

Outline of Specifications for 3-Month TONA Futures

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O s a k a E x c h a n g e , I n c .

Item	Overview	Additional information
<p>I. Purpose</p>	<ul style="list-style-type: none"> In light of the growing need for JPY interest rate benchmarks (term risk free rate) against the background of the permanent suspension of the publication of JPY LIBOR at the end of December 2021, OSE will list cash-settled futures contracts linked to a daily cumulative compounded Tokyo Over-Night Average rate (TONA; published by the Bank of Japan) over a 3-month period. These will be called "3-Month TONA Futures." Through these futures, JPX Group aims to provide a wide range of investors with opportunities to trade an interest rate benchmark and pursue the development of a market that maximizes its price-discovery functionality. 	<ul style="list-style-type: none"> TONA is published on the Bank of Japan website.
<p>II. Trading Specifications</p> <p>1. Underlying Benchmark, etc.</p> <p>(1) Underlying Benchmark</p>	<ul style="list-style-type: none"> The underlying benchmark is a financial indicator calculated by subtracting the compounded TONA (the rate (annualized) calculated through daily cumulative compounding of the confirmed TONA from each business day during the Interest Rate Reference Period (for each non-business day, the confirmed TONA for the preceding business day shall apply without compounding)) from 100 (hereinafter referred to as "IMM Index"). 	<ul style="list-style-type: none"> The interest rate shall accrue on the basis of the actual number of days spanned by the Interest Rate Reference Period, divided by a 365-day year. The "100 minus rate" contract pricing method, now widely used by futures exchanges around the globe, is known as the IMM Index method. Example: A TONA rate of 3.75 percent per annum is quoted as an index value

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(2) Interest Rate Reference Period	<ul style="list-style-type: none"> • The Interest Rate Reference Period for compounded TONA will be from the 3rd Wednesday of each contract month to the Tuesday preceding the 3rd Wednesday of the month that falls 3 months later. 	<p>of 96.25 points.</p> <ul style="list-style-type: none"> • The Interest Rate Reference Period will not be moved up or down even if the start or end date is a national holiday. • The month in which the start date of the Interest Rate Reference Period falls is used to indicate the contract month. • For details, please refer to "Annex 1: Indication of Contract Months, Examples of the Trading Schedule and Interest Rate Reference Period, and Examples of the Schedule around Last Trading Day".
<p>2. Trading</p> <p>(1) Trading Sessions and Trading Hours</p>	<ul style="list-style-type: none"> • Trading sessions will be comprised of morning, afternoon and night sessions with the auction trading hours as indicated below. <ul style="list-style-type: none"> A) Morning session <ul style="list-style-type: none"> ➤ Opening auction: 8:45 a.m. ➤ Regular session: From 8:45 a.m. to 11:00 a.m. ➤ Closing auction: 11:02 a.m. 	<ul style="list-style-type: none"> • This is the same as for JGB Futures.

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	<p>B) Afternoon session</p> <ul style="list-style-type: none"> ➤ Opening auction: 12:30 p.m. ➤ Regular session: From 12:30 p.m. to 3:00 p.m. ➤ Closing auction: 3:02 p.m. <p>C) Night session</p> <ul style="list-style-type: none"> ➤ Opening auction: 3:30 p.m. ➤ Regular session: From 3:30 p.m. to 5:55 a.m. the next day ➤ Closing auction: 6:00 a.m. the next day 	
(2) Trading Method	<ul style="list-style-type: none"> • Trading will be conducted on an individual auction basis via the trading system. 	<ul style="list-style-type: none"> • The trading system used will be J-GATE 3.0.
3. Contract Months	<ul style="list-style-type: none"> • 20 contract months of March, June, September and December will be set. • The trading period for each contract month is 5 years. • The last trading day will be the business day prior to the 3rd Wednesday of the three months after each contract month (to be moved up in order if the date falls on a non-business day). • New contract months will start trading in the day session on the business day following the last trading day of the most recent contract month. 	<ul style="list-style-type: none"> • For details, please refer to "Annex 1: Indication of Contract Months, Examples of Trading Schedule and Interest Rate Reference Period, and Examples of the Schedule around Last Trading Day".
4. Contract Size and Bids/Offers, etc. (1) Contract Size	<ul style="list-style-type: none"> • One unit (equivalent to a notional value of JPY 100 million) will be JPY 250,000 multiplied by the IMM 	

