Potential Future Exposure (PFE) Q2 2009 Presentation

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Credit Briefing – Potential Future Exposure: Overview

- **Summary Results**
- **Background**
- **Base Case & Current Case**
- **Summary of Most Common Outcomes – Base Case**
- **Comparisons – Base Case**
- **What Has Changed – Q2 2009**
- **Extreme Events – Base Case**
- **Current Case Simulations**
- **Comparison of Results Over Multiple Periods**

While the impact of various model factors changed…

Base case residual credit risk remains comparable to the previous level reported for Q1-2009

- Changes in market factors have increased risk
- Changes in QSE factors have decreased risk
- Net effect – overall risk has increased slightly

Current case residual credit risk also remains comparable to the previous level reported for Q1-2009

- Same factors as for Base case
- Net effect – overall risk has increased slightly

Credit Briefing – Potential Future Exposure: Background

- **The Board of Directors approved the Market Credit Risk Standard in May 2009, requiring ERCOT to report on credit risk in the market.**
  - This presentation is a summary of the results of the Potential Credit Risk Model based on the financial statement information provided by QSEs as of June 30, 2009.
  - Information is compared to the results of the Potential Credit Risk Model based on the financial statement information provided by QSEs as of March 31, 2009.

- **The Potential Credit Risk Model uses Monte Carlo simulation to simulate potential credit losses across all ERCOT QSEs, while taking into account key risk factors such as:**
  - Default probabilities of QSEs (which reflect credit quality)
  - Exposure parameters (such as outstanding liability & potential for volume escalation upon default)
  - Market prices and price volatility
  - Collateral (as required by ERCOT Protocols)
  - Relationships between these factors

- **The model is not a predictor of the future as it does not represent what <u>will</u> happen, but provides insight into what <u>may</u> happen along with the probability of various outcomes.**

- **The model incorporates a number of key risk factors, however it isn't capable of encompassing <u>every</u> factor and scenario.**

