

**Federal Deposit Insurance Corporation
Board of Governors of the Federal Reserve System**

**Guidance for 2018
§165(d) Annual Resolution Plan Submissions
By Foreign-based Covered Companies that
Submitted
Resolution Plans in July 2015**

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I. INTRODUCTION

This document is intended to provide guidance to the following foreign-based covered companies¹ regarding development of their respective U.S. resolution strategies: Barclays PLC, Credit Suisse Group AG, Deutsche Bank AG, and UBS AG (Foreign-based covered companies or firms). The document describes the expectations of the Board of Governors of the Federal Reserve System (Board) and the Federal Deposit Insurance Corporation (FDIC, and, together with the Board, the Agencies) regarding these firms' 2018 resolution plans (2018 Plan),² and highlights specific areas where additional detail should be provided and where certain capabilities or optionality should be developed to demonstrate that each firm has considered fully, and is able to mitigate, obstacles to the successful implementation of their U.S. resolution strategy.³

The Foreign-based covered companies were last required to file resolution plans on July 1, 2015. Since that date, these firms have undertaken significant restructuring in order to comply with the Board's intermediate holding company (U.S. IHC) requirement⁴ by July 1, 2016. The U.S. IHC requirement is intended to facilitate supervision of the U.S. operations of a foreign bank and application of the requirements of section 165 of the Dodd-Frank Act. Establishment of a U.S. IHC and related actions have affected the firms' resolution plans and

¹ The jointly issued resolution plan implementing regulation, 12 CFR Part 243 and 12 CFR Part 381 (the Resolution Plan Rule), defines "covered company" to include any nonbank financial company supervised by the Board and any company with total consolidated assets of \$50 billion or more that is or is treated as a bank holding company.

² In the event impediments arise that are outside the firm's control (e.g., regulatory approvals) and a firm believes a different schedule for completion is necessary for one or more current or planned future actions, the firm should provide detailed support for that schedule, and the Agencies will determine on a case-by-case basis whether a different schedule is consistent with the requirements of the implementing rules.

³ The *Guidance for 2013 § 165(d) Annual Resolution Plan Submission by Foreign-Based Covered Companies that Submitted Initial Resolution Plans in 2012* (2013 Guidance), the letters that the Agencies provided to the Foreign-based covered companies in August 2014 regarding their 2013 resolution plan submissions (2014 Letters), and the communications the Agencies made to the Foreign-based covered companies in February 2015 clarifying the 2014 Letters (2015 Communications) continue to be applicable (relevant dates should be updated appropriately), except to the extent superseded or supplemented by the provisions of this document.

⁴ 12 CFR 252.153.

strategies. The Foreign-based covered companies have restructured their U.S. operations to move all subsidiaries under the U.S. IHC. U.S. IHCs formed by Foreign-based covered companies are required to comply with capital, liquidity, risk management, and stress testing requirements to improve their resiliency and capital and liquidity risk management. Further, the combined U.S. operations of Foreign-based covered companies (including their branches and agencies) are required to comply with enhanced risk management and liquidity requirements.

The Foreign-based covered companies are required to file their next resolution plans on July 1, 2018. In advance of this date, the Agencies are providing guidance to these firms to assist them in further development of a resolution plan for their U.S. operations. The guidance for Foreign-based covered companies differs in certain respects from the guidance issued in April 2016 for U.S.-based covered companies given the circumstances under which a U.S. resolution plan is most likely to be relevant. The U.S. resolution plan for a Foreign-based covered company would address a scenario where the U.S. operations experience material financial distress and the foreign parent was unable or unwilling to provide sufficient financial support for the continuation of U.S. operations, and at least the U.S. IHC files for Chapter 11 bankruptcy. Under such a scenario, the plan should provide for the orderly resolution of the Foreign-based covered company's U.S. material entities and operations.

This document is organized around a number of key vulnerabilities in resolution (e.g., capital; liquidity; governance mechanisms; operational; legal entity rationalization and separability; and derivatives and trading activities) that apply across resolution plans. Additional vulnerabilities or obstacles may arise based on a firm's particular structure, operations, or resolution strategy. Each firm is expected to satisfactorily address these vulnerabilities in its 2018 Plan — e.g., by developing sensitivity analysis for certain underlying assumptions,

enhancing capabilities, providing detailed analysis, or increasing optionality development, as indicated below.

The Agencies will review the 2018 Plan to determine if it satisfactorily addresses key potential vulnerabilities, including those detailed below. If the Agencies jointly decide that these matters are not satisfactorily addressed in the 2018 Plan, the Agencies may determine jointly that the 2018 Plan is not credible or would not facilitate an orderly resolution under the U.S. Bankruptcy Code.

II. CAPITAL

Resolution Capital Adequacy and Positioning (RCAP): In order to help ensure that a firm's U.S. non-branch material entities⁵ could be resolved in an orderly manner, the firm's U.S. IHC should have an adequate amount of loss-absorbing capacity to execute its U.S. resolution strategy. Thus, a firm's U.S. IHC should hold total loss-absorbing capital, as well as long-term debt, to help ensure that the firm has adequate capacity to meet that need at a consolidated level of the U.S. IHC (IHC TLAC).⁶

A firm's IHC TLAC should be complemented by appropriate positioning of that loss-absorbing capacity between the U.S. IHC and the U.S. IHC subsidiaries. The positioning of a firm's IHC TLAC should balance the certainty associated with pre-positioning internal TLAC directly at U.S. IHC subsidiaries with the flexibility provided by holding recapitalization

⁵ The terms "material entities," "critical operations," and "core business lines" have the same meaning as in the Agencies' Resolution Plan Rule and as clarified in the 2013 Guidance. The Resolution Plan Rule and 2013 Guidance state that a material entity is a subsidiary or office of a covered company that is significant to the activities of a critical operation or core business line. This would include a subsidiary or office that is significant to the maintenance of those activities through resolution. The term "U.S. material entity" means any subsidiary, branch, or agency that is a material entity and is domiciled in the United States. The term "U.S. non-branch material entity" means a material entity organized or incorporated in the U.S. including, in all cases, the U.S. IHC. The term "U.S. IHC subsidiaries" means all U.S. non-branch material entities other than the U.S. IHC.

