Submission to
Council of Financial Regulators (CFR)
Central Clearing of OTC Derivatives in Australia
From
d-cyphaTrade

About d-cyphaTrade

d-cyphaTrade is the official product sponsor of the d-cyphaTrade ASX Australian Electricity Futures and Options market. The d-cyphaTrade management team possesses extensive financial derivatives market experience dating back to 1987, including trading in Australian and European OTC and exchange traded electricity markets, and a variety of other energy, fixed interest and equity derivatives markets. Since 2002, d-cyphaTrade has been dedicated exclusively to building liquidity in the Australian electricity derivatives markets and is a renowned electricity market expert, training hundreds of wholesale electricity market participants. For further information regarding this submission, please contact Mr. Dean Price (E: dean.price@d-cypha.com.au).

Executive Summary

d-cyphaTrade thanks the Council of Financial Regulators (CFR) for the opportunity to make a submission on the Clearing of OTC Derivatives in Australia. d-cyphaTrade has concentrated this submission on the electricity market including the inter-relationship between the National Electricity Market (NEM) for physical electricity and the associated OTC and on-exchange centrally cleared risk management markets.

d-cyphaTrade submit that the electricity markets are strongly analogous to the credit markets including a high degree of risk concentration in a small number of entities, the coexistence of the physical market and the derivative market in dominant entities, and that electricity is an essential service. The electricity market is a domestic market with limited international involvement. Accordingly the electricity market, like the credit market, is at risk from contagion risk where the outcome of that contagion risk materially affects the public and public confidence. d-cyphaTrade submit that it is in the public interest to manage these apparent risks, including contagion risk, through the application of centrally cleared and transparent exchange traded markets.

d-cyphaTrade submit that an essential learning of the GFC is that there is a public and policy interest to manage the contagion and other risks of essential service and public asset markets well before there is a market failure. The “break – fix” approach is inappropriate for the foreseeable risks of the electricity market and should be mitigated through inclusion in these proposals.

In support of this key argument for the inclusion of the electricity market d-cyphaTrade submit:

1. The US regulators are clearly contemplating ensuring central clearing of energy derivatives. Arguably, the US has already experienced the serious impact of a number of electricity market failures. Australia should not cower from the leadership and wisdom of the US regulators in respect of energy derivative market structure. Australia should not provide an opportunity for forum shopping and regulatory arbitrage in respect of energy derivatives;

2. Australia is in the early stages of creating a national carbon or greenhouse trading market. d-cyphaTrade submit that the operation of electricity markets and carbon markets must be closely aligned to ensure risk management and reduce arbitrage in order to ensure that public policy outcomes are achieved. To achieve fair and efficient markets with high degrees of transparency required for trading of public assets and related derivatives, both the carbon markets and electricity markets should be centrally cleared and traded on an authorised public exchange. d-cyphaTrade submit that it is not consistent with the essential service and public assets nature of these markets to be traded bilaterally, secretively and subject to bilateral credit risks which can lead to contagion risk and market failures.

This submission includes a Glossary in the Appendices, dealing particularly with abbreviations.

Introduction

Electricity is an essential service which affects the Australian manufacturing sector and critical sectors of the Australian economy arguably more directly and materially than interest rate markets. The ASX[1] has been centrally clearing electricity derivatives since 2002 trading $20 billion during the year ending June 2011. The electricity futures market operated by the ASX traded 285% of the volume of underlying electricity consumption during the year ending June 2011 and has grown to be much larger than the OTC (being off-exchange) electricity market[2]. However the OTC electricity derivative market trades equivalent to approximately 100% of underlying electricity consumption with minimal bank counterparty involvement and in the absence of central clearing. The potential default of one OTC electricity counterparty poses a substantial default risk to other OTC market participants and to the prudential security of the $9.6 billion p.a. physical National Electricity Market operated by AEMO.

If the CRF delays the implementation of the mandatory use of exchange traded electricity futures for standard hedging transactions in this essential service, there is an obvious risk that undesirable market situations will cause both unnecessarily high prices and decreased security of the physical supply of electricity to consumers. In addition, the lack of mandatory central clearing or market transparency and generally light-regulation of OTC electricity trading has already resulted in the OTC electricity derivative market creating an embedded "OTC shadow market" for carbon derivatives away from the oversight of Australian

[1] And previously as the Sydney Futures Exchange.
[2] See AFMA 2010 Australian Financial Market Report.

regulators. This light-touch regulation is now likely to result in: (i) electricity consumers including households and the manufacturing sector suffering large but avoidable CPM-linked electricity cost increases; and (ii) a decrease in the ability for CFR agencies and the ACCC to monitor and prevent undesirable situations in the Australian carbon trading market (even before CPM legislation is enacted).