- **Two cases are represented –**

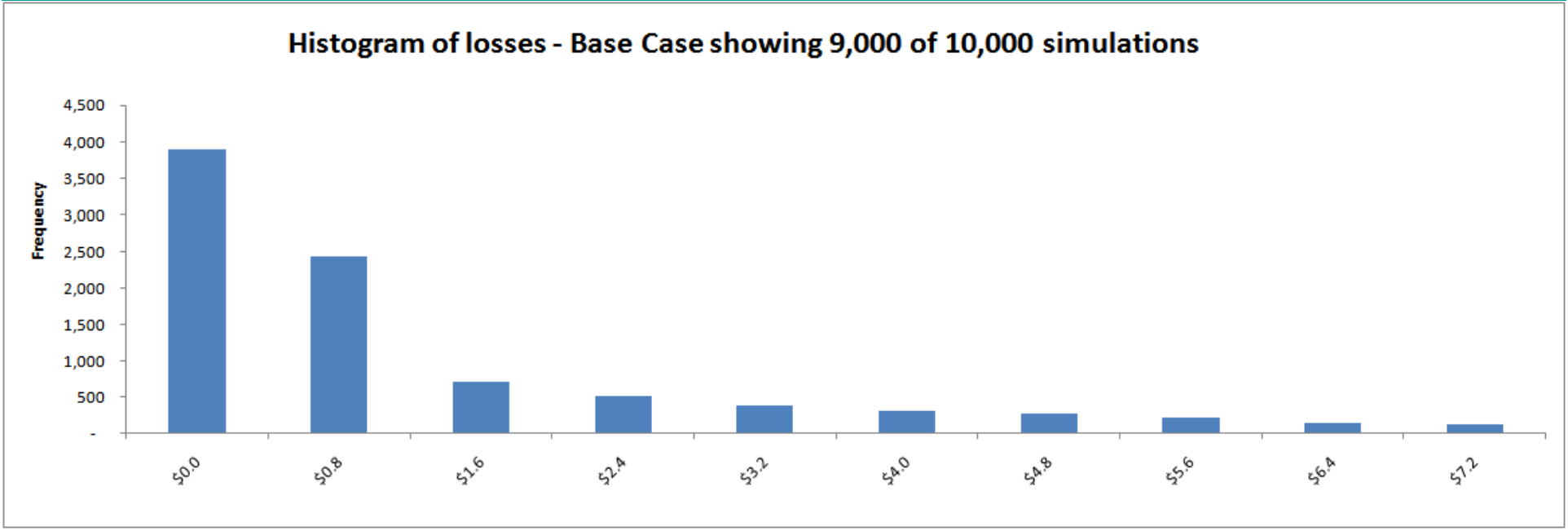
Base Case

- Does not include current collateral held by ERCOT
- Fundamental assumption for this case deems collateral balances to be at least consistent with current protocols until a default occurs
- Unless otherwise indicated, this case is represented in all slides since it represents what ERCOT can enforce per existing Protocols

Current Case

- Uses current levels and forms of collateral for each QSE held by ERCOT at $Time_0$ at a minimum (Beginning of simulated period)
- Assumes some degree of overcollateralization will be maintained until a default occurs, i.e. the resulting loss distribution is lower

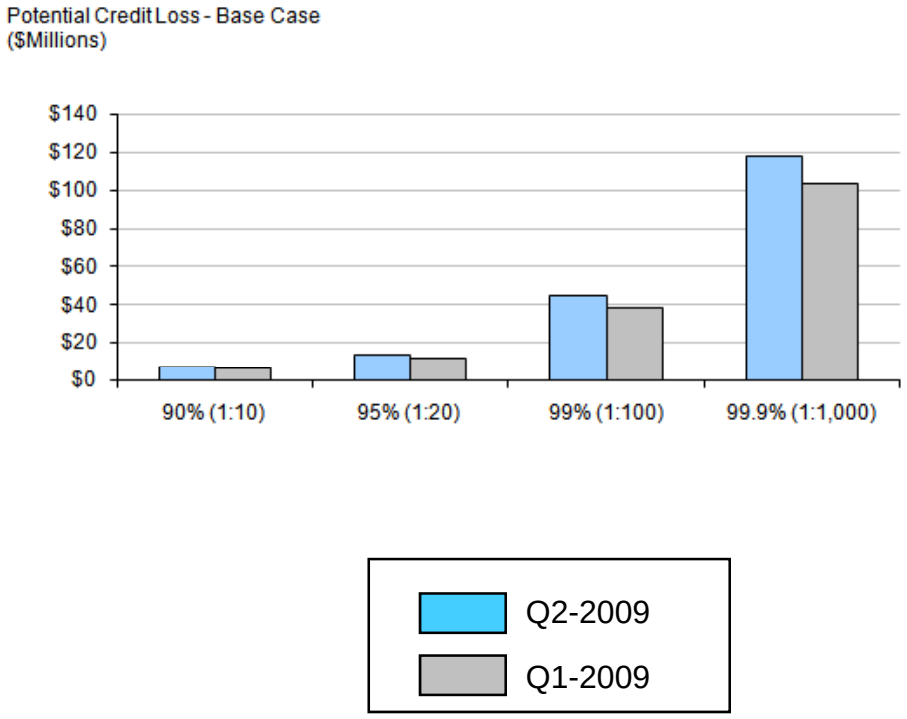
Credit Briefing – Potential Future Exposure: Summary of Most Common Outcomes – Base Case



