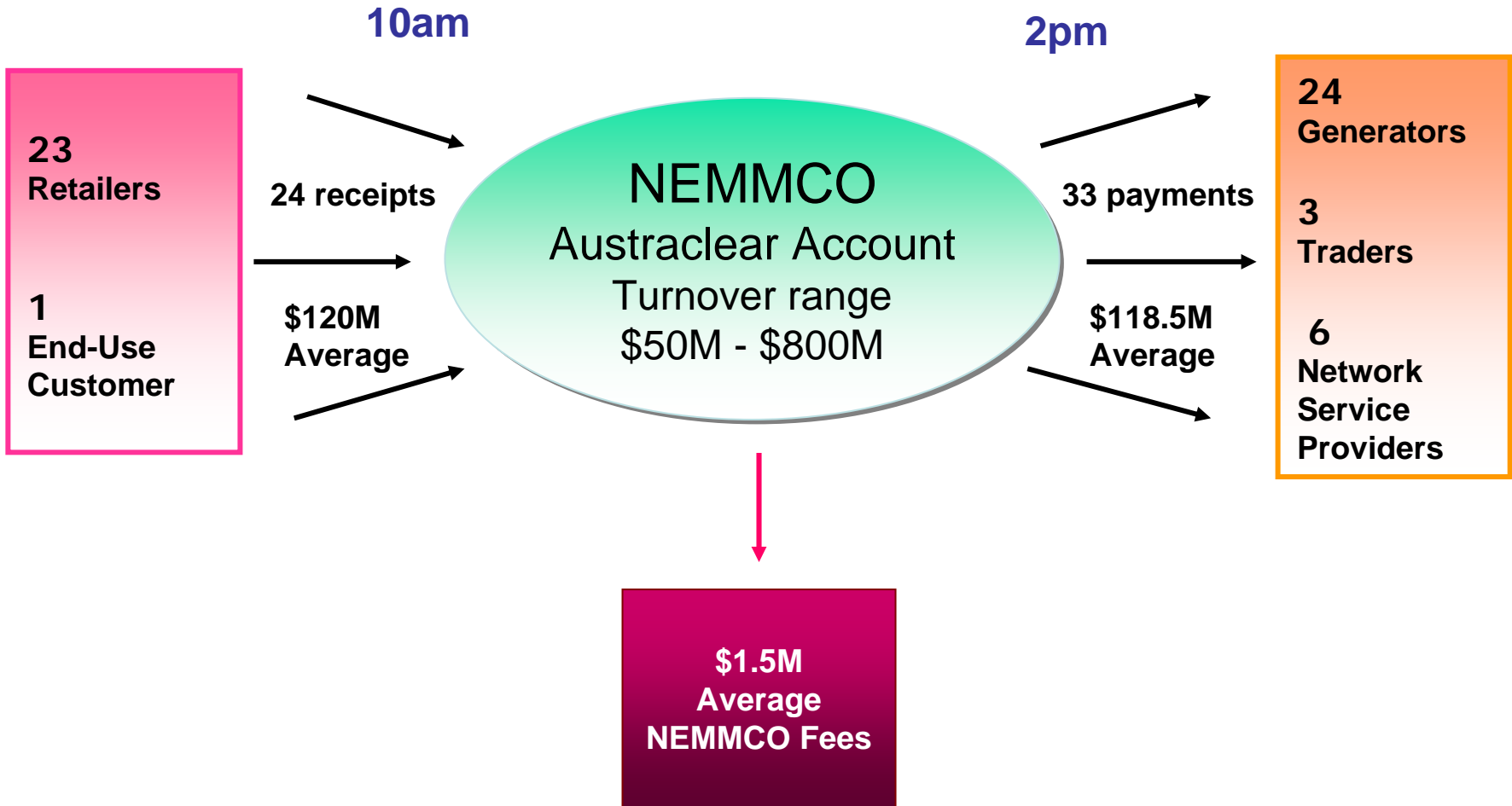
# **Reallocation - Improving Financial Arrangements in the NEM**