⁶ 82 FR 8266 (January 24, 2017).

resources at the U.S. IHC (contributable resources) to meet unanticipated losses at the U.S. IHC subsidiaries. That balance should take account of both pre-positioning at U.S. IHC subsidiaries and holding resources at the U.S. IHC, and the obstacles associated with each. The firm should not rely exclusively on either full pre-positioning or U.S. IHC contributable resources to execute its U.S. resolution strategy, unless it has only one U.S. IHC subsidiary that is an operating subsidiary. The plan should describe the positioning of internal TLAC among the U.S. IHC and the U.S. IHC subsidiaries, along with analysis supporting such positioning.

Finally, to the extent that pre-positioned internal TLAC at a U.S. IHC subsidiary is in the form of intercompany debt and there are one or more entities between the lender and the borrower, the firm should ensure that the tenor of instruments is structured in a way that does not create uncertainty related to any provision of financial resources contemplated in the strategy.

Resolution Capital Execution Need (RCEN): To the extent required by the firm's U.S. resolution strategy, U.S. non-branch material entities need to be recapitalized to a level that allows for an orderly resolution. The firm should have a methodology for periodically estimating the amount of capital that may be needed to support each U.S. IHC subsidiary after the U.S. IHC bankruptcy filing (RCEN). The firm's positioning of IHC TLAC should be able to support the RCEN estimates.

The firm's RCEN methodology should use conservative forecasts for losses and risk-weighted assets and incorporate estimates of potential additional capital needs through the resolution period, consistent with the firm's resolution strategy for its U.S. operations. The methodology is not required to produce aggregate losses that are greater than the amount of IHC

TLAC that would be required for the firm under the Board’s final rule.⁷ The RCEN methodology should be calibrated such that recapitalized U.S. IHC subsidiaries have sufficient capital to maintain market confidence as required under the U.S resolution strategy. Capital levels should meet or exceed all applicable regulatory capital requirements for “well-capitalized” status and meet estimated additional capital needs throughout resolution. U.S. IHC subsidiaries that are not subject to capital requirements may be considered sufficiently recapitalized when they have achieved capital levels typically required to obtain an investment-grade credit rating or, if the entity is not rated, an equivalent level of financial soundness. Finally, the methodology should be independently reviewed, consistent with the firm’s corporate governance processes and controls for the use of models and methodologies.

III. LIQUIDITY

The firm should have the liquidity capabilities necessary to execute its U.S resolution strategy, including those described below. For resolution purposes, these capabilities should include having an appropriate model and process for estimating and maintaining sufficient liquidity at — or readily available from the U.S. IHC to — U.S. IHC subsidiaries, and a methodology for estimating the liquidity needed to successfully execute the U.S. resolution strategy, as described below.

Capabilities: A firm is expected to have a comprehensive understanding of funding sources, uses, and risks at material entities and critical operations, including how funding sources may be affected under stress. For example, a firm should have and describe its capabilities to:

⁷ 82 FR 8266 (January 24, 2017).

- Evaluate the funding requirements necessary to perform critical operations, including shared and outsourced services and access to financial market utilities (FMUs);⁸
- Monitor liquidity reserves and relevant custodial arrangements by jurisdiction and material entity;⁹
- Routinely test funding and liquidity outflows and inflows for U.S. non-branch material entities at the legal entity level under a range of adverse stress scenarios, taking into account the effect on intra-day, overnight, and term funding flows between affiliates and across jurisdictions;
- Assess existing and potential restrictions on the transfer of liquidity between U.S. non-branch material entities;¹⁰ and
- Develop contingency strategies to maintain funding for U.S. non-branch material entities and critical operations in the event of a disruption in the Foreign-based covered company's current funding model.¹¹

Resolution Liquidity Adequacy and Positioning (RLAP): With respect to RLAP, the firm should be able to measure the stand-alone liquidity position of each U.S. non-branch material entity — i.e., the high-quality liquid assets (HQLA) at the U.S. non-branch material entity less net outflows to third parties and affiliates — and ensure that liquidity is readily available to meet any deficits. The RLAP model should cover a period of at least 30 days and reflect the idiosyncratic liquidity profile of the U.S. IHC and risk of each U.S. IHC subsidiary. The model should balance the reduction in frictions associated with holding liquidity directly at the U.S. IHC subsidiary with the flexibility provided by holding HQLA at the U.S. IHC or at a U.S. IHC subsidiary available to meet unanticipated outflows at other U.S. IHC subsidiaries.¹² The firm should not rely exclusively on either full pre-positioning or U.S. IHC contributable resources to

⁸ 12 CFR 252.156(g)(3).

⁹ 12 CFR 252.156(g)(2).

¹⁰ *Id.*

¹¹ 12 CFR 252.156(e).

¹² To the extent HQLA is held at the U.S. IHC or at a U.S. IHC subsidiary, the model must consider whether such funds are freely available. To be freely available, the HQLA must be free of legal, regulatory, contractual, and other restrictions on the ability of the material entity to liquidate, sell, or transfer the asset.

execute its U.S. resolution strategy, unless it has only one U.S. IHC subsidiary that is an operating subsidiary.

The model¹³ should ensure that on a consolidated basis the U.S. IHC holds sufficient HQLA to cover net liquidity outflows of the U.S. non-branch material entities. The model should also measure the stand-alone net liquidity positions of each U.S. non-branch material entity. The stand-alone net liquidity position of each U.S. non-branch material entity (HQLA less net outflows) should be measured using the firm's internal liquidity stress test assumptions and should treat inter-affiliate exposures in the same manner as third-party exposures. For example, an overnight unsecured exposure to a non-U.S. affiliate should be assumed to mature. Finally, the firm should not assume that a net liquidity surplus at any U.S. IHC subsidiary that is a depository institution could be moved to meet net liquidity deficits at an affiliate, or to augment U.S. IHC resources, consistent with Regulation W.

Additionally, the RLAP methodology should take into account for each of the U.S. IHC, U.S. IHC subsidiaries, and any branch that is a material entity (A) the daily contractual mismatches between their respective inflows and outflows; (B) their respective daily flows from movement of cash and collateral for all inter-affiliate transactions; and (C) their respective daily stressed liquidity flows and trapped liquidity as a result of actions taken by clients, counterparties, key FMUs, and foreign supervisors, among others.

