Alice Corporation

May 31, 2011

Mr David A. Stawick
Secretary
Commodities Futures Trading Commission
Three Lafayette Center
1153 21st Street, NW
Washington, DC 20581

Re: Comments On OTC Derivatives Rule-Making In Relation To The Dodd-Frank Act (H.R. 4173)

Dear Mr Stawick,

This letter provides input to the Commodity Futures Trading Commission's (Commission's) rule-making governing the derivatives market on behalf of Alice Corporation[1], a corporation with an innovative design for derivatives trading, particularly those that are currently traded over-the-counter. We trust the input provided herein may help in the development of the final rules.

INTRODUCTION

The rule-making currently underway will determine the market structure for some time. Thus, it is important that the new rules are flexible enough to anticipate and not preclude innovations in practices and technology. Alice Corporation's innovative trading platform and product design (Alice) is designed to flexibly serve both end-users and investors while limiting systemic risk by capping open-ended exposures that are now widespread in today's OTC derivatives markets.

In addition to reviewing rules that would affect Alice, we have provided comments in two other areas: Dodd-Frank rule-making that is the sole or joint responsibility of the Commission and Dodd-Frank rule-making that is the responsibility of other regulators.

1) The Alice design

[1] Alice Corporation Pty Ltd (AC) is a financial markets research and development company. Founded in 1995, it is Australian-based and is 50% owned by National Australia Bank Limited and 50% privately owned. During the 1990s, Alice developed a system for trading and settling a wide range of cash-settled derivatives. A commercial implementation is now being assessed.

A more detailed description of the Alice design is contained in the Appendix. The key elements are:

a) *Any Measurable Underlying*. Alice permits trading in any economically useful asset or phenomenon that is measurable, independently verifiable by a trusted third-party and not manipulable by parties wishing to transact in the underlying.

b) *Segmentation of underlying.* The Alice design disaggregates the outcomes associated with a particular underlying asset or phenomenon into a set of discrete elements. Each element represents a range of outcomes and the elements collectively represent all possible outcomes. Each element may be considered a single event outcome even though it covers a range of outcomes in the underlying.

c) *Ordering parties specifying flexible payoff profiles.* There are two types of users in an Alice Market: "ordering parties" and "counterparties". Ordering parties specify a desired payoff for each element for a given maturity date, in effect specifying a set of event contracts. By assigning payoff amounts to elements, the ordering party can flexibly define a profile that digitally approximates the payoff of a wide range of derivatives. Payoff amounts can be assigned in small units that represent a minimum contract for the element. These contracts can be separately traded in a liquid market thus enabling unique overall contracts to be constructed from more standard, liquid components.

d) *Counterparties.* Alice counterparties maintain firm quotes at the element level on a price-per-unit basis together with limits for their net exposure in any one element. Any Alice participant may act as an ordering party or as a counterparty.

e) *Inherently capped contracts.* An ordering party must specify a *fixed* payoff amount for every selected element, even an element representing the tail of an underlying, so all Alice contracts are inherently capped. This capping limits the exposure of the counterparty to the contract and the exposure of a Designated Clearing Organization (DCO) to which a contract is novated.

f) *Anonymous matching to create contracts.* The Alice trading platform takes the counterparty quotes and combines them with the requested payoff profile entered by the ordering party, automatically determining which counterparty provides the lowest contract price, termed the "premium", for the overall profile. The counterparties providing quotes do not see the payoff profile prior to execution and trading is anonymous. Ordering parties can use a "price discovery" mode to determine the likely contract price before execution. Ordering parties may also request the Alice platform divide their payoff profile into vertical or horizontal segments that can result in the order being filled by contracts from multiple counterparties. Quotes can be publicly reported at the element level but the actual elements used in a contract will depend upon the payoff profile submitted.

g) *Regulatory and public reporting.* Contract details can be electronically communicated to Swap Data Repositories (SDRs) and to regulators. Public reporting is at the element level, communicating the amount and price for each component element in a completed contract.

h) *Post trade process.* The Alice trading platform was designed as an integrated trading and settlement system that processes payments for ordering party contract premiums and counterparty settlements through an on-line connection to a payments system. The design allows counterparties to net obligations to a degree and fully collateralizes the net settlement amount. If an ordering party offers a payment to the counterparty as part of their payoff profile, that amount must also be collateralized. Counterparties have the option to provide the collateral via credit support from an approved bank that can monitor limits on the system. As an alternative to using the integrated settlement features of Alice, contracts may be novated to an independent central counterparty (CCP) that calculates margin and collects payments. Establishing a robust collateralization or clearing process is essential to enable Alice to process contracts anonymously and with finality.

i) *Impartial access.* Any participant who can meet the collateral or clearing requirements, directly with the CCP or via a clearing broker, is eligible to participate and may act as an ordering party or counterparty subject to position limits imposed by the CCP. This should satisfy the impartial access requirement of Dodd-Frank Act.

