

## BCBS 239 Alignment with DCAM 1.2.2

(Data Management Implications related to the Principles of Risk Data Aggregation)

July 2015

Principle 1: Governance				
<i>Paragraph</i>	<i>Summary</i>	<i>Component</i>	<i>Capability/Sub-Capability</i>	<i>DCAM Summary</i>
27	Management should promote identification, assessment and management of data quality risks as part of overall risk management framework	Strategy	1.2	High level business requirements are captured, prioritized, and integrated into the data management strategy
		Business Case	2.1.1	Business case is mapped to and aligned with the data management strategy
		Governance	4.2	Content governance is defined
			4.3	Policy and standards are written and approved
Control	8.2	Control environment supports the data management lifecycle		
28	Management should approve RDAR framework and ensure sufficient resources	Strategy	1.1.2	The data management strategy is aligned with the high-level organizational objectives
		DM Program	2.2	The data management funding model has been established, approved and adopted by the organization
		Governance	3.2.3	Program Office (PMO) is established and staffed with required skill sets
29a	RDAR is independently validated	Strategy	1.1.4	The DMS has been evaluated as being enforceable by Audit (or the equivalent function)
		DM Program	3.5.2	Issue identification, prioritization, escalation and conflict resolution are defined and operational
		Governance	4.5.2	Policy and standards are enforceable and auditable
		IT Architecture	6.1.1	Technology architecture strategy is defined and agreed to by relevant stakeholders
		Data Quality	7.3.4	Data Quality processes are auditable
		Control	8.3.1	Control Function policies and standards are aligned with Data Management policies and standards
29b	RDAR applies to new initiatives including acquisitions, divestitures, new products	Strategy	1.2.1	High level business requirements have been documented and used to create the DMS
		Governance	4.3.1	Policy and standards are written and complete
		Data Quality	7.1.1	The data quality strategy and approach are defined and socialized
			7.2	All relevant data have been identified and prioritized.
			7.3	Quality of new data is monitored, analyzed and reported
Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped		
29c	RDAR cannot be hindered by group structure	Strategy	1.1.4	The DMS has been evaluated as being enforceable by Audit (or the equivalent function)
		Business Case	2.2.3	Implementation of the DM funding model is enforced
		DM Program	3.1.2	The data management program has the authority to enforce adherence and compliance
		Governance	4.5.1	Project review and approval processes are established
			4.5.2	Policy and standards are enforceable and auditable

30	Management needs to be fully aware of limitations that prevent full RDA	Strategy	1.3.1	The DMS calls out the need to identify and prioritize authorized data domains
			1.3.2	The DMS articulates the importance of establishing policy to enforce appropriate use of authorized data domains
			1.4	The DMS is aligned with and mapped to architectural, IT and operational capabilities
		Governance	4.2.1	Authorized data domains have been identified and inventoried
		Data Quality	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
Control	8.3.1	Control Function policies and standards re aligned with Data Management policies and standards		
31	Board is responsible for determining its risk reporting requirements and limitations	Strategy	1.1.2	The DMS is aligned with the high-level organizational objectives
		DM Program	3.3.1	Identified stakeholders commit and are held accountable to the data management program deliverables
		Governance	4.3.3	Policy and standards have been reviewed and approved by senior executive governing bodies
			4.4.4	Escalation Procedures are developed and documented
			4.5.3	Metrics are in place to track program adherence, progress and outcomes
		Data Quality	7.3.2	Data Quality Metrics are captured, reported and used to drive data remediation
<b>Principle 2: Data Architecture and IT Infrastructure</b>				
32	RDAR is part of BCP	Strategy	1.4.3	Operational concepts have been incorporated into the DMS
		IT Architecture	6.4	Operational risk planning is in place
33	Bank needs integrated data taxonomy and architecture (includes identification and metadata)	Strategy	1.3	The DMS defines the importance of identifying, prioritizing and assuring the appropriate use of authorized data domains
			1.4.1	Data architecture concepts have been incorporated into the DMS
		Governance	4.2	Content governance is defined
			4.3.1	Policy and standards are written and complete
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Data Quality	7.2.1	All relevant data have been identified and prioritized
			7.2.2	Data is profiled, analyzed and graded
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped			
34	Roles and responsibilities for data ownership are in place across the data lifecycle and for all dimensions of data quality	Strategy	1.5.3	The DMS describes the governance structure, roles and responsibilities
		DM Program	3.2	The data management organizational structure is created and implemented
		Governance	4.1	Data governance structure is created
			4.4.1	Funding Model is Operational
			4.5.1	Project review and approval processes are established
4.5.4	Formal training programs have been designed and implemented			