In calculating its RLAP estimate, the U.S. IHC should calculate its liquidity position with respect to its foreign parent, branches and agencies, and other affiliates (together, affiliates) separately from its liquidity position with respect to third parties, and should not offset inflows

¹³ "Model" refers to the set of calculations required by Regulation YY that estimate the U.S. IHC's liquidity position.

from affiliated parties against outflows to external parties. In addition, a U.S. IHC should use cash-flow sources from its affiliates to offset cash-flow needs of its affiliates only to the extent that the term of the cash-flow source from its affiliates is the same as, or shorter than, the term of the cash-flow need of its affiliates.¹⁴

Resolution Liquidity Execution Need (RLEN): The firm should have a methodology for estimating the liquidity needed after the U.S. IHC's bankruptcy filing to stabilize any surviving U.S. IHC subsidiaries and to allow those entities to operate post-filing, in accordance with the U.S. strategy.

The firm's RLEN methodology should:

- (A) Estimate the minimum operating liquidity (MOL) needed at each U.S. IHC subsidiary to ensure those entities could continue to operate, to the extent relied upon in the U.S. resolution strategy, after implementation of the U.S. resolution strategy and/or to support a wind-down strategy;
- (B) Provide daily cash flow forecasts by U.S. IHC subsidiary to support estimation of peak funding needs to stabilize each entity under resolution;
- (C) Provide a comprehensive breakout of all inter-affiliate transactions and arrangements that could impact the MOL or peak funding needs estimates for the U.S. IHC subsidiaries; and
- (D) Estimate the minimum amount of liquidity required at each U.S. IHC subsidiary to meet the MOL and peak needs noted above, which would inform the provision of financial resources from the foreign parent to the U.S. IHC, or if the foreign parent is unable or unwilling to provide such financial support, any preparatory resolution-related actions.

The MOL estimates should capture U.S. IHC subsidiaries' intraday liquidity requirements, operating expenses, working capital needs, and inter-affiliate funding frictions to ensure that U.S. IHC subsidiaries could operate without disruption during the resolution.

¹⁴ The U.S. IHC should calculate its cash-flow sources from its affiliates consistent with the net internal stressed cash-flow need calculation in section 252.157(c)(2)(iv) of Regulation YY.

The peak funding needs estimates should be projected for each U.S. IHC subsidiary and cover the length of time the firm expects it would take to stabilize that U.S. IHC subsidiary. Inter-affiliate funding frictions should be taken into account in the estimation process.

The firm's forecasts of MOL and peak funding needs should ensure that U.S. IHC subsidiaries could operate through resolution consistent with regulatory requirements, market expectations, and the firm's post-failure strategy. These forecasts should inform the RLEN estimate, i.e., the minimum amount of HQLA required to facilitate the execution of the firm's strategy for the U.S. IHC subsidiaries.

For nonsurviving U.S. IHC subsidiaries, the firm should provide analysis and an explanation of how the material entity's resolution could be accomplished within a reasonable period of time and in a manner that substantially mitigates the risk of serious adverse effects on U.S. financial stability. For example, if a U.S. IHC subsidiary that is a broker-dealer is assumed to fail and enter resolution under the Securities Investor Protection Act (SIPA), the firm should provide an analysis of the potential impacts on funding and asset markets and on prime brokerage clients, bearing in mind the objective of an orderly resolution.

IV. GOVERNANCE MECHANISMS

A firm should identify the governance mechanisms that would ensure that communication and coordination occurs between the boards of the U.S. IHC or a U.S. IHC subsidiary and the foreign parent to facilitate the provision of financial support, or if not forthcoming, any preparatory resolution-related actions to facilitate an orderly resolution.

Playbooks, Foreign Parent Support, and Triggers: Governance playbooks should detail the board and senior management actions of U.S. non-branch material entities that would be needed under the firm's U.S. resolution strategy. The governance playbooks should also include

a discussion of (A) the firm's proposed U.S. communications strategy, both internal and external; (B) the fiduciary responsibilities of the applicable board(s) of directors or other similar governing bodies and how planned actions would be consistent with such responsibilities applicable at the time actions are expected to be taken; (C) potential conflicts of interest, including interlocking boards of directors; (D) any employee retention policy; and (E) any other limitations on the authority of the U.S. IHC and the U.S. IHC subsidiary boards and senior management to implement the U.S. resolution strategy. All responsible parties and timeframes for action should be identified. Governance playbooks should be updated periodically for each entity whose governing body would need to act under the firm's U.S. resolution strategy.

In order to meet liquidity needs at the U.S. non-branch material entities, the firm may either fully pre-position liquidity in the U.S. non-branch material entities or develop a mechanism for planned foreign parent support, of any amount not pre-positioned, for the successful execution of the U.S. strategy. Mechanisms to support readily available liquidity may include a term liquidity facility between the U.S. IHC and the foreign parent that can be drawn as needed and as informed by the firm's RLEN estimates and liquidity positioning. The plan should include analysis of how the U.S. IHC/foreign parent facility is funded or buffered for by the foreign parent. The sufficiency of the liquidity should be informed by the firm's RLAP and RLEN estimates for the U.S. non-branch material entities. Additionally, the plan should include analysis of the potential challenges to the planned foreign parent support mechanism and associated mitigants. Where applicable, the analysis should discuss applicable non-U.S. law and cross-border legal challenges (e.g., challenges related to enforcing contracts governed by foreign law). The analysis should identify the mitigant(s) to such challenges that the firm considers most effective.

The firm should be prepared to increase communication and coordination at the appropriate time in order to mitigate financial, operational, legal, and regulatory vulnerabilities. To facilitate this communication and coordination, the firm should establish clearly identified triggers linked to specific actions for:

- (A) The escalation of information to U.S. senior management, U.S. risk committee and U.S. governing bodies to potentially take the corresponding actions as the U.S. operations experience material financial distress, leading eventually to the decision to implement the U.S. resolution strategy.
 - i. Triggers should identify when and under what conditions the U.S. material entities would transition from business-as-usual conditions to a stress period.
 - ii. Triggers should also take into consideration changes in the foreign parent's condition from business-as-usual conditions through resolution.
- (B) The escalation of information to and discussions with the appropriate governing bodies to confirm whether the governing bodies are able and willing to provide financial resources to support U.S. operations.
 - i. Triggers should be based on the firm's methodology for forecasting the liquidity and capital needed to facilitate the U.S. strategy. For example, triggers may be established that reflect U.S. non-branch material entities' financial resources approaching RCEN/RLEN estimates, with corresponding actions to confirm the foreign parent's financial capability and willingness to provide sufficient support.

