



Process Description: Requirements Management

1. Purpose

This document describes the process for management of contractually-based requirements at Lawrence Berkeley National Laboratory (LBNL). The processes described in this document provide a systematic approach to ensuring that all requirements are assigned an owner, analyzed for impact, and flow down to the workforce.

2. Applicability

This process applies to management of all requirements determined applicable to LBNL pursuant to terms of the U. S. Department of Energy (DOE) Contract No. DE-AC02-05CH11231 (Contract 31) and any LBNL generated requirements, policies and institutional documents. Contract 31 includes Clause I.79, DEAR 970.4204-2, Laws, Regulations and DOE Directives, which encompasses applicable federal, state and local laws and regulations. The University of California (UC) as contracting manager imposes UC specific requirements.

2.1 Exceptions

This process does not include the identification and evaluation of requirements that are being proposed for but are not yet adopted in Contract 31 or by the Laboratory. The document *Processes for Pre-Adoption of LBNL Requirements, 04.04.001.300* addresses proposed requirements.

3. Process Description

The process for managing contractually-based requirements at LBNL includes the steps of identifying the owner(s) of a requirement, analyzing meaning and impact of a new/changed requirement; and then setting forth applicable implementation mechanisms for the requirement to ensure flow down to the workforce. Implementing mechanisms include, but are not limited to, documents, training, programs, communication, and definitions of roles and responsibilities. The process also includes the steps for proposing a change to existing requirements.

Critical to the process is recordkeeping. Minimally, (a) every “requirements review case” related to an institutional requirement must be logged into the Requirements Management System (RMS) database, and (b) have a Significance Rating evaluated, and preferably a documented analysis that supports the disposition decision. The Significance Rating is a graded assessment of the case in terms of impact and implementation. It also provides guidance for approvals and sets expectations for implementation. The

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RMS database is used to capture the Significance Rating, case approvals, implementation plans, and changes to requirements and to document metadata.

Requirements are binned generally by policy area depending upon the scope and context of their content. Source requirements documents (SRD) are high level documents, such as a DOE directive, an industry standard, a section or clause of Contract 31, that establish performance expectations. SRDs are often comprised of multiple requirements, and may require parsing (or breaking down) to a detailed level for linking associated performance expectations to implementing mechanisms. In particular, such parsed requirements, though part of a single SRD, may span one or more policy areas, or may require independent implementation mechanisms. Except in the discussion of parsing, the term “requirement” is used generically, and may refer to a SRD or a parsed requirement.

Figure 1 illustrates the several elements of this Requirements Management Process. Figure 2 is an overall flow of the process steps for managing contractually-based requirements and includes steps for data entry as well as where supporting procedural documents describe details. Note that the approval process is graded and guided by the Significance Rating. The next several sections discuss the elements of Figure 1 in the context of the flow of Figure 2.

Figure 1

**Requirements Management Process Elements –
Managing Definition**

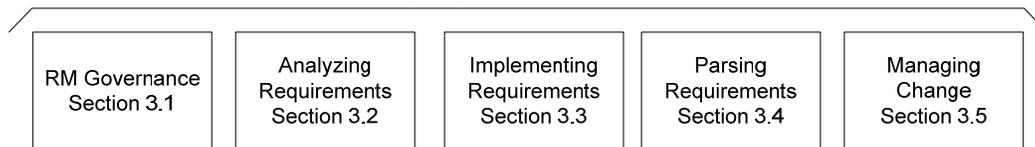
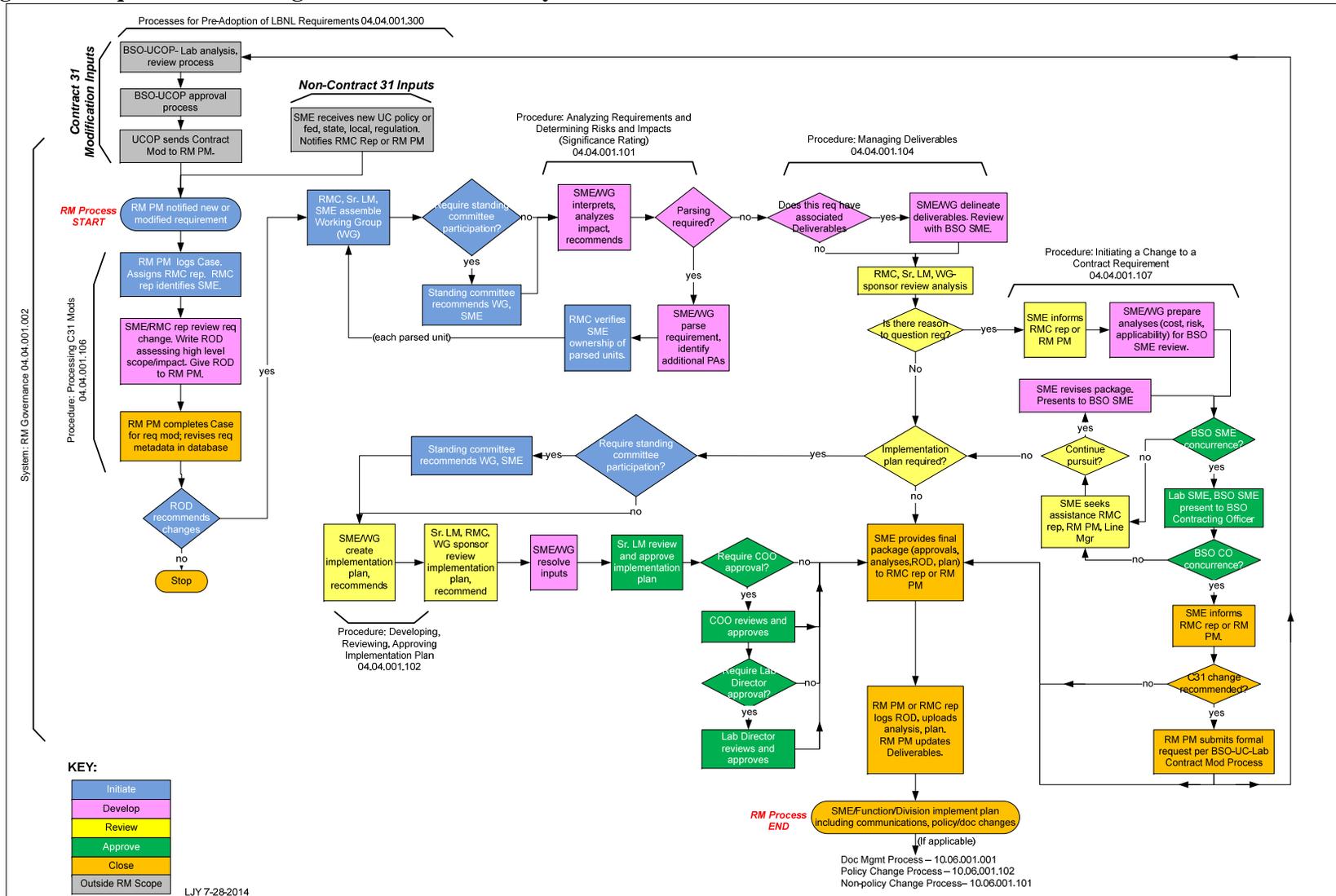


