UCSF Records Management Best Practices and Cost Analysis Guidance

June 20, 2014

Best Practices

The following are a number of records and information management best practices that will help guide records management decisions and processes as you prepare for the move to Mission Hall. These best practices procedures are based on industry standards (namely Generally Accepted Recordkeeping Principles® promulgated by ARMA—Association of Records Managers and Administrators), UC policies, and data gathered during on site interviews at UCSF.

To start, the definition of a "record" or interchangeably "administrative record" as per UC policy is:

> *Any writing, regardless of physical form or characteristics, containing information relating to the conduct of the public's business prepared, owned, used, or retained by an operating unit or employee of the university. "Writing" means handwriting, typewriting, printing, photostating, photographing, photocopying, transmitting by electronic mail or facsimile, and every other means of recording upon any tangible thing any form of communication or representation, including letters, words, pictures, sounds, or symbols, or combination thereof, and any record thereby created, regardless of the manner in which the record has been stored. RMP-1*

Federal law dictates, except for in a few narrowly defined circumstances, that an electronic record "may not be denied legal effect, validity, or enforceability solely because it is in electronic form." There are occasions where research study sponsors and/or monitors will require hard copy records and for practical reasons these dictates should be accommodated. Before destroying any hard copy records after they have been scanned and gone through the QC process, care must be taken to confirm that the hard copy records are not subject to any regulatory/legal holds or other policy/protocol directives. Questions about these processes can be directed to Brenda Gee BGee@Chanoff.ucsf.edu, the UCSF Records Management Coordinator.

Making Decisions About Your Records Before The Move

The first step in the sequence of processing your records for the move is to group them, if possible, into these designations:

- *Active Records*: A record that is necessary for the conduct of current business. (records needed close-at-hand, accessed frequently—some of these records might be good candidates for scanning, see *Scanning* section below for more information)
- *Inactive Records:* A record that is no longer necessary for the conduct of current business, but has not yet reached the end of its retention period (records that can be sent to off site storage that will be accessed very infrequently if at all).

    - For example: closed research studies, 3-year old (and older) tax documents, superseded policies and procedures, 3-year old (and older) travel expenses documents, etc.
    - Records that are unique with historical or ongoing value may be good candidates for scanning even if they are inactive records
- *Non-Record*: Material that is of immediate value only. Non-records are not maintained as university administrative records, are not assigned retention periods, and are not subject to records disposition guidelines.
    - For example: envelopes, routing slips, data-entry and work-sheets, rough drafts, multiple copies of publications, blank forms, and notes and audio recordings that have been transcribed.
- *Records For Destruction*: Records whose legal retention requirement has been met and are clear of any regulatory/legal/sponsor-monitor retention protocols.

Sometimes these designation groupings will be easy to determine—boxes of records that have sat in a closet for years untouched can easily be assigned an inactive title, likewise records of an active study, for example, that are being viewed and handled by project investigators, sponsors and monitors on a weekly basis are easily defined as active. In some cases, though, the groupings will not be an easy determination. As a general guideline, a record still under retention that is accessed at least once a year or more frequently can be considered "active," while one accessed less frequently can be considered "inactive." See the *Sending Records to Off Site Storage* section below for more information on record storage.

Another important decision in the grouping of records is the determination of "non-record" or a record that is not the "record copy" (or "official copy). For example, if you had a copy of a payroll record but knew that another identical "official copy" existed in the payroll department then your copy would be a "non-record" (or convenience/courtesy copy) and could therefore be destroyed at your discretion. Non-records should not be sent to off site storage and/or scanned. If you are unclear as to which person/department is responsible for maintaining "record copies" (or "official copies") of particular record types please contact Brenda Gee BGee@Chanoff.ucsf.edu, the UCSF Records Management Coordinator, for clarification.

Information about how to reduce paper in the workspace is available at:
http://www.ucop.edu/information-technology-services/_files/webinars/digging-out/lib/playback.html

For information on record retention and record destruction please see the *Record Retention Schedule and Record Disposition* and *Naming and Classifying Records* sections below.