Corresponding escalation procedures, actions, and timeframes should be constructed so that breach of the triggers will allow prerequisite actions to be completed. For example, breach of the triggers needs to occur early enough to provide for communication, coordination, and confirmation of the provision of resources from the foreign parent.

Support Within the United States: If the plan provides for the provision of capital and liquidity by a U.S. material entity (e.g., the U.S. IHC) to its U.S. affiliates prior to the U.S. IHC's bankruptcy filing (Support), the plan should also include a detailed legal analysis of the potential state law and bankruptcy law challenges and mitigants to providing the Support. Specifically,

the analysis should identify potential legal obstacles and explain how the firm would seek to ensure that Support would be provided as planned. Legal obstacles include claims of fraudulent transfer, preference, breach of fiduciary duty, and any other applicable legal theory identified by the firm. The analysis also should include related claims that may prevent or delay an effective recapitalization, such as equitable claims to enjoin the transfer (e.g., imposition of a constructive trust by the court). The analysis should apply the actions contemplated in the plan regarding each element of the claim, the anticipated timing for commencement and resolution of the claims, and the extent to which adjudication of such claim could affect execution of the firm's U.S. resolution strategy. The analysis should include mitigants to the potential challenges to the planned Support. The plan should identify the mitigant(s) to such challenges that the firm considers most effective.

Furthermore, the plan should describe key motions to be filed at the initiation of any bankruptcy proceeding related to (as appropriate) asset sales and other non-routine matters.

V. OPERATIONAL

Payment, Clearing, and Settlement Activities: The firm should continue to develop its playbooks related to continued access to payment, clearing, and settlement (PCS) activities in a manner that would support an orderly resolution under its U.S. strategy. The firm should quantify and explain how it would satisfy its relevant obligations and exposures associated with PCS activities. The firm should use volume and value data for each FMU involved in cash, securities, and derivatives markets to identify the key FMUs for critical operations, core business lines, or material entities in the U.S. and describe this analysis in its plan. The firm should describe arrangements to facilitate continued access to all of these key FMUs, including operational and liquidity considerations such as increased margin and collateral requirements and

contingency arrangements. Bearing in mind the objective of an orderly resolution, the firm's analysis of contingency arrangements should include, but not be limited to, pre-positioning of additional liquidity at FMUs, limiting intraday credit provisions to clients, and requiring clients to pre-fund settlement activity. Accordingly, firms should provide clients with transparency into the potential impacts from implementation of the contingency arrangements and consider whether additional actions are appropriate.

Firms are expected to have and describe their capabilities to understand, for each U.S. non-branch material entity, obligations and exposures associated with PCS activities, including contractual obligations and commitments. For example, firms should be able to:

- Track the following items by material entity and location/jurisdiction:
 - PCS activities, with each activity mapped to the relevant material entities and core business lines;¹⁵
 - Customers and counterparties for PCS activities, including values and volumes of various transaction types, as well as used and unused capacity for all lines of credit;¹⁶
 - Exposures to and volumes transacted with FMUs, Nostro agents, and custodians; and¹⁷
 - Services provided and service level agreements for other current agents and service providers (internal and external).¹⁸
- Assess the potential effects of adverse actions by FMUs, Nostro agents, custodians, and other agents and service providers, including suspension or termination of membership or services, on the U.S. operations and customers and counterparties;¹⁹
- Develop contingency arrangements in the event of such adverse actions,²⁰ and

¹⁵ 12 CFR 243.4(e)(12).

¹⁶ *Id.*

¹⁷ 12 CFR 252.156(g).

¹⁸ 12 CFR 243.4(f)(1)(i).

¹⁹ 12 CFR 252.156(e).

²⁰ *Id.*

- Quantify the liquidity needs and operational capacity required to meet all PCS obligations, including any change in demand for and sources of liquidity needed to meet such obligations.

Managing, Identifying, and Valuing Collateral: The firm is expected to have and describe its capabilities to manage, identify, and value the collateral that the U.S. non-branch material entities receive from and post to external parties and affiliates. Specifically, at the time of the submission of the 2018 Plan, the firm should:

- Be able to query and provide aggregate statistics for all qualified financial contracts concerning cross-default clauses, downgrade triggers, and other key collateral-related contract terms — not just those terms that may be impacted in an adverse economic environment — across contract types, business lines, legal entities, and jurisdictions;
- Be able to track both firm collateral sources (i.e., counterparties that have pledged collateral) and uses (i.e., counterparties to whom collateral has been pledged) at the CUSIP level on at least a t+1 basis;
- Have robust risk measurements for cross-entity and cross-contract netting, including consideration of where collateral is held and pledged;
- Be able to identify CUSIP and asset class level information on collateral pledged to specific central counterparties by legal entity on at least a t+1 basis;
- Be able to track and report on interbranch collateral pledged and received on at least a t+1 basis and have clear policies explaining the rationale for such inter-branch pledges, including any regulatory considerations; and
- Have a comprehensive collateral management policy that outlines how the firm as a whole approaches collateral and serves as a single source for governance.²¹

In addition, as of the conclusion of any business day, the firm should be able to:

- Identify the legal entity and geographic jurisdiction where counterparty collateral is held;
- Document all netting and re-hypothecation arrangements with affiliates and external parties, by legal entity; and

²¹ The policy may reference subsidiary or related policies already in place, as implementation may differ based on business line or other factors.

- Track and manage collateral requirements associated with counterparty credit risk exposures between affiliates, including foreign branches.

At least on a quarterly basis, the firm should be able to:

- Review the material terms and provisions of International Swaps and Derivatives Association Master Agreements and the Credit Support Annexes, such as termination events, for triggers that may be breached as a result of changes in market conditions;
- Identify legal and operational differences and potential challenges in managing collateral within specific jurisdictions, agreement types, counterparty types, collateral forms, or other distinguishing characteristics; and
- Forecast changes in collateral requirements and cash and non-cash collateral flows under a variety of stress scenarios.

Management Information Systems: The firm should have the management information systems (MIS) capabilities to readily produce data on a U.S. legal entity basis (including any U.S. branch) and have controls to ensure data integrity and reliability, as described below. The firm should allocate the requisite technical and project management resources to complete MIS infrastructure projects by 2018, including instituting a robust governance and accountability framework and executing detailed project plans, evaluating project interdependencies and prioritization among projects. The firm also should perform a detailed analysis of the specific types of financial and risk data that would be required to execute the U.S. resolution strategy and how frequently the firm would need to produce the information, with the appropriate level of granularity.