Figure 2: Requirements Management Process Summary



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3.1 Requirement Responsibility and Governance

RM governance is described in detail in *LBNL Requirements Management Governance*, document number 04.04.001.002.

Central to the governance organization supporting the requirements management process is the Requirements Management Committee (RMC), which reports to the Associate Laboratory Director of Operations/Chief Operating Officer (ALDO/COO). The COO appoints a chair from the RMC membership. The RMC relies on divisional subject matter experts (SMEs) and multiple Working Groups, comprised of cross-functional SMEs and stakeholders. The RMC collaborates with Laboratory standing committees (for example, the Laboratory's Safety Advisory Committee) for their respective fields of expertise. The Requirements Management Program Manager (RM PM) has responsibility for the requirements management processes and institutional document management processes. The RM PM and RMC work closely with and at the direction of the Senior Line Manager responsible for policy matters related to the Sr. Line Manager's respective functional area. The RMC has responsibility to make recommendations on requirements-related matters to Sr. Line Management, to champion the RM process and cross-functional view, and to perform quality checks on requirements-related work products by SMEs, functional groups, working groups.

Senior Line Managers have signature authority and responsibility for execution of any implementation on requirements-related matters. That is, line management is responsible for implementation, including development of supporting documents. Line management is responsible for ensuring compliance with the Laboratory's documentation management process.

The LBNL Requirements Management Program Manager (RM PM), serves as the focal point for receipt of new or modified requirements accepted into Contract 31 or mandated by applicable federal, state, or local laws, standards or regulations. The RM PM maintains a Requirements Management (RM) database for tracking requirements, their associated policy areas (PA), owners, records of implementing mechanisms, and their flow down to implementing documents.

When a new or modified requirement is received by the RM PM, the RM PM then notifies the responsible SME(s) and RMC member(s). The SME has responsibility for ensuring that requirements related to the scope of his/her policy or policy area are incorporated into the Laboratory's policies and procedures used to perform work. The SME may need the assistance of a small cross-functional team (Working Group (WG)), who would be assigned by the responsible senior line manager at the recommendation of the RMC member(s) and, if applicable, standing Laboratory committees. The SME or RMC member leads the WG, and together the SME/WG team analyzes and, if required, devises an implementation plan for the particular new or modified requirement.

3.2 Requirement analysis

Once a responsible SME is assigned a new or modified requirement and Working Group, the SME/WG uses the procedure defined in Procedure 04.04.001.101, *Analyzing Requirements and Determining Risks and Impacts*, to first analyze the meaning of the requirement. The analysis includes determination of a Significance Rating through evaluation of potential impact of the requirement on the Laboratory and

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possible implementing paths to address the requirement. The last step of the procedure is the evaluation of risks (for example, to safety, environment, property, costs) associated with the possible implementing paths. The SME/WG completes the written summary of their analyses and recommendations, which is reviewed by the RMC, the responsible Sr. Line Manager, and if applicable, the WG's sponsoring standing committee. The Significance Rating, the analysis recommendations and any comments are uploaded into the RM database.