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	<p data-bbox="510 252 577 276">Index.</p>	<ul data-bbox="1585 252 2033 635" style="list-style-type: none"> The annualized IMM Index is calculated by compounding the actual number of days in the Interest Rate Reference Period, but each contract month is calculated as exactly 0.25 years (3 months). (100 IMM Index points is equivalent to JPY 25 million, or JPY 100 million x 0.25 years.)
(2) Bids and Offers	<ul data-bbox="472 715 1532 786" style="list-style-type: none"> Market orders and limit orders will be available, and orders must be accompanied by conditions for validity period and execution volume. 	<ul data-bbox="1585 715 2011 834" style="list-style-type: none"> The conditions for validity period and execution volume will be the same as those for JGB Futures.
(3) Tick Size	<ul data-bbox="472 922 860 946" style="list-style-type: none"> The tick size will be 0.0025 points. 	<ul data-bbox="1585 922 2033 1042" style="list-style-type: none"> The minimum price fluctuation will be JPY 625 (= JPY 100 million x 0.0025% x 0.25 years).
(4) Price Limits	<ul data-bbox="472 1129 1554 1303" style="list-style-type: none"> Bids and offers may not be made at prices beyond the price limits on bids/offers. The range for the price limits on bids/offers is 0.25 points from the reference price for calculating this range, centering around the base price (in principle, the settlement price on the previous trading day) (hereinafter referred to as the "price limit range"). 	

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<p>5. Suspension of Trading and Temporary Trading Halt</p> <p>(1) Suspension of Trading</p> <p>(2) Temporary Trading Halt (Circuit Breaker)</p> <p>(3) Immediately Executable Price Range (Dynamic Circuit</p>	<ul style="list-style-type: none"> • In the case where the upper or lower price limit range is expanded when the circuit breaker is triggered, the 1st and 2nd expanded price limit ranges will be 0.5 points and 0.75 points, respectively. • OSE may suspend trading in the following cases: <ul style="list-style-type: none"> a. Where OSE deems the trading conditions to be abnormal; b. Where OSE deems it inappropriate to continue trading from the perspective of trading supervision; or c. Where OSE deems it difficult to continue trading via the trading system due to trading system malfunction, etc. • In the case where a buy (sell) order is placed (or executed) at the upper (lower) price limit for the central contract month, trading in all contract months will be suspended for at least 10 minutes (i.e., circuit breaker). • In the case where the circuit breaker is triggered, the upper (lower) price limit ranges for all contract months will be expanded. • The Immediately Executable Price Range (i.e., dynamic circuit breaker, hereinafter referred to as "DCB") will be applied to each contract month in auction trading as follows. <ul style="list-style-type: none"> a. When a bid or offer that is likely to be executed beyond the price range specified by OSE from the DCB reference price (hereinafter referred to as "DCB Price Range") is accepted, all trades based 	<ul style="list-style-type: none"> • This is the same as for JGB Futures. • This is the same as for JGB Futures. • This is the same as for JGB Futures. • The DCB reference price will be the middle price between the last best bid