A firm is expected to have and describe capabilities to produce the following types of information by material entity on a timely basis:

- Financial statements for each material entity (at least monthly);
- External and inter-affiliate credit exposures, both on- and off-balance sheet, by type of exposure, counterparty, maturity, and gross payable and receivable;

- Gross and net risk positions with internal and external counterparties;
- Guarantees, cross holdings, financial commitments and other transactions between material entities;
- Data to facilitate third-party valuation of assets and businesses, including risk metrics;
- Key third party contracts, including the provider, provider's location, service(s) provided, legal entities that are a party to or a beneficiary of the contract, and key contractual rights (for example, termination and change in control clauses);
- Legal agreement information, including parties to the agreement and key terms and interdependencies (for example, change in control, collateralization, governing law, termination events, guarantees, and cross-default provisions);
- Service level agreements between affiliates, including the service(s) provided, the legal entity providing the service, legal entities receiving the service, and any termination/transferability provisions;
- Licenses and memberships to all exchanges and value transfer networks, including FMUs;
- Key management and support personnel, including dual hatted employees, and any associated retention agreements;
- Agreements and other legal documents related to property, including facilities, technology systems, software, and intellectual property rights. The information should include ownership, physical location, where the property is managed and names of legal entities and lines of business that the property supports; and
- Updated legal records for domestic and foreign entities, including entity type and purpose (for example, holding company, bank, broker dealer, and service entity), jurisdiction(s), ownership, and regulator(s).

Shared and Outsourced Services: The firm should continue developing a fully actionable implementation plan to ensure the continuity of shared services that support critical operations²² and robust arrangements to support the continuity of shared and outsourced services. If a material entity provides shared services that support critical operations²³, and the continuity of

²² “Shared services that support critical operations” or “critical shared services” are those that support critical operations conducted in whole or in material part in the United States.

²³ This should be interpreted to include data access and intellectual property rights.

these shared services relies on the assumed cooperation, forbearance, or other non-intervention of regulator(s) in any jurisdiction, the 2018 Plan should discuss the extent to which the resolution or insolvency of any other group entities operating in that same jurisdiction may adversely affect the assumed cooperation, forbearance, or other regulatory non-intervention. If a material entity providing shared services that support critical operations is located outside of the United States, the 2018 Plan should discuss how the firm will ensure the operational continuity of such shared services through resolution.

By the submission of the plan, the firm should (A) identify all shared services that support critical operations; (B) maintain a mapping of how/where these services support U.S. core business lines and critical operations; (C) incorporate such mapping into legal entity rationalization criteria and implementation efforts; and (D) mitigate identified continuity risks through establishment of service-level agreements (SLAs) for all critical shared services.

SLAs should fully describe the services provided, reflect pricing considerations on an arm's-length basis where appropriate, and incorporate appropriate terms and conditions to (A) prevent automatic termination upon certain resolution-related events and (B) achieve continued provision of such services during resolution.²⁴ The firm should also store SLAs in a central repository or repositories located in or immediately accessible from the U.S. at all times, including in resolution (and subject to enforceable access arrangements) in a searchable format. In addition, the firm should ensure the financial resilience of internal shared service providers by maintaining working capital for six months (or through the period of stabilization as required in the firm's U.S. resolution strategy) in such entities sufficient to cover contract costs, consistent

²⁴ The firm should consider whether these SLAs should be governed by the laws of a U.S. state and expressly subject to the jurisdiction of a court in the U.S.

with the U.S. resolution strategy. The firm should demonstrate that such working capital is held in a manner that ensures its availability for its intended purpose.

The firm should identify all service providers and critical outsourced services that support critical operations and identify any that could not be promptly substituted. The firm should (A) evaluate the agreements governing these services to determine whether there are any that could be terminated upon commencement of any resolution despite continued performance; and (B) update contracts to incorporate appropriate terms and conditions to prevent automatic termination upon commencement of any resolution proceeding and facilitate continued provision of such services. Relying on entities projected to survive during resolution to avoid contract termination is insufficient to ensure continuity. In the plan, the firm should document the amendment of any such agreements governing these services. The 2018 Plan must also discuss arrangements to ensure the operational continuity of shared services that support critical operations in resolution in the event of the disruption of those shared services.

A firm is expected to have robust arrangements in place for the continued provision of shared or outsourced services needed to maintain critical operations. For example, firms should:

- Evaluate internal and external dependencies and develop documented strategies and contingency arrangements for the continuity or replacement of the shared and outsourced services that are necessary to maintain critical operations.²⁵ Examples may include personnel, facilities, systems, data warehouses, and intellectual property; and
- Maintain current cost estimates for implementing such strategies and contingency arrangements.

Qualified Financial Contracts: The plan should reflect the current state of how the early termination of qualified financial contracts (QFCs) could impact the resolution of the firm's U.S. operations. Specifically, the plan is expected to reflect the firm's progress in implementing the

²⁵ 12 CFR 243.4(g).

applicable domestic and foreign requirements regarding contractual stays in QFCs as of the date the firm submits its plan or as of a specified earlier date. The firm may also separately discuss the impact on the resolution, assuming: (1) the “Regulatory Compliance Date” (as defined in the ISDA 2015 Universal Resolution Stay Protocol) has occurred and Section 2 of the Universal Protocol is effective, and (2) all external counterparties of the firm’s entities that are “Adhering Parties” (also as defined in the protocol) are also “Adhering Parties.”

VI. BRANCHES

Mapping: For each U.S. branch that is a material entity, the 2018 Plan should identify and map the financial and operational interconnections to critical operations, core business lines, and other material entities. The mapping should also identify any interconnections that, if disrupted, would materially affect critical operations, core business lines, or U.S. non-branch material entities, or the U.S. resolution strategy.

Continuity of Operations: If the 2018 Plan assumes that federal or state regulators, as applicable, do not take possession of any U.S. branch that is a material entity, the 2018 Plan must support that assumption.

For any U.S. branch that is significant to the activities of a critical operation, the 2018 Plan should describe and demonstrate how the branch would continue to facilitate FMU access for critical operations and meet funding needs. Such a U.S. branch would also be required to describe how it would meet supervisory requirements imposed by state regulators or the appropriate Federal banking agency, as appropriate, including maintaining a net due to position and complying with heightened asset maintenance requirements.²⁶ In addition, the plan should

²⁶ Firms should take into consideration historical practice, by applicable regulators, regarding asset maintenance requirements imposed during stress.

describe how such U.S. branch's third-party creditors would be protected such that the state regulator or appropriate Federal banking agency would allow the branch to continue operations.

