

## **APPENDIX B (CONFIDENTIAL) – FURTHER CONSIDERATIONS**

**Risk mitigation purpose of the Contract:** The economic impacts of natural disasters like hurricanes, floods, tornadoes, and earthquakes are vast and varied. They can be both immediate and long-term, affecting a wide range of stakeholders including governments, businesses, and individuals. This Contract specifically seeks to target a major disaster hitting a particular city, allowing businesses and individuals to hedge the risk that their residence is affected by one of these disasters. This would allow them to cover the uncertain costs that come with these disasters, which could affect their business, their ability to travel, their infrastructure, and more.

Here's a detailed breakdown of the economic impacts of these events:

1. Hurricanes. American coastlines--from Houston to Tampa to New York--are battered by hurricanes every year. Such storms often bring significant flooding, power outages, and other disruption of essential services. Hurricane Sandy in 2012 caused over \$60 billion in economic losses. 2017's Hurricane Harvey caused the largest evacuation in US history with an estimated 3.7 million Americans fleeing the city. Max wind speeds (as represented by Hurricane Category Numbers) are a good proxy for total damage done. Category 5 hurricanes are extremely rare but will likely cause billions of dollars in damage with a great cost to infrastructure. Category 1 hurricanes will likely cause some damage with a good risk of power outages. In short, the size of the storm is a good proxy for the damage the storm will inflict. Investors can use the proposed contract to hedge the risk of disruption from a hurricane or tropical storm. In the last five years, Atlantic hurricanes have killed over 3,000 people, and inflicted over \$393 billion worth of damage. Hurricanes and tropical storms can destroy homes, businesses, and key infrastructure. Such damage can take years and billions of dollars to repair, weighing heavily on local governments, insurance companies, and taxpayers.
2. Floods. When floods inundate a region, one of the most immediate and apparent repercussions is the extensive damage to infrastructure. Roads, bridges, public transport networks, and utilities crumble under the onslaught of water. The monetary costs of repairing these essential elements are vast, often pushing local or even national budgets to their limits. But the economic ripples extend further. With damaged infrastructure, businesses face interruptions, transport costs escalate, and potential investors, witnessing the tangible vulnerabilities of an area, might think twice before investing. Agriculture, the bedrock of many economies, suffers a dual blow. In the immediate aftermath, there's the visible destruction of crops, leading to direct income losses for farmers, not to mention the heart-wrenching death of livestock in many instances. However, the land remembers the floodwaters long after they recede. Soil erosion can impair land productivity for subsequent agricultural seasons, while the specter of waterborne diseases threatens the health and productivity of surviving livestock.
3. Tornadoes. From an economic perspective, the damage wrought by a single tornado can be colossal. Infrastructure, from residential homes to commercial establishments, often

bear the brunt of this devastation. Repairs and rebuilding efforts post-tornado can stretch local budgets, placing enormous financial strains on both public and private entities. Often, many small businesses, lacking the necessary insurance or funds to recover, shut down permanently, leading to a decline in local economic activity and employment. Beyond the immediate tangible destruction, tornadoes carry with them long-term economic implications. Areas frequently hit by tornadoes may witness a decline in property values as potential homeowners or investors perceive higher risks associated with the locale. The insurance premiums in these areas might skyrocket, putting additional financial burdens on residents and discouraging new investments. Moreover, the interruption to local supply chains can ripple outward, affecting regional and even national economies, especially if key industries or transport hubs are disrupted.

4. Earthquakes. Buildings, bridges, roads, and crucial public utilities like water and electricity can be compromised or destroyed. The costs associated with restoring these essential amenities can run into billions, pushing national or regional budgets to their breaking points. Furthermore, a sudden displacement of populations due to damaged homes or unsafe living conditions can lead to immediate resettlement costs, coupled with the challenges of providing basic services to the affected populace.