2) Rule Making Issues Affecting Alice

In order to capitalize on the full benefits of a trading platform such as Alice:

a) *The operator of an Alice trading platform should be able to register as a Designated Contract Market (DCM).* A key attribute of Alice is the ability to construct a contract with a unique payoff profile for an end-user or investor using simpler component contracts that can be traded in a liquid market. Liquidity can be drawn from multiple sources including small institutions and corporates and retail investors. In order to serve the widest range of participants, the platform would ideally be operated by an organization registered as a DCM. In order to accommodate a platform such as Alice the rules would need to allow:

i) A level of pre-trade transparency that differs from a central limit order book. Although it does not have comparable pre-trade transparency to an order book, Alice is nevertheless a fair and competitive trading mechanism. Alice can display the range of quotes being offered by all counterparties on an element basis but, unless an ordering party profile has only a single element, these cannot be a perfect guide to overall contract pricing because a given counterparty might offer a high quote in one element but lower quotes in others. It is the full set of particular counterparty's quotes, when coupled with the payoff profile, that determines if the counterparty provides the lowest overall contract price for an ordering party. The actual quotes used in a contract are reported post-trade although the overall contract is not reported because it is unique to the ordering party. In addition to seeing element quotes, Alice ordering parties may use the price discovery function to determine likely pricing for their submitted profile without indicating their intent to the market. We note that the operators of blind auction markets also argue that it is possible to have a fair and competitive market without the pre-trade transparency of an order book.

ii) DCMs to be able to trade flexible payoff contracts subject to a pre-approved framework. Alice has flexible payoff contracts, built using a set of event contracts, that can emulate a wide range of contingent instruments and even non-contingent instruments, such as a zero-coupon bond. The segmentation of an underlying into elements can be subject to approval in advance but it is impossible to pre-specify every possible type of contract that could be created by ordering parties assigning amounts to the elements of an underlying. The best approach would be for the operator of an Alice platform to agree a framework with the Commission for each underlying and to set limits within which participants can freely create contracts.

iii) Counterparties to offer volume-based quotes. While Alice offers the ability to fill a large size order with multiple contracts on an all-or-nothing basis, customers with large orders sometimes wish to execute with a single contract. The Alice design allows counterparties to maintain volume-based quotes for elements with the same discount available to all ordering parties transacting at that size. This would enable automatic execution of block size trades. It is unclear whether an *impartially* offered price discount for volume would be acceptable to the Commission.

b) *The operator of an Alice trading platform should be able to register as a Swap Execution Facility (SEF)*. While Alice is best suited to a DCM because it provides the broadest market participation, Alice could

also be registered as a SEF. In order to accommodate this:

i) The Alice trading platform should be an allowed trading mechanism for "permitted" and "required" transactions. The SEF rules focus on Order Book and Request-For-Quote trading mechanisms and Alice is not strictly either of these.

ii) SEFS should be able to trade flexible payoff contracts. The contingent cash flows in an Alice contract can be structured to represent the flows for a single period swap. By combining contracts for different maturities, a multi-period swap can be constructed. Per the discussion for DCMs, it should be possible to approve a framework for such contracts.

iii) Counterparties should be able to offer volume based quotes. See the discussion for DCMs in 2(a) iii above.

c) *Data standards need to accommodate flexible payoff contracts.* Alice contracts are aggregates of simpler unit contracts and may emulate a wide range of instruments including swaps. This raises issues with data standards for recording and reporting at both DCOs and SDRs. Alice contracts can be broken down into individual element contracts for clearing but there is a need to also record the overall profile. The proposed standards for recording swaps at SDRs are not flexible enough to accommodate the two level contracts where the counterparty information and swap identifier might be at one level but there could be multiple component contracts, one for each element, below that. It is further complicated if the original profile is split across counterparties.