If a requirement is a SRD that is parsed into smaller parts which are then assigned to more than one SME/WG, the analysis procedure needs to be applied to each of the parsed smaller parts by the assigned SME/WG.

3.3 Requirement Implementation

The graded assessment (Significance Rating) and results of the requirements analysis may recommend (a) no further action is required, because existing implementing mechanisms (for example, new or modified documents, new or modified training, roles, programs, and so forth) meet needs and are satisfactorily effective and efficient, or (b) specific new or modified effective and efficient implementing mechanisms must be established. The SME/WG applies Procedure 04.04.001.102, *Developing, Reviewing, Approving an Implementation Plan* and template 04.04.001.202, *Implementation Plan Form*, to determine and document implementing mechanisms for the particular requirement.

The RMC member and SME with inputs from the responsible Sr. Line Manager and applicable LBNL standing committees may recommend a WG membership for determining implementing mechanisms that is different from the WG that performed the requirement analysis.

The SME/WG submits the proposed plan for implementing mechanisms to the RMC, the responsible Sr. Line Manager(s), and if applicable, the WG's sponsoring standing committee. A copy of the plan and any decisions associated with the requirement are uploaded into the RM database. Implementation of the plan is accomplished under the direction of the responsible Sr. Line Manager(s).

Approval of implementation plans is graded, based on a significance rating based on risk analysis of impact and implementing mechanisms. See Appendix B for the significance rating chart, which is further described in Procedure 04.04.001.101 and its associated template, *Analyzing Requirements and Determining Risks and Impacts*.

3.4 Parsing of Requirements

As noted already, SRDs are often comprised of multiple requirements, and may require parsing (or breaking down) to a detailed level for linking associated performance expectations to implementing mechanisms. Such parsed requirements, though part of a single SRD, may span one or more policy areas,

or may require independent implementation mechanisms¹. Per Figure 2, the SME/WG team determines whether parsing is necessary and then completes its analysis of the parsed units that fall under their purview. For parsed units that are outside the assigned team's scope, the RMC assigns these to appropriate SME/WG teams, who then complete an analysis and determination of implementing mechanisms for flow-down per the process of Figure 2.

3.5 *Managing Changes in Requirements*

A requirement may change for any of several main reasons:

- a. DOE/BSO or UCOP may initiate change to a Contract 31 requirement or UC requirement.
- b. Federal, state, or local entities may introduce or modify or delete their respective regulations.
- c. Errors or changes in a requirement's metadata (for example, Lab ownership) may be discovered and need correction.
- d. A subject matter expert (SME) and his/her line management while analyzing the details of a requirement may determine that the requirement (and/or deliverable) is not applicable to the Laboratory or is duplicative of another requirement.

The first two are the most common drivers for a requirements change, and are the main focus of this process document. The third (c) primarily impacts maintenance of the RMS database and such editorial-like corrections may be submitted to the RMS administrator (RM Program Manager) directly. The last (d) does not happen often, but as illustrated in Figure 2, requires the Lab SME to first obtain his/her BSO SME counterpart to concur, then together obtain the concurrence of a BSO Contracting Officer, and after gathering these concurrences, the RM Program Manager then formalizes the request for change which is put forth for consideration per the BSO-UCOP-Laboratory Contract 31 change process. This procedure is captured in the procedure, 04.04.001.107, *Initiating a Change to a Contract Requirement*.

Since Contract deliverables are a subset of requirements, the processes for change apply to deliverables irrespective of the reason for change.

3.6 *Guidance for High Urgency Situations*

Occasionally, there may be a need to implement a requirement- or policy-related change quickly. Such "stop work" or "stop practice" mandates must have at least Division Director authority. These high urgency situations are still subject to completing the applicable elements of the RM process. However, the RM elements may be worked on in parallel or in a different sequence. The responsible Division and assigned SME(s) are expected to drive completion. Because the matter is urgent, emphasis on communication is likely needed. The following is an example of re-ordering the RM process for a highly urgent situation.

¹ A RM Program goal is to parse to discrete requirement statements and demonstrate flow-down from each such discrete requirement into implementation. However, given the combined lengths and complexity of Contract 31 and its associated standards and regulations, parsing to discrete requirements is a long term goal. For now, priority shall be placed on ensuring distribution of requirements to the correct Policy Areas.

- Division Director assigns SME, who notifies Division's RMC Representative and RM PM within 24 hours.
- SME completes Communication Plan (guidance found in Implementation Plan Template) and Significance Rating. Plan is reviewed by Division Director or designee.
- SME with Division Director or designee determines Working Group members
- SME initiates communications to affected groups (including oversight committees, if applicable) within 48 hours.
- Any written interim procedures or processes that are distributed to affected groups must comply with document control process, including approvals, change and version control.
- RM Process must be initiated by opening RM Case in RM database within 48 hours.
- SME completes applicable RM Process steps, which may lag or be in parallel with initial communications and written interim procedures.

4. Roles and Responsibilities

These are adopted from *LBNL Requirements Management Governance, Document 04.04.001.002*, and emphasize responsibilities pertinent to this process. Refer to the Governance document for the most comprehensive, up-to-date version.

