SLAC NATIONAL ACCELERATOR LABORATORY
2575 Sand Hill Road Menlo Park, CA 94025 slac.stanford.edu
Operated by Stanford University for the U.S. Department of Energy

Tool Access, Roles & Process Development Policy

SLAC National Accelerator Laboratory

Field	Value
Owner	DMF Director
Effective Date	2026-09-15
Review Cycle	Annual

1. Purpose

This policy establishes one consistent process for how personnel gain authorization to operate tools in the Detector Microfabrication Facility (DMF), defines the roles involved in granting and maintaining that access, and describes how new fabrication processes and materials are introduced. It applies across the full DMF tool suite — lithography, deposition, etch, wet chemistry, and metrology tools — rather than being written per tool, so that every tool in the facility is governed by the same framework.

2. Scope

This policy applies to all staff, students, postdocs, and visiting researchers who wish to operate a DMF tool independently. It governs tool-specific access only, and does not replace or reduce DMF's general safety requirements. Completion of required ESH training and the DMF cleanroom induction (gowning, general safety, and emergency procedures) is a prerequisite to tool-specific training under this policy, not a substitute for it.

3. Roles

Four roles carry out this policy. A given person may hold more than one role — for example, a tool POC is very often also a Superuser on their own tool.

Role	Who fills it	Core responsibility
Tool Point of Contact (POC)	A member of the core DMF team assigned to the tool	First point of contact for access requests; organizes training/shadowing; signs off on new users; leads SOP development for the tool
Superuser	An experienced, POC-designated tool user	Runs trainings on the tool; helps develop and reviews new processes/SOPs alongside the POC

Role	Who fills it	Core responsibility
User	Anyone signed off by the tool POC	Operates the tool independently, using established and already-approved processes
Process Committee	DMF leadership-designated reviewers	Reviews and approves requests to introduce new materials into DMF tools/processes

4. Gaining Access to a Tool

Access is granted per tool, and follows the same three steps regardless of which tool is involved:

Step 1 — Contact the tool POC
Reach out to the tool's Point of Contact to set up a walkthrough of the tool.

Step 2 — Shadow the tool
Shadow the tool with a qualified individual (the POC or a designated Superuser). The number of shadowing sessions required is tool-dependent and is set by the POC based on the tool's complexity and process risk.

Step 3 — POC sign-off
Once training and shadowing are complete to the POC's satisfaction, the POC signs off, authorizing independent use of the tool for established processes.

Scope of access: sign-off under this section authorizes independent operation of established, already-approved processes on the tool. It does not by itself authorize developing new processes on the tool — see Section 6.

5. Standard Operating Procedures (SOPs)

A Standard Operating Procedure (SOP) is the controlled, written document that defines exactly how a specific process is run on a specific DMF tool, so that it is performed the same, safe way regardless of who is operating it. Every established process on a DMF tool must have an approved SOP before Users are authorized to run it independently.

Required components

Component	What it covers
Title, tool, and scope	The specific process the SOP governs and the tool it applies to.
Procedure author & date	Who wrote/revised the SOP and when, so the current version is traceable.
Step-by-step procedure	The materials, parameters, and sequence of steps needed to run the process.

Component	What it covers
Standard tool procedures	Reference to the tool's standard start-up, shutdown, and emergency-response procedures (maintained on the tool's Confluence page — see below) rather than restating them.
Hazards & PPE	Risk assessment for the process and the PPE/controls required to run it safely.
Waste handling	How process waste and byproducts are to be collected and disposed of.
Point of contact	Who to contact if something goes wrong while running the procedure — the tool POC by default, unless the SOP names an alternate.
Approval & revision history	Sign-off record showing tool POC and DMF ES&H approval, and a log of prior revisions.

Where to find standard tool procedures

General procedures that apply to a tool as a whole — start-up, shutdown, and emergency response — are maintained on that tool's page under the DMF Equipment Confluence space, which has a subpage per tool, rather than re-derived or restated inside each process-specific SOP. A process SOP should reference these rather than duplicate them, so there is always a single current version of each.

Who to contact

If something goes wrong while running a procedure, contact the tool's POC — this is the default point of contact for any tool-related problem. An SOP may name an alternate or additional contact for its specific process, but absent one, the tool POC is who to call. This is separate from, and does not change, the general DMF alarm and evacuation procedures for life-safety emergencies (fire, gas alarm, etc.) covered in DMF induction training.

Location and approval

SOPs are published on the tool's Confluence page (within the DMF Equipment space), alongside its standard start-up, shutdown, and emergency-response procedures. Before an SOP is published or used for the first time, it must be reviewed and approved by both the tool POC and DMF ES&H.

6. Developing a New Process

A new fabrication process is not developed on a DMF tool unilaterally. Anyone wishing to create a new process:

- Works with the tool's POC to develop a written SOP for the process (see Section 5 for required components).
- Reviews the draft SOP with the tool's Superuser(s).
- Obtains sign-off from the tool POC and DMF ES&H, and publishes the approved SOP to the tool's Confluence page, before running the process for the first time.

New materials: if the process requires a material (chemical, gas, target, substrate, etc.) not already qualified for use in DMF, the POC and requester submit a request to the DMF Process Committee. The Committee reviews the request for compatibility with tool hardware and facility systems (gas cabinets, exhaust, waste streams) and for ES&H compliance, and must approve it before the material is introduced or the process is run.

7. Recordkeeping

For each tool, the current list of authorized Users and Superusers, POC sign-offs, approved SOPs (with their POC/ES&H approval record), and Process Committee approvals should be kept up to date (e.g., in DMF's tool-status/logging system) so that who is qualified on a given tool and process is auditable at any time.

8. Related Documents

- DMF User Induction / Cleanroom Orientation — general ES&H, gowning, and emergency-procedure training required before any tool-specific training begins. This is a required training needed before any tool use or badge access can be approved.
- DMF Equipment space (one subpage per tool) — host each tool's standard start-up/shutdown/emergency-response procedures and its approved process SOPs (Section 5).

Revision History

Date	Version	Description	Approved by
2026-09-15	1.0	Initial policy release: DMF-wide tool access process, roles (POC, Superuser, User, Process Committee), SOP definition and requirements, and new-process/new-material approval.	—