



# **Ministry of Sustainable Resource Management (MSRM)**

## **SDLC Rightsizing Matrix**

Version 1.0.1  
July 22, 2004

**Amendments:**

Section 4 – Rationale - *Data Descriptions* – The bolded text was removed from the bullet below.

- **Major Data Entities and Relationships** are not required to be textually defined for project categories 1 and 2, at least an Entity Relationship Diagram must be made for all project categories

**Table of Contents**

1. Document Purpose ..... 1

2. Introduction..... 1

3. Rightsizing Matrix..... 3

4. Rationale..... 9

## 1. Document Purpose

This document provides guidance for readers to determine the

- adequate amount of documentation, and
- appropriate level of process

for Software Development Life Cycle (SLDC) deliverables, depending on the size of the project.

## 2. Introduction

The first step is to determine the category of project, by reviewing Section 3 (Rightsizing Matrix). This section is a table that outlines the SDLC deliverables required by the Ministry of Sustainable Resource Management (MSRM) during a software development project.

For the purposes of 'rightsizing', projects are categorized by project budget. This is the budget for the entire project not just for each phase. If the procurement includes work for only a single phase (50k) of a 250k project then category 4 would be used because the project budget is 250k not the phase cost of 50k. There are four categories:

Category	Budget	Column Header
1	Less than \$25,000	< \$25k
2	\$25,000 or more but less than \$50,000	\$25 – 50k
3	\$50,000 or more but less than \$100,000	\$50 – 100k
4	\$100,000 or more	> \$100k
Simple	Data Warehouse Load Project of a Single Table	Simple
Complex	Data Warehouse Load Project with more than a Single Table.	Complex

Each major section of each SDLC document template is included in the matrix (in the rows of the table). The right-most columns identify which sections are required for each project category. These columns will have one of three symbols in each cell. The symbols identify the requirement.

<input type="checkbox"/>	An empty cell means that this document section is not typically required for that project category.
<input type="checkbox"/>	A shaded cell means that this document section is not required as its content is covered elsewhere in the same SDLC deliverable, either in another section or in an accompanying appendix.
<input checked="" type="checkbox"/>	A check mark means that this document section is formally required for that project category.
<input checked="" type="checkbox"/>	A check mark with an accompanying asterisk means that this document section is required in the form of a 1 to 2 sentence description.

Once the project category has been determined, the next step is to follow that column down, for each of the SDLC Deliverable templates which are listed on the left. From there, the reader can determine what is required for that size of project.

Section 4 (Rationale) must also be referenced when determining exactly what is required for that size of project. This section clarifies the Rightsizing Matrix, especially the cases where a Deliverable section has been deemed 'not formally required' or 'covered elsewhere in the same deliverable'.

## 3. Rightsizing Matrix

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures	
			1	2	3	4		
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex
Planning	Project Charter	1. Project Purpose	√	√	√	√	√	√
		2. Project Priority	√	√	√	√	√	√
		3. Project Status	√	√	√	√	√	√
		4. Background	√	√	√	√	√	√
		5. Objectives	√	√	√	√	√	√
		6. Scope	√	√	√	√	√	√
		7. Deliverables/Milestones	√	√	√	√	√	√
		8. Stakeholders	√	√	√	√	√	√
		9. Links & Dependencies	√	√	√	√	√	√
		10. Issues and Constraints	√	√	√	√	√	√
		11. Budget	√	√	√	√	√	√
		12. Internal Resources Required	√	√	√	√	√	√
	RFP Guide & Template <sup>i</sup>		√	√	√		√	
Definition	Project Plan	1. Project Purpose			√	√		√
		2. Background			√	√		√
		3. Objectives			√	√		√
		4. Scope			√	√		√
		5. Major Deliverables				√		√
		6. Stakeholders				√		√*
		7. Links & Dependencies			√	√		√
		8. Issues and Constraints			√	√		√
		9. Critical Success Factors			√	√		√
		10. Assumptions			√	√		√
		11. Approach			√	√		√
		12. Project Development Documents			√	√		√
		13. Milestones				√		√*

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures		
			1	2	3	4			
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex	
		14. Budget <sup>ii</sup>			√	√		√	
		15. Resource Requirements				√		√*	
		16. Organizational Structure, Roles & Responsibilities			√	√		√	
		17. Project Control			√	√		√	
		17.1. Project Integration Management				√			
		17.2. Scope Management				√			
		17.3. Time Management				√			
		17.4. Quality Management				√			
		17.5. Human Resource Management				√			
		17.6. Communication Management				√			
		17.7. Contract Management				√			
		17.8. Risk Management				√			
		18. Project Review and Completion Criteria			√	√		√	
		19. Appendix A: Rightsizing			√	√		√	
		20. Appendix B: Communications Plan				√			
		21. Appendix C: Risk Management Plan				√			
		22. Appendix D: Configuration Management				√		√*	
		23. Appendix E: Applicable Standards			√	√			
		24. Appendix F: MS Project Plan			√	√			
	Analysis		25. Appendix G: Quality Management Plan				√		
			26. Appendix H: Roles and Responsibilities Template				√		
		Analysis and Requirements	1. Introduction	√	√	√	√	√	√
			2. System Overview	√	√	√	√	√	√