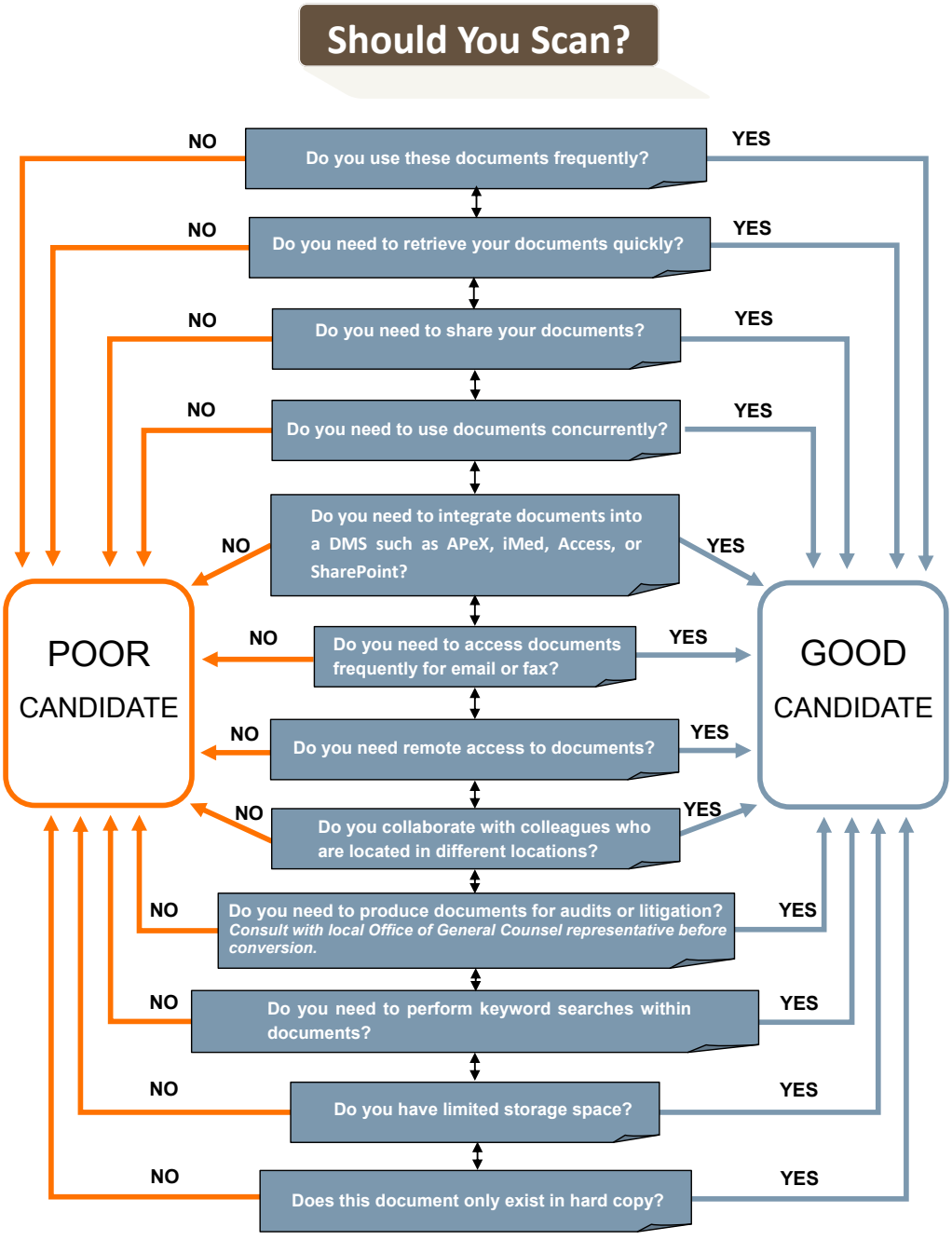
*Note: Supplies such as research study kits, mannequins/models or promotional and office materials are not included as part of these best practices considerations. However, recommendations have been made for their inclusion in the Mission Hall space analysis.

Scanning

Once record grouping designations have been determined or as part of the designation process, digitizing records (or scanning) should be considered. Scanning is often seen as the go-to method for solving space and access constraints, yet care must be taken in deciding which records are best suited for scanning and which might be best suited for off site storage (or even destruction). You will find a scanning decision tree below to help you work through the identification of those records best suited for scanning—generally a majority of "Yes" answers in the decision tree will make the record a good candidate for scanning. You will also find a cost analysis for the scanning process that will assist you in establishing a budget for your project. Often the cost of scanning is higher than people first assume and sending records to off site storage works out to be the most inexpensive option. Remember, if a "record copy" (or "official copy") of a record exists elsewhere or if the record you are considering for scanning already exists in electronic form then scanning should not be done.

Once the decision has been made to scan records, you must also take care that the proper record descriptions, titles, date range and keywords (metadata) are included and attached to each scanned image. See *Procedures for In-House Scanning* below.

