

## Guidelines and Workflow for Arrival, Modification and Removal of Radiation Producing Machines owned and operated by UCLA Health

### Overview

Per UCLA Administrative Policy 994.1, all Radiation Producing Machines (RPM) owned and operated by UCLA must follow applicable laws and regulations (such as Cal. Code of Regulations [30108](#) and [30110](#)) when newly acquired, amended, or removed from inventory. This process requires multiple stakeholder involvement and needs to provide the oversight that is required by external regulatory agencies (e.g. machine registration with the State of California). The current process regarding RPM in the UCLA Health system is reasonably complex due to: (a) the diversity of the entities that utilize RPMs (i.e. a wide range of clinical departments) (b) the diversity of locations that RPMs associated with UCLA are deployed (which extends beyond the Westwood campus to UCLA Health locations around Southern California) and (c) the different stakeholders within the UCLA system that have oversight responsibilities (including, but limited to Diagnostic Medical Physics (DMP)), EH&S Campus Radiation Safety (EHS) and Health Systems EH&S Radiation Safety (HS-EHS)).

It should be noted that Radiation Oncology Physics is excluded from this workflow as an alternative process is in place.

The goals of this effort are to: (a) create a unified guidance and workflow to be followed when RPMs are acquired, amended, or removed from service in the UCLA Health System; (b) clarify communication pathways between the various stakeholders in this process; and (c) create and maintain a database that is easily accessible by all stakeholders and which contains basic information on RPMs needed for each stakeholder group and which will facilitate communication with external regulatory bodies (i.e. State of California) regarding the UCLA inventory of RPMs.

### Purpose

**The purpose of this document** is to provide guidelines and to describe the workflow to account for the arrival, modification and removal of Radiation Producing Machines (RPMs), primarily for machines within the UCLA Health System. This document also identifies roles required for key stakeholders at the various steps of the described workflow. **The goal of these activities** is to create and maintain an accurate inventory of RPMs which will facilitate relevant activities such as keeping an accurate record of machine registration with the state, being responsive to regulatory and accreditation body inspections and similar activities. **This document is not designed to identify specific safety or performance requirements and workflows**, which are addressed elsewhere through efforts carried out by groups such as DMP, Clinical Engineering, EHS and HS-EHS.

This document is broken into three major steps in the workflow:

- (1) Notification (purchasing and delivery)
- (2) Performance and safety testing.
- (3) Registration with the State of CA

At each step, the activities to be performed and the groups performing each action will be identified as clearly as possible, realizing that in a system as complex as UCLA, there will always be exceptions that need to be addressed. The EHS, HS-EHS and CORSC will have ongoing reviews and audits to address and document these exceptions. Finally, there will be appendices for (1) defining acronyms used in this document; (2) Identification of various facilities within the UCLA system (UCLA Health and non-UCLA Health) and the stakeholder group(s) that have responsibilities for each.

### Workflow for Clinical Machines within UCLA Health System

**Notification** – in the notification stage of this workflow, the aim is to let the appropriate stakeholders know about the anticipated arrival of an RPM at UCLA.

For the UCLA Health System, this process is described in the flow diagram of Figure 1.

1. During the purchase/leasing or planning process, DMP should be notified of the arrival of the RPM by any one of several possible sources that could include, but is not limited to purchasing personnel, clinical engineering, an Authorized User (AU) or the departmental director or designee where the RPM will be used.
2. If DMP is not notified, then the clinical director or Authorized User (AU) should notify one of the stakeholders (HS-EHS, EHS) about the anticipated arrival of a new RPM. Once one of these stakeholders has been notified of the anticipated arrival of the RPM, then that stakeholder will email DMP and clinical engineering about this RPM.
3. No matter which path the notification takes, by the end of this process, all three sets of stakeholders (DMP, HS-EHS and EHS) as well as clinical engineering will be notified of the anticipated arrival of the RPM.
4. For existing AUs, departments or locations, it is presumed that UCLA will assume responsibility for additional purchases/leases or modifications to the inventory. For new locations, authorized users or departments requiring x-ray imaging – the EHS or HS-EHS should be contacted to obtain requisite documentation for compliance with the radiation safety manual. If this is a new facility (new satellite clinic or other facility that has not previously had any RPM), HS-EHS should document the authorized user or applicable Supervisor/Operator for a new facility.