Role	Responsibilities
Requirements Management Program Manager (RM PM)	<ul style="list-style-type: none"> • Manages the Laboratory's requirements management and institutional document management processes. Is the main driver and champion of these processes. Has author/review/recommendation responsibilities for quality and completeness of RM process and institutional document management process documentation. • Serves as the Laboratory's contact point on requirements and institutional document management-related matters. Is the focal point for receipt of new or modified requirements accepted into Contract 31 or mandated by applicable federal, state, or local laws, standards or regulations. Notifies RMC of such matters. • Works with UCOP and Berkeley Site Office staff on requirements-related matters. • Is a member of the RMC. May be Chair of the RMC. • Leads RMC and other cross-functional teams in solving problems using risk based-analysis techniques. • Works with RMC members and RMC chair as required to meet the RMC's and RMC members' responsibilities within the framework of the RM process. • Coordinates inputs from the RMC members, the Working Groups, and the responsible Sr. Line Manager. Presents to RMC for discussion and resolution. • Applies broad knowledge of operations functions <ul style="list-style-type: none"> • To assess the quality, accuracy, efficiency and effectiveness of recommendations generated by the RMC, the Working Groups • To seek resolution of issues or conflicts related to Laboratory policy or document matters at the lowest levels possible. • Oversees management of Laboratory's policy manual. • Maintains the Requirements Management (RM) database for tracking requirements, their associated policy areas (PA), owners, records of

Role	Responsibilities
	implementing mechanisms, and their flow down to implementing documents. Maintains accuracy and currency of the RM tracking system. Has review/approval responsibility for quality and completeness of requirement, policy, and document metadata.
Requirements Management Committee (RMC)	<ul style="list-style-type: none"> • Reviews and oversees disposition of Requirements Review Cases related to requirements, Laboratory policies, and on a case-by-case basis Laboratory implementing documents. • Applies the RM process in the review and disposition of Requirements Review Cases related to requirements, Laboratory policies, and on a case-by-case basis Laboratory implementing documents. Ensures that flow-down from requirement into implementing documents is addressed. • . • Applies cross-functional knowledge on requirements matters. <ul style="list-style-type: none"> • Assesses the Laboratory wide impacts of new or changed requirements, and adopts a holistic response. • Reviews and recommends best qualified team members to address requirements analyses, implementation mechanisms and plans, policy and procedure documents. <ul style="list-style-type: none"> ▪ Such team members include Working Group (WG) members, subject matter experts (SME), and stakeholders. ▪ Ensures teams are cross-functionally represented. ▪ Recommends collaboration with other Laboratory standing committees whenever possible. • Reviews and applies cross-functional knowledge and judgment on WG, and SME work products (analyses, implementation plans, policies). <ul style="list-style-type: none"> ▪ Ensures analyses and plans lead to practical (cost, breadth of impact, simplicity, etc.) implementation. ▪ Ensures risk analysis and problem solving techniques and best practices have been applied. • Advises responsible Sr. Line Manager on WG/ SME work products. • Drives for process simplicity. Seek resolution and decision-making at the lowest levels possible. Review processes at least annually and make improvements for efficiency and effectiveness. • Reviews communications plan to ensure effectiveness and thoroughness. • Reports to ALDO/COO. • Champions RM and institutional document management processes.
RMC member representing Division	<ul style="list-style-type: none"> • Is nominated by the Division Director and chartered for appointment to the RMC by ALDO/COO. Serves for a 3 year term. • Must have and apply experience and breadth of knowledge of requirements, policy, and specific functional operation in his/her respective areas of expertise. Must have and apply good working knowledge and experience of general Laboratory operations. • Must be trained on LBNL RM and document management processes. • Is the communications conduit between the Division and RMC for Division policy-related efforts, whether initiated by the Division or by other functions. • Has authority (as delegated by his/her Sr. Line Manager) to accept RMC actions or assignments on behalf of his/her respective functional area. • Communicates actions and/or assignments to respective Sr. Line Manager on