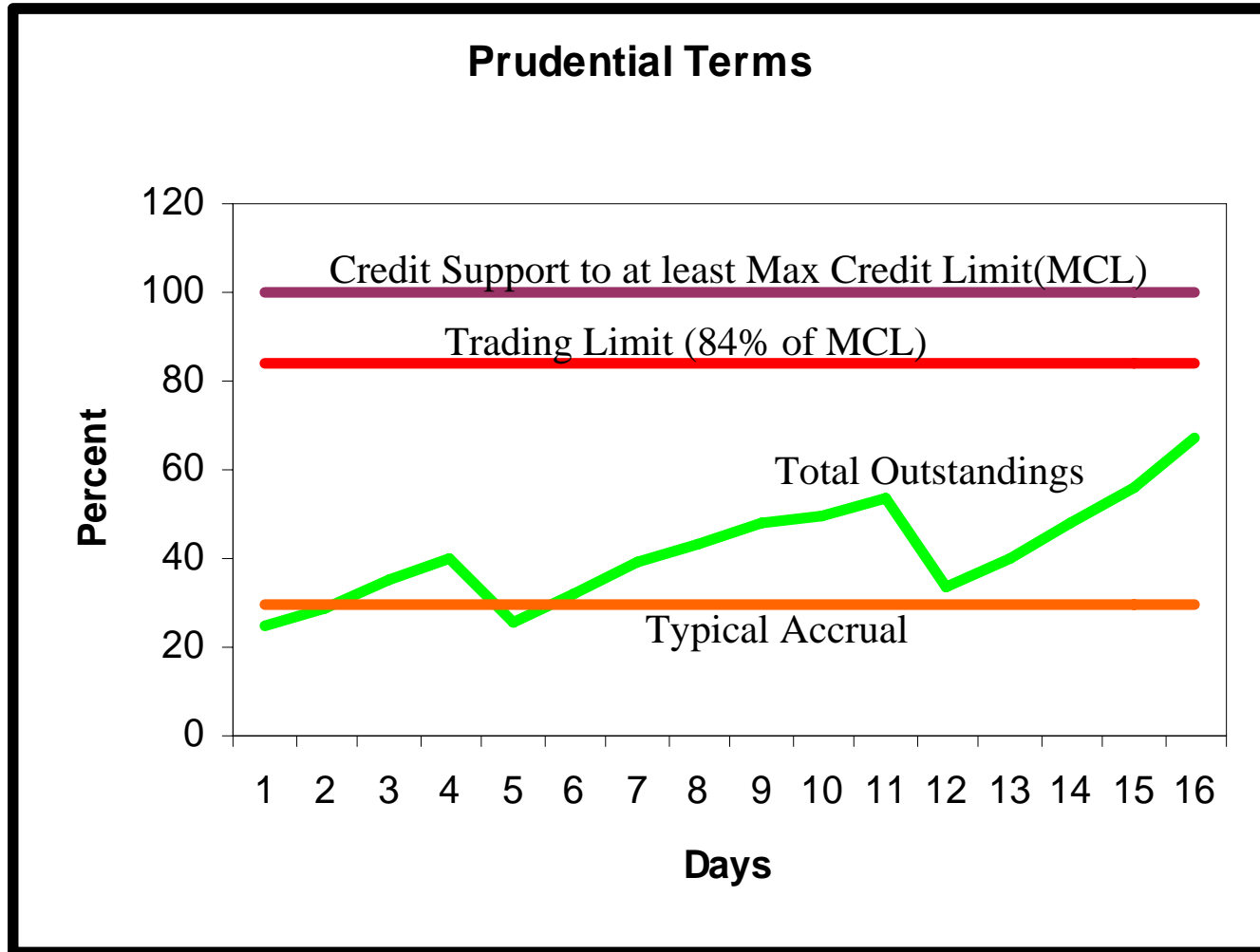
**September 2006**

- **Overview of existing prudential processes**
- **Shortcomings in existing arrangements**
- **Initial developments already implemented**
  - **Reduced MCL's**
  - **Reallocation**
- **Mechanics of Reallocation**
- **Potential Improvements – The Rule Change package**
  - **Increased flexibility in reallocation**
  - **Reallocator**
  - **Absolute prudential margin**

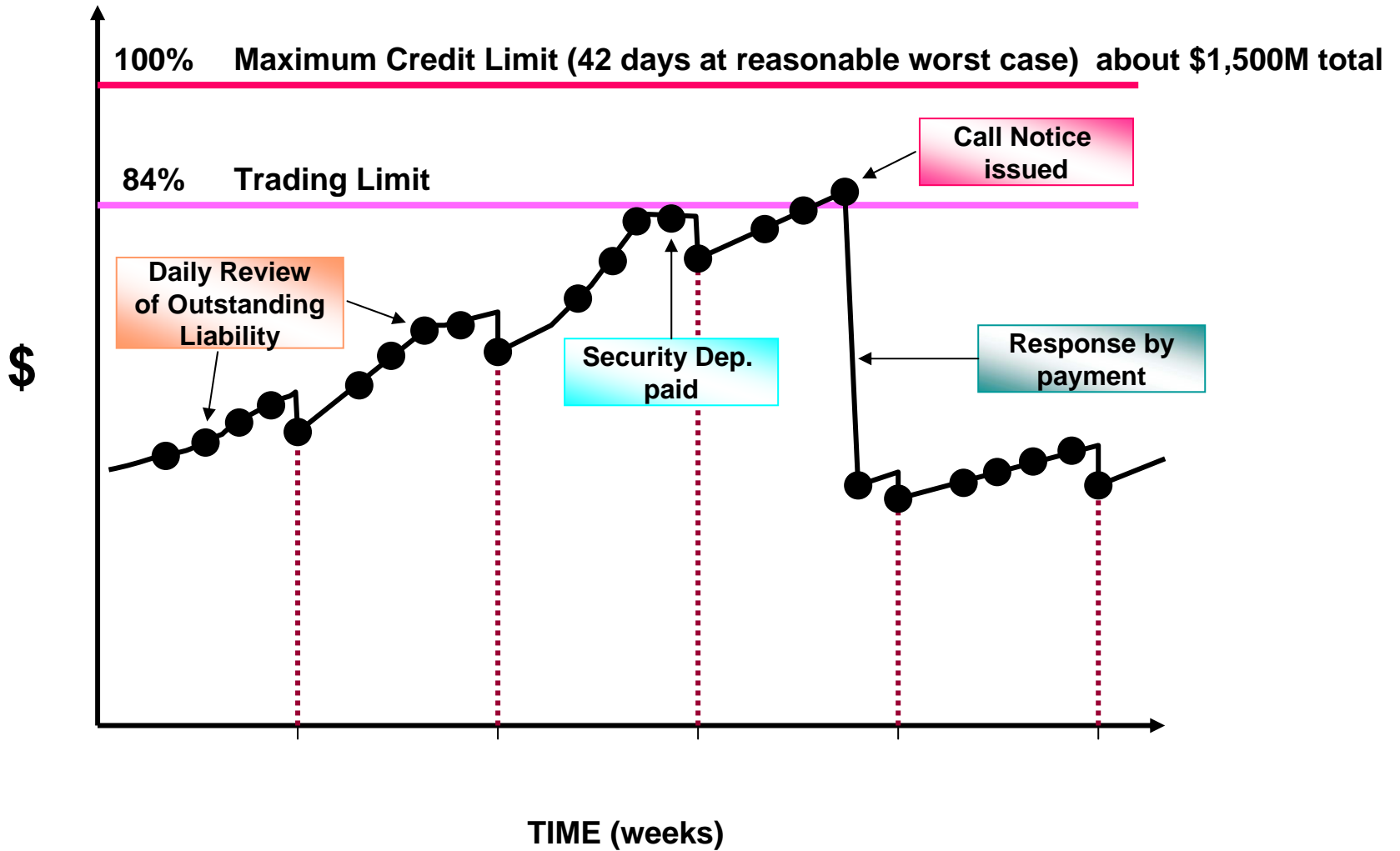
- **NEMMCO operates a “gross market model” where retailers consume energy and make payment to generators, 20 business days (28 calendar days) later**
- **To minimise the risk of short-payment to generators, a stringent prudential regime is imposed on all retailers**
- **This involves the determinations of a maximum credit limit (MCL) for each retailer which specifies an amount of credit support that each retailer must lodge with NEMMCO to support their activity in the NEM**
- **A Trading Limit is also set for each retailer (calculated as a percentage of their MCL)**
- **In the event of any breach of a Trading Limit, NEMMCO may issue a “Call Notice” requiring the retailer to take remedial action within 24 hours (i.e. Post additional credit support, security deposits etc.)**

