

On Call Quick Reference Guide

- [Call Taking Process](#)
- [Troubleshooting Process](#)
- [FEE Support Line Scope of Work](#)
 - [Things we are responsible for](#)
 - [Things we aren't responsible for](#)
- [General References](#)
- [Troubleshooting](#)
 - [General Troubleshooting Resources](#)
 - [Area Specific Troubleshooting](#)
 - [FEE](#)
 - [Device/Topic Specific Troubleshooting](#)
 - [PLCs](#)
 - [Switches and Escrow](#)
 - [Hutch Python/Happi](#)
 - [EPICS and IOC/Manager](#)
 - [IPIMB/Wave8](#)
 - [Cameras](#)
 - [MPS](#)
 - [PMPS](#)
 - [Attenuators](#)
 - [Mirrors/Optics](#)
 - [X/GMD](#)
 - [GEM](#)
 - [Spectrometers](#)
 - [DAQ](#)

Call Taking Process

- Confirm with ACR that they contacted Bill Schlotter before reaching out on the FEE support line.
- Write down relevant details of Call; caller name, basic problem
- Attempt to troubleshoot problem using resources listed below (optional)
- Escalate problem to [Subject Matter Expert \(SME\)](#)
- Document the problem in the [Operations Call Log](#)

Troubleshooting Process

It is rare that problems in the FEE ever repeat themselves, so this guide will possibly be of minimum use. However, it is still useful to know general principles with respect to troubleshooting problems:

1. **Understand the problem** (What are they trying to do that isn't working? Is the logic for something not working as expected? Is something missing? What have the scientists already tried?)
2. **Determine the general scope of the problem**
 - a. Is this a problem with a **screen**?
 - i. Screens use PVs at their very foundation, if a screen is not showing a PV properly, it might be worth checking that the PV is connected
 - ii. Is the PV "caget-able" (check the IOC)? Does the PV show from different subnets (if not, this points to a gateway issue)?
 - b. Is this a problem with **hutch-python**?
 - i. If it is an issue with hutch-python, the root of the problem could be related to the experiment / hutch scripts.
 - ii. This would likely require intervention from the POC (if they haven't already been called)
 - c. Is this a problem with **motion**?
 - i. Motion systems in the FEE are controlled (mostly) via PLC. This could be related to a number of problems, but the most easily checked would be the health of the PLC IOC. If the PLC IOC is generating PVs normally, the problem could be more fundamental to the system.
 - ii. If you are properly trained in PLCs, it would be okay to check on the PLC side, and see if there are fatal errors on the PLC, and other things. This would certainly point to involvement on the SME's part. **Even if you can pinpoint the problem, any changes to this system should be done by an SME**
 - d. Is this a problem with **vacuum**?
 - i. As with Motion, vacuum systems are also controlled via PLC in the FEE. It could be useful to look into the PLC and see if the logic of interlocks are working appropriately. **Even if you can pinpoint the problem, any changes to this system should be done by an SME**

FEE Support Line Scope of Work

Things we are responsible for

Things we aren't responsible for

General References

[Controls User & Troubleshooting Guide](#)

[X-Ray Beam Delivery Escalation Urgent Call List](#)

[ECS Subject Matter Expert List](#)

[ECS Contact List](#)

[PCDS Flight Rules](#)

[Operations Call Log](#)

[Beam Schedule](#)

[ECS Calendar](#)

[LCLS II Naming Convention](#)

[LCLS Naming Convention](#)

[Controls File System Overview](#)

[SLAC Speak, common acronyms](#)

[GIS Mapping Site](#)

Troubleshooting

General Troubleshooting Resources

[Controls User and Troubleshooting Guide](#)

[LCLS-1 DAQ Tier-1 Troubleshooting](#)

[Archiver Appliance](#)

- [link to viewer tutorial](#)

[Archiver Appliance, but a different one](#)

[EPICS/Controls at LCLS](#)

[LCLS Rack + Stand Profiles](#)

[Convention Constituent Component Naming Convention](#)

Area Specific Troubleshooting

FEE

[FEE Operation and Troubleshooting](#)

[FEE Systems Link Cheat Sheet](#)

[FEE Gateway Issues](#)

Device/Topic Specific Troubleshooting

PLCs

[PLC Help](#)

Switches and Escrow

[Switch Tool Documentations](#)

[Escrow Access](#)

Hutch Python/Happi

[github documentation](#)

[list of happi devices](#)

EPICS and IOC/Manager

[IOC Manager Staff guide](#)

[Novices Guide to accessing epics](#)

[Using PyCA \(caget, caput, etc.\)](#)

[In-depth Epics Resources](#)

IPIMB/Wave8

[Troubleshooting for Controls IPIMB and Wave8s](#)

Cameras

[Fee Imager Camera Debugging](#)

MPS

[MPS Troubleshooting and resources](#)

PMPS

[FEE PMPS Troubleshooting Information](#)

[Photon Machine Protection System](#)

- look under pulldown menu of this link for extensive PMPS reference

Attenuators

[AT1K0](#)

Mirrors/Optics

[HOMS Troubleshooting](#)

X/GMD

[GMD and XGMD Troubleshooting](#)

GEM

[GEMs](#)

Spectrometers

[HXRSSS](#)

DAQ

[LCLS-1 DAQ T1er-1](#)

[AMI \(LCLS1 and LCLS2\)](#)