Role	Responsibilities
	regular basis. <ul style="list-style-type: none"> • Must consistently attend and participate at RMC meetingsApplies skills and experience in risk analysis and problem solving techniques. • May be assigned to other RM roles (Working Group, Policy Area Manager, functional document control administration). [Note: assignment to multiple roles is not recommended, though in the short term is recognized as necessary.]
Working Groups (WG)	<ul style="list-style-type: none"> • Comprised of members from affected and/or responsible divisions, having related special knowledge on the particular requirement or case in question. • Members are recommended by RMC in collaboration with Laboratory standing committee(s). • Recommendations for WG member and SME participation are approved by respective Senior Line Managers. • Perform detailed analyses, and determine detailed and practical implementation plans, with consideration of cost, simplicity, impact, and overall risk. • Make recommendations in a timely fashion to the RMC, RM PM, Sr. Line Manager, and if applicable, the WG's sponsoring standing committee.
Subject Matter Expert (SME)	<ul style="list-style-type: none"> • A Laboratory employee or consultant with specialized knowledge about a certain topic or field of interest. • Provides technical expertise to the RMC and/or Working Group as it relates to the interpretation and implementation of requirements, including the development and review of policies and implementing documents. • May be a Working Group member, may be an author or reviewer • (Lead or senior functional SME) Has ownership and accountability for the technical content, accuracy, and completeness of policies. <ul style="list-style-type: none"> ○ Leads in the identification and translation of requirements. Seeks and has the assistance of WG and RMC member. ○ Leads the development and/or revision of policy and implementing documents within area of responsibility in accordance with requirements. Seeks and has the assistance of WG and RMC member. ○ Coordinates document reviews, comment resolution, and implementation actions. <ul style="list-style-type: none"> ▪ May be delegated by Sr. Line Manager to approve certain institutional documents upon completion of required reviews. ○ Draws on RMC, other Laboratory standing committees, respective Sr. Line Manager for assistance, as required. ○ Is delegated authority by Sr. Line Manager to accept RMC actions or assignments on behalf of his/her respective policy area. ○ Drives for timely completion of case assignments. ○ Must be trained on LBNL RM and document management processes. • Applies skills and experience in risk analysis and problem solving techniques. • Applies leadership skills in working with WG members, the RMC, other Laboratory standing committees. • Communicates progress, actions and/or assignments to the RMC and respective Division Sr. Line Manager on regular basis.
Reviewers	<ul style="list-style-type: none"> • Review and provide comments and comment resolution concurrences on documents that directly affect operations. Reviewers may be other SMEs, members of Working Group(s), RMC members, affected users, members of Laboratory institutional committees, Laboratory managers, and so forth.

Role	Responsibilities
LBNL standing committees	<ul style="list-style-type: none"> • These are institutional committees that support various aspects of its scientific and management functions. • These have expertise and responsibilities in the particular area of committee focus. • These committees may have sub-committees or be a source of resources that may provide expertise to RM-related matters.
Sr. Line Manager	<ul style="list-style-type: none"> • Has responsibility and accountability for managing Laboratory requirements that pertain to his/her area of responsibility, including identification of what the requirements are and implementing them through policies, programs, procedures, etc. • Has ownership and accountability for the technical content, accuracy and completeness of respective Function's documents. Ensures compliance with LBNL requirements and document management policies and procedures. Approves institutional documents upon completion of required reviews. • Has responsibility and authority to define and implement changes in policies, programs, procedures, etc. resulting from changes to Contract 31, UC requirements, and to applicable federal, state, local laws and regulations, as well as any direction provided by supplementary letters or memos from DOE or UCOP. • Ensures compliance with LBNL requirements and document management policies and procedures. • Communicates to the RM PM and RMC objectives and general guidance on implementation for the policy under question. • Has responsibility for execution of approved plans for implementing mechanisms supporting a Laboratory requirement or policy, including assigning resources and funding. • Works with the RM PM and RMC to resolve issues that may arise in the process of review and translation of requirements, policy into implementation. • Reviews and approves policy and detailed implementation plans recommended by a Working Group and the RMC. Approval implies commitment of resources and funding for coverage of his/her function. For those cases where multiple functions are participating, approvals must be obtained from each participating function. • Nominates representative(s) to RMC. • Appoints WG members, SMEs, Document Authors. • Delegates authority to lead SMEs and RMC member to accept RMC actions or assignments on behalf of the Sr. Line Manager's respective policy area. Has option to delegate approval authority to PAM or RMC member.
Associate Laboratory Director of Operations/ Chief Operating Officer (ALDO/COO)	<ul style="list-style-type: none"> • Has full responsibility and authority to make, implement, and enforce policies related to the Laboratory Operations. • Works with the RM PM and Sr. Line Managers to resolve difficult or complex policy matters, (for example, setting priorities or providing judgment on controversial policy or implementation, or allotting funds) that may arise in the process of review and translation of requirements or policy into implementation. • Reviews and approves policy and detailed implementation plans recommended by the Sr. Line Managers and the RMC. Reviews and approves institutional documents, as required. • Has the prerogative to establish a cross-functional senior management

Role	Responsibilities
	<p>committee to assist on RM issues.</p> <ul style="list-style-type: none"> Appoints RMC members and RMC chairperson.
Laboratory Director	<ul style="list-style-type: none"> Has full responsibility and authority to make, implement, and enforce policies related to the Laboratory. Reviews and approves policy and detailed implementation plans recommended by the Chief Operating Officer.