# Participants and Weekly Volumes



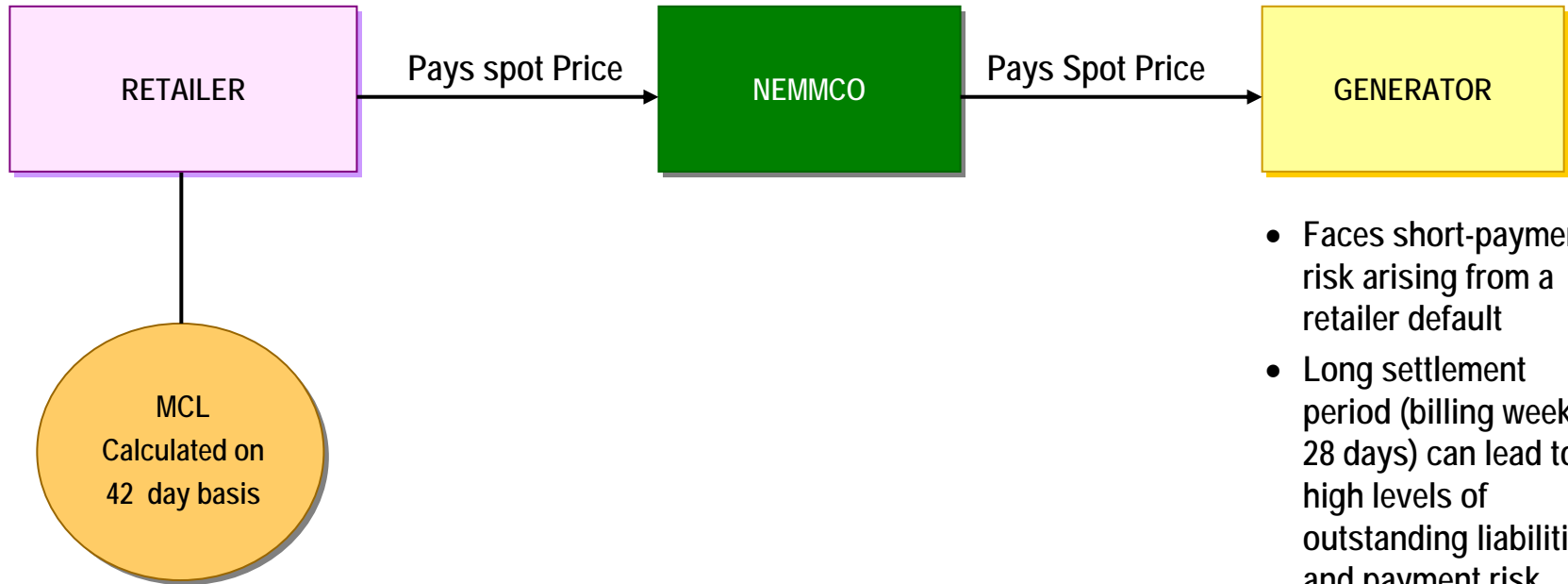


# Prudential Management



# Current Gross Market Model

NEMMCO



- Very high collateral requirements and prudential costs
- No recognition of bilateral hedge positions to lower funds payable at settlement each week
- Need to acquire large levels of prudential support during high price events (even when fully hedged) increases default risk

- Faces short-payment risk arising from a retailer default
- Long settlement period (billing week + 28 days) can lead to high levels of outstanding liabilities and payment risk

Some of the shortcomings of the current arrangement include:

- 1. The segregation of spot and financial contract markets.** This means NEMMCO gives no direct financial recognition to specific financial contract positions. This leads to inefficient use of capital, additional funding costs to Participants and increased reliance on external credit support providers.
- 2. The length of the payment cycle** further exacerbates these inefficiencies by necessitating that NEMMCO collect high levels of credit support from retailers. This leads to significant outstandings accrued by retailers in times of high prices, which in turn magnifies the short payment risk faced by generators.

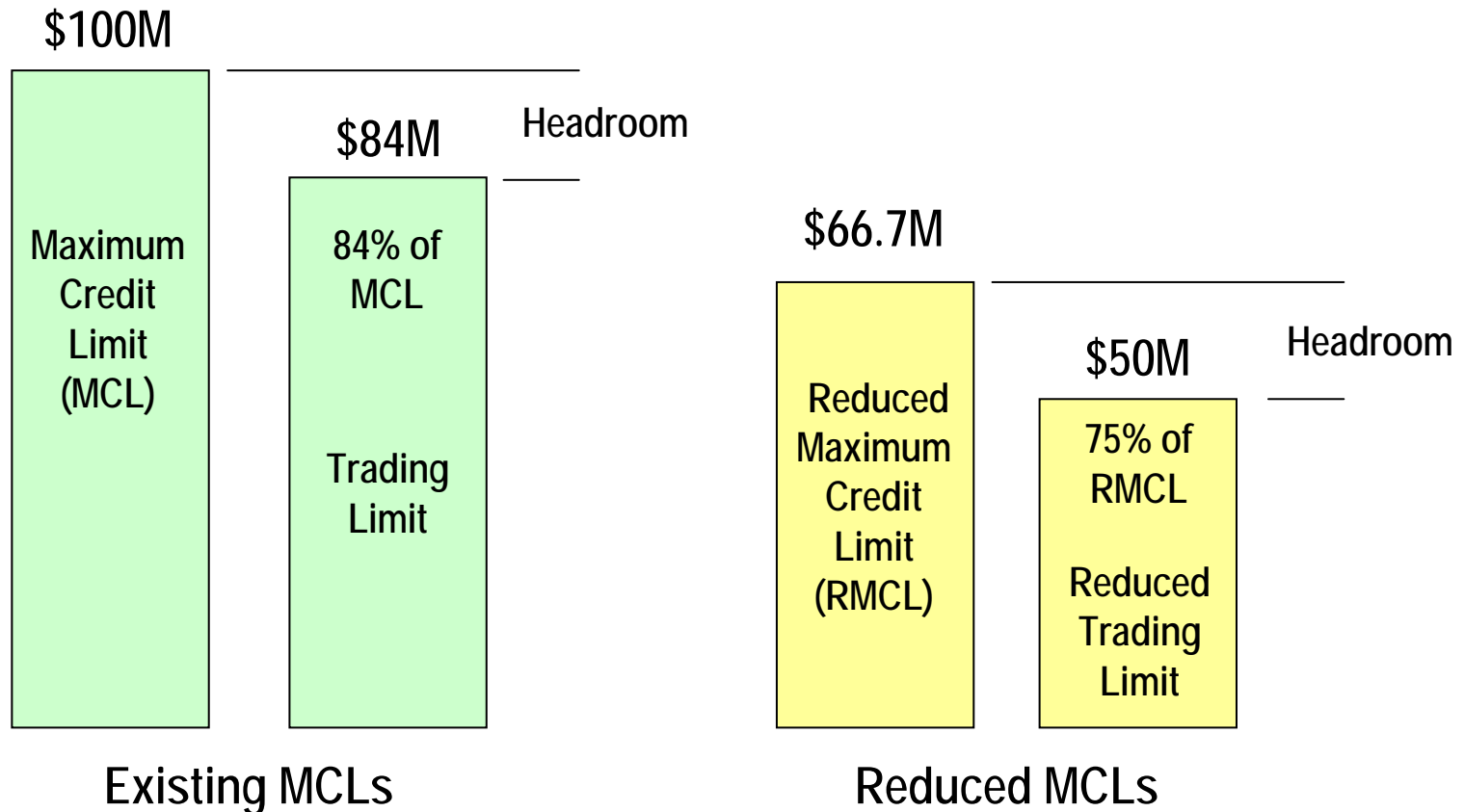


In an effort to reduce some of the costs and inefficiencies of the current market structure, NEMMCO has introduced enhancements to financial arrangements. These include:

- **Settlement reallocations** – These allow pairs of Participants to enter into agreements that can reduce the settlement amounts and prudential liability between parties by agreeing to offset settlement credit and debit positions - particularly during times of high electricity prices. Could allow Participants to bundle the cash flows from their bilateral hedge contracts with the cash flows from their spot market activities thereby eliminating cross over cash-flows.
- **Reduced Maximum Credit Limits (RMCL)** – This facility allows retailers to reduce their collateral requirements by up to one-third in exchange for agreeing to a reduced trading limit

- **An attempt to simulate an optional early settlement when outstandings increase.**
- **To lower their prudential costs, Participants have the option to utilise a lower MCL with the obligation of tighter control of their Total Outstandings – i.e. a reduced trading limit (RTL)**
- **The RMCL is set to 67% of the retailers previous MCL (i.e. there is a 33% reduction in the level of MCL cover required)**
- **In taking up the option, retailers are required to provide financial guarantees only up to the value of their RMCL**
- **Retailers must however maintain their Total Outstandings to a value less than the reduced trading limit (RTL) which is set at 75% of the RMCL**
- **The headroom or absolute value between the Trading Limit and MCL is the same percentage for both MCLs and RMCLs**

# RMCL versus MCL Requirements



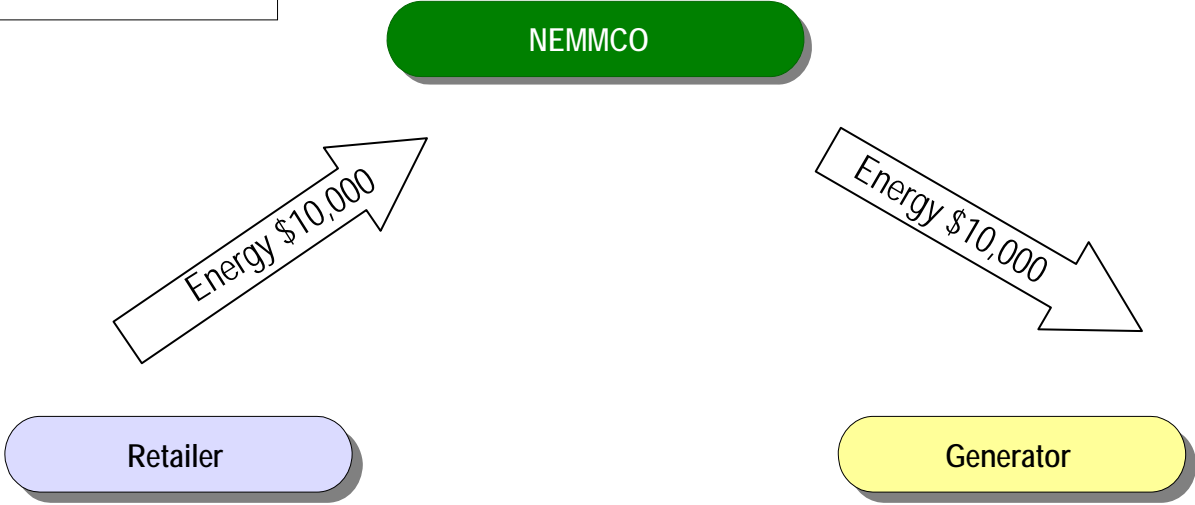
Values shown represent those of a Retailer whose initial MCL was \$100M.  
The new RMCL is \$66.7M

# Reallocations and Credit Exposure

- **Reallocation provides a netting between the spot and bilateral hedge markets.**
- **Potential to substantially reduce the volume of cash flow between participants at NEM settlement – this stabilises cash turnover during volatile periods and reduces settlement risk for all parties.**
- **Reduces costs paid by Market Participants to financial institutions for the provision of credit support and cash flow management..**
- **Increased usage of reallocations will lead to a reduction in the Total Outstandings (i.e. amounts owing from consumed but not yet paid for energy) of retailers and hence lower the risk of retailers approaching trading limits.**
- **Reallocations can form part of an acceptable response (along with additional credit support and/or cash security deposits) in managing exposure to NEMMCO or in responding to a Call Notice.**
- **Reduces risk of short payment to generators.**
- **May reduced direct counter party credit exposure.**
- **Leads to greater security and reliability of spot market settlement which is crucial to market confidence.**

# Mechanics of Reallocation

Retailer buys 100MWh  
Generator supplies 100MWh  
Spot price determined as \$100/MWh  
  
