DORINCO REINSURANCE COMPANY

NAIC GROUP CODE 0000 — NAIC COMPANY CODE 33499

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS - 2022

1. Overview

This discussion provides an assessment by management of the current financial position, results of operations, cash flow and liquidity for Dorinco Reinsurance Company (Dorinco, the Company) for the year ended December 31, 2022. Information presented in this discussion supplements the financial statements, schedules, and exhibits in the 2022 Annual Statement.

Dorinco is a wholly owned subsidiary of Liana Limited which is ultimately a wholly owned subsidiary of Dow Inc. (Dow). Dorinco issues direct property and liability insurance policies to Dow and certain related companies and participates in property and casualty reinsurance treaties covering Dow or unrelated parties with other insurance companies.

I.1. General

Dorinco maintained its strong financial results in 2022 with a positive underwriting result combined with investment income and realized capital gains during 2022.

Overall, Dorinco's admitted assets decreased from $1.765 billion at year-end 2021 to $1.747 billion at year-end 2022, reflecting the decline in market conditions for investments during the year.

Dorinco's main focus is to provide an efficient vehicle to Dow to manage its risks and to complement it with top quality profitable unrelated business.

No preliminary merger or acquisition negotiations have taken place during the year.

DORINCO REINSURANCE COMPANY, 33499

I. FINANCIAL POSITION

Dorinco's financial position at December 31 was as follows:

	$MILLION 2022	2021
ADMITTED ASSETS		
Bonds	1,354.6	1,360.0
Equity	0.6	0.6
Other Invested Assets	148.9	182.3
Cash/Short Term Investments	115.0	119.9
Premium Balances	91.6	73.3
Funds Held	9.5	7.1
Reinsurance Recoverable on Loss/LAE Payments	6.9	6.3
Net Deferred Taxes	6.9	3.9
Other Assets	13.1	11.9
TOTAL ASSETS	1,747.1	1,765.3
LIABILITIES		
Unpaid Losses/LAE/IBNR	1,021.4	1,042.4
Unearned Premiums	98.2	66.0
Current Federal Income Taxes Payable	4.6	14.9
Ceded Reinsurance Premium Payable	15.0	13.9
Funds Held Under Reinsurance Treaties	2.5	1.5
Provision for Reinsurance	12.3	2.3
Other Liabilities	6.8	10.7
TOTAL LIABILITIES	1,160.8	1,151.7
TOTAL POLICYHOLDER'S SURPLUS	586.3	613.6
LIABILITIES & SURPLUS	1,747.1	1,765.3

IA. ASSETS

Dorinco's year-end 2022 admitted assets decreased $18.2 million as compared with year-end 2021, declining 1.0% during the year. Cash and invested assets decreased by $43.7 million or a decline of 2.6% versus year-end 2021, primarily due to market conditions.

Premium receivables and reinsurance recoverables increased by a combined $21.3 million in 2022 versus 2021 largely due to the timing of premiums written between the years combined with a slight increase in reinsurance recoverables at year end. Premium receivable balances are gross of ceded reinsurance premiums payables of $15.0 million in 2022 and $13.9 million in 2021.

Cash and short-term investments decreased by $4.9 million, other invested assets decreased by $33.4 million and bonds decreased by $5.4 million in 2022, primarily due to a decline in market conditions experienced in 2022.

The goal of Dorinco's investment policy is to maximize its long-term rate of return. Dorinco, via a service contract, utilizes the portfolio management services of Dow's Portfolio Investment group and engages outside investment managers to accomplish the above stated goal. A diversified investment portfolio consisting of fixed income, equities, and alternative investments has traditionally been maintained. In addition, the Company uses currency and interest rate derivatives for income generation and enters into various future contracts with the objective of adjusting fixed income portfolio duration. The investments in derivatives are limited and the positions expire within the quarter of investment. The results are recorded in the Income Statement and are reported in Schedule DB. Dorinco has no off-balance sheet arrangements.

The Company began 2022 with an investment portfolio allocated between domestic and international fixed income assets (82%), other invested assets (11%) and cash and short term investments (7%). The other invested assets portfolio included an allocation to alternative investments (9%) and a loan receivable from the parent (2%). A portion (18%) of the domestic and international fixed assets was invested in higher yield instruments which may carry lower non-investment grade ratings in exchange.