To maintain appropriate liquidity for the purposes of resolution planning, a firm should maintain a liquidity buffer sufficient to meet the net cash outflows for its U.S. branches and agencies on an aggregate basis for the first 14 days of a 30-day stress horizon. In determining the aggregate need of the branches and agencies, the firm should calculate its liquidity position with respect to its foreign parent, U.S. IHC, and other affiliates separately from its liquidity position with respect to external parties, and cannot offset inflows from affiliated parties against outflows to external parties. In addition, a firm may use cash-flow sources from its affiliates to a branch or agency to offset cash-flow needs of its affiliates from a branch or agency only to the extent that the term of the cash-flow source from the affiliates is the same as, or shorter than, the term of the cash-flow need of the affiliate. This assumption addresses the scenario where the head office may be unable or unwilling to return funds to the branch or agency when those funds are most needed.

Impact of the Cessation of Operations: The firm must provide an analysis of the impact of the cessation of operations of any U.S. branch that is significant to the activities of a critical operation on the firm's FMU access and critical operations, even if such scenario is not contemplated as part of the U.S. resolution strategy. The analysis should include a description of how critical operations could be transferred to a U.S. IHC subsidiary or sold in resolution, the obstacles presented by the cessation of shared services that support critical operations provided by any U.S. branch that is a material entity, and mitigants that could address such obstacles in a timely manner.

VII. GROUP RESOLUTION PLAN

Consistent with the Resolution Plan Rule, a firm's resolution plan should include a detailed explanation of how resolution planning for the subsidiaries, branches and agencies, and critical operations and core business lines of the Foreign-based covered company that are domiciled in the United States or conducted in whole or material part in the United States is integrated into the Foreign-based covered company's overall contingency planning process. In particular, the plan should describe the impact on U.S. operations of executing the global plan.

VIII. LEGAL ENTITY RATIONALIZATION AND SEPARABILITY

Legal Entity Rationalization Criteria (LER Criteria): A firm should develop and implement legal entity rationalization criteria that support the firm's U.S. resolution strategy and minimize risk to U.S. financial stability in the event of resolution. LER Criteria should consider the best alignment of legal entities and business lines to improve the resolvability of U.S. operations under different market conditions. LER Criteria should govern the corporate structure and arrangements between the U.S. subsidiaries and U.S. branches in a way that facilitates resolvability of the firm's U.S. operations as the firm's U.S. activities, technology, business models, or geographic footprint change over time.

Specifically, application of the criteria should:

- (A) Ensure that the allocation of activities across the firm's U.S. branches and U.S. non-branch material entities support the firm's U.S. resolution strategy and minimize risk to U.S. financial stability in the event of resolution;
- (B) Facilitate the recapitalization and liquidity support of U.S. IHC subsidiaries, as required by the firm's U.S. resolution strategy. Such criteria should include clean lines of ownership and clean funding pathways between the foreign parent, the U.S. IHC, and U.S. IHC subsidiaries;
- (C) Facilitate the sale, transfer, or wind-down of certain discrete operations within a timeframe that would meaningfully increase the likelihood of an orderly resolution in

the United States, including provisions for the continuity of associated services and mitigation of financial, operational, and legal challenges to separation and disposition;

(D) Adequately protect U.S. subsidiary insured depository institutions from risks arising from the activities of any nonbank U.S. subsidiaries (other than those that are subsidiaries of an insured depository institution); and

(E) Minimize complexity that could impede an orderly resolution in the United States and minimize redundant and dormant entities.

These criteria should be built into the firm's ongoing process for creating, maintaining, and optimizing the firm's U.S. structure and operations on a continuous basis.

Separability: The firm should identify discrete U.S. operations that could be sold or transferred in resolution, which would provide optionality in resolution under different market conditions. The firm should conduct analyses to facilitate buyer due diligence and include carve-out financial statements, valuation analysis, and a legal risk assessment. Further, the firm should establish a data room to collect and refresh annually the analyses above, as well as other information pertinent to a potential divestiture of the business.

Within the plan, the firm should demonstrate how the firm's LER Criteria and implementation efforts meet the guidance above. The plan should also provide the separability analysis noted above. Finally, the plan should include a description of the firm's legal entity rationalization governance process.

IX. DERIVATIVES AND TRADING ACTIVITIES

The resolution of a U.S. IHC subsidiary with a large derivatives portfolio raises a number of significant issues. A Foreign-based covered company's plan should address the following areas.

Capabilities: A Foreign-based covered company should have the ability to provide timely transparency into the risks associated with derivatives trading, including on a legal entity basis, by U.S. broker-dealers, banks, and other derivatives trading entities. Specifically, a Foreign-based covered company should have well-developed derivatives booking practices with strong systems capabilities to track and monitor market, credit, and liquidity risk transfers between legal entities.

In addition, a Foreign-based covered company should have the operational capacity to facilitate the orderly transfer of prime brokerage accounts to peer prime brokers. The firm should include an assessment of how it would transfer such accounts. This assessment should be informed by clients' relationships with other prime brokers, use of automated and manual transaction processes, clients' overall long and short positions facilitated by the firm, and the liquidity of clients' portfolios. The assessment should also analyze the risks of and mitigants to asymmetric unwinding of positions, operational challenges, and insufficient staffing to effectuate the scale and speed of prime brokerage account transfers envisioned under the firm's U.S. resolution strategy.

To the extent the U.S. strategy assumes the continuation of a U.S. IHC subsidiary with a derivatives portfolio after the entry of the U.S. IHC into a U.S. bankruptcy proceeding, the plan should address the following areas:

Stabilization: A Foreign-based covered company should have well-developed rating agency playbooks to facilitate the stabilization of each trading entity as required by the U.S. resolution strategy. The playbooks should include maintaining, reestablishing, or establishing investment grade ratings or the equivalent for each trading entity. In addition, the firm should

have communication playbooks for clients, regulators, key FMUs, and clearing and settlement agent banks.