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures	
			1	2	3	4		
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex
		2.1. Project Perspective		√*	√	√		
		2.2. System Content		√*	√	√		
		2.3. General Constraints		√*	√	√		
		2.4. Assumptions & Dependencies		√*	√	√		
		3. Business Process Model		√	√	√		√
		4. Domain Model			√	√		
		4.1. Class Diagrams		√	√	√		
		4.2. Class Specifications			√	√		
		5. Requirements		√	√	√		
		5.1. Functional Requirements	√*	√	√	√		
		5.1.1. Use Case Diagrams		√	√	√		
		5.1.2. Use Case Specifications			√	√		
		5.2. Non-Functional Requirements	√	√	√	√	√	√
		5.2.1. System Requirements		√*	√	√		
		5.2.2. Usability Requirements			√	√		
		5.2.3. Performance Requirements			√	√		√
		5.2.4. Security Requirements		√*	√	√	√	√
		5.2.5. Delivery Requirements		√*	√	√	√	√
		5.2.6. Legal Requirements	√*	√*	√	√	√*	√*
		5.3. Interface Requirements	√	√	√	√	√	√
		5.3.1. Machine Interfaces		√*	√	√		√
		5.3.2. External System Interfaces		√*	√	√		√
		5.3.3. Human Interfaces (Screen Images)			√	√		
		5.3.4. Interface Design Rules		√*	√	√		

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures	
			1	2	3	4		
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex
		5.3.5. GUI Reusable Components		√*	√	√		
		5.3.6. Input and Output Requirements		√*	√	√		
		6. Data Description	√	√	√	√	√	√
		6.1. Major Data Entities	√	√	√	√	√	√
		6.2. Relationships	√	√	√	√		√
		6.3. ERD	√	√	√	√		√
		6.4. Conversion/Load Requirements <sup>iii</sup>	√	√	√	√	√	√
		6.5. Database Requirements	√	√	√	√		√
		6.6. Capacity Requirements			√	√	√*	√
		7. Specific Requirements	√	√	√	√	√	√
		8. Project Issues	√	√	√	√		√
		8.1. Project Development Effort	√	√	√	√		√
		8.2. Proposed Project Schedule	√	√	√	√		√
		Designer Repository/Logical (.dmp)	√	√	√	√	√	√
		Data Conversion Analysis	√	√	√	√		√
		Profiles: Distribution Metadata Security					√	√
	Publication Guidelines					√	√	
Design	Detailed System Design	1.0 Introduction	√	√*	√	√		
		1.1. Audience		√*	√	√		
		1.2. Purpose		√*	√	√		
		1.3. Assumptions		√*	√	√		

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures	
			1	2	3	4		
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex
		1.4. Other Standards		√*	√	√		
		2.0 System Design Document	√	√*	√	√		
		2.1 Document Purpose	√	√*	√	√		
		2.2 Overview	√	√*	√	√		
		2.3 Application Design	√	√*	√	√		
		a. Module Definitions		√*	√	√		
		b. Screen Designs		√*	√	√		
		c. Menu Network/Screen Navigation		√*	√	√		
		d. Report Layouts		√*	√	√		
		e. Application Prototype		√*	√	√		
		f. System Interfaces		√*	√	√		
		g. Error Handling		√*	√	√		
		h. Help System		√*	√	√		
		2.4 System Design	√	√*	√	√		
		2.5 Technical Design	√	√*	√	√		
	2.6 Next Phase	√	√*	√	√			
	Designer Repository/Physical (.dmp)		√	√	√	√	√	
	Data Conversion Design		√	√	√	√	√	
	Presentation Profile					√	√	
Build	IMF Dev & Site configuration		√	√	√	√		
	Designer Repository (.ddl or scripts)		√	√	√	√	√	
	Application Code Reviews		√	√	√	√		
	Tested Application	Unit Testing	√	√	√	√	√	
		System Test Plan			√	√		

SDLC Phase	SDLC Document/ Deliverable	Document Section	Category (Dollars \$)				DW Loading Procedures	
			1	2	3	4		
			< 25 k	25 – 50 k	50 – 100 k	> 100 k	Simple	Complex
		Integration Test Plan				√		
		Load Test Plan				√		
		User Acceptance Test Plan	√	√	√	√		
		Data Conversion		√	√	√	√	√
Implementation	User Procedures			√	√			
	On-Line Help		√*	√	√	√		
	UAT		√	√	√	√	√	√
	Training Plan			√	√			
	Implementation Plan			√	√	√	√	√
	Application Delivery and Migration		√	√	√	√	√	√

#### 4. Rationale

This section provides the rationale behind the Rightsizing Matrix as to the requirements for the content of each document. This will help when developing the documents and collecting the information. Only sections that need clarification will be described.