To Scan or Not to Scan



Scanning Cost Analysis

The complexity of scanning projects varies greatly. Factors affecting the complexity of a scanning job include the condition of the originals, volume of staples and fasteners, number of indexing fields, document length and so on. Please note, the examples below are intended to provide only a general reference for scanning costs and your true project cost will vary and can only be determined through analysis, planning and testing. The examples will provide a starting point to analyze the time commitment and cost required to accomplish your scanning project.

Prior to making any decision relating to scanning or digitizing records – contact the service providers involved for a detailed quote and description of services specific to your departmental needs.

Example 1 - Simple (Straight Forward) Scanning Project:

Assumptions:

- Documents are in good condition, one size: 8.5”x11”, single sided, minimal amount of fasteners (staples, paperclips, etc.), no document repair required
- Black & white scanning (text documents)
- No OCR (Optical Character Recognition)
- Number of fields to be indexed/catalogued information is minimal – for example, an unique file number and date
- Index information is consistently placed in the same location for all documents
- Number of files to be indexed/catalogued information is minimal
- No reassembly of documents is required

UCSF Scanning In-House Simple Scanning Project				Outsource to Imaging Service Bureau Simple Scanning Project	
1 box = 2,000 pages				1 box = 2,000 pages	
Step	Labor Hours	Labor Rate	Cost/Box	Price Per Page	Cost/Box
Document Prep	3	$25.00	$75.00	$.05-$.12	**$100.00-$200.00**
Scan	1	$25.00	$25.00		
Index	1	$25.00	$25.00		
QC	1	$25.00	$25.00		
Total			**$150.00**		

Example 2 - Complex Scanning Project:

Assumptions:

- Documents are in fair condition, multiple document sizes, single and double sided documents, high volume of fasteners (staples, paperclips, etc.), folded documents and some document repair
- Primarily black & white scanning with some gray scale or color for pictures, photos, etc.
- OCR
- Indexing requirements are significant – numerous index fields
- Index/catalogue information is not always located in the same location for all documents
- Number of files to be indexed/catalogued is significant
- Reassembly of documents is required

UCSF Scanning In-House Complex Scanning Project				Outsource to Imaging Service Bureau Complex Scanning Project	
1 box = 2,000 pages				1 box = 2,000 pages	
Step	Labor Hours	Labor Rate	Cost/Box	Price Per Page	Cost/Box
Document Prep & Reassembly	5	$25.00	$125.00	$.13-$.20	**$260.00-$400.00**
Scan	3	$25.00	$75.00		
Index	4	$25.00	$100.00		
QC	3	$25.00	$75.00		
Total			**$375.00**		

Procedures for In-House Scanning

Conversion of hard copy records to digital images can be performed either by UCSF in-house or by a third party scanning service bureau. In-house scanning requires supervision and adherence to proper scanning procedures. Short cuts in the scanning process, especially in quality control, will cause problems in document retrieval. Project planning, supervision and quality control are essential to successfully digitize hard copy records. The procedures below can assist you in developing your own scanning process.

Step 1

Document Preparation- all source documents require some handling to make them scanner ready.

- Remove pages that are not required as part of the official record
- Pages need to be placed in a correct order.
- Remove staples, paperclips, and binder clips
- Repair tears
- Unfold and straighten pages
- Tape down post it notes, receipts and small sheets of paper or affix them to a blank page
- Unbind bound reports, books and catalogs (if allowed)
- Pages should be placed so that the tops of the documents are all aligned
- Insert document separator sheets between documents
    - Separator sheets contain a bar code
    - Separator sheets can communicate different types of information:
        - the beginning of a new document
        - document type
        - change in scanner settings

Step 2

Scan – scanners and scanning software have many tools and settings that enable you to customize your scanning job to the specific attributes of your documents.

- Scanning Settings
    - Select the scanning resolution
        - 200 dots per inch (DPI) – this is the generally accepted minimum scanning resolution for source documents with high contrast of black text printed on white paper.
        - 300 DPI or higher – produces higher image quality and is necessary to obtain a good image of a poor quality document. 300 DPI is a minimum setting

when documents will be processed with OCR software and for long term retention. Note: the higher the resolution, the bigger the file size.