**Price basing/price discovery utility of the Contract:** The Contract's price represents a market-based probability that one of these natural disasters will hit a given city. This information could be used to help better price a variety of assets, services, commodities, and financial contracts, including:

1. Insurance premiums: insurers could hedge their risk exposure with these event contracts, possibly resulting in more competitive premium pricing for consumers. For instance, homeowners' insurance in tornado-prone regions or earthquake insurance in seismic zones.
2. Real estate: the value of properties, especially in disaster-prone areas, could be better priced if there's a clearer understanding of the financial implications of potential disasters. Event contracts could serve as a measure of this risk.
3. Commodities: the prices of commodities such as agricultural products can be heavily impacted by natural disasters. Event contracts can offer farmers and commodities traders a tool to hedge against potential losses, leading to more stable pricing.
4. Infrastructure bonds: bonds issued for infrastructure projects in areas prone to natural disasters might offer different yields if the risk associated with potential disasters can be hedged or quantified through event contracts.
5. Utility services: utility companies operating in areas prone to natural disasters might adjust their service pricing based on their ability to hedge against disaster-related disruptions using event contracts.

As described in detail above, the Contract has important risk mitigation and price basing/price discovery utility. The Contract does not relate to the enumerated categories of contracts listed in

Section 5c(c)(i) of the Act. Additionally, the Exchange has not determined such contracts to be contrary to the public interest and there has been no determination by the Commission that such contracts would be contrary to the public interest. The Contract provides a means for managing and assuming price risks, discovering prices, and disseminating price information on the Exchange's fair and financially secure trading facility.

The Contract has bona fide risk mitigation and price basing utility for participants with underlying economic exposure, as described above. The Contract is not merely recreational, as the discussion of risk mitigation and price basing/price discovery utility demonstrates. The outcome of the Contract is not predominantly determined by chance and depends on a variety of meteorological and climate factors. Finally, it is possible for traders to use skill and effort to gain knowledge and information about the likelihood of the event. For example, traders can gain information about the likelihood of the event by following the baseline rates of given disasters for the city in question.

## **APPENDIX C (CONFIDENTIAL) – SOURCE AGENCY**

The data which is used to determine the Expiration Value of the Contract is published by the National Weather Service (NWS) and the U.S. Geological Survey (USGS). The methodology used by the Source Agencies to collect weather data is robust. For wind speed, the Expiration Value will be determined with the NWS’s Daily Climate Report data product, which provides detailed city-wise daily weather statistics, including the maximum sustained wind speeds, for a large number of American cities and weather stations in a given day. Each day, the NWS releases a Daily Climate Report for the previous day containing “detailed daily weather statistics including temperature, precipitation, degree days, wind, humidity, sunrise/sunset, and record temperature data.” The report can be accessed online via the following link (<https://w2.weather.gov/climate/>), and the link to the data portal will be made available to Members via listing on the Exchange website. The specific data value in each day’s Daily Climate Report that will be used to determine the Expiration Value of the contract is the “Observed Value” for “Maximum Temperature”. The daily wind and rain data collected by the National Weather Service is of high integrity. NWS data measurements are subject to multiple layers of intense quality control (QC) processes such as “checks of plausibility; checks for contradiction; spatial and temporal continuity checks; and the use of diagnostic equations.”<sup>6</sup>

Tornado, flash flood, and flood warnings are also published by the National Weather Service. Flood warnings are made based on precipitation forecasts, one of the key functions of the NWS’ daily climate forecasts. This process is described in detail [here](#) and throughout the NWS’ website.<sup>7</sup> For tornado warnings,

When severe weather is either spotted or indicated on radar, the WFO radar operator issues a Severe Thunderstorm or Tornado Warning via WarnGen [Warning software accompanying AWIPS and used by local NWS offices to issue warnings and statements of inclement weather.] to alert the public to the imminent or existing threat of severe weather. As soon as the warning is disseminated, special tones are broadcast on NOAA Weather Radio in conjunction with the warning message—alerting the public to the impending threat to life and property. Meanwhile, various television and radio stations occasionally interrupt regular programming in order to communicate the NWS warning information to a large segment of the country’s population. During the entire process, it takes a tremendous amount of coordination between government and private entities to ensure the best possible warning coverage.<sup>8</sup>

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<sup>6</sup> <https://training.weather.gov/nwstc/Hydrology/HYDRO/QCModule/QCConc.HTML#gen>