The investment allocations ended the year with similar allocations. The allocation to cash and short term investments maintained at 7%. Domestic and international fixed income represented 84% of the portfolio assets while other invested assets decreased to 9%, with alternative investments decreasing slightly to an allocation of 8% and the loan receivable from the parent decreasing to 1% in 2022. The portion of the domestic and international fixed income assets invested in higher yield instruments decreased slightly to 17% at the end of 2022.

An analysis of the credit quality, as determined by National Association of Insurance Commissioners ("NAIC") designation, of the total fixed income portfolio at December 31, 2022 and 2021, is set forth in the following table:

	$MILLION			
	2022		2021	
NAIC Designation	Carrying Value	% of Total Carrying Value	Carrying Value	% of Total Carrying Value
1	740.2	54.6%	724.9	53.3%
2	380.3	28.1%	385.3	28.3%
Investment Grade	1,120.5	82.7%	1,110.1	81.6%
3	79.0	5.8%	91.4	6.7%
4	76.4	5.6%	91.5	6.7%
5	71.2	5.3%	64.3	4.7%
6	7.5	0.6%	2.7	0.2%
Below Investment Grade	234.1	17.3%	249.9	18.4%
Total	1,354.6	100.0%	1,360.0	100.0%

The Company has non investment grade investments included in its fixed income portfolio totaling $234.1 million and $249.9 million in 2022 and 2021, respectively. The Company applies the same prudent principles in managing its high yield portfolio, emphasizing diversification standards (such as limits on issuer, industry and geographic locations to minimize concentration risks), credit quality and liquidity and manages its aggregate risk exposure to investment risks against an approved strategic risk allocation and other internal limits and guidelines.

During 2022, an after-shock from the trillions of dollars of monetary and fiscal policy accommodation implemented during the Covid-19 pandemic took hold. Inflation hit its highest level in 40 years when the Consumer Price Index (CPI) rose 9.1% year-over-year in June. The CPI decelerated in subsequent months but remained at a multi-decade high of 7.1% in November.

The Federal Reserve hiked its policy rate 425 basis points over seven policy meetings; the fastest pace of rate hikes seen since 1994 in an attempt to tame inflation. The Fed's target rate range of 4.25%–4.50% following its December meeting was the highest since 2007. As of December, the central bank expected short-term rates to eventually peak at 5.1% in 2023, based on the median projection of members of the Federal Open Market Committee.

Economic growth declined in the first and second quarters, before rebounding to a 3.2% annualized rate in the third quarter. Despite consecutive quarters of negative gross domestic product growth, the strong labor market continued to support the economy. In November the unemployment rate was 3.7%, near pre-pandemic lows.

U.S. equities had their worst year since 2008, as persistently high inflation and aggressive rate hikes stoked recession fears. The war in Ukraine also weighed on investors throughout the year. The S&P 500 Index entered its first bear market since 2020 and declined 18% overall. The Nasdaq Composite fared even worse, plummeting 33% as growth stocks lagged. Energy was the top sector in the S&P 500 for the second straight year, climbing 66%. Crude oil prices spiked in March after Russia's invasion of Ukraine upended global oil flows.

U.S. fixed income markets fell across the board and U.S. Treasury yields rose across the curve, which ended the year inverted as shorter dated bonds sold off sharply. The 10-year Treasury yield soared 237 basis points to 3.88%. Investment-grade corporate bonds saw the worst returns. The Bloomberg U.S. Treasury Index lost more than 12% in one of the worst bond market routs in history. The Bloomberg U.S. Corporate Investment Grade Index returned -15.76%, and spreads widened by 38 basis points. Elsewhere, the Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index returned -11.18%, while the Bloomberg Municipal Bond Index returned -8.53%.

Emerging markets stocks tumbled, undercut by China's economic slowdown, the Federal Reserve's aggressive interest rate hikes and the growing strength of the U.S. dollar. Rising inflation in developing countries that spurred monetary tightening and rolling lockdowns in China to suppress COVID-19 also weighed on equity prices. Overall, the MSCI Emerging Markets Index slid 20%. On a regional basis, Latin America bucked the wider selloff. The MSCI Brazil Index advanced on higher commodity prices. In Asia, the MSCI Indonesia Index gained 4%. Indonesia's resource-rich economy benefited from strong exports of commodities.