While it is possible to classify Alice contracts by underlying (credit, rates and so on), it is very difficult to classify the type of swap as required in the proposed standard and in FpML[2]. The type field needs more flexibility. This is an issue for complex derivatives generally, an issue highlighted effectively in the paper submitted by Mr. Olu Oni in his submission to the study on the feasibility of requiring standardized, computer-readable, algorithmic descriptions[3].

d) *Trading platforms should be able to access DCOs in real time.* Whether implemented as a DCM or a SEF, the Alice design requires contracts to be final at the point of execution. The ordering party must be good for the overall contract price and the counterparty must be good for the worst case amount and cannot exceed certain position limits. In an integrated Alice version, contract price payments are deducted from ordering party accounts at execution and the counterparty's Alice account funds are adjusted to reflect the net impact of the contract at the same time. In the emerging environment where most contracts are cleared, it is more likely that the contract is instead novated to a DCO that will insure the counterparty is sufficiently collateralized to support contract settlement. This requires that Alice be able to confirm the acceptability of a contract with a DCO pre-trade and advise DCOs of position adjustments in real time. We note that several likely operators of SEFs have raised the same issue.

Real time connections are not only required for pre-trade checks for a single market but may be

[2] Financial Products Markup Language

[3] Comment Number 26828 submitted 12/31/2010 on 75 FR 76706, Study Mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 719(b) on ``the feasibility of requiring the derivatives industry to adopt standardized computer-readable algorithmic descriptions which may be used to describe complex and standardized financial derivatives.''

necessary in order to manage participant position limits across market platforms. The Commission has proposed that SEFs and DCMs be responsible for monitoring participant position limits but in a world with multiple platforms trading economically equivalent products and with some trades still executed off-market, it is unlikely that any single SEF or DCM can maintain useful position limits. One option for cleared swaps is to have the limits maintained by DCOs since there are fewer of them and they already manage risk across multiple products. Where a swap is cleared by multiple DCOs, one would be the primary for a given participant and the other DCOs would report positions to that DCO. Another alternative is to have SDRs record the overall position limit. Maintenance of position limits by Futures Commission Merchants (FCMs) or Major Swap Dealers (MSDs) is not satisfactory because some markets are principal to principal. The Commission should encourage DCOs to make real time access available to all SEFs and DCMs that trade the products they clear and not penalize SEFs or DCMs who will not connect to a DCO that cannot provide such access.

e) *Unique complex contracts should not be publicly reported*. Each overall Alice contract is unique and reporting the overall price does not serve price discovery and may compromise anonymity. Overall contract information should be available only to SDRs and regulators. The prices and volumes for individual elements used in contracts can be reported publicly in the timeframes specified by the proposed rules for real-time reporting. Individual element volumes that exceed the levels for block trades would be subject to the proposed reporting rules for block trades. Alice does support a template profile function and if liquidity developed in a particular template, such contracts could be publicly reported.

f) *Direct clearing participation should be possible for a wide range of participants*. While Alice can be accessed via an FCM, it is also designed to be used as a principal to principal system. Principals can choose to use a clearing broker but we also believe they should have the ability to be direct clearers. Since Alice contracts are capped they can be fully collateralized. Full collateralization may not be acceptable to larger participants but it can be useful for smaller participants – individuals and smaller businesses for example - who would never be accepted by a DCO on a partially collateralized basis. The risk management rules for DCOs should enable them to accept participants on a fully collateralized basis provided the participant trades only capped contracts and has an arrangement with a bank, or other suitable credit provider, that can settle payments rapidly and provide robust credit support.

   In regard to other participants who wish to participate on the partially collateralized basis traditionally employed by DCOs, we support the Commission's proposals for impartial access including proposed lower capital requirements. DCOs should offer tiered membership and apply position limits related to capital. Constraints on allowed offsets can also be used to manage participant risk.

g) *Costs of compliance must be acceptable and outsourcing allowed*. If a new board of trade were formed to operate the Alice platform then meeting compliance requirements could be onerous. We note that even some existing trading platforms that propose to register as SEFs are concerned about the costs of compliance. Operators of platforms, including DCMs, should be able to outsource some aspects of compliance to a centralized compliance organization.