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<https://www.weather.gov/about/forecast-process#:~:text=The%20forecast%20process%20is%20roughly,complete%20picture%20of%20current%20conditions.>

<sup>8</sup> [https://www.weather.gov/pah/1925Tornado\\_nvt](https://www.weather.gov/pah/1925Tornado_nvt)

## **APPENDIX D (CONFIDENTIAL) – COMPLIANCE WITH CORE PRINCIPLES**

### **Compliance with Core Principles**

The Exchange has conducted a comprehensive analysis of the designated contract market core principles (“Core Principles”) as set forth in Part 38 of the Act. The Core Principles relevant to the Contract are outlined and discussed in further detail below:

**Core Principle 2 - Compliance with Rules and Impartial Access:** The Exchange has adopted the Rulebook, which provides the requirements for accessing and trading on the Exchange. Pursuant to Chapter 3 of the Rulebook, Members must utilize the Exchange’s services in a responsible manner, comply with the rules of the Rulebook (“Rules”), cooperate with Exchange investigations, inquiries, audits, examinations and proceedings, and observe high standards of integrity, market conduct, commercial honor, fair dealing, and equitable principles of trade. Chapter 3 of the Rulebook also provides clear and transparent access criteria and requirements for Exchange Members. Trading the Contract will be subject to all the rules established in the Rulebook, which are aimed at enforcing market integrity and customer protection.

In particular, Chapter 5 of the Rulebook sets forth the Exchange’s Prohibited Transactions and Activities and specifically prescribes the methods by which Members trade contracts, including the Contract. Pursuant to Rule 3.2, the Exchange has the right to inspect Members and is required to provide information concerning its business, as well as contracts executed on the Exchange and in related markets. Chapter 9 of the Rulebook sets forth the Exchange’s Discipline and Rule Enforcement regime. Pursuant to Rule 9.2, each Member is required to cooperate with an Exchange investigation by making their books and records available to the Exchange. The Exchange’s Market Regulation Department performs trade practice surveillance, market surveillance, and real-time market monitoring to ensure that Members adhere to the Rules of the Exchange. The Market Surveillance Department reserves the authority to exercise its investigatory and enforcement power where potential rule violations are identified.

Core Principle 2 also stipulates that an exchange shall establish means to provide market participants with impartial access to the market. Chapter 3 of the Rulebook, and Rule 3.1 in particular, provides clear and transparent access criteria and requirements for Members. The Exchange will apply access criteria in an impartial manner, including through the application process described in Rule 3.1.

**Core Principle 3 - Contract not Readily Subject to Manipulation:**

Core Principle 3 and Rule 38.200 provide that a DCM shall not list for trading contracts that are readily susceptible to manipulation. The Exchange's marketplace and contracts, including this Contract, have been designed in accordance with this fundamental principle. The Exchange maintains various safeguards against outcome manipulation and other forms of manipulation, including, (i) automatic trade surveillance and suspicious behavior detection, (ii) Rulebook prohibition, Member certification, and notification, (iii) Member monitoring and know-your-customer verification, and (iv) sanctions. These safeguards render the Contract not readily susceptible to manipulation.

(i) **Automatic trade surveillance and suspicious behavior detection:** The Exchange's trade monitoring and market surveillance systems compute statistics using information from all trades that occur on the Exchange over a range of timeframes, ranging from per trade to the full history of trading activity. These statistics are geared towards identifying unusual trading activity and outlier behaviors. If the trade monitoring and market surveillance system identifies behavior deemed to be unusual, the Exchange's compliance personnel have the ability to investigate and determine applicable sanctions, including limits to or suspension of a Member's access to the Exchange.