- Histogram above shows the number of simulations with credit losses less than or equal to **$7.2** million dollars
- Losses of **$0** are the most common results
  - Nearly 39% (3,895) of simulations had no losses, either from no defaults or defaults with adequate collateral
  - Over 70% of simulations resulted in losses of less than or equal to approximately **$1.6** million
  - Results assume that market conditions and QSE credit ratings in place at the time of the simulation continue to be relatively unchanged over the next twelve months
- The Expected Loss across all simulations is approximately **$3.1** million (up from $2.8 million for Q1-2009)
  - The Expected Loss does not represent “the most common outcome”, but the long-run average across all outcomes
- Typical characteristic of this simulation - **heavily skewed to the right, showing extreme losses to be very rare**
- Recent results are slightly poorer as compared to Q1-2009 results

Credit Briefing – Potential Future Exposure: Comparisons – Base Case

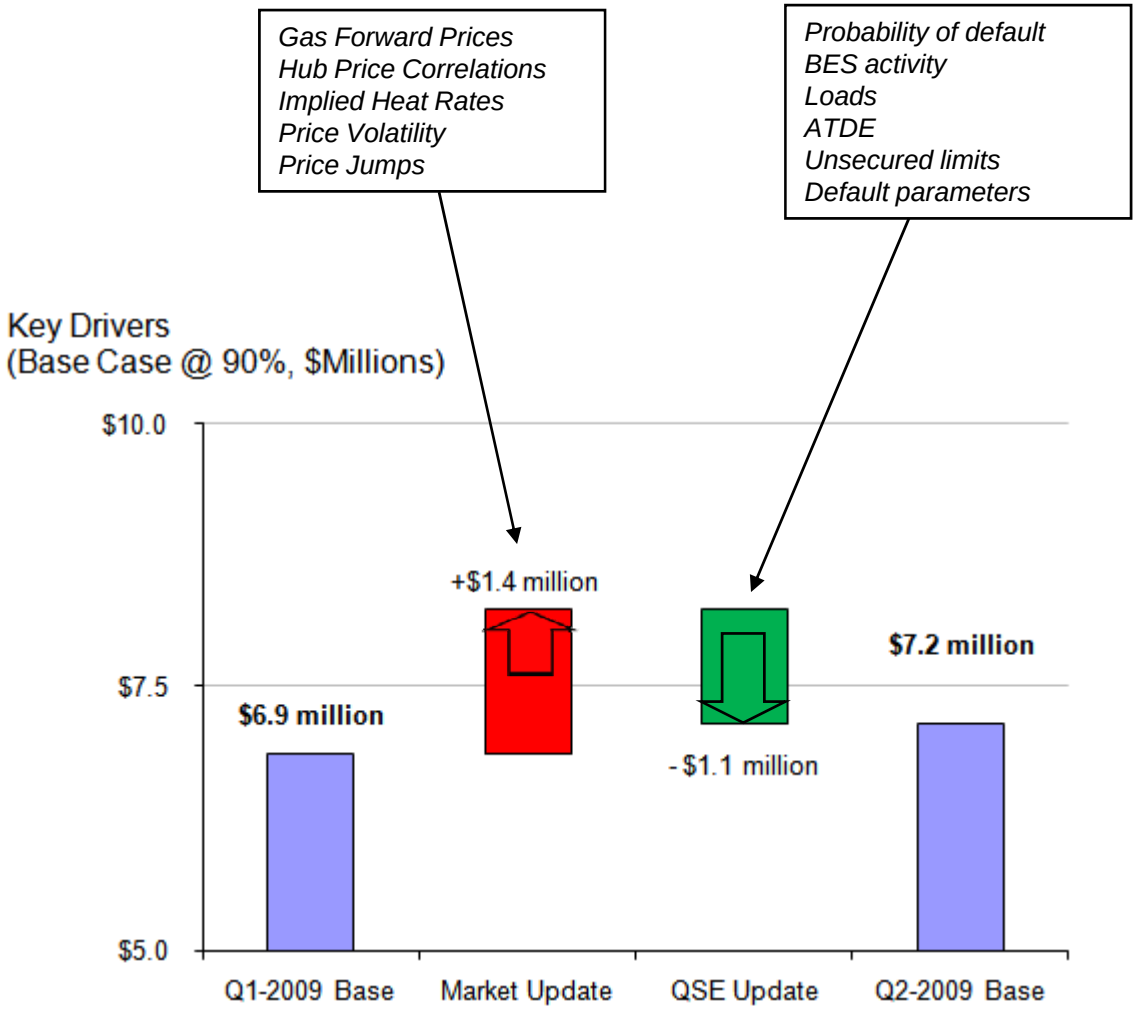
Simulations using Q2-2009 and Q1-2009 Financials