If there are concerns regarding machines' UCLA ownership or applicability to Cal. Code of Regs. Title 17 [30108](#) (registration with CDPH), the EHS or HS-EHS should be contacted for follow up with the department.

**Acceptance into UCLA Health** – Acceptance of an x-ray unit to function within the UCLA Health system requires performance testing and/or digital connectivity to the hospital's secure network. For the UCLA Health System, this process is described in the Acceptance into UCLA Health section portion of the flow diagram of Figure 1.

1. As new systems arrive, the responsible department should contact the following entities to schedule testing and/or configuration prior to clinical use.
  - a. Clinical engineering
  - b. Information Services and Solutions (ISS)
  - c. Diagnostic Medical Physics (DMP)
2. For Machines that are covered by the entities described in item 1 (immediately above), the following steps are taken for an RPM to be accepted into UCLA Health system:
  - a. After inspection of the unit by the clinical engineering and establishment of connectivity of the unit to UCLA Health system's secure network, DMP will conduct a performance testing to ensure RPM meets regulatory and vendor specific requirements.
  - b. Upon passing DMP's performance testing, the unit is added into DMP's database and emails are sent to HS-EHS, EHS and RPC representatives regarding the arrival of the RPM as per distribution list in Appendix.
3. For any machines that are not covered by the entities in item 1 (for example if there is no agreement or contract for those entities to provide services for evaluation, testing and/or configuration of an RPM at a particular facility), then:
  - a. Alternate pathways **must** be developed to ensure compliance with all applicable laws, regulations and institutional policies and standards.
  - b. It is the responsibility of the AU or Department to document that the alternate pathway developed ensures compliance with all applicable laws, regulations and institutional policies and standards. (e.g. if clinical engineering or DMP does not oversee service or physics support, the supervising department or AU needs to ensure that preventative maintenance issues and/or requisite physicist inspections are addressed for compliance with UCLA standards).
  - c. The AU, departmental contact or facility manager **must** contact EHS or HS-EHS and provide the appropriate documentation as described in 3.b.
  - d. The CORSC, EHS and HS-EHS should collect and review the documentation regarding the proposed alternate pathway to determine that the alternative pathway will ensure compliance with all applicable law, regulations and institutional policies and standards.

**Registration** – In the registration stage, each stakeholder group will take their needed course of action and ultimately ensure that the new machine is registered with the CDPH. In addition, to maintain an accurate record of RPM inventory, periodic audits of that inventory will be performed with the stakeholder groups. Summaries will be presented during each CORSC meeting.

For the UCLA Health System, this process is described in the Registration section portion of the flow diagram of Figure 1.

1. Following performance testing, DMP will enter information into its own local database regarding the arriving RPM. DMP will also email HS-EHS, EHS and RPC regarding the arrival of this RPM.
2. EHS will enter the appropriate information into the Machine Database that is maintained by RPC.
3. HS-EHS will complete the RPM registration and notify the State of California – Department of Public Health, Radiologic Health Branch – (CDPH-RHB) for all UCLA Health Machines except:
  - a. Radiation oncology
  - b. MammographyAlternate standards exist for the above systems where additional documentation and submissions apply.
4. RPC will send confirmation to all stakeholders that: (a) the RPM has been registered with CDPH and (b) entered into the Machine Database.
5. If this is a new facility (new satellite clinic or other facility that has not previously had any RPM) and if a new facility ID is created, this will be part of the communication as well. When CDPH notifies EHS of the Facility # and registration expiration dates, the EHS will send relevant information to the Department contacts (AU or Supervisor/Operator) as identified previously in Notification item 4.
6. Periodic audits will be performed by the stakeholders to ensure the accuracy and integrity of the Machines Database and the inventory of RPMs within UCLA.