Central banks in developing countries raised interest rates to combat inflation. Several Asian countries, including Taiwan, Indonesia and the Philippines, joined their Latin American counterparts in adopting tighter monetary policies. Brazil held its benchmark rate steady at 13.75% following a series of rate hikes since March 2021. The Bank of Mexico in December raised its rate to 10.5%, but the size of the increase slowed to 50 basis points from previous hikes of 75 basis points.

Emerging markets debt posted negative returns, hurt by a stronger U.S. dollar, rising rates and slowing global growth. Most currencies in emerging markets fell sharply against the dollar. The Turkish lira plunged 29%, while the Chinese renminbi lost 8% and South African rand shed 6%. Brazil and Mexico were notable exceptions. The Brazilian real rose 6% and the Mexican peso gained 5%.

As the Federal Reserve extended their campaign to combat inflation, short-term interest rates were hiked in what has been the fastest pace of rate hikes since 1994. Collateral damage in the economy was fairly well disguised until March of 2023 when Silicon Valley Bank and Signature Bank failed. Depositors rushed to pull their uninsured deposits from the banks, necessitating rapid and sizable liquidation of the banks' bond portfolios to raise funds sufficient to meet withdrawal requests. Sending shockwaves through the banking system. This is particularly true for regional banks, many of whom are deemed to be small enough to be exempted from the most stringent regulations enacted in 2008 intended to stem further banking shocks. In Europe, a crisis of confidence pushed Credit Suisse into a merger with UBS while the major central banks of the world provided swap lines and backstop liquidity facilities to the global banking system.

The bank failures have the effect of tightening financial conditions, tightening to levels last seen in March of 2020 in the depths of the initial wave of Covid-19 and may spur a hard landing resulting in a recession. At this point, employment statistics have yet to show any sort of rollover.

Many factors shape our strategy and portfolio construction. The company needs to generate enough income to fund operations, reach return targets and ultimately build reserves. Coupon income from the bonds held generates cash flow. Doing so with heavy emphasis on investment grade fixed income allows fairly stable and predictable cash flow even when value of the underlying bonds, which are highly interest-rate sensitive assets, vary with changes in yields.

To help mute the volatility of the portfolios, other less liquid and low correlation alternative assets are held, representing roughly 8% of the portfolio. Alternative assets are cash generative and are underwritten with the expectation that high single-digit or low double-digit internal rates of return are achievable. This helps augment long-term growth of assets without adversely affecting the overall liquidity profile of the portfolio in a material way. Risk-based capital considerations are also prominent in limiting the upper limit of the target allocation.

Another source of positive returns has been our equity derivatives overlay, and that pattern again held true in 2022. On a quarterly basis, we seek to establish synthetic exposure to the equity market via a long position in equity call options (a 'call spread') financed by short put options. The notional size of the put options is intended to be roughly equivalent to 5% of the total portfolio at inception. The tenor of the derivatives is limited so the positions expire within the current quarter, enabling a disciplined approach to quarterly and full-year risk and return targets. Since initiating the strategy at the beginning of 2018, the company has deployed the strategy over 21 consecutive quarters. Ten of those instances resulted in gains, seven resulted in losses and four other quarterly results were neutral. Given the challenging equity markets in 2022, our strategy produced losses in two of the four quarters and gains in the other two. In total, the overlay generated gains of $1.8 million dollars, the second consecutive year of profitable trading.

The fixed income portfolio remains well diversified across asset classes, credit quality and duration with the different allocations each contributing to the portfolio performance (in decreasing order of asset allocation): Aggregate Credit (26% of the portfolio) down 11.9%, Emerging Market Debt (24%) down 16.8%, Long Government/Credit (21%) down 17.1%, and Convertible Debt (20%) down 6.9%. In addition to fixed income the portfolio includes roughly 8% of alternative assets, including private equity, an allocation which finished the year down only 3.7% with the remaining 1% held as a note receivable.