5. Definitions

Term	Definition
Contract 31	"Contract 31" is short for Contract No. DE-AC02-05CH11231 between the U. S. Department of Energy and the University of California describing the terms for management of LBNL. The Contract includes a statement of work (SOW) for the science missions and it details the requirements for managing the operations and business of LBNL.
Deliverable	Any measurable, tangible, verifiable outcome, product, result, or item that must be produced to satisfy a requirement under the terms of an agreement, contract, or implementing mechanism. These include but are not limited to reports, plans, inventories, inspections, assessments, documents, procedures, programs, data, etc. A requirement specifies a deliverable, and therefore a deliverable is subject to requirements management practices.
Document	Written, visual, audio-video-recorded information stored in the form of hard copy, film, magnetic tape, electronic data, or in an on-line, web-based format
Document Information	Also referred to as document metadata, and includes (but not limited to) titles, document numbers, revision dates, and for traceability, the related source requirements and implementing documents' information.
Document Management	A business management process that ensures organization access to current, reliable, and concise information. Document management process includes document control, change control, configuration control, periodic review, and communication/distribution.
Functional area	A grouping of individuals on the basis of the function each performs in the organization (for example, human resources or IT). A Division, Department, or Office at the Laboratory. Functional areas may have oversight of one or more policy areas, or may share responsibility for a policy area with another function.
Institutional document	A publication authorized by Laboratory management that delineates laboratory-wide or multi-departmental policy, procedures, regulations, programs, plans, and so forth. Scientific and technical publications and reports are not included in this definition.
IPOC	Institutional Point of Contact, a person whose responsibilities include monitoring, assessing, negotiating <u>potential</u> or <u>possible</u> changes affecting Contract 31.
Laboratory Discipline	A group of related policy areas. Laboratory Disciplines are organizationally neutral; that is, they do not reflect organizational structure. Example: Laboratory Discipline Information Management encompasses computing, document management, intellectual property management.
Metadata	See Document Information
Parsing	Breaking down a source requirement document to an appropriate level of detail for linking associated performance expectations to implementing mechanisms

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Term	Definition
Policy Area (PA)	A grouping of related policies. Policy areas are organizationally neutral; that is, they do not reflect organizational structure. Though organizationally neutral, Policy Areas typically are assigned to an Operations function. Some policy areas may span across more than one function, and a primary functional owner is therefore assigned.
RM Database	A database tool for managing requirements and related information, including tracking requirements, their associated policy areas, owners, records of implementing mechanisms, and their flow down to implementing documents.
Requirement	A specific obligation to perform an action mandated by LBNL senior management or the federal, state, or local government; or to comply with the Laboratory's contract with the Department of Energy; or to comply with agreements made between the Laboratory and its corporate manager, the University of California.
Requirements review case	An instance or a question related to a requirement that has been logged into the Requirements Management database for disposition by the RM Committee.
Source requirements document	A high level document that establishes performance expectations as a result of a citable policy, directive, law, regulation, or contract. Examples: - Clause H.18 – Application of DOE Contractor Requirements Documents - 10 CFR 851, Work Safety and Health Program
Senior Line Manager	The highest level or most senior level of authority within a division or office. For example, the EHS Division Director or the Chief Human Resources Officer or Chief Financial Officer, or Public Affairs Department Head.

5.1 Acronyms

ALDO/COO	Associate Laboratory Director of Operations/Chief Operating Officer
IPOC	Institutional Point of Contact
LM	Line Manager (Senior)
PA	Policy Area
RM	Requirements Management
RM PM	Requirements Management Program Manager
RMC	Requirements Management Committee
ROD	Record of Decision
RPM	Regulations and Policy Manual
SME	Subject Matter Expert
WG	Working Group

6. References

6.1 Source Requirements Documents	
Requirement ID	Title
DOE Order 414.1D	Quality Assurance
Contract 31, Clause I.76	DEAR 970.5203-1, Management Controls
Contract 31, Clause I.79	DEAR 970.5204-2, Laws, Regulations, and DOE Directives (Dec 2000) (Deviation)
Contract 31, Clause H.18	Application of DOE Contractor Requirements Documents
Lab PUB 3111	LBNL Quality Assurance Program Description
04.04.001.000	Requirements Management Policy
04.03.001.000	LBNL Quality Assurance Policy
04.04.001.001	LBNL Requirements Management Program Description

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6. 2 Related Implementing Documents (including procedures, forms, training)	
Document Number	Title
10.06.001.001	<i>LBNL Managing Institutional Documents Process Description</i>
04.04.001.002	<i>LBNL Requirements Management Governance</i>
04.04.001.004	<i>Requirements Management Database Requirements Specification</i>
10.06.001.102	<i>Procedure: Developing , Reviewing, Approving Institutional Policy Documents</i>
10.06.001.104	<i>Procedure: Managing the LBNL Requirements and Policy Manual (RPM)</i>
04.04.001.101	<i>Procedure: Analyzing Requirements and Determining Risks and Impacts</i>
04.04.001.102	<i>Procedure: Developing, Reviewing, Approving an Implementation Plan</i>
04.04.001.104	<i>Contract Deliverables Management Process</i>
04.04.001.105	<i>Graded Approach for Requirements and Documents</i>
04.04.001.106	<i>Processing Contract 31 Modifications</i>
04.04.001.107	<i>Procedure: Initiating a Change to a Contract Requirement</i>
04.04.001.202	<i>Form: LBNL Implementation Plan Template</i>
04.04.001.201	<i>Form: Analyzing Requirements</i>
04.04.001.206	<i>Form: Significance Rating</i>
04.04.001.208	<i>Form: Record of Decision</i>

7. Contact

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 Requirements Management Program Manager
 LBNL Office of Contractor Assurance