Settlement =  $\$100 \times 100 = \$10,000$



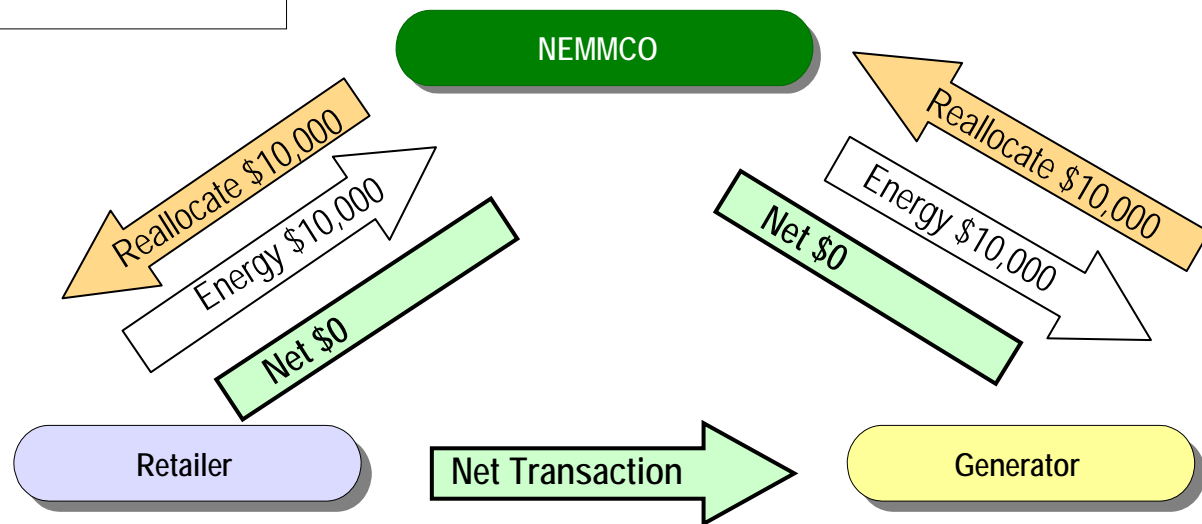
# Mechanics of Ex-Ante Reallocation

## Ex-Ante (before spot price is known) - MWh Reallocation Example

Retailer buys 100MWh  
 Generator supplies 100MWh  
 Spot price determined as \$100/MWh

Volume Reallocation = 100MWh  
 In Settlement =  $\$100 \times 100 = \$10,000$

Leads to reduced MCL



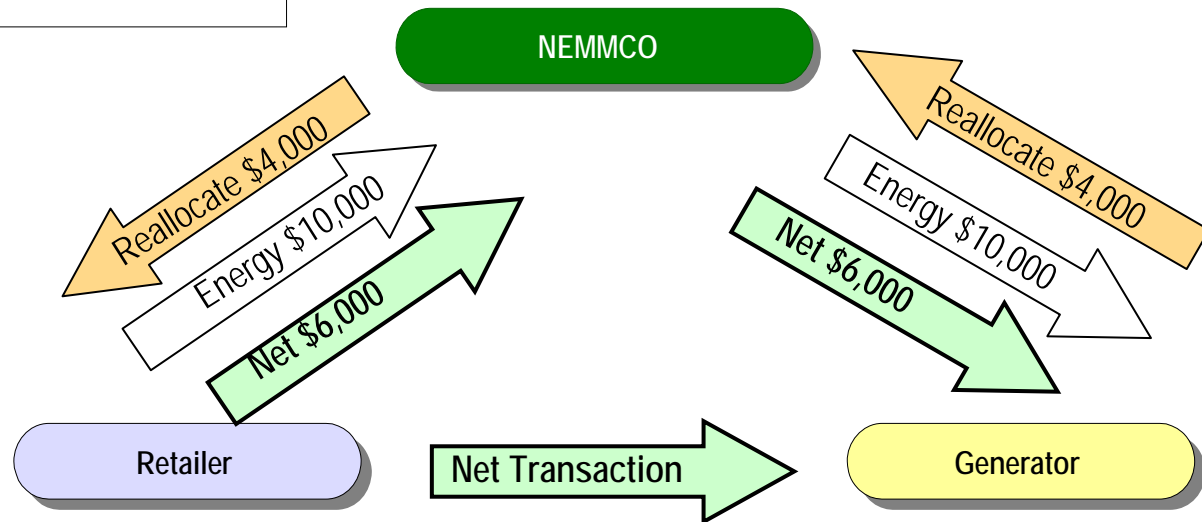
In this example a NEMMCO energy settlement of \$10,000 is offset by a reallocation flow 100MWh which is valued at \$10,000. The net payment to/from NEMMCO is zero but a net payment would be required between Participants.

# Mechanics of Ex-Ante Reallocation

## Ex-Ante (before spot price is known) - \$ Reallocation Example (Rarely used)

Retailer buys 100MWh  
 Generator supplies 100MWh  
 Spot price determined as \$100/MWh

Dollar Reallocation = \$4,000  
 NEM Settlement =  $\$100 \times 100 = \$10,000$



In this example a NEMMCO energy settlement of \$10,000 is offset by a reallocation flow of \$4,000. The net payment to/from NEMMCO is \$6,000.

- Ex-ante reallocations are at present, primarily used by smaller retailers to reduce their prudential obligations (i.e. MCL) to NEMMCO
- The facility is not however, being widely used by other Participants with some of the reasons for this being:
  - Lack of business incentive for generators
  - Counterparty credit exposure – ex-ante reallocation can leave a payment between the retailer and generator equivalent to the entire value of energy exchanged. **The transaction is outside NEMMCO's prudential framework.**
  - Confidentiality concerns – **some Participants have indicated a reluctance to disclose contract details to NEMMCO**
  - Lack of market understanding – **the benefits of the facility are still not fully appreciated by Participants**



# Mechanics of Ex-Post Reallocation

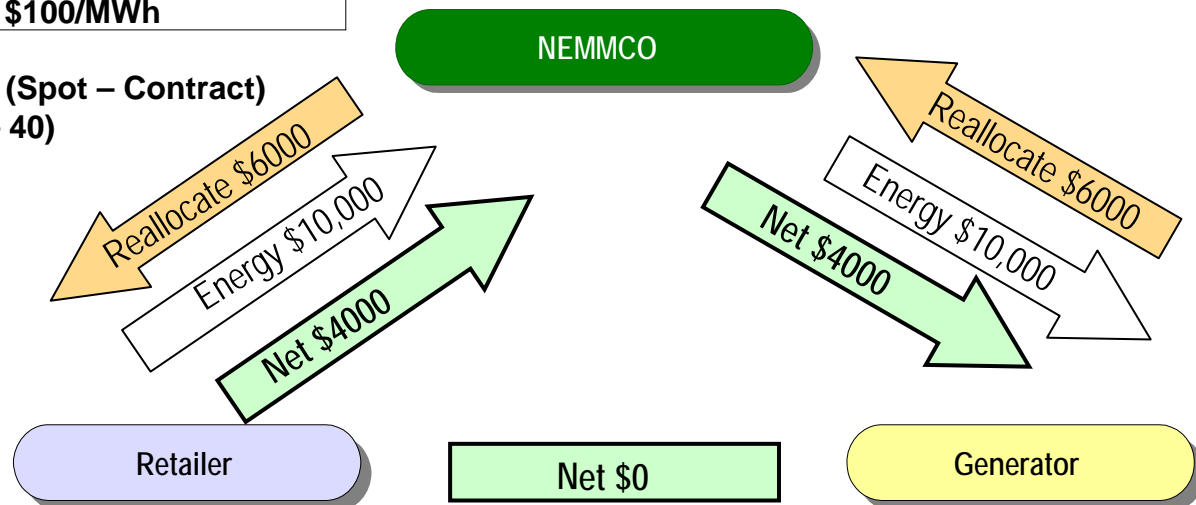
## Ex-Post (after spot price is known) - Reallocation Example