The US OTC clearing regulations introduced in response to the OTC market failures during the GFC specifically capture "energy swaps" for mandatory clearing. The CFR has an immediate, obvious and cost-free opportunity to follow the lead of US financial regulators to resolve major systemic weaknesses in both the Australian OTC electricity and OTC carbon trading markets by mandating the use of the existing and fully regulated futures clearing mechanism.

There are compelling reasons for OTC electricity trading to be subject to much more stringent regulatory and prudential oversight including:

1. Mandatory clearing (as futures) of all Australian OTC electricity derivatives for which a materially equivalent futures product exists; and

2. If a materially equivalent futures product does not exist, regulation must ensure that counterparties to the OTC transaction must post appropriate collateral support (e.g. including initial margins and daily variation margining), commensurate with the counterparty credit risks inherent in the OTC derivative. Trade transparency obligations should also be included for such OTC derivatives to optimise the investment price signals needed to support investment in "[…]at least $100 billion in electricity infrastructure over the next decade just to meet growing demand and replace ageing infrastructure."[3]

Why OTC electricity derivatives should be subject to mandatory clearing requirements

1. Electricity is an essential service, critical to Australian manufacturing and other sectors of the Australian economy. It should not be allowed to be at risk of failure due to the absence of best practice regulatory oversight and prudential safeguards in its key markets;

2. Prices paid in the OTC electricity derivatives market have a significant and direct impact on the price that residential and industrial customers pay for electricity in the physical market;

3. Unlike other OTC markets, the most systemically significant OTC electricity counterparties are not banks. They are not subject to stringent capital adequacy requirements or liquidity tests and their OTC derivatives trading activities are lightly regulated. Many (if not most) OTC electricity derivatives counterparties are of sub-investment grade and/or unrated. In March 2011, the privatisation of NSW electricity

[3] Media Release: "Electricity Prices Reflect Growing Cost of Delivering Supply Reliability" 20 March 2010, Minister for Resources and Energy, Martin Ferguson AM MP.

businesses resulted in the immediate withdrawal of implicit government-backed OTC electricity derivatives credit support for NSW electricity retailers and shifted a material proportion of the NSW OTC electricity derivative market dominance and trading requirements to private entities;

4. Systemically significant OTC electricity derivative counterparties are highly concentrated within state markets. In most state electricity markets, it is not uncommon for a single non-bank OTC counterparty to represent between 30% to 80% of the natural OTC buy side or OTC sell side of a state's entire OTC electricity derivative market. Hence the "too big to fail" condition does not only apply to banks. The financial failure of one or more systemically significant electricity companies would likely create contagion issues;

5. Most systemically significant OTC electricity counterparties are also systemically significant participants in the AEMO spot market for electricity. This further exacerbates the risk that an outage of a major generator triggers an OTC default (and resultant $12,500/MWh prices in the NEM spot market) that spreads through contagion to one or more retailers with OTC hedges with that generator. The financial collapse of these retailers could consecutively trigger them to default on their spot market payment obligations to AEMO, resulting in short payments by AEMO to other NEM generators. Despite facilitating $9.6 billion p.a. in spot market settlements AMEO's prudential arrangements are not regulated by ASIC, the RBA or APRA. There is also a very real risk that a default triggered from within the AEMO prudential system could trigger a contagion of default events back into the OTC market due to undesirable linkages and a lack of default risk circuit-breakers between the spot market credit support arrangements, generation outage risks and the OTC market dominated by NEM Participants. The risk of a major default crisis cascading across counterparties throughout the OTC and AEMO settlements system is further exacerbated by weaknesses in the credit support provisions of the National Electricity Rules (NERs) and/or the apparent absence of coverage (or at least enforcement) of Corporations Law requirements to such arrangements. e.g.:

    a. Forcing potentially financially devastating "short" customer obligations of a defaulting NEM retailer onto another retailer via the NER Retailer of Last Resort (RoLR) provisions. The Retailer of Last Resort is not given supporting hedge contracts and is immediately exposed to paying additional spot market settlement obligations to AEMO at potentially $12,500/MWh, and must either (i) immediately become a distressed buyer for new derivative hedges while derivative market prices are potentially gapping away from them; or (ii) continue absorbing severe spot market losses for the duration of the financial crisis.