3) Comments on Commission Rule-Making More Generally

a) *Establish an overall framework for SEFs and DCMs.* We believe there would be value in having a common framework that can serve as the basis for the rules for both DCMs and SEFs. While there are important differences, there are more similarities and there is merit in providing some consistency in the rules. Specifically:

i) Clearly distinguish the parts of the rules that apply to the organization operating a trading platform from the rules affecting the trading platform itself. For example, the term SEF is used to describe an organization and the trading platform. It is probable that an organization established to operate a SEF could operate multiple trading platforms and might eventually apply to operate a DCM platform. A board of trade might operate a DCM platform and a SEF platform. There may be value in choosing separate names for the organization and the trading platform, for example, a "SEF operator" versus SEF and employing these terms in the rules. There may also be value in separating the registration of the organization from the registration of the trading platform. Although both would be handled together in the initial set up of a SEF or DCM, this would make it easier for an organization to add trading platforms.

ii) Organizations that choose to operate both a SEF and DCM should be able to meet the requirements of both with a single organization.

iii) Clarify how the products which can be available on a DCM differ from those which can be available on a SEF. The definition of a swap in the Act provides a long list of products but does not clearly distinguish how a swap might differ from a financial future or option. A swap product where cash flows are exchanged in only one period is equivalent to a future. It needs to be clarified whether such instruments can be traded on SEFs or only on DCMs.

iv) Clarify the execution mandate that applies once a swap is "made available to trade". While it is clear that a swap is subject to the SEF execution requirements if it is on any SEF or DCM, it is unclear what the obligations are on a DCM in regard to the swap once any SEF makes it available for trade.

v) Address trading of illiquid and bespoke swaps on DCMs. While the rules suggest that DCMs and SEFs will be subject to the same rules for identifying and reporting block trades, the treatment of illiquid and bespoke swaps is not explicitly addressed for DCMs. As noted by participants in Commission roundtables, some swaps are standard in form and clearable because they can be priced, but they nevertheless do not trade very often and can be illiquid for at least part of the trading day. Similarly, the assumption appears to be that bespoke trades cannot be traded on a DCM, presumably because they are not suited to the order book trading mechanisms typically employed on DCMs. The SEF rules classify bespoke trades as "permitted" transactions and exempt them from being traded on transparent trading mechanisms. Some DCMs already allow some measure of customization on traded products, for example in the maturity date. Platforms such as Alice could enable certain bespoke trades to be electronically executed and cleared so the rules for both platforms need to accommodate this possibility. In general, the concept of "permitted" and "required" transactions should be applied to all products traded on DCMs and SEFs even if the concept is implemented somewhat differently on the two types of platforms (for example, "permitted" swaps on a SEF include non-cleared swaps which cannot be traded on a DCM.)

b) Set rules that encourage the shift of as much trading to SEFs, and especially to DCMs, as is possible. Increasing access to the swaps market and increasing the transparency overall is best achieved by encouraging swaps to migrate to SEFs and especially to DCMs since the latter are more broadly accessible. While there will always be swaps that are better suited to the OTC market, the majority can be exchange-traded and the percentage should increase over time as innovation evolves to

accommodate more complex swaps. To support this goal:

i) Make it easy to make a swap "available for trade". The rule should require only that a SEF or a DCM list the swap. Some participants have suggested there should be a liquidity requirement. Rather than not list the swap, it can be listed, and then if it a swap does prove to be illiquid it can be exempt from the transparency requirements and executed by a mechanism suitable for illiquid swaps. It is preferable that a swap be within the ambit of a SEF or a DCM rather than be restricted to the dealer market. To ensure that DCMs are not disadvantaged compared to SEFs, they should have some flexibility in dealing with new products and not be forced to delist a product if 85% cannot be traded on the centralized market. Both SEFs and DCMs should be subject to periodic review to ensure that swaps are not being treated as "permitted" when they are liquid enough to be classified as "required".

ii) Consider whether block and certain bespoke trades should continue to be treated as "permitted" transactions once they can be cleared by disaggregation into components and anonymous electronic mechanisms are available to execute them without adverse impact on participants.