Retailer load 100MWh  
 Retailer buys 100MWh hedge @ \$40/MWh

Generator supplies 100MWh  
 Generator sells 100MWh hedge @ \$40/MWh

Spot price determined as \$100/MWh

$$\begin{aligned} \text{Reallocation} &= 100\text{MWh} \times (\text{Spot} - \text{Contract}) \\ &= 100 \times (100 - 40) \\ &= \$6,000 \end{aligned}$$

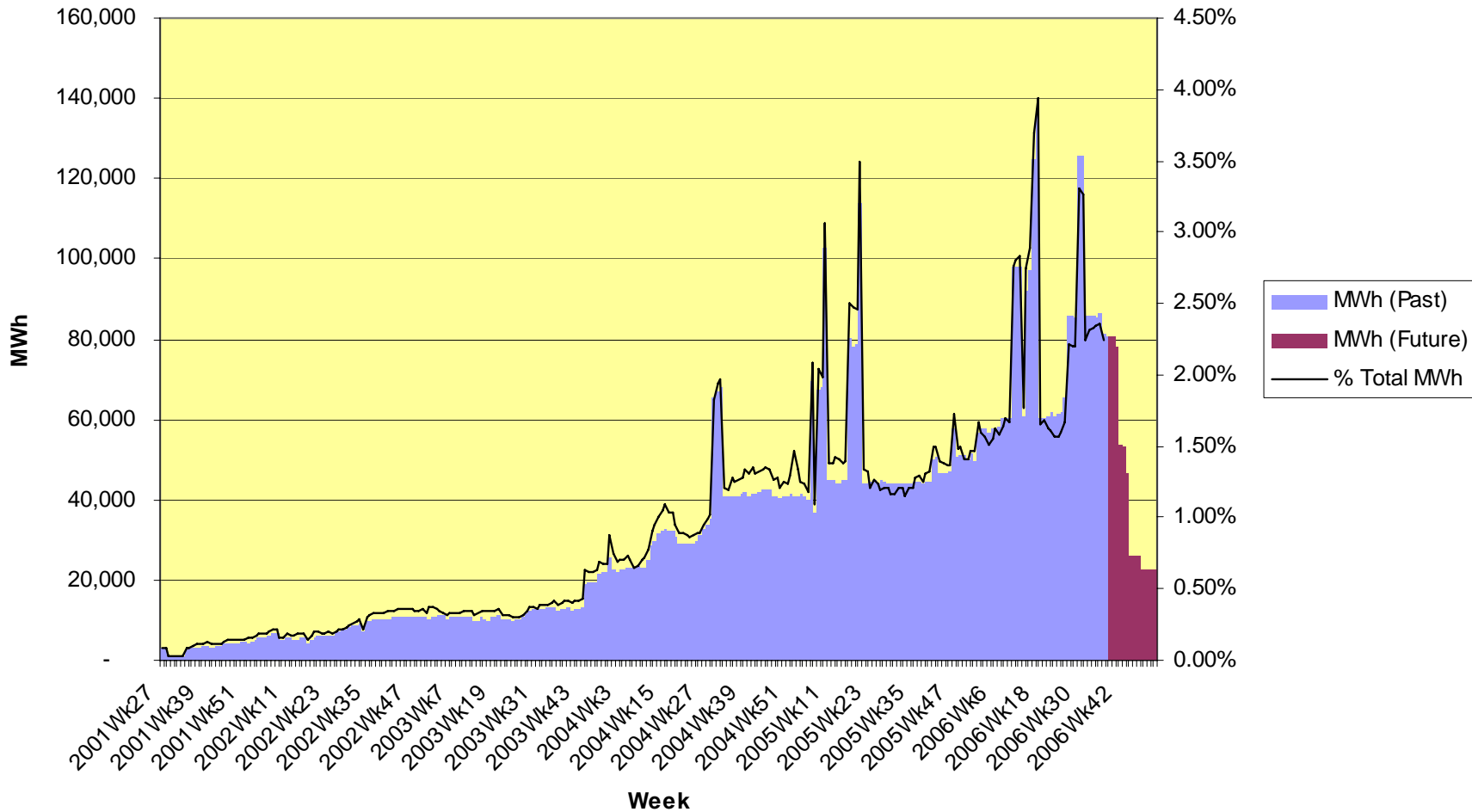


In this example a NEMMCO energy settlement of \$10,000 is partially offset by a reallocation of \$6000 that relates to a bi-lateral hedge contract between the parties. The net payment for energy consumed/supplied is \$4000 which is transacted through NEMMCO's settlement system.

- Despite efforts to promote the ex-post reallocation facility and to streamline processes for lodgement (i.e. the introduction of a web-based browser), take up of ex-post reallocation has remained modest.
  
- Some of the reasons for this include:
  - No prudential benefit – unlike Ex-ante reallocation, there is no benefit to retailers in terms of reduced MCL from ex-post reallocations. As the reallocation \$ value may not be advised the arrangement is not considered firm and thus no MCL reduction is permitted.
  - Lack of business incentive for generators
  - Confidentiality concerns – some Participants have indicated a reluctance to disclose contract details to NEMMCO

# Reallocation Utilisation

### Reallocations: Weekly Energy



- **Greater flexibility in reallocations**
  - Re structure by moving detail from Rules to procedures
  - Procedures developed under Rules consultation
  - Provide greater options following consultation so that common financial instruments such as swaps, caps or floors can be reallocated by formula.
  - Reduce MCL requirements where arrangements are locked in for at least 7 days
  
- **Allow additional parties to be involved in reallocations**
  - eg financial institutions
  
- **Increase effectiveness of prudential margin under heavy reallocation or mixed generation and retail**
  - Trading limit = 84% of Maximum Credit Limit
  - When net exposure is small, MCL is small and Trading Limit is small
  - Prudential margin should be an absolute value eg 7 days reasonable worst case exposure.