	Q2-2009 Base Case	Q1-2009 Base Case
Horizon (in days)	365	365
Simulations	10,000	10,000
Total defaults	41,485	40,963
Simulations with defaults	9,487	9,393
Simulations without defaults	513	607
Default simulations with zero loss	3,382	3,205
Total simulations with zero loss	3,895	3,812
($Millions)		
Expected Loss	$3.1	$2.8
Median (1:2)	$0.2	$0.3
90% (1:10)	$7.2	$6.9
95% (1:20)	$14.1	$12.1
99% (1:100)	$44.9	$38.4
99.9% (1:1,000)	$118.0	$103.5
Max (1:10,000)	$308.9	$152.4

Credit Briefing – Potential Future Exposure: What Has Changed – Q2 2009

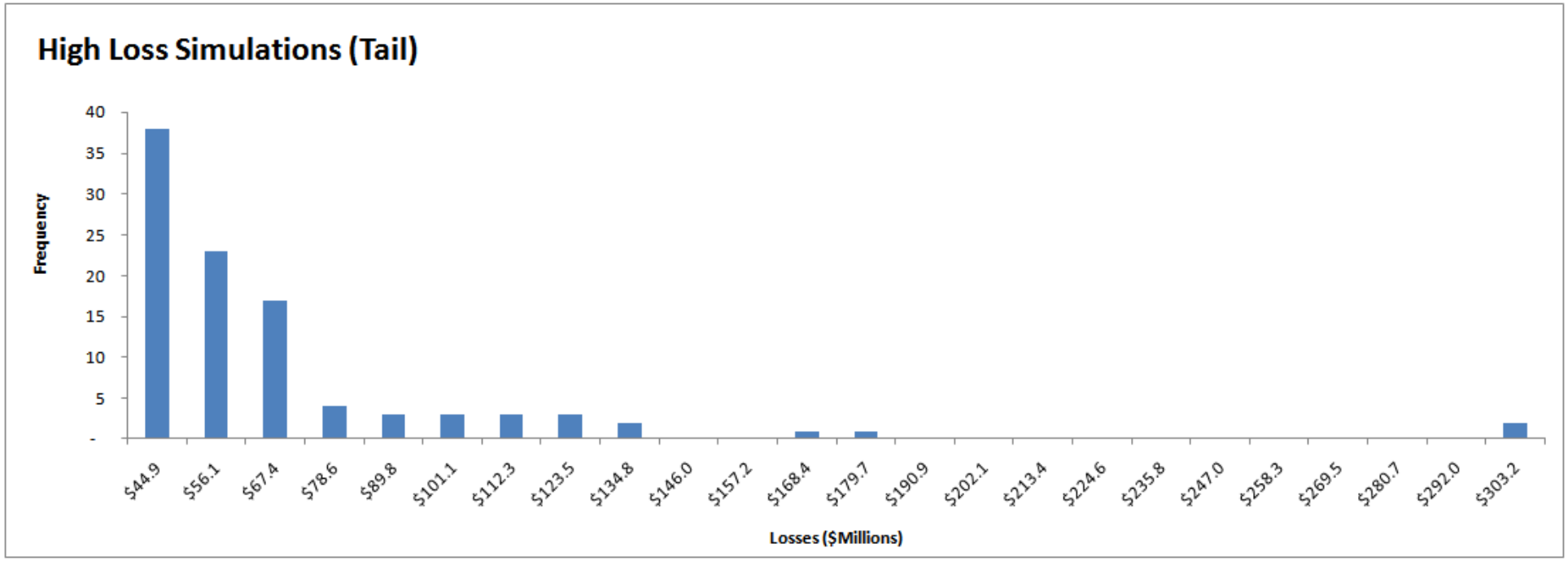
(US$ Millions, 90% confidence)



