



Central Counterparty (CCP) Risk Management Course: Margin Models, Default Waterfall and PFMI



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Introduction:

Central counterparty CCP risk management, covering margin models, the default waterfall and PFMI, is a 2-week course for clearing house risk, default management, liquidity and oversight units that ends with a CCP Risk Framework and PFMI Self-Assessment Plan for a case clearing house. Clearing houses face uncovered losses and supervisory findings when margin parameters, default fund sizing and liquid resources drift apart from the portfolios they protect. Nominees already calibrate, monitor or assess clearing risk, and learning is by modelling build on margin, stress and waterfall worksheets. CoreConcept Training Center delivers this CCP risk management course.

Course Objectives:

- Explain how novation, multilateral netting and membership models move counterparty risk onto a CCP and shape its financial resource needs
- Calculate initial margin with scanning, VaR and expected shortfall models and test it through backtesting and anti-procyclicality tools
- Size the default fund under Cover 1 and Cover 2 stress tests and order the default waterfall, including CCP skin in the game
- Measure liquidity needs against qualifying liquid resources under member default and settlement bank stress
- Run default management and recovery steps, including hedging, auctions, client porting, cash calls and tear-up
- Produce a PFMI self-assessment and quantitative disclosure set within a CCP Risk Framework and PFMI Self-Assessment Plan

Target Audience:

- Clearing house risk units responsible for margin model calibration, parameter review and backtesting
 - Default management units responsible for member default procedures, hedging and portfolio auctions
 - Treasury and liquidity units at CCPs and central securities depositories responsible for liquid resources and settlement banks
 - Compliance units at exchanges and clearing houses preparing PFMI self-assessments and public disclosures
 - Oversight units responsible for assessing financial market infrastructures against international principles
 - Clearing member risk units responsible for default fund contributions and margin call funding
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Course Outline:

Day 1: CCP Clearing Model, Novation and the FMI Landscape

- Novation and Open Offer Mechanics in CCP Clearing
- Multilateral Netting Effects on Clearing Member Exposure Profiles
- Direct, Indirect and Sponsored Clearing Membership Models
- CCP Business Model With Clearing Fees and Capital Base
- FMI Types From CSDs to Trade Repositories Compared

Day 2: PFMI Principles and CCP Resilience Guidance

- PFMI Credit Risk Principle and Cover 1 Resource Expectations
- PFMI Margin Principle Expectations for Coverage and Model Review
- PFMI Liquidity Risk Principle and Qualifying Liquid Resources
- CCP Resilience Further Guidance on Stress Testing Practice
- PFMI Participant Default Rules and Procedures Principle Requirements

Day 3: Initial and Variation Margin Methodologies

- SPAN-Style Scanning Risk Arrays and Price Move Scenarios
- Inter-Commodity Spread Credits and Short Option Minimum Charges
- Historical Simulation VaR Margin With Lookback Window Calibration
- Expected Shortfall Margin Model Confidence Level Selection
- Variation Margin Intraday Calls and Mark-to-Market Cycles

Day 4: Margin Model Data, Backtesting and Procyclicality Tools

- Margin Period of Risk Setting by Product Liquidity
- Margin Backtesting Exception Counts and Traffic Light Review
- Anti-Procyclicality Buffers, Floors and Stressed Period Weighting
- Collateral Haircut Schedules and Concentration Add-On Charges
- Price Feed, Position File and Risk Engine Data Checks

Day 5: Guided Case Study on Margin Adequacy for a Case Clearing House

- Case Clearing House Product, Member and Position Data Pack
 - Initial Margin Recalculation Under Scanning and VaR Methods
 - Backtesting Exception Analysis for Three Member Portfolios
 - Procyclicality Impact Comparison Across Calm and Stressed Windows
 - Week-One Margin Adequacy Note for the Risk Committee
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Day 6: Stress Testing, Default Fund Sizing and the Default Waterfall

- Extreme but Plausible Historical and Hypothetical Stress Scenarios
- Cover 1 and Cover 2 Default Fund Sizing Calculation
- Default Waterfall Layers From Defaulter Margin to Assessments
- CCP Skin in the Game Tranche Sizing and Placement
- Liquidity Stress Test Against Qualifying Liquid Resources