##### **Project Charter**

All sections in the Project Charter are required. This will provide comprehensive information for project approval.

##### **RFP Guide & Template**

The RFP Guide and Template is only needed when the project is going through the procurement process.

##### **Project Plan**

- Categories 1 and 2. For project categories 1 and 2 a project plan is not required. It is felt that the Project Plan requirements can be managed using the Project Charter and the Analysis and Requirements Document.
- Major Deliverables: For project category 3 Major Deliverables must be covered off in the MS Project Plan provided in Appendix F.
- Stakeholders: For project category 3 Stakeholders must be covered off under Section 16, Organizational Structure, Roles & Responsibilities.
- Milestones: For project category 3 Milestones must be covered off in the MS Project Plan provided in Appendix F.
- Resource Requirements: For project category 3 Resource Requirements must be covered off under Section 16, Organizational Structure, Roles & Responsibilities.
- Project Control: For project category 3, address project control subsections as one general section called, Project Control. This general section should include a reference to Project Integration Management, Scope Management, Time Management, Quality Management, Human Resource Management, Communication Management, Contract Management and Risk Management. If they do not apply, please state that they do not apply to the project. For project categories 3 and 4, there must be separate subsections.
- Appendix B: Communications Plan: For project category 3 this will be addressed under section 17, Project Control.
- Appendix C: Risk Management Plan: For project category 3 this will be addressed under section 17, Project Control.
- Appendix F: A MS Project Plan is mandatory for project categories 3 and 4. The level of detail will be determined by the Project Manager. For smaller projects it may simply be a word document that outlines tasks, deliverables and milestones.
- Appendix G: Quality Management Plan: For project category 3 this will be addressed under section 17, Project Control.

##### **MS Project Plan**

A MS Project Plan is mandatory for project categories 3 and 4. The level of detail will be determined by the MSRM Project Director. For smaller projects it may simply be a MS Word document that outlines tasks, deliverables and milestones.

### Analysis and Requirements

- Domain Model: Class Diagrams and Class Specifications: For project category 2 only Class Diagrams are mandatory.
- Functional Requirements: Use Case Diagrams and Use Case Specifications: For project category 2 only Use Case diagrams are mandatory.
- Non-Functional Requirements:
  - Usability and Performance Requirements are not required for project categories 1 and 2.
  - Legal Requirements must at least be addressed for all projects. If no legal requirements exist then that must be stated.
- Interface Requirements:
  - Machine Interfaces are often not included in smaller projects therefore they are not required for project category 1.
  - Human Interfaces, Screen Images are not required for project categories 1 and 2.
- Data Description:
  - Relationships are not required to be textually defined for project categories 1 and 2, at least an Entity Relationship Diagram must be made for all project categories.
  - Capacity Requirements are not required for project categories 1 and 2.
- Specific Requirements: Throwaway Prototyping is not mandatory for all projects but the requirements for it must at least be addressed. If the project does not require a throwaway prototype that that must at least be stated.

### Designer Repository

If an Oracle database is included in the application or updates to an existing Oracle database, then the Oracle Designer repository must be updated or created and submitted following MSRM standards. This applies to the analysis (logical), design (physical) and build phases. Oracle Designer is the standard tool for data modeling.

### Data Conversion Analysis

Data conversion must at least be addressed for all projects. If there is no conversion to be performed then that must be stated. This applies to analysis, design and build phases.

### Detailed System Design

At this stage all components of the design document are mandatory. The design phase is important in that it specifies all components of the application.

There must also be consideration taken to add components to the design document for the object-oriented world. There must also be considerations in regards to the CIO standard look and feel *e-Service Kit*.

### IMF Dev & Site configuration

These projects typically fall into project categories 1 and 2. If a larger project has an Arch IMF component then these standards must also be followed.

### Application Code Reviews

Any code that is to be submitted to MSRM must go through internal code reviews and be submitted for MSRM code reviews. Code must also be run through *Checkstyle* as a Quality Assurance measure for code standard adherence.

*Checkstyle* is a development tool to help programmers write Java code that adheres to a coding standard. For more information please visit the *Checkstyle* Web site at: <http://checkstyle.sourceforge.net/>

### **Tested Application**

Integration and Load testing is only required for project category 4. The cost of integration and load testing could unduly increase the cost of the smaller projects.

### **Training Plan**

A training plan is not required for project categories 1 and 2 the User Procedures and Online Help will be sufficient.

### **Implementation Plan**

An Implementation Plan is not required for project categories 1 and 2.

### **Application Delivery and Migration**

All system development projects must follow MSRM's application delivery and migration standards.

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<sup>i</sup> RFP Template and Guide is only needed when the project is going through the procurement process.

<sup>ii</sup> The Budget section for the purpose of projects that are <25k, 25 – 50k and 50 – 100k, should only be a one line statement of the total budget. For project larger there should be a detailed table.

<sup>iii</sup> Conversion/Load requirements are only necessary if data is being converted and loaded from another system.