       The RoLR mechanism has been triggered twice, during 2007 and 2009 when NSW electricity pool prices were extremely high, but thankfully in both instances the retailers suspended from the market by AEMO were reasonably small and the bulk of their NSW customers (70,000 NSW retail customers in 2009) were transferred to (then) NSW government-owned retailers as the Retailers of Last Resort, forcing the NSW government to absorb much of the financial impact. A future default of a larger retailer and without a government

owned Retailer of Last Resort ready to bailout the market is much more likely to result in a material and widespread electricity default crisis;

b. Allowing substantial prudential support reductions for NEM retailers using "potential" generation as collateral. NER "Maximum Credit Limit" prudential reductions for vertically integrated retailers (that also control generation) makes the retailer and AEMO's creditors (other generators) highly susceptible to financial loss from a major generation outage. i.e. AEMO's credit support substitute (expected future generation) backing the retailer's ongoing pool purchase obligations can vanish due to the outage of the retailer's generator, precisely at the time that the retailer's consumption cost and AEMO credit support requirements increase exponentially due to $12,500/MWh price spikes triggered by the very outage of the retailer's generator. The non-firmness of generation as a substitute to firm futures hedges was demonstrated by events detailed in a recent media release by AGL.[4] This demonstrated that forced outages at power stations as small as 242 MW and 282 MW can cause significant financial impact. The NER rules force the AEMO prudential system to "rely" on thousands of MW of *potential* future generation from a single retailer as a substitute for that retailer posting credit support to AEMO for their pool market purchase commitments;

c. Allowing generators to short sell ex ante reallocation swap contracts (effectively an OTC swap sold with a fixed-leg price of $0/MWh) to AEMO on behalf of a retailer (who simultaneously buys a $0/MWh swap from AEMO), as a substitute to credit support from the retailer. AEMO settles its reallocation swap with the generator by netting off reallocation payments-for-differences (referenced to the floating pool price) against expected cash flows AEMO would normally pay to the generator for generating during the period covered by the reallocation product. This places substantial prudential reliance on the generator meeting its generation commitment during the duration of the AEMO reallocation swap. A major generation outage and subsequent default (to generate) to AEMO by a financially stressed sub-investment-grade reallocated generator would likely force AEMO to terminate the reallocation swap, which could erode offsetting payments owed to the generator in less than 2 hours at $12,500/MWh prices even assuming that the generator had previously accrued 4 weeks of base load generation credits with AEMO at more typical, lower pool prices. An outage of a reallocated generator that had not run consistently and had not created substantial generation credits over the last 4 weeks of the AEMO settlements cycle could be in breach of its AEMO credit support in a matter of minutes during $12,500/MWh prices. The termination of the reallocation swap by AEMO places the previously reallocated retailer (now without a reallocation-based AEMO credit support offset) in immediate financial stress as AEMO calls on it to reinstate replacement credit support. This credit support demand on the retailer can occur precisely as the retailer's pool purchase obligations to AEMO increase exponentially due to $12,500/MWh pool prices.

[4] Media Release: "Weather events to reduce AGL's 2011 Underlying NPAT by $30 million to $35 million". http://www.agl.com.au/Downloads/942430_ASX_070211.pdf

Banks that meet the NER test as a credit support provider are permitted to sell $0/MWh reallocation swaps to AEMO without posting any collateral support.

AEMO performs no mark-to-market margining of the forward term of AEMO ex-ante reallocation swap. Hence there is no mark-to-market financial compensation paid by AEMO to either counterparty if the other party to an ex ante-reallocation triggers a default event that forces AEMO to terminate the arrangement.

AEMO reallocation offsets deliver negligible economic efficiency because the AEMO reallocation swap merely transfers the risk of a retailer defaulting to AEMO to another NEM participant (i.e. the generator that sells the $0/MWh reallocation swap to AEMO). Hence, accompanying any AEMO reallocation swap there must usually be an additional bilateral OTC swap between the retailer and the generator committing the retailer to pay the generator (for forfeited generation payments from AEMO) via an equivalent full face value swap contract (i.e. payment of "$0/MWh to an agreed swap price" for every time interval across the duration of the reallocation swap). These bilateral swaps therefore carry material OTC default risks, in excess of standard OTC electricity derivatives. AEMO reallocation swaps (and the supporting back-to-back bilateral OTC swaps) are totally non-transparent and have the effect of directly crowding out liquidity on the fully transparent, regulated and centrally cleared electricity futures market.