$0.3 Million Net Change

Credit Briefing – Potential Future Exposure: Extreme Events – Base Case

Base Case – Highest Loss Simulations



- Histogram above shows the largest 100 loss simulations.
- This graph represents Tail risk, a.k.a. “Extreme Events”.
- These 100 simulations resulted in losses equal to or in excess of $44.9 million.

- At 99% confidence, losses are **$44.9 million**, higher than Q1-2009 results of **$38.4 million**.

Credit Briefing – Potential Future Exposure: Current Case Simulations

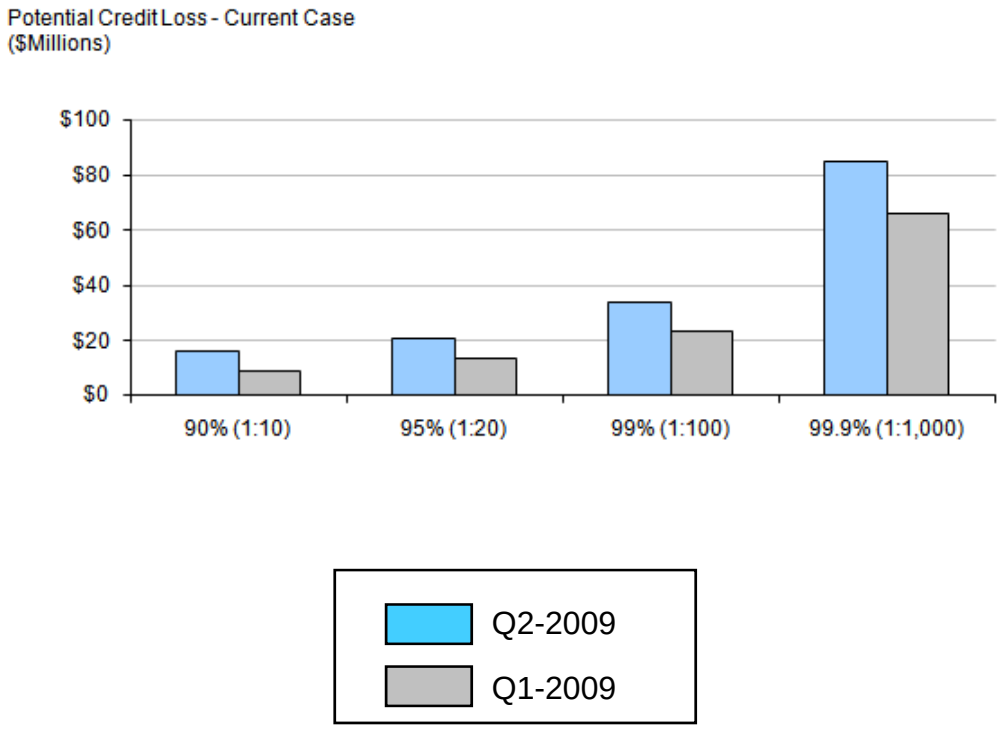
- **Uses current levels and forms of collateral by QSE, at a minimum, held by ERCOT at Time$_0$**

- **ERCOT uses Group Logic to determine QSE Probability of Default ("PD")**
  - This approach applies a combination of the QSE's PD and the Parent's PD, resulting in a PD between the QSE's and Parent's PD based on the strength of the relationship between the QSE and the Parent
  - Implies some level of support from a parent regardless of whether a guarantee is in place or not
  - This approach assumes that a QSE default occurs separately from a parent default, and that a guarantee has value as collateral