### **Annual Audits**

EHS, HS-EHS and DMP will conduct coordinated internal annual audits/inventory/verification of all machines and report back to CORSC.

# UCLA Health X-Ray Machine Registration Flow Chart

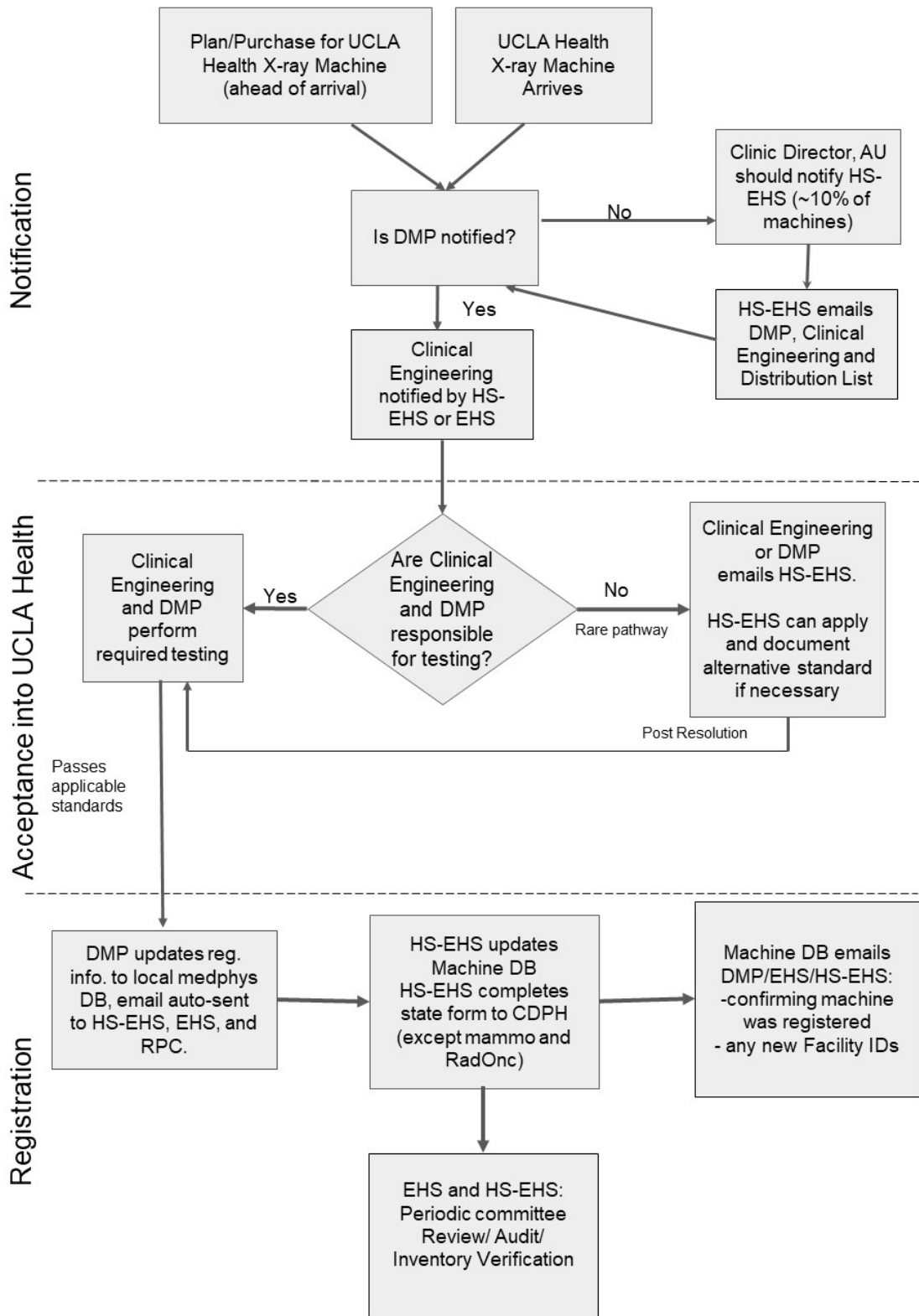