c) *Further pursue initiatives that create a fairer market and diversify risk.* The concentration of the OTC swaps market in the hands of a limited number of large swap dealers has contributed to the too-big-to-fail problem in the financial system. Smaller and mid-size intermediaries who might serve smaller customers and offer better prices have been restricted in their participation in part due to their exclusion from membership in DCOs. The market has been generally unavailable to small businesses and retail investors. The Commission's rule-making is clearly intended to promote fairer markets without increasing risk. In our view, the Commission should:

i) Implement the proposed rules intended to mitigate conflicts of interest in ownership and governance of regulated entities. Although restricting enumerated entities total ownership to 40% will assist, we note the points made by Better Markets concerning the other ways that large dealers may unduly influence the operation of a DCO[4].

ii) Set risk management rules for DCOs that are impartial. DCOs should offer tiered membership that promotes broader access without compromising risk management. Members with lower capital can be subject to position limits if there is concern about their taking risk out of proportion to their capital. They can be required to take their share of a defaulting member's position in proportion to those limits.

iii) Encourage participation by well-capitalized commercial banks that do not have a substantial exposure to the derivatives market. Such banks could participate as settlement banks for DCOs and as credit providers for market participants. Some of these banks may also have an interest in becoming part owners of DCMs, SEFs or DCOs. This would diversify and enlarge the capital base for regulated entities.

iv) Clarify the market position of Swap Data Repositories. These have the characteristics of central market utilities. If this is how the Commission views them, they should be subject to suitable rules to ensure fair access and reasonable prices.

[4] Comment Number 26475 submitted 11/17/2010 in response to Proposed Rule 75 FR 63732 17 CFR Parts 1, 37, 38, 39, and 40, Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities Regarding the Mitigation of Conflicts of Interest.

v) Avoid a "race to the bottom" between DCOs. Competition between DCOs has systemic risk consequences and careful oversight will be required to ensure competition on margin and clearing fees does not increase risk. Confidence levels on margin calculations need to be high, preferably 99%, especially on new swaps and swaps with non-linear characteristics. There is great pressure from market participants for offsets across different products and without regulatory oversight this could become problematic. AC supports the cautious approach identified in the proposed risk management rules for DCOs. Offsets across products with different maturities and risk profiles should be avoided where possible.

4) **Comments on Other Rule-Making Affecting Derivatives**

a) Limit the end-user exemption from clearing where possible. It is our view that the end-user exemption should not have been enacted because it fragments liquidity and does not make explicit the costs of hedging by end-users. The exemption should not be extended to small financial institutions and should be limited to hedging transactions. Further, as proposed by prudential regulators, end-users should post margin if they exceed certain net open interest limits. When the clearing and trading infrastructure is well established, a study should be conducted that compares the actual real costs to end-users of cleared swaps executed directly on a DCM or a SEF versus non-cleared swaps executed with a swaps dealer.

b) Examine the feasibility and benefits of encouraging more widespread use of capped contracts in the derivatives market. Capped contracts constructed from event contracts, such as Alice employs, limit the exposure even on tails of the underlying, thus requiring participants to retain some residual tail risk. It has been argued that certain end users are in fact better able to assess and address extreme tail risk than intermediaries. Other types of capped contracts, based on products with linear payoff profiles, include capped-style options and spread options. The exposure of a capped contract is always known and limited. This has several important benefits:

i) For cleared products it limits the exposure of a DCO and for non-cleared products, it limits the exposure of intermediaries such as banks.

ii) It is easier to set margin requirements for capped contracts than for uncapped contracts and they can be fully collateralized if need be. Full collateralization is useful for contracts on underlyings with non-linear characteristics (such as the jump-to-default risk of Credit Default Swaps) or for contracts involving participants, such as retail investors, who might not meet the requirements for trading uncapped contracts.

iii) Credit providers can more easily provide financing to participants trading only in capped contracts.

iv) Capital requirements for DCOs clearing capped contracts and for intermediaries trading them are easier to determine and monitor.

c) Do not exempt foreign exchange swaps, options on swaps and forwards from clearing. Many OTC derivatives contracts have a foreign exchange element and electronic markets such as SEFs and DCMs will evolve to support these complex products. It makes no sense not to have foreign exchange derivatives traded on the same platforms and in the same regulatory environment as the derivatives for other underlyings. Further, foreign exchange derivatives can be used to emulate other instruments and their exclusion from Dodd Frank requirements could create a significant loophole allowing derivatives products to be created outside the regulatory framework that the Dodd-Frank Act calls for.