Since 2016, rolling 10-year returns have ranged between 4.8% and 5.6%. The size of the portfolio over that period has averaged just a bit less than $1.5 billion, implying roughly $75 to $85 million dollars of coupon income is being generated annually. The bond sell-off in 2023 drags down the 10-year rolling average return the portfolios have experienced, but by holding the bonds the coupon income continues uninterrupted. This steady flow of income provides short-term liquidity, but also compounds at a rate that exceeds long-term needs in most years.

When we construct the portfolios, we deliberately consider five tiers of liquidity:

- First, cash generation from the portfolio from coupon payments and natural bond maturities is robust and predictable.
- Second, if those resources are insufficient to meet short-term liquidity needs, the most flexible and lowest cost source of funds is to draw on the intercompany loan facility arranged with the parent company, which has a capacity of $150 million.
- If needed, a short- to medium-term source of liquidity utilized as a third layer is the liquidation of investment grade bonds. We maintain positions across the term structure aligned with Aggregate Bond Index and the Long/Gov Credit Index to offer ample choice as to where we might source liquidity through bond sales, if needed.
- A longer-term source of liquidity is layer number four and considers the liquidation of convertible bonds or, if necessary, emerging market debt. In both cases, bonds would be selected for sale on an as needed basis.
- Finally, a fifth layer, though less predictable than other cash generated by the portfolio, is cash generated by the illiquid alternative assets. Though extremely unlikely, in cases of extreme need, the alternative assets themselves could be marketed in a secondary sale.

Assuming a large casualty or natural disaster occurs, the bond portfolio, a well-diversified portfolio of high-quality and liquid investment-grade fixed income instruments, comprises roughly 45-50% of all assets. Asset values as of December 31st totaled roughly $1.5 billion, enabling the company to raise between $650 and $750 million dollars should the need arise. Additionally, the company has immediate access to $150 million dollars of additional liquidity via an intercompany loan facility from the parent, which offers flexibility. Before the third layer of liquidity is utilized, an event of loss would need to exceed $800 to $900 million dollars.

It is notable that even though a natural disaster may prompt a sizable insurance claim to be filed, the chronology of establishing the amount for which the company is liable is develops over several months. The pace at which liquidity must be raised from the investments allows execution of bond and asset sales to be completed with some prudence and patience. This enables the management team, if the need arises, to evaluate trade-offs prior to liquidating other income generating assets invested in Emerging Market bonds as well as Convertible Bonds.

The amount of assets allocated to these two asset classes which comprise the fourth liquidity layer are 40-45% of the aggregate portfolio, providing the opportunity to generate liquidity in the range of $550 to $650 million dollars. Because assets in these market sectors typically offer higher returns than investment grade bonds, and often are significantly more volatile when markets are in duress, these assets are more compelling to retain than to liquidate. But over the long-term, if an unexpected cash need was large enough to necessitate it, these assets can be monetized.

To help mute the volatility of the portfolios, other less liquid and low correlation alternative assets are held, amounting to a roughly 10% of the portfolio. Alternative assets are cash generative and are underwritten with the expectation that high single-digit or low double-digit internal rates of return are achievable. This helps augment long-term growth of assets without adversely affecting the overall liquidity profile of the portfolio in a material way. Risk-based capital considerations are more prominent in driving the upper limit of the allocation size.

IB. LIABILITIES

Loss and loss expense reserves are stated at Dorinco's estimate of the ultimate loss, net of ceded reinsurance recoverables. Included as a reduction to unpaid loss reserves are $422.5 million of recoverables from affiliates Dorintal Reinsurance Limited and Diamond Reinsurance Inc. These balances are fully collateralized by a reinsurance trust. The remaining recoverables are with companies rated A or better by a reputable insurance rating agency or are not material.

The amount of reserves related to reported claims for direct business is based upon a case-by-case estimate determined by the claims professionals employed by Dorinco. Other reserves on other business assumed are based on statements received from ceding companies. Loss and loss expense reserves are not discounted.

The estimate of losses arising from claims which have not yet been reported (IBNR) to Dorinco is based upon management's best judgment; however, the ultimate liability may be in excess of or less than the amounts provided. All unpaid reserves reported and IBNR are certified annually by a qualified independent actuary.