Figure 1. Arriving machine Workflow

# UCLA Health X-Ray Machine Removal or Transfer Flowchart

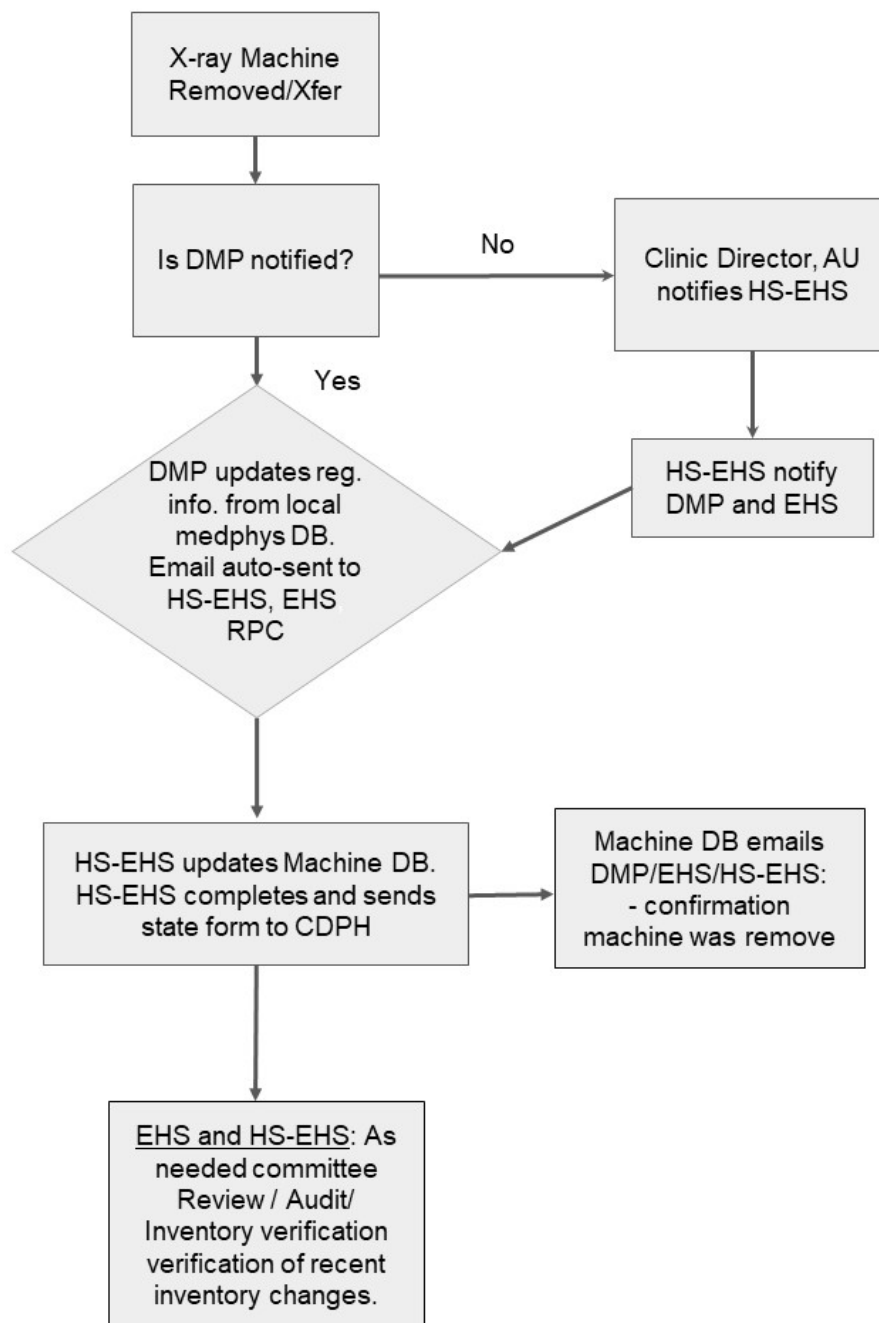


Figure 2. Removal Workflow

**Applicable Policies and Regulations:**

[UCLA Administrative Policy 994.1 Radiation-Producing Equipment](#)

