

Your cover memorandum describes the type of testing that your facility is currently undergoing. Submit **both clinical and phantom images** for INITIAL accreditation, accreditation RENEWAL, REINSTATEMENT or a VALIDATION FILM CHECK. If you are REPEATING a test for a deficiency, only submit images from the **deficient test** (i.e., all clinical images or the phantom). These instructions apply to Novation DR models.

## PHANTOM IMAGE AND DOSE

### A. Required items for testing

1. One designated accreditation mammographic phantom (RMI Model 156, Nuclear Associates Model 18-220 or CIRS Model 015).
2. One Landauer thermoluminescent dosimeter (TLD) bar for each mammography unit to be tested. Each unit is assigned a specific dosimeter with a unique serial number. Be sure to use the correct dosimeter with its assigned unit.
3. Control TLDs packed in a 1.5" x 2" envelope marked, "DO NOT OPEN-CONTROL TLD" for each mammography unit to be tested. Keep the control TLDs away from radiation and be sure to return this envelope with your exposed dosimeter(s) to Landauer.
4. One 7" x 9" padded envelope addressed to Landauer and marked "FILM-DO NOT X-RAY." (Within each envelope you will find a clear plastic ziploc bag containing both the test dosimeter and the envelope with the control TLDs).
5. Bar-coded identification labels to be affixed to the phantom image and the Test Image Data sheet. **IMPORTANT:** These labels are for a **specific unit** and are marked "Phantom Image" and "Test Image Data." Make sure that you use the appropriate labels.
6. Mailing labels for sending your films to the ACR in Reston, Va.
7. One Test Image Data sheet for each mammography unit you are testing.

### B. Procedure

1. The phantom and clinical images **from each unit** must be taken **within 30 days of each other** and must be **within the time period shown on the laser film printer QC chart**. (Validation film check images must be from the requested date.)
2. Center the phantom laterally on the image receptor as indicated in the picture. The chest wall side of the phantom **must be completely flush** with the chest wall side of the image receptor. Do NOT use an acrylic disk on the phantom. (The Siemens QC Manual does not specify that it be used for routine QC.)
3. Lay the proper numbered dosimeter flat on the phantom so it does **not** cover the pink wax insert; **the ACR logo and Landauer name must face the X-ray tube as shown in the figure**. The dosimeter must be aligned with the chest wall side of the phantom and the image receptor. **Lower the compression device until it just touches the dosimeter**.
4. Select AEC mode "AUTO" and the center AEC chamber position.
5. Make an exposure using the **clinical technical factors (target, filter, kVp, grid, density control setting, etc.) currently used for a 4.2-cm compressed breast of average density**.
6. Record the technical factors on the Test Image Data sheet.
7. Process the image as typically done for digital mammography. Window and level the display **to best show the test objects**. Do not zoom or rotate the image.
8. Print the phantom image as close to **"true size"** as possible (i.e. without magnification or minification). Use the laser film printer and film processor normally used to make hardcopies of digital mammograms for transfer purposes.
9. **Important:** Your supervising radiologist **must** review and approve the **hardcopy** phantom image prior to labeling it and sending it to the ACR.
10. Label the film with the appropriate bar-coded label.
11. If possible, measure the background optical density in the center of the phantom image.
12. Fill out one Test Image Data sheet (phantom image section) for each mammography unit you have tested.



**IMPORTANT:** Each dosimeter may be exposed on the phantom once and once only; repeat exposures will yield excessive dose values. The single test image must include both the phantom and dosimeter properly positioned. **If a mistake is made with the dosimeter, additional ones are available at a small fee. In this case, please call the ACR.**

## CLINICAL IMAGES

### A. Required items for testing

1. Bar-coded identification labels to be affixed to the clinical images and the Test Image Data sheet. **IMPORTANT:** These labels are for a *specific unit* and are marked "Fatty Images," "Dense Images," "Clinical Images" (for validation film checks) and "Test Image Data." Make sure that you put the appropriate label on the appropriate item. If you are REPEATING this test for a clinical accreditation deficiency, you must submit **both fatty and dense cases** performed after the date on your DEFICIENCY REPORT. (After a validation film check clinical deficiency, only one case of any density is required.)
2. Mailing labels for sending your films to the ACR in Reston, Va.
3. One Test Image Data sheet (clinical images section) for each mammography unit you are testing.

### B. Procedure

1. The clinical and phantom images **from each unit** must be taken **within 30 days of each other** and must be **within the time period shown on the laser film printer QC chart**. All clinical images should be clearly dated. (Validation film check images must be from the date specified in the cover memorandum.)
2. Submit the following cases (see enclosed "Submitting Clinical Images" for further guidance):
  - a. For **accreditation** (initial, renewal, repeat, or reinstatement): one **dense** case and one **fatty** case.
  - b. For **validation** film checks: one case of **any breast density** (unless otherwise instructed).
3. Select cases consisting of CC and MLO images of both breasts. (All images for each exam must be from the same patient.)
  - a. The cases must be **"negative"** (BI-RADS® Assessment Category 1). Do **not** submit "benign" (Category 2) cases or "incomplete" (Category 0) cases. If you cannot submit "negative" images (e.g., you do diagnostic exams only), call the ACR.
  - b. For accreditation, **select examples of your facility's best work**. The ACR reviewers will evaluate them accordingly. (See the "Clinical Image Evaluation" section of the *1999 ACR Mammography Quality Control Manual* for the review criteria.)
  - c. Do **not** submit images that are performed on **models or volunteers**.
  - d. Only select cases where the **entire breast** can be imaged in a single exposure on each projection.
  - e. Images **must** be labeled with the **MQSA-required identification** information; ACR reviewers will evaluate this.
4. Adjust the image display and process the image as typically done when interpreting digital mammography.
5. Print the clinical images as close to **"true size"** as possible (i.e. without magnification or minification). Use the laser film printer normally used to make hardcopies of digital mammograms for transfer purposes.
6. **Important:** Your supervising radiologist **must** review and approve the **hardcopy** clinical image selection prior to labeling them and sending them to the ACR. The images must be of "final interpretation quality".
7. Label each image with the bar-coded labels; do **not cover the patient ID information or any part of the breast** with the label. The films must be of interpretive quality and will be judged as such.
8. Fill out one Test Image Data sheet for each mammography unit you have tested.

**IMPORTANT:** *Submit only clinical images that are "negative".* If ACR reviewers determine that any submitted cases require additional evaluation or follow-up they will be returned immediately. In these situations, **the supervising radiologist must attest that he or she will review the findings and follow-up with the patient as appropriate before a final accreditation report is issued.**

## MAILING INSTRUCTIONS

- A. Mail the exposed dosimeter and control TLDs in the pre-addressed, bubble envelope to:

Landauer, Inc.  
2 Science Road  
Glenwood, IL 60425-1586

ATTENTION: MAMMOGRAPHY ANALYSIS LABORATORY

- B. Return the Test Image Data sheet, phantom image and/or the clinical images to the following address by **a traceable method**:

Mammography Accreditation Program  
American College of Radiology  
1891 Preston White Drive  
Reston, VA 20191-4397

The images submitted for review will be returned once the accreditation evaluation is complete. However, you should **maintain copies of all images** as well as a record of the patient names whose clinical images were sent for accreditation purposes until you receive official notification your accreditation is approved.

\*\*\*\*\*There should be one phantom image and/or eight clinical images for each unit.\*\*\*\*\*