Activity with respect to loss and loss expense reserves for the last two years is detailed below:

	$MILLION	
	2022	2021
Unpaid Losses and Loss Expense at Beginning of Year	1,042.4	947.9
Loss and Loss Expenses Incurred for Current Year	211.3	240.3
Increase (Decrease) in Estimates for Prior Loss Years	(25.3)	(23.7)
Loss and LAE Payments Made in Current Year	(207.0)	(122.1)
Unpaid Losses and Loss Expenses at End of Year	1,021.4	1,042.4

During 2022, Dorinco continued its review of outstanding reserves and, based on loss history, trends, claim reporting activity and analysis of existing claims, it was determined the total reserves were adequate.

Unearned premiums increased from $66.0 million in 2021 to $98.2 million in 2022, primarily driven by a change in timing for gross written premiums for the Company’s policy renewal.

IC. CAPITAL AND SURPLUS ACCOUNTS

There has been no change to the capital stock or paid in and contributed surplus for the last two years.

There were no dividends declared or paid in 2022. Dividends totaling $45 million were declared and paid in 2021.

Policyholder's surplus decreased from $613.6 million at December 31, 2021, to $586.3 million at December 31, 2022. During 2022, the Company generated a profit after tax of $35.6 million from operations. This was combined with a $2.6 million increase in deferred taxes. However, these increases to surplus were offset by $44.2 million in unrealized losses, $11.4 million in decreased non-admitted assets and $9.9 million as a result of changes in provision for reinsurance contributing to an overall decrease in policyholder's surplus of $27.3 million, or 4.4%, during 2022.

II. RESULTS FROM OPERATIONS

Dorinco produced net income of $35.6 million for the year. Earned premiums in 2022 were $247.2 million, as compared with $227.0 million in the previous year. The increase in earned premiums was due mainly to increased reinsurance business written during the year which is expected to continue through 2023.

The underwriting results for 2022 produced a gain of $4.7 million. This gain was increased by net investment income of $37.9 million, which included $8.3 million of net realized capital gains. The Company carried $44.2 million of unrealized capital losses (net of taxes) in a portfolio consisting of $1.6 billion of invested assets. The investment portfolio was split approximately 83.7% fixed income, 9.2% other investments, and 7.1% cash and short term investments at year end 2022.

Cash flow from operations was $19.9 million, decreasing from $108.5 million in 2022, primarily due to a $80.0 million increase in benefit and loss related payments combined with a $21.3 million increase in commissions and other expenses paid, and an increase of $11.1 million in income taxes paid. These decreases in cash were partially offset by a $7.3 million increase in investment and other income and increase of $16.5 million in premiums collected. (see also Cash Flow section below).

The Company continues to add value for policyholders in the related captive segment of its business, which made up approximately 38% of 2022 earned premiums. The unrelated business, making up the remaining balance of 2022 premiums, continues to present opportunities in niche markets in which the Company participates. Dorinco has solidified its position as a niche market for assumed reinsurance, specializing in less volatile lines of business offering predictable and consistent results. The company is well-positioned for the current market cycle. Regional U.S. insurance companies continue to be the Company’s targeted clients.

REINSURANCE PROGRAM

Dorinco participates in an intra group reinsurance plan that utilizes the capacity of each company within the group. Sister companies Dorintal Reinsurance Limited and Diamond Reinsurance Inc. participate as reinsurers (all reserve balances are secured). Separate reinsurance arrangements with commercial insurers and reinsurers exist for the coverage provided to the ultimate parent.

ORGANIZATIONAL PROCESS

The Company utilizes a quantitative pricing model and has taken a ‘hands on’ approach to management of its reserving practices. Effective November 1, 2022, the Company contracted actuarial services from Oliver Wyman replacing the previous arrangement of contracting such services from Marsh. Going forward, Oliver Wyman will interface with the independent consulting actuary appointed by the Board of Directors.

RISK MANAGEMENT OF CATASTROPHE EXPOSURES

Guidelines are established for assumed contracts with catastrophe exposure to include a cap to the limit of liability. Maximum exposure by contract is monitored on a geographic basis. This information is used in establishing underwriting direction and the purchasing of reinsurance. With the reduction in the assumed reinsurance portfolio subject to catastrophe loss, the Company currently relies less on catastrophe modeling of probable maximum loss and more on the monitoring of its exposures on a gross limits exposed basis.