- Determine whether you will scan in Black and White (B/W), Gray Scale, Color or some combination of the three options. B/W is recommended for dark text or dark images on a white or light background such as text documents. If the source document contains gray tones or color that need to be maintained, then scanning must be performed in Gray Scale or Color. The disadvantage of Gray Scale and Color is that the resulting file is many times larger than a B/W image.
- Format: TIFF and PDF are the most commonly used formats. Discuss imaging format with your technology team to determine the format that best fits with similar initiatives at UCSF. For a good overview of file formats for long-term access visit these guidelines from the MIT Digital Library.
- Image Quality: image quality can be adjusted through the scanner or through software. The sophistication of the software varies and the features offered will vary between packages. Some features that you might find built into your scanner or software follow:
    - De-skew straightens crooked images
    - Noise removal cleans up speckles and stray marks
    - Delete blank pages
    - Page rotation
    - Binary hole removal eliminates hole punches
    - Brightness and contrast controls
    - Cropping
    - Background removal deletes watermarks, shading and patterns in the background without affecting the text
    - If you are enhancing documents in any way you must keep the original hard copy for verification of enhancement/alterations or a scan of the way the document looked before enhancements were made.
    - You should document in your written procedures what enhancements are allowed.

        - *Test your settings on a small batch at the start of the project*
    - Optical Character Recognition (OCR)
        - OCR is an additional step in the scanning process
        - OCR reads or recognizes only typewritten text
        - OCR provides the ability to perform full text searches
        - The accuracy of OCR is driven by the quality of the original document and you should expect errors in this imperfect technology. Despite this imperfection, it is a powerful search tool.
        - Zonal Character Recognition can help to add metadata automatically if that information is consistently located in the same place on the scanned documents and is clearly legible. This software is more expensive and does require "training" with sample document sets.

Step 3

Indexing – document indexing/cataloguing must be carefully planned so that easy retrieval of the document is assured.

- Indexing – identification and retrieval are the key drivers for document indexing. It is critical to think through how you will find and use the information you are scanning. A helpful exercise for this process involves asking individuals how they search for material/content today, what terms or dates are used in their search? Once you have identified how and why you will retrieve something, you can then build in the data to help you do this. Pay attention to:
    - Naming Conventions
        - Classification/Categories
            - Groupings should follow functional and nested or hierarchical formats, for example:
                - Level 1 (Fruit)
                    - Level 2 (Citrus)
                        - Level 3 (Orange)
                        - Level 3 (Lemon)
        - Naming Consistency
            - Once a category of records is named it should remain consistent—citrus should always be called citrus and not "sour fruit" for example. Likewise, for example, a "Regulatory Binder" should remain named as such no matter the research study.
    - Record/Data Description

- Date Range (creation date and/or date last altered, if available).
- Description of record or record type
- Other unique identifiers
    - Record Retention Schedule Category Number (as found on the UC record retention schedule)
    - Medical Record Number
    - Study ID
    - Subject ID
- Key Words
- Destruction date if available

Step 4

QC – the quality control step is often overlooked which can be catastrophic. It is essential to review the images because an illegible scan has no use and the source document could be permanently lost when the hardcopy is destroyed. In the same manner, a perfect scan/image incorrectly indexed could also be lost forever.

- QC
    - Best Practices: page by page review of every document
    - Minimum: 10% random sampling of images
    - Check for double feeds, misaligned, unreadable or half-scanned images
    - Note that if reassembly of documents is necessary (post-scanning) it will add considerable cost and personnel time to the project

Step 5

Document your procedures so new employees will have guidance on how to prep, scan, index and QC your records. This documentation can also be used to show that the scanning is done in the normal course of business and is trustworthy. This may help your records be admissible in a court of law.

Sending Records to Off Site Storage

UCSF has a number of options for sending records off site, the most common being Oyster Point D&S and DataSafe (Deliverex/Sourcecorp and a number of other third-party storage vendors are also available). Off site storage offers a broad range of benefits and services to help you manage your records throughout their lifecycle. These services offer next (business) day delivery. In addition, your inventory list and account details are available through web access.

We have included a cost comparison table for two off site storage vendors below to help you calculate costs. These comparisons are estimates to aid you and your department in the decision-making process (The table does not include all services available from off

site storage vendors), yet gives you a good baseline for costs, for example (using the pricing listed below), if you stored 100 boxes at Oyster point and did not have to retrieve them they would cost $648/year to store (100 x 0.54/box per month = $54 x 12 months = $648). Conversely if you stored the same 100 boxes at DataSafe it would cost $312 a year. Prior to making any decision relating to storage or disposition of records – contact the service providers involved for a detailed quote and description of services specific to your departmental needs.