CONCLUSION

Alice is one example of the trading platforms that will emerge in the new regulatory environment. Innovation in trading platforms and products will support the goals of fairer, more transparent and more competitive markets. It is important that rules allow innovation to flourish. In addition to supporting such innovation, the rule-making process offers the opportunity to strengthen the market structure and reduce systemic risk. We respectfully hope our comments contribute to this process.

Sincerely,

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Cc:
Ms Elizabeth M. Murphy, Secretary, Securities and Exchange Commission
Ms Jennifer Johnson, Secretary, Board of Governors of the Federal Reserve System

APPENDIX – ATTRIBUTES OF ALICE DESIGN

1. *Any Measurable Underlying*. Alice permits trading in any economically useful asset or phenomenon that is measurable, independently verifiable by a trusted third-party and not manipulable by parties wishing to transact in the underlying.

2. *Segmentation of underlying into discrete elements.* The Alice design disaggregates the outcomes associated with a particular underlying asset or phenomenon into a set of discrete elements. Each element represents a range of outcomes and the elements collectively represent all possible outcomes, including the tails (extreme outcomes) of an underlying. Each element may be considered a single event outcome even though it covers a range of outcomes in the underlying. The segmentation does not need to be uniform and can be more granular across some outcomes. The operator of an Alice platform structures the segmentation to support different needs in the market and may offer several contracts for a given underlying, each with a different segmentation.

3. *Ordering parties specifying flexible payoff profiles.* There are two types of users in an Alice Market: "ordering parties" and "counterparties". Ordering parties use an interactive interface or application programming interface (API) to specify a desired payoff for each element for a given maturity date, in effect specifying a set of simple event contracts. The payoff amount assigned to an element may be a negative amount, that is, be a payment by the ordering party. By assigning payoff amounts to elements, the ordering party can flexibly define a payoff profile that digitally approximates the payoff of a wide range of derivatives or is unique to the ordering party's particular needs, for example to hedge a real world cash flow. The amounts specified by ordering parties are multiples of a fixed unit amount which is the equivalent of a contract size for that particular element. These unit contracts can be separately traded in a liquid market thus enabling unique overall contracts to be constructed from more standard, liquid components.

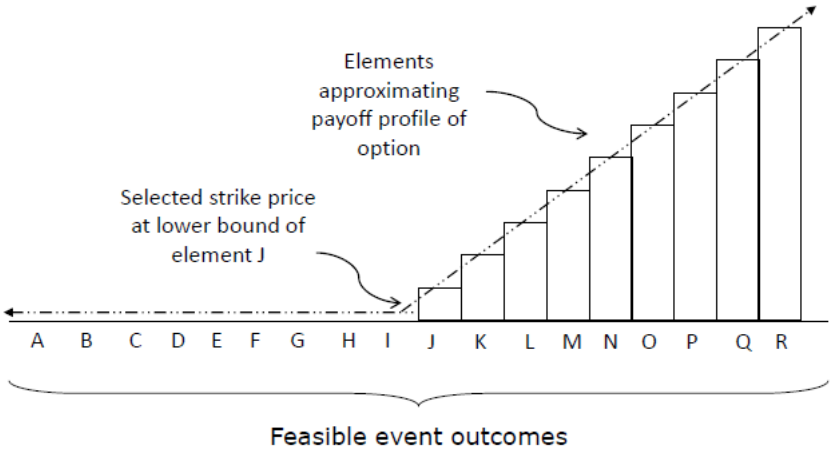
4. *Inherently capped contracts.* An important feature of Alice is that an ordering party must specify a *fixed* payoff amount for every selected element, even where the element represents the tail of an underlying distribution. For example, even though the element might represent all outcomes of an underlying greater than three standard deviations from the mean, the payoff amount specified may be high but cannot be unlimited. This capping limits the exposure of the counterparty to a contract, and in turn, limits the exposure of a CCP to which that contract is novated. A CCP can request certain counterparties fully collateralize their worst case position because the position is not open-ended. The inherent capping of contracts means that some residual tail risk is always retained by an end-user using an Alice contract to hedge.