		Data Quality	7.1	Data quality program is established
		Control	8.2	Control environment supports the data management lifecycle
<b>Principle 3: Accuracy &amp; Integrity</b>				
36a	Must be able to generate accurate and reliable risk data. Controls should be robust	Governance	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported
		Control	8.2	Control environment supports the data management lifecycle
8.3	Control environment ensures that the discipline of data management is operating collaboratively with cross-organizational control functions			
36b	Policies and procedures are needed to ensure control over existing manual processes	DM Program	3.1.2	The data management program has the authority to enforce adherence and compliance
		Governance	4.3	Policy and standards are written and approved
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
36c	Risk data should be reconciled with source data	Governance	4.2.2	Critical data elements (CDEs) have been identified and inventoried
			4.3	Policy and standards are written and approved
		Data Quality	7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
36d	Bank should strive to have a single authoritative source for risk data for each type of risk	Strategy	1.2	High level business requirements have been documented and used to create the DMS
			1.3	The DMS defines the importance of identifying, prioritizing and assuring the appropriate use of authorized data domains
		Governance	4.2.1	Authorized data domains have been identified and inventoried
			4.2.2	Critical data elements (CDEs) have been identified and inventoried
			4.3	Policy and standards are written and approved
		Data Architecture	5.1	Identify the data (logically and physically)
			5.3	Govern the data (establish sustainable data architecture governance)

		Control	8.2	Control environment supports the data management lifecycle
			8.3.1	Control Function policies and standards are aligned with Data Management policies and standards
36e	Risk personnel should have sufficient access to risk data	Strategy	1.3.2	The DMS articulates the importance of establishing policy to enforce appropriate use of authorized data domains
		Governance	4.3	Policy and standards are written and approved
			4.5.1	Project review and approval processes are established
		Technology Architecture	5.3.1	Data architecture governance procedures are established to ensure authorized as well as controlled use of data
		Control	8.1	A data control environment is established and operational
37	Bank should have a dictionary of the concepts used to ensure that data is consistently defined	Data Quality	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Define the data
38	There should be an appropriate balance between automated and manual systems	Strategy	1.1.2	The DMS is aligned with the high-level organizational objectives
39	Document and explain RDA processes including appropriateness of manual workarounds	Governance	4.2	Content governance is defined
			4.3	Policy and standards are written and approved
			4.4.3	Data Requirements are captured and prioritized
			4.4.4	Escalation Procedures are developed and documented
		Data Architecture	5.1	Identify the data
			5.2	Define the data
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
40	Bank needs to measure and monitor the accuracy of data and develop escalation plans to remediate	Strategy	1.6	The DMS defines how the data management program will be measured and evaluated
		Governance	4.3	Policy and standards are written and approved
			4.4.4	Escalation Procedures are developed and documented
			4.5.2	Policy and standards are enforceable and auditable
			4.5.3	Metrics are in place to track program adherence, progress and outcomes
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported

Principle 4: Completeness				
41	RDA capabilities should include all material risk exposures (including off balance sheet)	Strategy	1.2	High level business requirements are captured, prioritized, and integrated into the DMS
		Governance	4.2	Content governance is defined
			4.3	Policy and standards are written and approved
			Data Architecture	5.1
		5.2		Define the data
		5.3		Govern the data
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
		42	Make approach used to aggregate risk exposure transparent	Strategy
Governance	4.2			Content governance is defined
	4.3			Policy and standards are written and approved
	Data Architecture			5.1
5.2				Define the data
5.3				Govern the data
Data Quality	7.1			Data quality program is established
	7.2			Quality of existing stores of data are identified and assessed
	7.3			Quality of new data is monitored, analyzed and reported
Control	8.2.2			Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
	8.2.3			The compounding processes and calculations for derived and transformed data are identified, documented and mapped
43	Aggregated risk data needs to be complete (exceptions need to be identified and explained)			Strategy
		Governance	4.2	Content governance is defined
			4.3	Policy and standards are written and approved
			Data Architecture	5.1
		5.2		Define the data
		5.3		Govern the data
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped

Principle 5 - Timeliness				
44	Must be able to produce risk information on timely basis (to meet all reporting requirements)	Strategy	1.2	High level business requirements are captured, prioritized, and integrated into the DMS
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
45	Banks must be able to produce aggregated risk data rapidly during times of stress	Governance	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Defined the data
			5.3.	Govern the data
		Technology Architecture	6.1	Technology architecture is defined and governed
			6.2	Data technology tool stack is identified and governed
			6.3	Data storage management strategy defined and governed
6.4	Operational risk planning is in place			
46	RDAR covers the full scope of critical risks (i.e. aggregate exposure, counterparty risk, transitive exposure. Trading exposure, positions, operating limits, market concentration, liquidity risk, state contingent cash flow, operational risk)	Strategy	1.2	High level business requirements are captured, prioritized, and integrated into the DMS
			1.3	The DMS defines the importance of identifying, prioritizing and assuring the appropriate use of authorized data domains
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Control	8.2	A d control environment supports the data management lifecycle
		47	Supervisors will review the bank frequency requirements (both normal and stress situations) to generate aggregate and up-to-date risk reporting in a timely manner	Strategy
1.6.3	The DMS defines the importance of developing outcome metrics to determine the effectiveness of the data management program			
Governance	4.5.3			Metrics are in place to track program adherence, progress and outcomes
Principle 6 - Adaptability				
48	RDA capabilities must be flexible and able to adapt to meet on-demand, ad hoc requests (including during crisis situations)	Strategy	1.1.2	The DMS is aligned with the high-level organizational objectives
			1.4	The DMS is aligned with and mapped to architectural, IT and operational capabilities
		DM Program	3.2	The roadmaps for the data management program are developed, socialized and approved
			3.3.	Stakeholder engagement established and confirmed
			3.5.2	Issue identification, prioritization, escalation and conflict resolution are defined and operational
			3.5.3	Metrics (i.e.: KPIs, KRIs) are defined and used to track Program progress
		Governance	4.2	Content governance is defined
			4.6.2	Data storage governance is established
			4.6.3	Data distribution governance is established
			4.6.4	Data tool governance is established
	5.1	Identify the data		