Day 7: Default Management, Recovery and Resolution of FMIs

- Default Management Process From Declaration to Portfolio Close-Out
- Default Auction Design With Bidding Lots and Juniorisation
- Client Position Porting Across Omnibus and Individual Segregation
- FMI Recovery Plan Tools Including Cash Calls and Tear-Up
- Variation Margin Gains Haircutting and Resolution Authority Powers

Day 8: Clearing Members, Risk Committee and Default Fire Drills

- CCP Risk Committee Mandate and Member Representation Rules
- Default Management Group Fire Drill Planning and Debrief
- Margin Methodology Change Consultation With Clearing Members
- Liquidity Provider Agreements and Settlement Bank Dependency Mapping
- Supervisory Reporting Packs on Margin and Default Resources

Day 9: PFMI Self-Assessment, Quantitative Disclosure and Risk Indicators

- PFMI Disclosure Framework Self-Assessment Rating Scale Application
- PFMI Assessment Methodology Key Considerations Evidence Mapping
- Public Quantitative Disclosure Standards for CCPs Data Templates
- Margin Coverage and Default Resource Key Risk Indicators
- Peer Benchmarking of Default Fund and Margin Disclosures

Day 10: Modelling Build Capstone on the CCP Risk Framework and PFMI Self-Assessment Plan

- Case Clearing House Margin Parameter Recalibration Run
 - Default Fund Sizing and Waterfall Resource Table Build
 - Default Management and Recovery Playbook for the Case
 - PFMI Gap Register With Remediation Owners and Milestones
 - CCP Risk Framework and PFMI Self-Assessment Plan Completion
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Skills You Will Gain:

- Margin Model Calibration
- Backtesting Exception Analysis
- Stress Scenario Design
- Default Fund Sizing
- Default Auction Management
- Liquid Resource Planning
- Recovery Tool Selection
- PFMI Gap Assessment

Why Attend This Course:

- Deliver a CCP Risk Framework and PFMI Self-Assessment Plan to the chief risk officer and the CCP risk committee for approval
- Decide whether margin parameters, default fund size and liquid resources remain adequate after a market shock or new product launch
- Avoid uncovered member default losses, margin shortfalls and disclosure gaps that lead to supervisory findings
- Share margin backtesting worksheets, stress scenario libraries and default drill templates with risk and operations colleagues

Conclusion:

Back at work, the participant gives the chief risk officer and the CCP risk committee a CCP Risk Framework and PFMI Self-Assessment Plan that sets margin parameters, default fund sizing rules, liquid resource targets and recovery tools for the clearing service. The committee uses it to approve model changes and remediation priorities, and the compliance unit uses its gap register for the next public disclosure. After the first quarterly backtesting and stress testing cycle, the clearing house should compare exceptions, resource coverage and drill results with the plan and recalibrate where they diverged.

Frequently Asked Questions FAQ:

What should participants know before a central counterparty CCP risk management course?

Participants should already work with clearing, margin, collateral or FMI oversight and read derivative and securities positions. Bringing anonymised margin reports, stress results or a recent PFMI disclosure helps them apply the modelling build to their own clearing service.

How does central counterparty CCP risk management differ from a securities operations or counterparty credit risk course?

It looks at risk from the clearing house side: margin models, default fund sizing, the waterfall, default auctions, liquid resources and recovery. Securities operations courses follow trade processing and settlement, while counterparty credit risk courses measure bank exposures and valuation adjustments.

Why does the default waterfall matter in central counterparty CCP risk management?

The default waterfall fixes the order in which defaulter margin, default fund contributions, CCP capital and assessments absorb a member default. A clear order tells members their maximum loss and gives the CCP incentives to set margin and default fund levels prudently.

What do participants take back from the central counterparty CCP risk management course?

Participants take back a CCP Risk Framework and PFMI Self-Assessment Plan for a case clearing house, with recalibrated margin parameters, a default fund and waterfall resource table, a default management and recovery playbook and a PFMI gap register.