Passive Wind-Down Analysis: A Foreign-based covered company should estimate the financial resources required to support a passive run-off of the trading book in the event that investment-grade ratings for the trading entities are not maintained or reestablished following the implementation of the U.S. resolution strategy. The firm should assume that entities cannot access bilateral over-the-counter (OTC) markets and that hedging is limited to exchange-traded and centrally-cleared instruments. A firm's estimates should be sensitive to the magnitude and nature of basis risks that would result from hedging with only exchange-traded and centrally-cleared instruments in a severely adverse stress environment. The analysis should include estimated resource needs over time, until the point of total run-off or when resources are depleted. If resources are depleted before total run-off, the firm should analyze the systemic risk profile of the portfolio that remains at the end of the passive wind-down period (i.e., the residual portfolio), including its size, composition, complexity, and potential counterparties. The losses and liquidity required to support the passive wind-down analysis should be incorporated into the firm's resolution capital and liquidity execution needs estimates.

Active Wind-Down Analysis: In addition to the passive wind-down analysis, a Foreign-based covered company should estimate the financial resources required to support an orderly and active wind-down of the derivatives portfolio. A Foreign-based covered company should provide detailed active wind-down estimates as per the tables in the Appendix, along with an accompanying narrative describing at least one pathway for segmenting, packaging, and winding down the derivatives portfolio. The pathway and data should take into account:

- The nature, concentration, maturity, and liquidity of derivatives positions;

- The proportion of centrally-cleared versus uncleared derivatives;
- The anticipated size, composition, and complexity of the portfolio at the end of the wind-down period (i.e., the residual portfolio);
- Challenges with novating less liquid, longer-dated derivatives; and
- The costs and challenges of obtaining timely consents from counterparties and potential acquirers (step-in banks).

The losses and liquidity required to support the active wind-down analysis should be incorporated into the firm's resolution capital and liquidity execution needs estimates.

Residual Derivatives Portfolio: Bearing in mind the objective of an orderly resolution, Foreign-based covered companies' plans should include analysis of the risk profile of the portfolio that remains at the end of the active wind-down period and that the firm would cease performing on (i.e., the residual portfolio), including its size, composition, complexity, and potential counterparties. The firm should assume that under an active wind-down scenario, material entities would have access only to listed and centrally-cleared financial instruments to manage the trading portfolio through the wind-down process.

Nonsurviving Entities: To the extent the U.S. strategy assumes a U.S. IHC subsidiary with a derivatives portfolio does not survive after the entry of the U.S. IHC into a U.S. bankruptcy proceeding (i.e., enters a SIPA proceeding), the firm should provide an analysis and an explanation of how the entity's resolution can be accomplished within a reasonable period of time and in a manner that substantially mitigates the risk of serious adverse effects on U.S. financial stability. The firm should provide an analysis of the potential impacts on funding and asset markets and on prime brokerage clients, bearing in mind the objective of an orderly resolution. The firm should also include analysis of the risk profile of the derivatives portfolio

that remains when the entity enters a proceeding, including its size, composition, complexity, and potential counterparties.

X. PUBLIC SECTION

The purpose of the public section is to inform the public's understanding of the firm's resolution strategy and how it works.

The public section should discuss the steps that the firm is taking to improve resolvability under the U.S. Bankruptcy Code. The public section should provide background information on each material entity and should be enhanced by including the firm's rationale for designating material entities. For each material entity, it should be clear how the strategy provides for continuity, transfer, or orderly wind-down of the entity and its operations. There should also be a description of the resulting organization upon completion of the resolution process.

The public section should also discuss, at a high level, the firm's intra-group financial and operational interconnectedness (including the types of guarantees or support obligations in place that could impact the execution of the firm's strategy). There should also be a high-level discussion of the liquidity resources and loss-absorbing capacity of the U.S. IHC.

The public section may note that the resolution plan is not binding on a bankruptcy court or other resolution authority and that the proposed failure scenario and associated assumptions are hypothetical and do not necessarily reflect an event or events to which the firm is or may become subject.

Instructions for Preparation of

Appendix Derivative Data Tables

General Instructions

Purpose

To provide estimates related to the active wind down of reporting firms' derivatives portfolios for Title 1 resolution planning purposes.

Organization of Schedules

Schedule A – To summarize the data captured in Schedule B.

Schedule B – To capture starting and ending notional and fair value derivatives data by material entity, as well as drivers of changes, capital and liquidity impacts from wind-down, and select inter-affiliate exposures.

Schedule C – To comprehensively capture inter-affiliate exposures between material entities across several dimensions as of the start of plan date.

Key definitions

Bilateral – Refers to over-the-counter derivatives (OTC) that are not listed or cleared through a central counterparty.

Cleared – Refers to derivatives that are listed on an exchange or cleared through a central counterparty (CCP). Firms may include derivatives that are eligible for clearing but are not currently centrally cleared in this category but should footnote the amount included.

Gross Notional – Firms should utilize the definition from Schedule HC-L Derivatives and Off-Balance-Sheet Items of Reporting Form FR Y-9C Consolidated Financial Statements for Holding Companies. Figures should be reported in \$ billions.

Gross Positive/Negative Fair Value – Estimates of fair value should be consistent with those used in Form FR Y-9C Consolidated Financial Statements for Holding Companies. Gross

positive/negative fair values should be reported without taking into account netting and collateral received/posted. Figures should be reported in \$ billions.

Liquidity Impacts – Estimates of net liquidity impacts over the relevant period should be reported in \$ billions with net liquidity inflows shown as positive and net liquidity outflows shown as negative.

Material Entity – The definition of a material entity for this data appendix is the same as it is for firms' Title 1 resolution plans.

P&L Impacts – Estimates of gains or losses over the relevant period should be reported in \$ billions with gains shown as positive and losses as negative.

Runway Period – For this data appendix, the runway period should commence with the start of plan date and end with the U.S. IHC filing for bankruptcy.

Start of Plan Date – The start of plan date should correspond with the “trigger loss” and the commencement of the runway period in firms' resolution plans. For firms' 2018 Plan submissions, firms should utilize December 31, 2017 as their start of plan date.

U.S. Non-Branch Material Entity – means a material entity organized or incorporated in the U.S. including, in all cases, the U.S. IHC. Firms should report data for all U.S. non-branch material entities that are contractual counterparties to derivatives contracts and have active derivative positions as of the start of plan date. U.S. non-branch material entities should be listed in descending order by total gross notional outstanding as of the start of plan date. This ordering should be maintained for all schedules in this data appendix.