## **Appendix 1 - Acronyms**

AU – Authorized User

CDPH - California Department of Public Health

CDPH-RHB - State of California – Department of Public Health, Radiologic Health Branch

CORSC - Clinical Operations Radiation Safety Committee

DGSOM - David Geffen School of Medicine

DMP - Diagnostic Medical Physics

EHS - EH&S Campus Radiation Safety

HS-EHS - EH&S Health Systems Radiation Safety

ISS- Information Services & Solutions

RPC - Research Policy and Compliance ( maintains SafetyNet Database)

RPM - Radiation Producing Machine

RSC - Radiation Safety Committee

### **Other Key Stakeholders:**

Purchasing

Clinical Engineering

**Appendix 2 - UCLA Health and non-Health categories of X-ray systems by location/function and entity responsible for RPM registration with State of CA (CDPH)**

(Entity responsible for machine registration identified for each type of facility)

**A. UCLA Health**

1. Hospital (TJC)
  - i. Ronald Reagan - HS-EHS
  - ii. SM/UCLA - HS-EHS
2. Non-hospital & owned/operated by Radiology:
  - i. Radiology Community Sites such as Palos Verdes, Manhattan Beach, Santa Clarita, etc. – HS-EHS
3. Non-hospital, non-Radiology:
  - i. Urgent Care - HS-EHS
  - ii. Urology - HS-EHS
  - iii. Vascular Surgery - HS-EHS
  - iv. Community Practice Network (Family Practice) - HS-EHS
4. Nuclear Medicine
  - i. Westwood (MP 200) - EHS
  - ii. Santa Monica - EHS
  - iii. Santa Clarita and other satellites - EHS
5. Mammography
  - i. All mammography units are registered by the mammography group - Mammo

**B. Non-UCLA Health (Managed by Campus EHS):**

1. Dental - EHS
2. Research/Academic - EHS



## **Appendix 3 - Proposed email CC list for Notifications**

### **Diagnostic Medical Physics (DMP):**

Radiology Physics: [radiologyphysics@mednet.ucla.edu](mailto:radiologyphysics@mednet.ucla.edu);

Tom Oshiro: [TOshiro@mednet.ucla.edu](mailto:TOshiro@mednet.ucla.edu)

Chris Cagnon: [CCagnon@mednet.ucla.edu](mailto:CCagnon@mednet.ucla.edu)

Maryam Bostani: [MBostani@mednet.ucla.edu](mailto:MBostani@mednet.ucla.edu)

Di Zhang: [DiZ@mednet.ucla.edu](mailto:DiZ@mednet.ucla.edu)

### **HS-EHS Radiation Safety**

Radiation Safety (Group): [RadiationSafety@mednet.ucla.edu](mailto:RadiationSafety@mednet.ucla.edu)

Vahe Mamyam: [vmamyam@mednet.ucla.edu](mailto:vmamyam@mednet.ucla.edu)

### **Campus EHS Radiation Safety**

Radiation Safety: [radiationsafety@ehs.ucla.edu](mailto:radiationsafety@ehs.ucla.edu);

Robert Acha: [racha@ehs.ucla.edu](mailto:racha@ehs.ucla.edu)

### **Clinical Engineering**

**David** Barbrow: [dbarbrow@mednet.ucla.edu](mailto:dbarbrow@mednet.ucla.edu)

### **Research Policy and Compliance (RPC)**

Dina Bektor: [dina.bektor@research.ucla.edu](mailto:dina.bektor@research.ucla.edu)

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### **Information, Services & Solution (ISS)**

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