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Breaker)	<p>on orders within the DCB Price Range will be executed and trading will be suspended for a certain period of time.</p> <p>b. If trading has been suspended for a certain period pursuant to a. above and the matching price is beyond the DCB Price Range from the current reference price, trading will not resume, the DCB reference price will be renewed to the price within the DCB Price Range that is nearest the matching price, and trading will again be suspended for a certain period of time.</p>	<p>and offer (including the last contract price).</p> <ul style="list-style-type: none"> The DCB Price Range will be 0.025 points, and the duration of the temporary trading halt will, in principle, be 30 seconds. However, the DCB Price Range for the opening session and the closing session will be 0.075 points and 0.05 points, respectively.
6. Restrictions on Trading	<ul style="list-style-type: none"> In the case where OSE deems that trading conditions are, or are likely to be, abnormal, OSE may implement, among the regulatory measures specified by OSE, necessary measures against trading or accepting orders from customers. 	<ul style="list-style-type: none"> This is the same as for JGB Futures.
7. Strategy Trading	<ul style="list-style-type: none"> Strategy trading of 3-Month TONA Futures will be available to trading participants as specified by OSE. The tick size for strategy trading will be 0.0001 points. 	<ul style="list-style-type: none"> Calendar spread trading will be available for a combination of 2 of the nearest 6 contract months. Other trading specifications will be the same as for JGB Futures.
8. J-NET trading	<ul style="list-style-type: none"> J-NET trading of 3-Month TONA Futures will be available to trading participants as specified by OSE. 	<ul style="list-style-type: none"> Other trading specifications will be the

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9. Give-up	<ul style="list-style-type: none"> The tick size for J-NET trading will be 0.0001 points. The price range for J-NET trading will be that obtained by adding/subtracting (1) the value calculated by multiplying five thousandths (5/1000) to the base price for price limits for auction trading to/from (2) the middle price of the last best bids and offers in the trading session as well as the last contract price (excluding contract prices obtained through strategy trading). Give-up will be available for 3-Month TONA Futures. 	<p>same as for JGB Futures.</p> <ul style="list-style-type: none"> This is the same as for JGB Futures.
10. Position Limits and Large Position Reporting	<ul style="list-style-type: none"> Position limits and large position reporting will not apply to 3-Month TONA Futures. 	<ul style="list-style-type: none"> This is the same as for existing cash-settled futures.
11. Trading Participant System (1) Handling of Trading Qualifications	<ul style="list-style-type: none"> Trading participants with a Futures, etc. Trading Qualification or JGB Futures, etc. Trading Qualification will be able to directly trade 3-Month TONA Futures in the OSE market. 	<ul style="list-style-type: none">
III. Clearing and Settlement 1. Clearing Organization 2. Clearing Participant	<ul style="list-style-type: none"> Trades of 3-Month TONA Futures will be cleared by Japan Securities Clearing Corporation (JSCC). The clearing participant qualifications pertaining to clearing of 3-Month TONA Futures will be set 	<ul style="list-style-type: none"> JSCC plans to allow clearing of 3-Month

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Qualification	forth by JSCC.	TONA Futures for those with an existing JGB Futures Clearing Qualification.
3. Clearing and Settlement (1) Declaration of Resale and Repurchase	<ul style="list-style-type: none"> • In the case where a resale or repurchase transaction is executed, clearing participants will make a declaration to JSCC by a time specified by JSCC indicating, for each contract month, the number of closed-out contracts including resale and repurchase transactions, and whether it was conducted based on entrustment by a customer or for a proprietary account. Non-clearing participants will make said declaration to their designated clearing participants by a time specified by each designated clearing participant. However, non-clearing participants will be allowed to make said declaration directly to JSCC as specified by JSCC. 	<ul style="list-style-type: none"> • This is the same as for JGB Futures.
(2) Settlement Price	<ul style="list-style-type: none"> • Settlement prices will be as determined by JSCC. 	
(3) Mark-to-Market	<ul style="list-style-type: none"> • Delivery and receipt of the following differences in amounts will be made between clearing participants and JSCC and between non-clearing participants and their designated clearing participants. <ul style="list-style-type: none"> a. With regard to new transactions on the trading day, the difference between the contract price and the day's settlement price. b. With regard to unsettled contracts (excluding those in a. above), the difference between the previous day's settlement price and the day's settlement price. 	<ul style="list-style-type: none"> • This is the same as for JGB Futures.