		Data Architecture	5.2	Define the data
			5.3	Govern the data (establish sustainable data architecture governance)
		Technology Architecture	6.1.1	Technology architecture strategy is defined and agreed to by relevant stakeholders
			6.1.2	An actionable roadmap is developed and adopted for implementation of the technology architecture
			6.4.1	Data infrastructure contingency planning is defined and in place
		Data Quality	7.1	Data quality program is established
			7.2	Quality of existing stores of data are identified and assessed
			7.3	Quality of new data is monitored, analyzed and reported
		Control	8.2.2	Critical end-to-end data flows and essential attributes for in-scope business processes are defined and mapped
			8.2.3	The compounding processes and calculations for derived and transformed data are identified, documented and mapped
49a	Flexible data aggregation processes	See Paragraph 48 above		
49b	Capabilities for data customization to drill down as needed	Strategy	1.1.2	The DMS is aligned with the high-level organizational objectives
			1.4	The DMS is aligned with and mapped to architectural, IT and operational capabilities
		Governance	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Technology Architecture	6.1	Technology architecture is defined and governed
			6.2	Data technology tool stack is identified and governed
Control	8.2	Control environment supports the data management lifecycle		
49c	Capability to incorporate new developments on the organization of the business (and external factors) that influence the risk profile			
49d	Capability to incorporate changes in the regulatory framework	Strategy	1.2	High level business requirements are captured, prioritized, and integrated into the DMS
			1.4	he DMS is aligned with and mapped to architectural, IT and operational capabilities
		DM Program	3.5.2	Communication plans with external regulatory bodies are created and approved
		Governance	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Technology Architecture	6.1	Technology architecture is defined and governed
			6.2	Data technology tool stack is identified and governed
			6.3	Data storage management strategy defined and governed
			6.4	Operational risk planning is in place
		Control	8.2	Control environment supports the data management lifecycle

50	Capability to generate subsets of data based on requested economic scenarios	Strategy	1.1.2	The DMS is aligned with the high-level organizational objectives
			1.4	The DMS is aligned with and mapped to architectural, IT and operational capabilities
		Governance	4.2	Content governance is defined
		Data Architecture	5.1	Identify the data
			5.2	Define the data
			5.3	Govern the data
		Technology Architecture	6.1	Technology architecture is defined and governed
			6.2	Data technology tool stack is identified and governed
			6.3	Data storage management strategy defined and governed
			6.4	Operational risk planning is in place
Control	8.2	A data control environment supports the data management lifecycle		
<b>Risk Reporting – Principle 7: Accuracy</b>				The DCAM capabilities required to support Principle 3 (accuracy and integrity) are the same as those needed to enable Principle 7
52	Risk reports must be accurate and give stakeholders confidence to make decisions about risk			
53a	Defined requirements and processes to reconcile reports to risk data			
53b	Reasonableness checks for accuracy including an inventory of business rules and conventions used			
53c	Procedures for identifying, reporting and explaining data errors or weaknesses in data integrity			
54	Justification of approximations			
55	Requirements for accuracy and precision in risk reporting in all circumstances			
56	Accuracy of risk reporting the analogous to accounting materiality			
<b>Principle 8 - Comprehensiveness</b>				The DCAM capabilities required to support Principle 4 (completeness) are needed to enable Principle 8
57	Risk reports should include exposure and position information for all significant risk areas and all significant components of risk			
58	Risk reports should identify emerging risk concentrations, limits, risk tolerances and propose actions for remediation			
59	Risk reporting requirements should reflect banks business models and risk profiles			
60	Risk reporting should provide a forward looking assessment of risk			
<b>Principle 9 – Clarity and Usefulness</b>				The DCAM capabilities required to support Principle 6 (adaptability) are the same as those needed to enable Principle 9
61	Risk reports need to be meaningful to stakeholders and contribute to sound decision making			
62	Risk reports should include a balance between risk data, analysis and interpretation			
63	Reporting policies and procedures should recognize differing needs of consumers			
64	The BOD should ensure that it is receiving reports that align with internal risk reporting and compliance obligations			
65	BOD should alert senior management when risk reports are not providing the right level of information needed for risk monitoring			
66	Senior management should ensure that it is receiving relevant information			
67	Bank should develop an inventory and classification of risk data items			
68	Risk reports should be clear and useful with an appropriate balance between data, analysis and conclusions			
69	Bank should confirm with recipients that the information aggregated and reported is relevant and appropriate			
<b>Principle 10 - Frequency</b>				
70	Bank should assess the frequency requirements for each report and test its ability to produce in all circumstances			
71	Some reports on credit, market and liquidity position and exposure reports are needed intraday			
<b>Principle 11 - Distribution</b>				
72	Procedures should be in place to allow for rapid collection and analysis of risk data			
73	Bank needs to periodically confirm that relevant recipients receive timely reports			