In contrast, the contractual firmness and enforceability of futures hedges held by NEM participants is immune to generation outages. The use of daily mark-to-market margining, initial margin deposits, portfolio compression, absolute contractual netting, credit risk management support from ASX Clearing Participants and central clearing in the futures market actually eliminates credit default risk rather than merely transferring it to another NEM Participant.

Despite an AEMC Market Review finding in 2010 that futures-based AEMO credit support offset arrangements (known as Futures Offsets) would deliver economic efficiency for NEM Participants, the AEMC has not given a firm deadline for AEMO to implement such futures-based arrangements. Futures Offsets have been requested by many NEM Participants via formal NER Rule Change Requests and submissions to AEMC dating back to August 2006. The ongoing delay in implementing futures-based AEMO credit support arrangements as an optional alternative to AEMO OTC reallocation swaps, incentivises NEM participants (particularly retailers) to hedge via the OTC market. Thus the market is in the perverse situation where the existing regulations (or the lack thereof) encourage market participants to earn preferential AEMO credit support treatment at the expense of the overall credit quality of the market and with increased default risk to end-consumers. This situation could be remedied immediately by forcing standard electricity hedge transactions onto the existing, centrally cleared and transparent electricity futures market and by specifying compulsory collateral support standards for non-standard electricity derivatives.

6. Many (if not most) of the same systemically important non-bank OTC participants are also the most systemically important carbon derivative market participants. If these entities are not mandated to use best practice exchange-trading and central clearing for OTC electricity then it is likely that carbon derivatives will continue to be traded on uncleared OTC markets, making it difficult for CFR agencies and the ACCC to ensure that the emerging carbon market is run in a fair and orderly manner.

   Of potentially more direct and immediate concern for regulators, electricity retailers and their customers are facing electricity price increases from July 2012 due to "AFMA carbon add on"[5] clauses in OTC electricity swap agreements. A substantial volume of these electricity swaps have already been traded between generators and retailers and effectively cash settle an OTC carbon price swap via a contractual clause embedded in the accompanying OTC electricity swap contract. If a CPM is legislated, this will trigger an OTC electricity swap price uplift under the terms of the electricity swap, payable by the retailer to the generator. The magnitude of the OTC electricity price uplift is likely to be significant (e.g. a $35/MWh electricity swap fixed leg price may increase by $23/MWh or more (e.g. if the CPM component of the electricity swap formula details a 100%+ emissions intensity factor). In effect the purchaser of the OTC electricity swap (typically a retailer) has embedded (sold) a free $0-strike call option over a carbon price to the generator. Ironically, retailers could have locked in their 2012 electricity price risk using futures and/or futures options without risking a carbon price-linked cost increase. Futures transaction prices are not retrospectively reset even if/when a carbon price is introduced. In effect by trading OTC electricity swaps with embedded carbon price triggers, rather than centrally cleared electricity futures, retailers have bet (heavily) against a CPM being introduced. This is likely to have flow on effects to electricity consumers, potentially "picking up the tab" for the retailer's unnecessary speculation against CPM legislation being introduced.

   The non-transparent "OTC shadow market" for carbon pricing concealed within OTC electricity swaps between generators and obliging retailers mutes carbon market price signals thereby undermining investment signals critical to support efficient switching to less carbon intensive generation technologies. This lack of transparency also risks impeding the ability of CFR agencies to effectively monitor and regulate the Australian carbon trading market.

7. Because BCBS capital charges for counterparty credit risk do not apply to non-bank entities, these capital charges create no commercial incentive for the vast majority of systemically significant OTC electricity participants to voluntarily utilise centrally cleared exchange traded electricity (or carbon) derivative products;

8. Electricity derivative prices can be very volatile and subject to commodity-style price shocks caused by generation supply disruptions. Based on audited financial reports of listed energy companies, the electricity derivative portfolio of a single non-bank OTC entity can be so significant that it can reach up to approximately $4 billion in unrealised mark-to-market derivative exposure at a point in time.[6]

[5] Also referred to as "AFMA carbon pass-through" clauses.
[6] AGL Annual Report 2007. p.89

9. OTC electricity swaps are regularly of very long duration. The AFMA 2010 Australian Financial Market Report suggests that during the last 5 surveyed years, up to 58.4% of OTC electricity deals transacted during one year had duration of more than 12 months.