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(4) Margin	<ul style="list-style-type: none"> Clearing participants will submit or deposit to JSCC, and non-clearing participants will submit or deposit to their designated clearing participants, margin that is equivalent to or greater than the required amount specified by JSCC in accordance with the classification of customer entrustment or proprietary account. 	<ul style="list-style-type: none"> This is the same as for JGB Futures.
(5) Final Settlement	<ul style="list-style-type: none"> For each contract month, positions for which resale or repurchase transactions were not conducted by the last trading day will be settled based on the final settlement price, on the business day following the day on which said final settlement price is determined. 	<ul style="list-style-type: none"> This is the same as for existing cash-settled futures.
(6) Final Settlement Price	<ul style="list-style-type: none"> The final settlement price will be determined on the business day following the last trading day, and will be 100 minus the annualized rate (R, expressed as a percentage) rounded to 4 decimal places, which is calculated by multiplying the interest rate calculated by daily cumulative compounding of TONA (confirmed) for each business day in the Interest Rate Reference Period* for the relevant contract month by $(365 / \text{actual number of days in the Interest Rate Reference Period})$. (However, if the value calculated this way is negative, it will be the smallest tick size.) For each non-business day, the confirmed TONA value for the preceding business day will apply without compounding. $R = \left\{ \prod_{i=1}^M \left(1 + TONA_i \times \frac{D_i}{365} \right) - 1 \right\} \times \frac{365}{a}$ <p><i>M: Total number of business days during Interest Rate Reference Period for relevant contract month</i></p> <p><i>i: Indicates relevant business day of Interest Rate Reference Period for</i></p>	<ul style="list-style-type: none"> For details, please refer to "Annex 2: TONA Conventions (Calculation Methodology)" and Example of Final Settlement Price & Profit/Loss. However, if the first day of the Interest Rate Reference Period is a non-business day, the formula is as follows: $R = \left\{ \left(1 + TONA_0 \times \frac{D_0}{365} \right) \prod_{i=1}^M \left(1 + TONA_i \times \frac{D_i}{365} \right) - 1 \right\} \times \frac{365}{a}$ <i>TONA₀: Confirmed TONA value for business day prior to first day of</i>

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	<p><i>relevant contract month</i></p> <p><i>TONA_i: Confirmed TONA value for “i”th business day</i></p> <p><i>D_i: Number of calendar days to which TONA_i applies</i></p> <p><i>a: Total number of calendar days in Interest Rate Reference Period</i></p>	<p><i>Interest Rate Reference Period</i></p> <p><i>D₀: Number of consecutive non-business days from first day of Interest Rate Reference Period</i></p>
IV. Other		
1. Trading Fees	<ul style="list-style-type: none"> To be determined. 	
2. Market Maker Scheme	<ul style="list-style-type: none"> A market maker scheme will be introduced to complement market liquidity. 	<ul style="list-style-type: none"> Details will be announced at a later date.
3. Holiday Trading	<ul style="list-style-type: none"> 3-Month TONA Futures will not be eligible for derivatives holiday trading. 	
4. Disclosure of Information	<ul style="list-style-type: none"> Opening/high/low/closing price data, trading volume, open interest, and other market information on 3-Month TONA Futures will be published separately from those on other futures. 	<ul style="list-style-type: none"> This is the same as for other futures.
(1) Market Information		
(2) Trading by Trading Participant	<ul style="list-style-type: none"> The trading volume and open interest per trading participant will not be disclosed. 	

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(3) Trading by Investor Type V. Launch Date	<ul style="list-style-type: none"> • The trading volume and contract value of sales and purchases by different categories of investors will be disclosed separately from those for other futures. • The launch date will be May 29, 2023. 	<ul style="list-style-type: none"> • The frequency and method of disclosure will be the same as for other futures.