8. Revision History

Date	Revision	By whom	Revision Description	Section affected
8/1/2014	1.0	L. Young	Align to what's in practice. Remove Policy Area Manager role; align other roles, definitions.	All
3/22/2013	0.5	L. Young	Add Change Management Section, adjust flow chart, point out deliverables; change High Urgency pilot review date to 9/13. Updated SRD, ImpDocs	Section 3.5 (shifts High Urgency to 3.6), Definitions, Figures 1, 2
7/25/2012	0.4	L. Young	Add High Urgency paragraph, align Appendix B with 6/12 version of Significance Rating. Pilot Test this paragraph for approx 5 months	Section 3.5, Appendix B
12/12/11	0.3	L. Young	Prepare for signoff and pre-release in OCA web	

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Appendix A: LBNL RPM Sections and Policy Areas

This list is as of 12 December 2011. For most current and accurate listing, on-line *Requirements and Policy Manual* (PUB-201).

Section	Section Number	Policy Area	Policy Area Number	Section	Section Number	Policy Area	Policy Area Number		
Lab General Policy & Info	01.00.000.000	Laboratory General Information	01.02.000.000	ESH	07.00.000.000	ESH General Policy	07.01.000.000		
		Ethics and Conduct	01.01.000.000			Safe Work Authorization	07.02.000.000		
HR	02.00.000.000	Human Resources Policies Overview	02.01.000.000			Incident Review and Reporting	07.03.000.000		
		Work Environment	02.02.000.000			ESH Training	07.04.000.000		
		Types of Employee Appts	02.03.000.000			Health Services Programs	07.05.000.000		
		Recruitment	02.04.000.000			Emergency Management Program	07.06.000.000		
		Employee Development	02.05.000.000			Industrial Hygiene and Safety	07.07.000.000		
		Compensation & Work Hours	02.06.000.000			Radiation Protection	07.08.000.000		
		Leaves of Absence	02.07.000.000			Environmental Protection Program	07.09.000.000		
		Employee Records	02.08.000.000			Waste Management Program	07.10.000.000		
		Relations with Employee Organizations	02.09.000.000			Fire Protection Program	07.11.000.000		
		Outside Business and Employment	02.10.000.000			Safeguards & Security	08.00.000.000	Physical Security	08.02.000.000
		Problem Resolution	02.11.000.000					Foreign Visitors and Information Management	08.04.000.000
		Separation from Employment	02.12.000.000					Travel (foreign)	08.05.000.000
Health Services	02.13.000.000	Computing & communications (Cyber Security)	08.06.000.000						
Conduct of R&D	03.00.000.000	Research Integrity	03.01.000.000	Facilities Management	09.00.000.000	Major construction	09.01.000.000		
		Human and Animal Subjects Research	03.02.000.000			NEPA-CEQA	09.02.000.000		
		Agreements	03.03.000.000			Shipping and Receiving	09.03.000.000		
		Solicitation & Acceptance of Gifts for Research	03.04.000.000			Utilities	09.04.000.000		
		Technology Transfer Ombuds	03.05.000.000			Vehicles at LBNL	09.05.000.000		
		Controlled Substances	03.06.000.000			Contracting Services	09.06.000.000		
		Foreign Visitors and Information Management	08.04.000.000			Moves	09.07.000.000		
		Scientific and Technical Publications	10.02.000.000			Space	12.04.000.000		
						Furniture	12.03.000.000		
Contractor Performance Management	04.00.000.000	Internal Audit	04.01.000.000			Information Management	10.00.000.000	Information Technology	10.01.000.000
		Quality Assurance	04.03.000.000					Information Categories and Controls	10.08.000.000
		Requirements Management	04.04.000.000					Scientific and Technical Publications	10.02.000.000
		Contractor Assurance	04.02.000.000	Document Management	10.06.000.000				
Conflict of Interest	05.00.000.000	Outside Business and Employment	05.01.000.000	Archives and Record Management	10.03.000.000				
		Col in Research	05.02.000.000	Public Info/External Relations	10.07.000.000				
		Col in Procurement	05.03.000.000	Intellectual Property	10.04.000.000				
		Col and Property	05.04.000.000	Licensing	10.05.000.000				
		Employment Restrictions	05.05.000.000	Foreign Visitors and Information Management	08.04.000.000				
		Financial Disclosure	05.06.000.000	Financial Management	11.00.000.000			Accounting	11.01.000.000
		Conflict of Interest - General	05.07.000.000			Budget	11.02.000.000		
		Organizational COI	05.10.000.000			Events, Planning and Financial	11.03.000.000		
		Restrictions on Outside Activities	05.11.000.000			Financial Business Systems	11.04.000.000		
		Foreign Visitors and Information Management	08.04.000.000			Payroll	11.05.000.000		
		Travel	11.06.000.000						
Non-DOE Funded Research	06.00.000.000	Non-DOE Funded Research Mechanisms	06.01.000.000	Financial General Policies and Information	11.07.000.000				
		Col in Research	05.02.000.000	Solicitation & Acceptance of Gifts for Research	03.04.000.000				
		NEPA - CEQA	09.02.000.000	Asset Management	12.00.000.000	Procurement	12.01.000.000		
		Solicitation & Acceptance of Gifts for Research	03.04.000.000			Property	12.02.000.000		
		Additional UC Research Policies	06.02.000.000			Furniture	12.03.000.000		
		Human and Animal Subjects Research	03.02.000.000			Space	12.04.000.000		
		Budget (non-DOE)	06.03.000.000			Computing and Communications (assets)	12.05.000.000		
Accounting (non-DOE)	06.04.000.000	Intellectual Property	10.04.000.000						
		Licensing	10.05.000.000						