Determining which OTC electricity derivative market participants should be subject to mandatory clearing requirements

The CFR may wish to consider applying the following test to determine which OTC electricity derivative market participants should be subject to mandatory clearing requirements and/or mandatory collateral support requirements:

1. The OTC market participant holds an AFSL (an existing requirement to issue, deal or arrange in Australian electricity derivatives); or

2. The OTC market participant is registered with AEMO as a [spot market] Market Participant. i.e. a Market Generator or a Market Customer (electricity retailer).

The potential clearability of OTC electricity derivatives

1. A central clearing solution for OTC electricity already exists and is heavily utilised (albeit not in isolation) by OTC electricity derivative market participants. Almost all participants of the OTC market already have trading access into the futures market via ASX Clearing Participants.

2. From a market efficiency perspective, the existing solution requires no establishment costs and users of the central clearing facility pay only on an as required basis (i.e. when trading and/or holding an open position). The cost to OTC market participants of utilising the solution are minor in comparison to the mitigation of OTC credit default risk achieved.

3. From a CFR agency oversight and jurisdictional perspective, the existing solution is domestically domiciled and already supervised by CFR agencies.

4. In the most part, OTC electricity swaps are exactly fungible with the existing centrally cleared electricity futures products, thereby making them amenable to central clearing. This is because the ASX futures and option product specifications are intentionally designed to replicate the most liquid OTC electricity products. It would be feasible to have mandatory central clearing of the following classes of Australian OTC electricity derivatives: Base load and Peak load swaps, swaptions and $300-cap swaps, variously listed out to 4 years ahead. The proof of the success in moving OTC electricity trading liquidity to a centrally cleared futures platform is demonstrated by the futures market eclipsing the OTC market by volume.

5. Even where some customised OTC derivatives differ to currently listed futures products, many of those differences are immaterial for competent and professional traders to manage (all issuers of Australian OTC electricity derivatives must be AFSL licensed in any case) via standard basis risk management techniques.

6. Corporate hedging solutions offered by banks can provide tailored product solutions such as customised OTC hedges, hedge cash flow smoothing and collateralised finance to retailers and generators. In most other commodity markets, large corporate customers utilise bank corporate solution desks to manage non-standard commodity risk profiles. The Australian OTC electricity derivative market is unusual in that large corporate customers (retailers and generators) attempt to manage such risks bilaterally between themselves, without bank intermediation. Hence the OTC electricity derivative market has developed amongst participants that are not subject to strict liquidity tests, capital adequacy requirements and counterparty credit risk charges which banks are subject to. The situation is exacerbated by non-bank OTC electricity participants generally ignoring OTC credit default risks (more OTC deals can get done that way) and therefore not valuing or being willing to pay a fee for the hedge management and credit intermediation services that banks and futures markets provide. Additionally, by refusing to adjust for embedded OTC credit default risks in OTC hedge portfolio valuations, generators and retailers are also not penalised (through AASB139 balance sheet write downs) for holding a portfolio of "junk" credit quality electricity hedges. i.e. sub-investment grade OTC derivative contracts are valued and reported as if they had the credit quality of centrally cleared futures contracts.

7. Existing OTC electricity swap positions can be transferred via EFP to ASX Clear [Futures]. Many OTC electricity participants regularly utilise the EFP mechanism to clean out heavily in-the-money OTC positions into futures to eliminate OTC credit risk exposures. Unfortunately, in the absence of mandatory clearing, there is little incentive for a poorly rated counterparty which owes a material amount in unrealised OTC obligations to agree to enter into an EFP or other form of collateralisation of the outstanding mark-to-market value. US regulators are seeking to force existing OTC swap positions to central clearing.

d-cyphaTrade is available to discuss issues raised in this submission in more detail with the CFR if so required.

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Appendix:

Glossary of Abbreviations

AEMC	Australian Electricity Market Commission (NER rule making body);
AEMO	Australian Energy Market Operator (pool market operator);
EFP	Exchange for Physical (an futures trading mechanism that supports switching OTC positions into centrally cleared futures positions);
AFSL	Australian Financial Services License;
APRA	Australian Prudential Regulatory Authority;
ASIC	Australian Securities and Investment Commission;
BCBS	Basel Committee on Banking Supervision;
CPM	Carbon Pricing Mechanism. (e.g. carbon tax, emissions trading scheme etc);
CFR	Council of Financial Regulators;
GFC	Global Financial Crisis;
NEM	National Electricity Market (electricity spot/pool markets incorporating NSW, VIC, QLD, SA and TAS);
NER	National Electricity Rules (covering NEM and NEM Participants);
OTC	Over the Counter (i.e. bilateral);
RBA	Reserve Bank of Australia.