- **Credit Working Group (CWG) requested to see a different approach applied to the Current Case (Guarantor PD approach)**
  - Recognize the acceptance of a guarantee as granting unsecured credit rather than as collateral
  - Set QSE's PD equal to the Parent's PD when a parent guarantee is in place for a strategic subsidiary (and use Group Logic when no guarantee is in place or when guarantee is for a nonstrategic subsidiary)
  - This approach assumes that a QSE will only default when the guarantor defaults

Credit Briefing – Potential Future Exposure: Current Case Simulations – Comparison

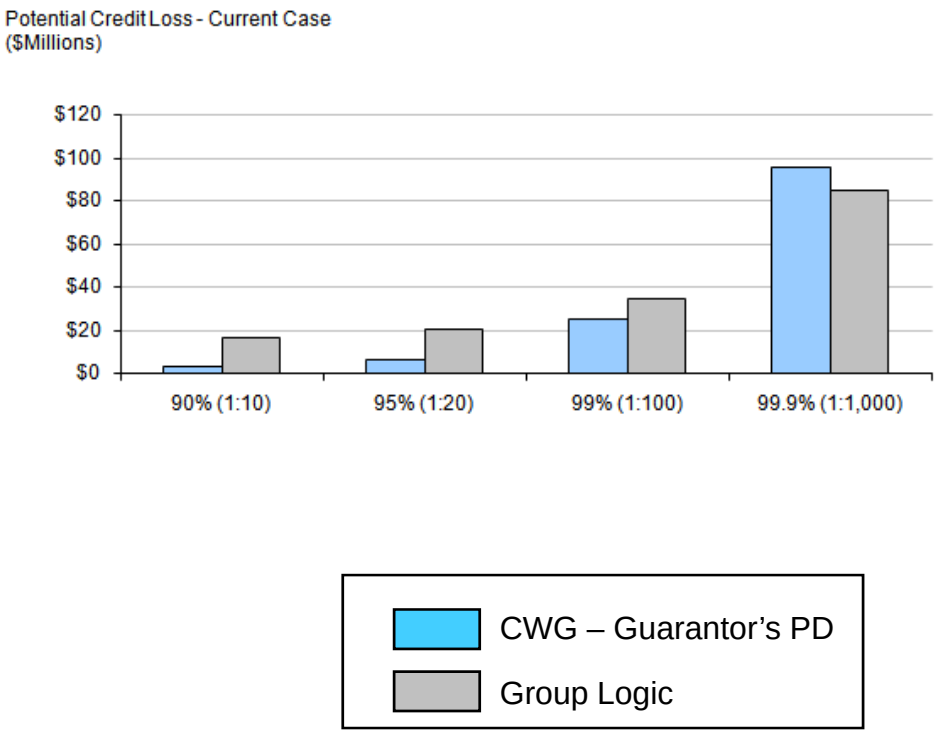
Simulations using Q2-2009 and Q1-2009 Financials



	Q2-2009	Q1-2009
	Current Case	Current Case
Horizon (in days)	365	365
Simulations	10,000	10,000
Total defaults	42,055	41,354
Simulations with defaults	9,456	9,433
Simulations without defaults	544	567
Default simulations with zero loss	3,208	3,789
Total simulations with zero loss	3,752	4,356
($Millions)		
Expected Loss	$4.9	$2.7
Median (1:2)	$0.3	$0.1
90% (1:10)	$16.7	$9.3
95% (1:20)	$20.8	$13.7
99% (1:100)	$34.1	$23.9
99.9% (1:1,000)	$85.1	$65.8
Max (1:10,000)	$148.4	$158.7

Credit Briefing – Potential Future Exposure: Current Case Simulations – Comparison to CWG