# Net Reallocation – by formula

## Reallocation based on a simple hedge formula

Retailer load 100MWh  
 Retailer buys 100MWh hedge @ \$40/MWh

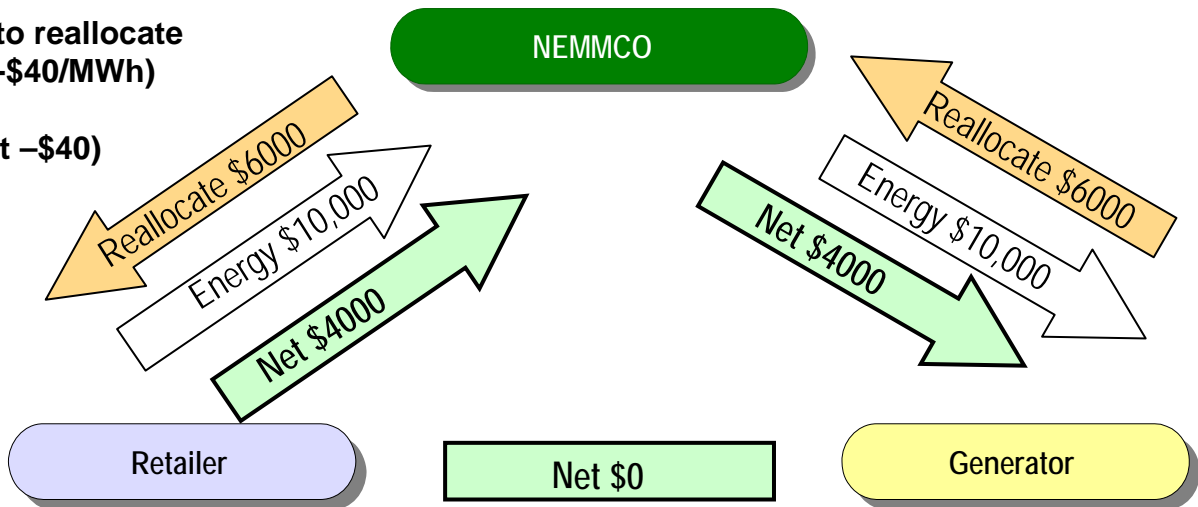
Generator supplies 100MWh  
 Generator sells 100MWh hedge @ \$40/MWh

Spot price determined as \$100/MWh

As the reallocation formula is registered in advance the net exposure to NEMMCO should permits a lower MCL.

- lower prudential costs
- reduced circular cash flows
- reduced settlement risk

Retailer and Generator agree to reallocate  
 Gen to Retail 100MW @ (Spot-\$40/MWh)  
 NEMMCO calculates  
 reallocation = 100MWh x (Spot - \$40)  
 = 100x(100 - 40)  
 = \$6,000

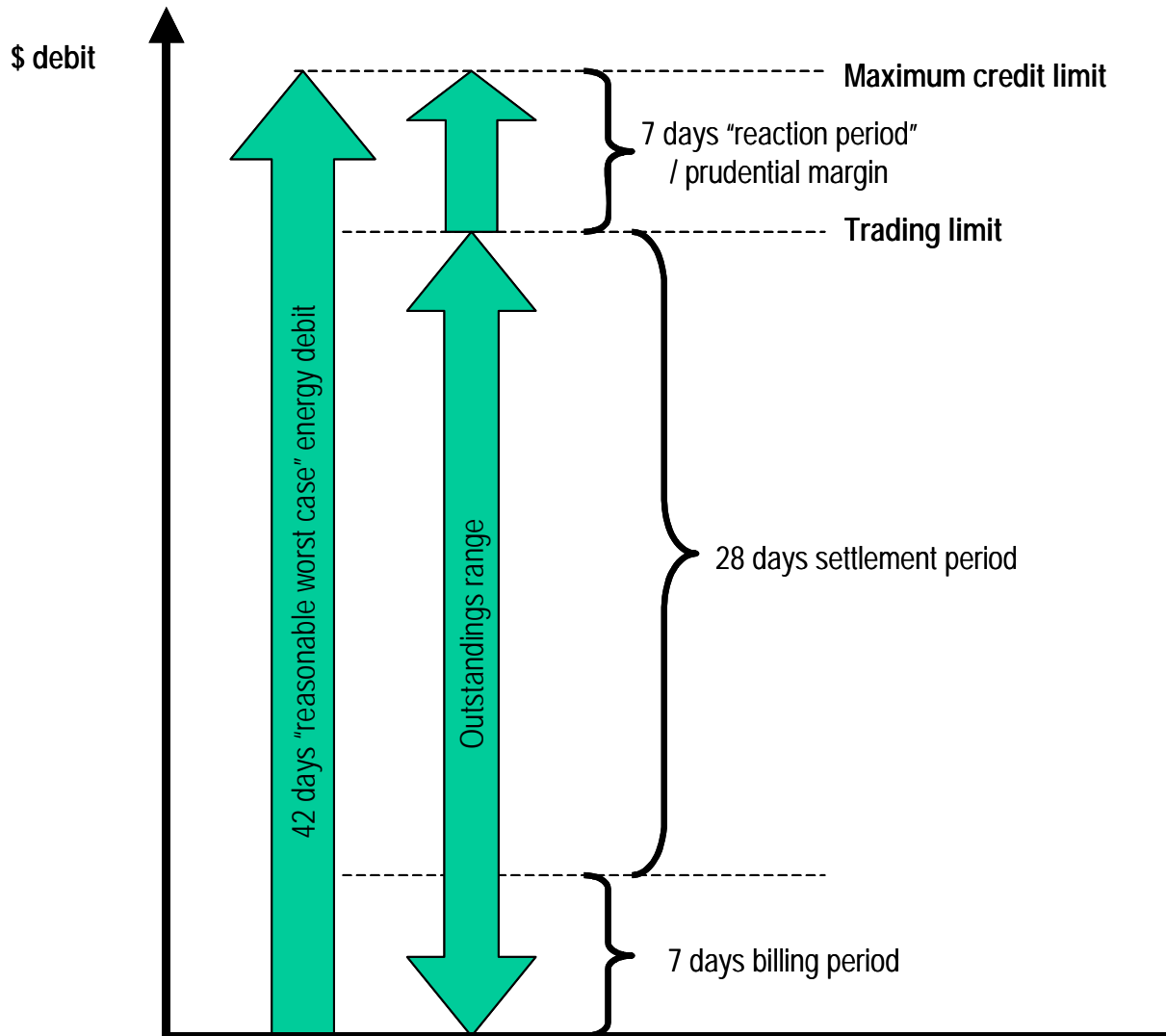


The initial NEM energy settlement of \$10,000 is partially offset by a reallocation of \$6,000 that was determined by the reallocation formula between the parties. The net NEM settlement payment for energy/reallocation is \$4,000 which is transacted through NEMMCO's settlement system.