Oyster Point: Diana Caporale
Phone: (415) 502-3086
Email: DCaporale@ucsf.edu
Website: http://campuslifeservices.ucsf.edu/distribution/services/storage
DataSafe: Karen Lynch
Phone: (650) 201-6386
Email: KLynch@datasafe.com
Website: http://datasafe-sf.com/

Oyster Point	Fee	DataSafe	Fee
Storage Box Cost 6-pack (10"x12"x15")	**$16.99** (source Office Max)	Storage Box Cost 6-pack (10"x12"x15")	**$16.99** (source Office Max)
Monthly Storage Rate per Box (10"x12"x15")	**$.54**	Monthly Storage Rate per Box (10"x12"x15")	**$.26**
Add New Box to Storage	**$21.63** (hourly rate applies – $86.50 x approx. ¼ hour)	Add New Box to Storage	**$1.45**
Access or Refile a Box	**$21.63** (hourly rate applies – $86.50 x approx. ¼ hour)	Access or Refile a Box	**$2.85**
Pick Up and Delivery Service	**$43.25** (hourly rate applies – $86.50 x approx. ½ hour)	Pick Up and Delivery Service	**$20.00** trip charge plus **$2.25** per box
Box Destruction	**$4.00**	Box Destruction	**$3.00**

Naming and Classifying Records

As departments and divisions are processing their records for the move to Mission Bay care must be given that such records—whether they are scanned, held for active use or sent to storage—be named and classified correctly for later retrieval, as touched upon in the *Scanning* section above. Naming conventions should be documented and accessible to all who need them.

For active and stored records it is useful to verify similar documents are consistently named and the name is rationalized with its function. If a name need be created and assigned, departments should first look to the existing UC Records Retention Schedule and the UC Administrative Records Relating to Research schedule for naming guidance if similar records can be matched.

If similar records cannot be found in the UC Record Retention Schedule, or UC Administrative Records Relating to Research) the department should consult with its own personnel in developing a naming convention suitable to the work of the department, the terminology common to its operations, and the words or phrases generally used in that department's functions. Take care that every naming convention developed by a department is reasonably calculated to provide identifying information about the nature and contents of the file or document to which a name is applied; such that persons other than the person who created the file can reasonably identify the file and its contents. Every naming convention should promote the consistent naming of like files and documents with like names, and should be calculated such that similarly named items are grouped in sorts, queries and similar data gathering exercises.

As mentioned above each department should first look to the existing UC Records Retention Schedule and UC Administrative Records Relating to Research for classification guidance for similar categories of records. In the absence of category matches on the UC schedules, it is recommended that a concerted effort be made to address the need for consistent classification of information in the various departments. This will allow users to more easily find, share and utilize information. For general guidelines on naming and classifying records as well as overviews of other records management processes the UC Records retention and disposition: principles, processes, and guidelines (RMP-2) is a valuable reference as well.

The UC Records Retention Schedule and UC Administrative Records Relating to Research are organized into functional categories or buckets (Fruit/Citrus/Lemon from the example in the *Scanning* section); this is considered a best practices format and can be used as a guide in developing departmental classification schema. The University describes its organization method as follows:

> *A bucket is a type of retention schedule that identifies records in broad categories, aggregates, or functions. This type of schedule provides fewer categories from which to choose, making it easier to use. The functions very rarely change, thus reducing the need to update the schedule. Most new records*

will fall into an existing functional category and thus already have an approved schedule. The categories do not correspond to divisions or departments because most functions commonly occur across the University and are not unique to a department.

Each functional category provides a description of the function and some of the records that typically are found within that function, the length of time the records must be kept and why, whether the records are confidential and vital, and other relevant information pertinent to the function…

For example, research study records might be organized as such:

Level 1
Research Study Records
Level 2
Regulatory Binder
Level 3
IRB
Level 3
Logs, Protocols and Safety
Level 3
Monitoring and Oversight
Level 3
Product/Drug and Labs
Level 3
Training and Credentials
Level 2
Subject File
Level 3
Consent Forms
Level 3
Examinations, Logs, and Self-Reporting
Level 3
Surveys and Questionnaires
Level 3
Visit Packets

UC Record Retention Schedule and Records Disposition

The University of California has created and recently updated a university-wide (for all UC campuses) record retention schedule (RRS) that governs the retention and destruction of many UC records. As an adjunct to this schedule the UC Administrative Records Relating to Research is also available to fill in many of the research-related records not represented in the general UC RRS.