(ii) **Rulebook prohibition, member certification and notification:** The Exchange's Rulebook includes various provisions that prohibit manipulative behaviors. As noted above in the discussion of Core Principle 2, the Exchange's Rulebook gives the Exchange the authority to investigate potential violations of its rules. Pursuant to Rule 3.2, the Exchange has the right to inspect Members' books and records, as well as contracts executed on the Exchange and in related markets. Pursuant to Rule 9.2, each member is required to cooperate with an Exchange investigation by making their books and records available to the Exchange for investigation. The Exchange's Market Regulation Department performs trade practice surveillance, market surveillance, and real-time market monitoring to ensure that Members adhere to the Exchange's rules. The Rulebook also imposes sanctions on Members who break rules. Potential penalties include fines, disgorgement, and revocation of membership in Kalshi. Only Members are allowed to trade on the Exchange, and the Exchange requires its Members to strictly comply with the Rulebook. Members cannot complete the account creation process and trade on the Exchange until they certify that they have read the Exchange's rules and agree to be bound by them.

In addition, the Exchange requires applicants for membership to represent and covenant that the applicant will not trade on any contract where they have access to material non-public information, may exert influence on the market outcome, or are an employee or affiliate of the Source Agency. In order to further reduce the potential for manipulation, the Exchange maintains a dedicated page on the trading portal that lists all the source agencies and their associated contracts, together with a warning that employees of those companies, persons with access to

material non-public information, and persons with an ability to exert influence on the underlying of a contract are prohibited from trading on those contracts. This page is intended to serve as an effective means of raising Members' awareness of these rules and prohibitions, further reducing the potential for manipulation. Similarly, the Exchange places a prominent notice on each contract page that notifies Members of the prohibition on trading the Contract while employed by its Source Agency, trading the Contract on the basis of non-public information, and trading the Contract while having the ability to exert influence on the Contract's Market Outcome.

(iii) **Member monitoring and know-your-customer verification ("KYC")**: The Exchange has a robust KYC process. The KYC process is an important tool that helps flag and uncover higher risk traders before they become Members of the platform. The Exchange's KYC process leverages technology to develop a clear and proper understanding of its members, and the various risks they may pose with respect to market integrity and fairness, including manipulation. During the application process, applicants are required to share personally identifiable information, such as their full legal name, identification number, date of birth, and address with the Exchange. Additionally, applicants are required to provide a government issued photo ID (passport, drivers license, etc.) that is used to validate the personally identifiable information shared by the applicant during the application process. Applicant information is run through a comprehensive set of databases that are actively compiled and maintained by an independent third party. The databases are utilized by the Exchange to identify applicants that are employees or affiliates of various governments and other agencies. Moreover, the databases can identify known close relatives and associates of such people as well. Applicants that are flagged go through enhanced due diligence, including manual review, as part of the onboarding process.

Additionally, as part of the KYC process, the Exchange runs applicants through adverse media databases. The adverse media dataset is a real-time structured data feed of companies and individuals subject to adverse media. Monitoring thousands of news sources, business and trade journals, in addition to local, regional and national newspapers, the adverse media feed isolates and highlights any entities or individuals subject to a range of adverse media. The Exchange utilizes the database to trigger enhanced due diligence, because applicants with adverse media may be more likely to engage in certain types of unlawful activity including market manipulation.

The Exchange engages in active and continuing KYC checks. The KYC checks are initially performed upon application, and the Exchange then monitors its Members on an ongoing basis by running member information through the KYC databases. If material new information concerning an existing Member is at some point added to a database, the Exchange's system will flag the Member even if the cause for the flag was not extant at the time of the Member's application. That Member will then go through enhanced due diligence.

(iv) **Sanctions:** Exchange Members must agree to the terms and conditions of the Exchange's Rulebook before being allowed to trade. As a result, Members are subject to disciplinary actions and fines for engaging in improper market conduct that is prohibited by the Exchange's Rulebook. In the event that suspicious trading activity is detected and results in an investigation initiated by the Exchange, market participants are required to provide the Exchange with information relevant to the scope of the investigation under Rule 3.2. Chapter 9 of the Exchange's Rulebook details the process for discipline and rule enforcement. Disciplinary action can range from a letter of warning to fines to referral to governmental authorities that can result in criminal prosecution.

In addition to these global policies and safeguards, there are a number of contract specific attributes and considerations that render the Contract not readily susceptible to manipulation.