- **Increase flexibility in reallocation arrangements**
- **Define an additional party to be part of a reallocation**
- **Usually between two Market Participants**
- **Can sometimes involve a Financial Institution**
  - **Under a bilateral**
  - **Could enable the Financial Institution to use backing of futures contracts**
  - **Detail of reallocation arrangements to be determined by consultation.**
  
- **If the Financial Institution is a Bank may not need to lodge Credit Support.**

- **Defines the limit between Trading Limit and MCL**
- **Currently set at 84% (or 75% of RMCL)**
- **Retailers with a large reallocation can have MCL close to zero and thus Trading Limit close to zero**
- **Generators mostly have a zero MCL**
- **Even when a generator has load or reallocation the MCL can still be assessed as Zero (ie still a net generator)**
- **Generator can trade right up to a zero Total Outstanding**
- **Risk if generation stops**
- **Greater risk if generation stops and price rises**
- **Need to move to a 7 day reasonable worst case margin rather than a percentage of the MCL.**

# Settlement Exposure – up to 42 days

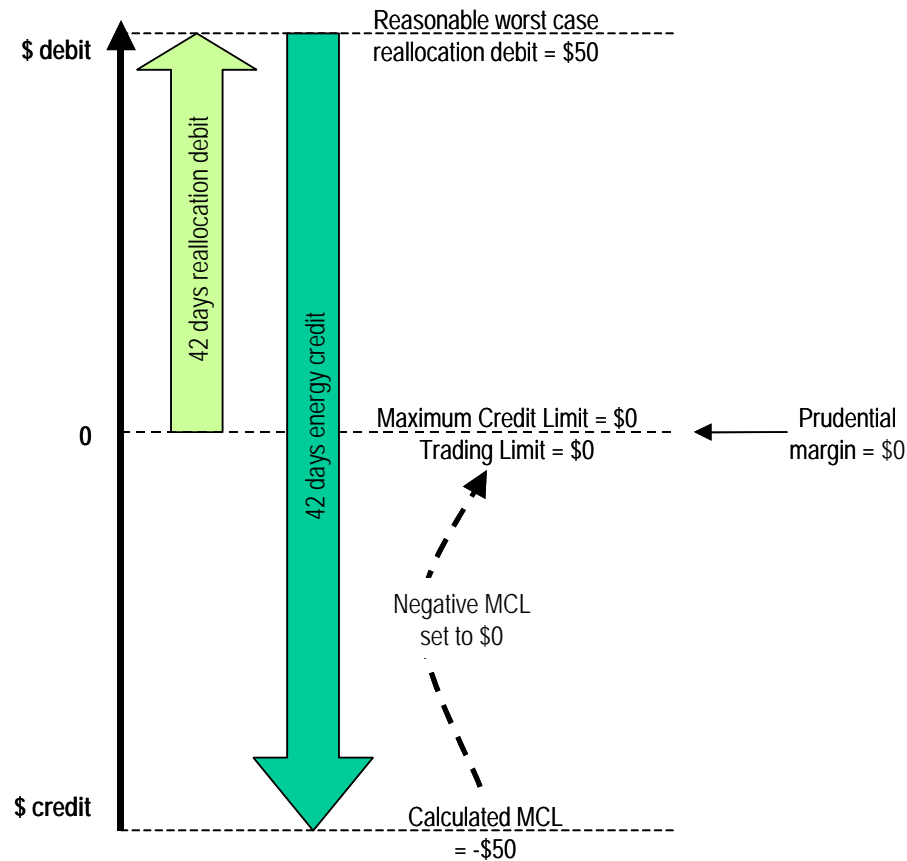


$$35/42 = 84\%$$



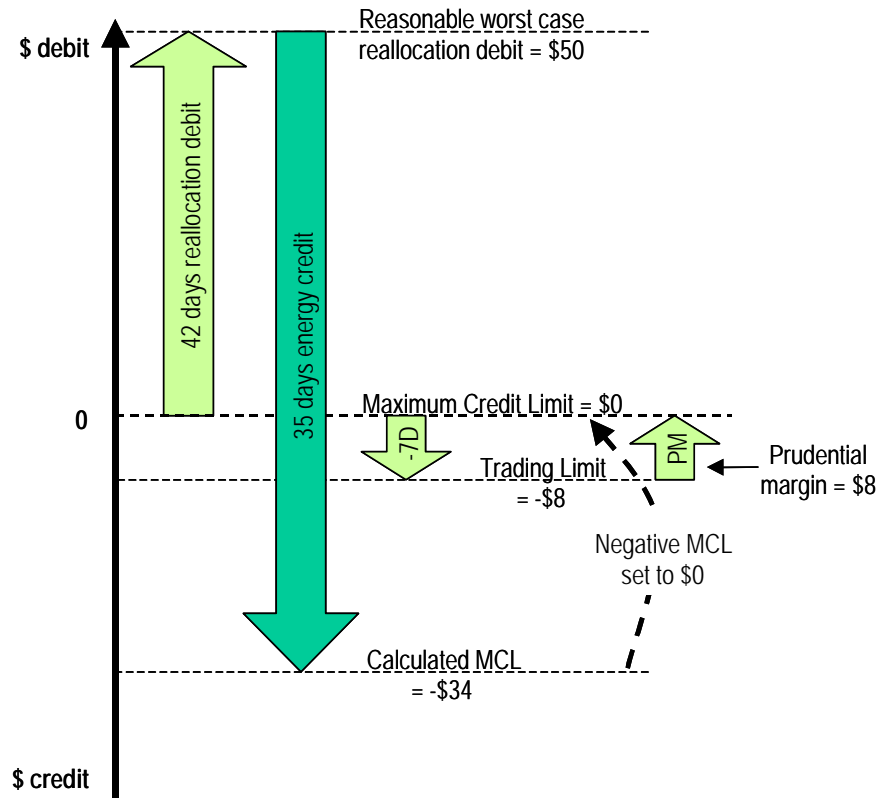
# Prudential Margin – Gen with Reallocation

**Generator with 50% reallocation  
under current Rules**



# Prudential Margin – Absolute margin

Generator with 50% reallocation  
with “prudential margin”



- **Overview of existing prudential processes**
- **Shortcomings in existing arrangements (segregation of financial and spot , 28 day settlement)**
- **Initial developments**
  - Reduced MCL's
  - Reallocation
- **Mechanics of Reallocation (Ex-ante, Ex-post and Net)**
- **Potential Improvements – The Rule Change package**
  - Increased flexibility in reallocation
  - Reallocator
  - Absolute prudential margin