If you cannot find your particular record represented on either schedule please contact Brenda Gee BGee@Chanoff.ucsf.edu, the UCSF Records Management Coordinator for further guidance.

A description of, and user guidance for, the UC RRS can be found here: UC RRS Description

Once it is determined that certain records have met their retention requirement and can be destroyed, care must be taken to assure that all regulatory/legal/sponsor-monitor retention protocols have been met and that UC Record Disposition guidelines be followed as per Section V.C. in RMP-2.

UC Administrative Records Relating to Research Retention Sample (see Full Schedule for more retention listings)

Financial records pertinent to an award (Federal, State and Private)	Records Copy: Longer of 6 years after expiration/termination; resolution of any litigation, claim or audit; or period stated in award document. All subject to archival review. Other copy: 0□5 years.
IRB and academic research records pertaining to children as subjects	7 years after the child reaches the age of maturity (18 in California)
IRB and academic research records pertaining to in vitro studies or pregnant women	25 years
IRB records: Reviewed research proposals	At least 3 years (all records shall be retained at least three years and records relating to research which is conducted shall be retained for at least 3 years after completion of the research)
IRB Records: Scientific evaluations	At least 3 years (all records shall be retained at least three years and records relating to research which is conducted shall be retained for at least 3 years after completion of the research)
IRB Records: Approved sample consent documents	At least 3 years (all records shall be retained at least three

	years and records relating to research which is conducted shall be retained for at least 3 years after completion of the research)
IRB Records: Progress reports	At least 3 years (all records shall be retained at least three years and records relating to research which is conducted shall be retained for at least 3 years after completion of the research)

Boxing Records

Boxing Records for Storage must be done in a consistent and best practices manner. Departments may already have boxing procedures in place and if so those methods should be reviewed and continue to be used for consistency sake if they are in line with the following general best practice boxing guidelines. Care must be taken to protect PHI (Protected Health Information) and PII (Personally Identifiable Information), such as names, addresses, telephone numbers, social security numbers, medical histories, etc.

- Only send official UCSF records to storage
- Do not send convenience copies or non-relevant/non-record materials to storage
- Pack records in a standard 10”x12”x15” box
- Put records in box in their folders standing up, not laying down on top of each other. This will facilitate retrieval.
- Do not overstuff box
- Remove Pendaflex hanging folders
- Leave 1” clearance in the box for referencing
- Label the exterior of the box with relevant information while respecting PHI/PII
    - Commercial Records Center (DataSafe) provides bar code labels in advance of pickup. For more information on DataSafe services click here: DataSafe Services
    - Oyster Point distribution and storage employees label the boxes themselves. For more information click here for Oyster Point’s procedures
- Records should be packed in consecutive and continuous date order, within a finite date range, or other ordered sequences suitable for the records. Records such as personnel files should be in alphabetical order. In every case, records within a box and within a series of boxes should be organized to facilitate subsequent retrieval should this become necessary. In no case should documents be randomly placed in boxes.
- When possible, reference the *UC RRS* to determine the retention requirements
- Fully describe the contents of the box: department, applicable category or “bucket,” records description, records date range (creation and destruction dates if

available), and all other relevant information needed for retrieval—remember PHI or PII must be excluded.
    - Use the records center's web site to submit descriptions: Oyster Point and DataSafe
    - Describe each container individually – DO NOT use bulk storage (a collection of boxes, palletized) for records
- Schedule pickup of boxes

University of California Records Management Policies and Procedures

Below is a list of current UC records management policies (RMP), procedures, and presentations for reference purposes:

- Administrative Records Relating to Research
- Contract and Grant Manual
- Ethics, Compliance and Audit Services - webinars
- Institutional Animal Care and Use (IACUC)-Retention Guidelines
- RMP-1 University Records Management Program
- RMP-2 Records Retention and Disposition
- RMP-4 Vital Records Protection
- RMP-7 Privacy of and Access to Information Responsibilities
- RMP-8 Legal Requirements on Privacy of and Access to Information
- RMP-9A Guidelines for Access to University Personnel Records by Governmental Agencies
- RMP-9B Guidelines for Access to University Personnel Records by Governmental Agencies
- RMP-9C Maintenance, Access, Opportunity to Request Amendment to University Personnel Records
- RMP-11 Student Applicant Records
- RMP-12 Guidelines for Assuring Privacy of Personal Information in Mailing Lists and Telephone Directories
- Research Policy Analysis and Coordination
- UC RRS Information Presentation—Laurie Sletten