Wind-Down Period – For this data appendix, the wind-down period should commence upon the U.S. IHC filing for bankruptcy and end when the firm estimates that it would no longer need to perform on its derivatives obligations. As such, the wind-down period here should include any “stabilization” and post-stabilization period, to the extent such a phase may feature in a firm's plan. The wind-down period should be no shorter than 12 months and no longer than 18 months. Firms may select the duration of their wind-down period within those constraints.

**Board of Governors of the Federal Reserve System
Federal Deposit Insurance Corporation**

Title 1 Plan—Appendix Derivative Data Tables

Start of Plan Date: _____
Month / Day / Year

Company Information

Legal Name of Entity _____
Street _____
City _____ State _____ Zip Code _____

Person to whom questions about this report should be directed:

Name _____
Title _____
Area Code/Phone Number _____
Area Code/FAX Number _____
E-mail Address of Contact _____

Schedule B—General OTC Derivatives Volume

Table 1.A—All OTC Derivatives (Sum of Table 1.B and Table 1.C)

Unique Row Identifier	Start Balance as of [Date per Title 1 Plan]										Terminations in Runway			Maturing Derivatives in Runway	
	By U.S. Non-Branch Material Entities		By Trading Unit or Product		Total Gross Notional		Gross Positive Market Value		Gross Negative Market Value		Terminations Gross Notionals	Total P&L (Losses) from Terminations	Liquidity Impact from Terminations	Maturing Gross Notionals	Liquidity Impact from Maturing Contracts
	Cleared	Bilateral	Cleared	Bilateral	Cleared	Bilateral	Cleared	Bilateral							

Table 1.A—Continued

Unique Row Identifier	By U.S. Non-Branch Material Entities	By Trading Unit or Product	Maturing Derivatives in Wind Down				Novations in Wind Down			Other Actions (Specify) in Wind-Down			End of Wind Down		
			Maturing Gross Notionals	Liquidity Impact from Maturing Contracts	Novations Gross Notional	P&L Impact from Novations	Liquidity Impact from Novations	Other Actions (Specify) Notional	P&L Impact from Other Actions (Specify)	Liquidity Impact from Other Actions (Specify)	Ending Gross Notional	Cleared	Bilateral		

Table 1.B¹— Of which Third Party OTC Derivatives (same format as Table 1.A)

Table 1.C²— Of which Inter-affiliate OTC Derivatives (same format as Table 1.A)

¹ Table 1B = The U.S. non-branch material entity's gross derivative transactions with all third parties (in aggregate).

² Table 1C = The U.S. non-branch material entity's gross derivative transactions with affiliates (in aggregate).

Schedule B—Continued

Tables 1.C1 through 1.Cx must be completed by specific entities only, specifically: 1) the inter-affiliate derivative transactions between the U.S. bank subsidiary and the UK broker-dealer and 2) the U.S. bank subsidiary and other material entities, such as unregulated capital services subsidiaries or firm sponsored SPV.³

Table 1.C1—Inter-affiliate OTC Derivatives Between Bank and UK Broker-Dealer

From Bank Perspective		Start Balance as of [Date per Title 1 Plan]				Terminations in Runway				Maturing Derivatives in Runway			
Unique Row Identifier	UK-Broker Dealer	By Trading Unit or Product	Total Gross Notional		Gross Positive Market Value		Gross Negative Market Value		Terminations Gross Notionals	Total P&L (Losses) from Terminations	Liquidity Impact from Terminations	Maturing Gross Notionals	Liquidity Impact from Maturing Contracts
			Cleared	Bilateral	Cleared	Bilateral	Cleared	Bilateral					

Table 1.C1—Continued

From Bank Perspective		Maturing Derivatives in Wind Down			Novations in Wind Down			Other Actions (Specify) in Wind-Down			End of Wind Down	
Unique Row Identifier	UK-Broker Dealer	By Trading Unit or Product	Maturing Gross Notionals	Liquidity Impact from Maturing Contracts	Novations Gross Notional	P&L Impact from Novations	Liquidity Impact from Novations	Other Actions (Specify) Notional	P&L Impact from Other Actions (Specify)	Liquidity Impact from Other Actions (Specify)	Ending Gross Notional	
											Cleared	Bilateral

Table 1.C2—Inter-affiliate OTC Derivatives Between Bank and Other Material Entity (ME-2) (same format as Table 1.C1)

Table 1.C3—Inter-affiliate OTC Derivatives Between Bank and Other Material Entity (ME-3) (same format as Table 1.C1)

³ Note: if there are "other" categories not captured in the novation, compression, terminations, and maturing derivatives categories in the example table, please add and specify.

Table 1.Cx—Inter-affiliate OTC Derivatives Between Bank and Other Material Entity (ME-x) (same format as Table 1.C1)

Schedule C—Inter-affiliate Exposures

The lower triangle should be from the perspective of the U.S. Non-Branch MEs listed on column to the MEs listed in the rows.

Matrix 1.a—Gross Notional of Inter-affiliate OTC Derivatives Trade (Start of Title 1 Plan Date)

	NB ME-1	NB ME-2	NB ME-3	NB ME-4	NB ME-5	NB ME-6	NB ME-7	NB ME-8	NB ME-9	NB ME-10	etc....
ME-1											
ME-2											
ME-3											
ME-4											
ME-5											
ME-6											
ME-7											
ME-8											
ME-9											
ME-10											
etc....											

Matrix 1.b—Gross Notional of Inter-affiliate OTC Derivatives Trade (End of Wind-Down)

	NB ME-1	NB ME-2	NB ME-3	NB ME-4	NB ME-5	NB ME-6	NB ME-7	NB ME-8	NB ME-9	NB ME-10	etc....
ME-1											
ME-2											
ME-3											
ME-4											
ME-5											
ME-6											
ME-7											
ME-8											
ME-9											
ME-10											
etc....											

Matrix 2.a – Uncollateralized Current Exposure from Inter-affiliate OTC Derivatives (Start of Plan Date) (same format as Matrix 1.a)

**Matrix 2.b – Uncollateralized Current Exposure from Inter-affiliate OTC Derivatives, Gross of Collateral (End of Wind-Down)
(same format as Matrix 1.b)**

**Matrix 3.a – Net Collateralized Current Exposure from Inter-affiliate OTC Derivatives (Start of Plan Date) (same format as Matrix
1.a)**

**Matrix 3.b – Net Collateralized Current Exposure from Inter-affiliate OTC Derivatives (End of Wind-Down) (same format as Matrix
1.b)**