ENTERPRISE RISK MANAGEMENT

The Company utilizes several models, metrics and evaluation methodologies in effectuating enterprise risk management. Insurance risk management techniques include: underwriting, catastrophe management, and reserve adequacy management. Dorinco looks for non-correlation of Dow and third-party risks. Third party risks are mainly U.S.-only exposed, primarily short-tail non-standard auto risks. Geographic exposure accumulation is described under "Risk Management of Catastrophe Exposures." Reserves are established internally by claim, line of business, and/or policy. Reserves are reviewed internally on a quarterly basis and annually by external actuaries. Methodologies used in reserve analysis include: Company loss development, industry loss development, adjusted loss development and Bornheutter Ferguson.

Investment risk management includes setting parameters for asset allocation, volatility appetite, and investment policy. These investment measures are monitored by the Finance Committee and presented to the Board of Directors.

There is a Board-approved delegation of authority for policy underwriting, based upon business type, premium level, and exposure limits. There is an established delegation of authority for claim payments, with larger payments requiring formal review prior to authorization.

Optimization of capital structure is reviewed quarterly. Maximum policy limits and investment risk are monitored at that time. The Finance Committee and Board of Directors meet quarterly; the management team meets monthly, at a minimum. Dorinco leverages its formal disaster recovery program from its ultimate parent.

UNDERWRITING RESULTS

	$MILLION 2022	2021
Underwriting Results:		
Gross premiums written	449.8	339.7
Net premiums written	279.4	235.4
Net premiums earned	247.2	227.0
Loss and loss adjustment expense ratio	75.3%	95.4%
Underwriting expense ratio	19.4%	16.4%
Combined ratio	94.7%	111.8%

Gross premiums written increased to $449.8 million in 2022, from $339.7 million in 2021, primarily due to an increase in both the parent related direct and assumed business as well as assumed business from the unrelated business segment of the Company's business during 2022 in the Company's primary regional target. Net premiums written were impacted by the increased written premiums with a $22.6 million increase in the related business segment for 2022 in addition to a $21.4 million increase in assumed business from the unrelated business segment of the Company's business. Net premiums earned increased primarily in the unrelated business segment of the Company's business.

Dorinco's combined ratio as reported in the Annual Statement for 2022 amounted to 94.7%, a decrease from 111.8% in 2021. Refer to 1B Liabilities.

Dorinco is a part of Dow's consolidated federal income tax return. Dorinco and Dow have entered into a tax allocation agreement whereby Dorinco computes and pays its tax obligation as if separate returns were being filed.

III. CASH FLOW AND LIQUIDITY

CASH FLOW

Primary sources of cash for the Company include cash provided from premiums collected, dividend and interest income, and proceeds from the sale or maturities of invested assets. The cash flows for Dorinco for 2022 and 2021 are summarized below:

	$MILLION	
	2022	2021
Cash Provided by Operations	19.9	108.5
Cash From Investment Activities	(25.6)	(192.2)
Other Cash Used	0.7	(45.2)
Net Change in Cash and Short-Term Investments	(5.0)	(128.9)

Operating cash flow in 2022 was $88.6 million lower than in 2021, primarily due to a $80.0 million increase in benefit and loss related payments combined with a $21.3 million increase in commissions and other expenses paid, and an increase of $11.1 million in income taxes paid. These increases in cash were partially offset by a $7.3 million increase in investment and other income and increase of $16.5 million in premiums collected.

Net cash from investment activities was $166.6 million higher in 2022 mainly due to selling $48.3 million more bonds than acquired during 2022, when compared to 2021 when $303.4 million more bonds were sold than acquired. Other invested assets and miscellaneous investment activity provided $21.1 million and $1.6 million investing cash flow in 2022 when compared to 2021 when $94.7 million and $16.5 million was recorded, respectively.

Other cash used decreased in 2022, primarily due no stockholder's dividend payment in 2022, as compared to $45 million paid in 2021. See also Note 13D to the 2022 Annual Statement.

Dorinco made no significant capital expenditures in 2022.

LIQUIDITY

Dorinco collects and invests premiums written in advance of payments for associated claims. Funds available for investment which exceed the amount required to satisfy liabilities are primarily invested in fixed income, equities and short-term securities.

For 2022 and 2021, Dorinco met its cash needs from internally generated funds. Dorinco does not anticipate any difficulties in meeting its future cash needs.