Appendix B: Approval Matrix for Implementation

Significance ratings are based on the summary risk analysis table re-printed from Form 04.04.001.206, *Significance Rating*. Note that Senior Line Managers may delegate a group lead or department head or Policy Area Manager to approve cases having Significance Rating of E.

Table B.1 (from Procedure 04.04.001.101, *Analyzing Requirements and Determining Risks and Impacts*)

a	Brief description of what is being analyzed:				
b	Impact	Value	1	2	3
(see Table for definitions)	# Policy Area(s)	<input type="checkbox"/> 1			<input type="checkbox"/> > 1
	# Divisions affected	<input type="checkbox"/> 1		<input type="checkbox"/> 2	<input type="checkbox"/> > 2
	# of people	<input type="checkbox"/> < 100		<input type="checkbox"/> 100 to 1000	<input type="checkbox"/> > 1000
	Risk area (safety)	<input type="checkbox"/> Low		<input type="checkbox"/> Medium	<input type="checkbox"/> High
	Risk area (business)	<input type="checkbox"/> Low		<input type="checkbox"/> Medium	<input type="checkbox"/> High
	Risk area (compliance)	<input type="checkbox"/> Low		<input type="checkbox"/> Medium	<input type="checkbox"/> High
	Sums (# checks times Value):				
	Impact Total (sum total divided by 6)				
c	Implementing Mechanisms (consider all areas & people impacted)	Documents (number)	<input type="checkbox"/> Small (1-2)	<input type="checkbox"/> Medium (2-4)	<input type="checkbox"/> Large (>4)
	Documents (complexity)	<input type="checkbox"/> Easy (< 10 hr)		<input type="checkbox"/> Modest (<30 hr)	<input type="checkbox"/> Complex (>30 hr)
	Training	<input type="checkbox"/> Easy (dept)		<input type="checkbox"/> Modest	<input type="checkbox"/> Complex
	Resources, roles	<input type="checkbox"/> Small change		<input type="checkbox"/> Modest addition to existing	<input type="checkbox"/> Substantially different, new hires
	Property/equipment	<input type="checkbox"/> Small cost (< \$10K)		<input type="checkbox"/> Modest cost (<\$100K)	<input type="checkbox"/> High cost (>\$100K)
	Communication	<input type="checkbox"/> Easy		<input type="checkbox"/> Modest	<input type="checkbox"/> Complex (pamphlets, multiple announcements over several months, etc.)
	Testing	<input type="checkbox"/> None		<input type="checkbox"/> Beta	<input type="checkbox"/> Alpha, Beta, Pilot
	Program	<input type="checkbox"/> No change		<input type="checkbox"/> Modest change	<input type="checkbox"/> Form new
	Sums (# checks times Value):				
	Implementing Total (sum total divided by 8)				
Enter SIGNIFICANCE RATING (use Figure 1 and Impact and Implementing Totals. Round up for fractions greater than or equal to 0.5. Round down for fractions less than 0.5)					
Using the resulting Significance Rating, determine Approval Levels from Table 1 and Minimum Required Program Elements from Table 2.					

FIGURE 1: Significance Rating

Impact	3	B	B	A
	2	D	C	B
	1	E	D	C
		1	2	3

Implementing Mechanisms

TABLE B.2: Approvals:

Significance Rating	Approval
A	Lab Director (or designee)
B	COO (or designee)
C, D	Sr. Line Manager(s)
E	Sr. Line Manager (or designee)

TABLE B.3: Minimum Required Program Elements

Significance Rating	Minimum Required Program Elements of a Management System
D, E	<ul style="list-style-type: none"> Document gap analysis and comparison to current implementation methods Select approach with input from users Develop communications approach Draft program/policy change for review User review/input as needed
C	<ul style="list-style-type: none"> Document gap analysis and comparison to current implementation methods Benchmark (telephone calls and e-mails may suffice) Select approach with input from users Develop communications approach Develop cost-benefit analysis User/Lab Institutional Committee input* (consider an early committee briefing as appropriate) Consider test period prior to full implementation (pilot testing) Prepare implementation approach
A, B	<ul style="list-style-type: none"> Document regulatory analysis and comparison to current implementation methods Develop communications approach Early briefing of Lab Institutional Committee* (for example, SAC) on new or changed requirement Additional briefings to line management and users (as needed) Benchmark (up to site visits) User participation on development of approaches, evaluation of alternatives, and selection of final approach to implementation Develop cost-benefit analysis Develop detailed implementation approach Run both an alpha test and beta test before implementation

*Lab Institutional Committee – for example, Laboratory Safety Advisory Committee (SAC)