5. *Counterparties.* Alice counterparties maintain quotes at the element level on a price-per-unit basis together with limits for their net exposure in any one element. Quotes will depend on whether the counterparty is assuming or shedding risk for that element. Counterparties may maintain a separate set of quotes for high volume payoff amounts and these would be available to all participants who request payoff amounts of that size. Separate quotes may also be provided for the different DCOs that an ordering party may belong to. Any Alice participant may act as an ordering party or counterparty although it is expected that there will be market makers who maintain a presence and offer counterparty quotes on a consistent basis.

6. *Anonymous matching to create contracts.* The Alice system takes the counterparty quotes and combines them with the requested payoff profile entered by the ordering party, automatically determining which counterparty provides the lowest price, termed the premium, for the overall profile. Ordering parties may specify that the transaction is only for price discovery, submitting variations of their payoff profile until a satisfactory price is obtained. They then submit the transaction for execution whereupon a contract is created. The counterparties providing quotes do not see the payoff profile prior to execution and trading is anonymous so counterparties cannot discriminate according to the type of ordering party

(unless explicitly allowed by the market operator). If an ordering party includes payments to counterparties in the profile it will lower the overall price of a contract. Ordering parties may also request the Alice system divide their payoff profile into vertical or horizontal segments which can result in the order being filled by contracts from multiple counterparties, including counterparties who might not be able to take the whole contract due to position limits or because they don't offer prices for all elements. By specifying that all contracts must be executed, this procedure can be used to execute a large trade that might otherwise be executed off-market.

7. *Emulation of other products*. Alice can be used to construct payoff profiles emulating a wide range of derivatives. It may also be used to emulate non-contingent outcomes such as the cash flow associated with a loan. The following exhibit shows how a purchased call option profile could be represented by elemental capped contracts.



The component elements in an Alice market could be unique to an implementation of the Alice platform or they could be expressly designed to use simple derivatives traded on other markets, such as those traded on futures or options exchanges. The only constraint on using derivatives from another market is that the contracts must be capped. Alice flexible payoff contracts could make it possible to execute certain bespoke contracts that could then be clearable because the constituent elements are clearable.

8. *Regulatory and public reporting.* Contract details can be electronically communicated to Swap Data Repositories (SDRs) and to regulators. Public reporting is at the element level, communicating the amount and price for each component element in a completed contract. Indicative, though not firm, pre-trade quotes can be reported at the element level as well. It should be noted that element level quotes and prices offer an accurate market price *only* where an ordering party requests a single element contract. In most cases the request involves multiple elements combined into a single contract. A given counterparty may not have the lowest quote in a particular element but its set of quotes for all requested elements combined with the payoff profile may still result in the lowest overall price for the contract. Public reporting of the contracts for the full payoff profile is typically not meaningful since the contract is unique to the ordering party. Alice does provide for standard templates emulating common derivatives. If sufficient liquidity developed in a template, it should be possible to publicly report contracts at that level.

9. *Post trade processes.* The Alice trading platform was designed as an integrated trading and settlement system that processes payments for contract premiums and counterparty settlements through an on-line connection to a robust payments system, ideally one that operates with cleared funds. Because the contingent amounts per element are fixed, it is possible to fully collateralize the worst case outcome and collect it from the counterparty at the point of trade thereby eliminating counterparty risk. The design allows counterparties to net obligations, preferably only for contracts with the same underlying and maturity date. If an ordering party offers a payment to the counterparty as part of their payoff profile,

that amount must also be collateralized.

Full collateralization may not appeal to all participants so the design allows for partial collateralization supported by an approved credit provider. Alternatively, Alice may novate contracts to an independent CCP that calculates margin and collects payments. The CCP would make decisions on the degree of collateralization required for a participant. The CCP may use the Alice price discovery process to price an established contract for margin purposes and can maintain position limits for clearing members directly on the Alice system. A robust collateralization or clearing process is essential to enable Alice to process contracts anonymously and with finality.

10. *Impartial access.* The Alice design permits even highly customized needs to be met with contracts that are electronically traded, allowing users to tap diverse sources of liquidity, including other end users of derivatives, institutional investors and even retail investors who may trade in capped, lower-value element contracts. Any participant who can meet the collateral or clearing requirements, directly with the CCP or via a clearing broker, is eligible to participate and may act as an ordering party or counterparty subject to position limits imposed by the CCP. Trading is anonymous and all counterparty quotes in the system are considered when pricing any ordering party's submitted payoff profile provided position limits are not exceeded.