Regarding possible outcome manipulation by the Source Agencies, the National Weather Service (NWS) and the United States Geological Survey (USGS) are highly reputable government agencies with multiple levels of security and safeguards that protect the integrity of its data. Employees of these organizations would face professional and legal consequences if they attempted to intentionally manipulate daily temperature data in order to influence the outcome of the contract. Additionally, as stated above in "Price Reporting Agency", the wind speed and rain data collected by the NWS is of high integrity because NWS data measurements are subject to multiple layers of intense quality control processes such as checks of plausibility, checks for contradiction, spatial and temporal continuity checks, and verification with diagnostic equations. Thus, it is unlikely that a coordinated effort to manipulate wind speed or precipitation readings would be successful. The USGS is also in practice unable to publish false information without major public repercussions. Earthquakes of a large magnitude, as this contract will cover, are major, disruptive events. Their location and magnitude are readily verifiable by amateurs and other organizations.

With regards to use of non-public information or manipulation by individual employees, NWS and USGS employees are prohibited by Kalshi from trading on the contract. Moreover, data collected by NWS/USGS concerning precipitation, earthquake impact, or wind speed is quickly released to the public in the form of public advisories. As such, non-public information quickly becomes public, mitigating the advantage held by the relevant government employees. This is particularly true given that other weather stations, such as weather.com and accuweather.com, also release data around wind-speeds, earthquake impact, and precipitation, mitigating the importance of NWS and USGS data.

**Core Principle 4 - Prevention of Market Disruption:** Trading in the Contracts will be subject to the Rules of the Exchange, which include prohibitions on manipulation, price distortion, and



disruption to the cash settlement process. Trading activity in the Contract will be subject to monitoring and surveillance by the Exchange's Market Surveillance Department. In particular, the Exchange's trade surveillance system monitors the trading on the Exchange to detect and prevent activities that threaten market integrity and market fairness including manipulation, price distortion, and disruptions of the settlement process. The Exchange also performs real-time market surveillance. The Exchange sets position limits, maintains both a trade practice and market surveillance program to monitor for market abuses, including manipulation, and has disciplinary procedures for violations of the Rulebook.

**Core Principles 7 and 8 - Availability of General Information and Daily Publication of Trading Information:** Core Principles 7 and 8, implemented by Regulations Sections Subsections 38.400, 38.401, 38.450, and 38.451, require a DCM to make available to the public accurate information regarding the contract terms and conditions, daily information on contracts such as settlement price, volume, open interest, and opening and closing ranges, the rules, regulations, and mechanisms for executing transactions on or through the facilities of the contract market, and the rules and specifications describing the operation of the contract market's electronic matching platform.

Rule 2.17 of the Rulebook sets forth the rules for publicizing information. The Rulebook and the specifications of each contract are made public on the Exchange website and remain accessible via the platform. The Exchange will post non-confidential materials associated with regulatory filings, including the Rulebook, at the time the Exchange submits such filings to the Commission. Consistent with Rule 2.17 of the Rulebook, the Exchange website will publish contract specifications, terms, and conditions, as well as daily trading volume and open interest for the Contract. Each contract has a dedicated "Market Page" on the Kalshi Exchange platform, which will contain the information described above as well as a link to the Underlying used to determine the Expiration Value of the Contract. Chapter 5 sets forth the rules, regulations and mechanisms for executing transactions, and the rules and specifications for Kalshi's trading systems.

**Core Principle 11 - Financial Integrity of Transactions:** Each Member must be in good standing and in compliance with the Member eligibility standards set forth in Chapter 3 of the Rulebook. All contracts offered by the Exchange, including the Contract, are cleared through the Clearinghouse, a Derivatives Clearing Organization ("DCO") registered with the CFTC and subject to all CFTC Regulations related thereto. The Exchange requires that all trading be fully cash collateralized. As a result, no margin or leverage is permitted, and accounts must be pre-funded. The protection of customer funds is monitored by the Exchange and ensured by the Clearinghouse as "Member Property."

**All Remaining Requirements:** All remaining Core Principles are satisfied through operation of the Exchange's Rules, processes, and policies applicable to the other contracts traded thereon. Nothing in this contract requires any change from current rules, policies, or operational processes.