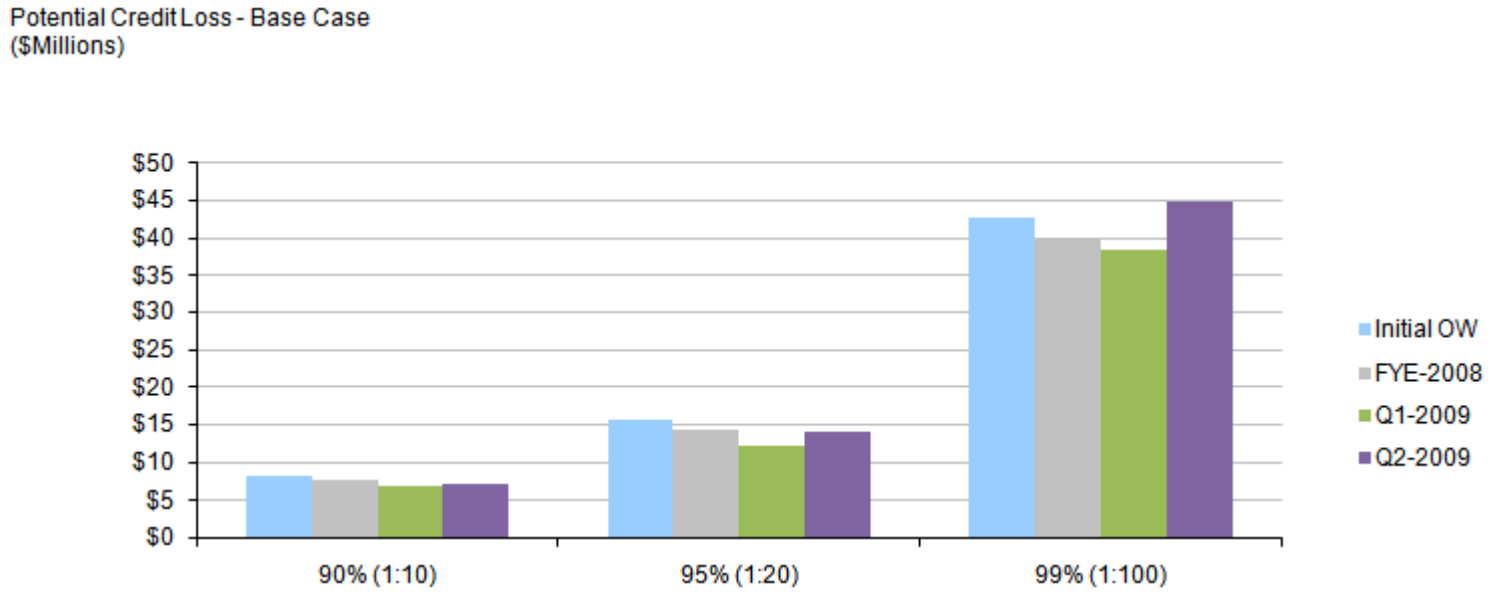
Simulations using Q2-2009 and Q1-2009 Financials



	Guarantor's PD	Group Logic
	Current Case	Current Case
Horizon (in days)	365	365
Simulations	10,000	10,000
Total defaults	22,784	42,055
Simulations with defaults	8,226	9,456
Simulations without defaults	1,774	544
Default simulations with zero loss	3,895	3,208
Total simulations with zero loss	5,669	3,752
($Millions)		
Expected Loss	$1.4	$4.9
Median (1:2)	$0.0	$0.3
90% (1:10)	$3.2	$16.7
95% (1:20)	$6.5	$20.8
99% (1:100)	$25.3	$34.1
99.9% (1:1,000)	$95.9	$85.1
Max (1:10,000)	$246.2	$148.4

Credit Briefing – Potential Future Exposure: Comparison of Results Over Multiple Periods

- **The Potential Credit Risk Model demonstrates consistent levels of risk over multiple periods**
- **Results impacted by offsetting influences**
  - For example, between the initial OW results and the FYE-2008 results, market prices decreased while market participant risk increased



Questions