

IMPROVE QA Activities

IMPROVE Steering Committee Fall 2025 Meeting

Bonne Ford

CIRA, Colorado State University

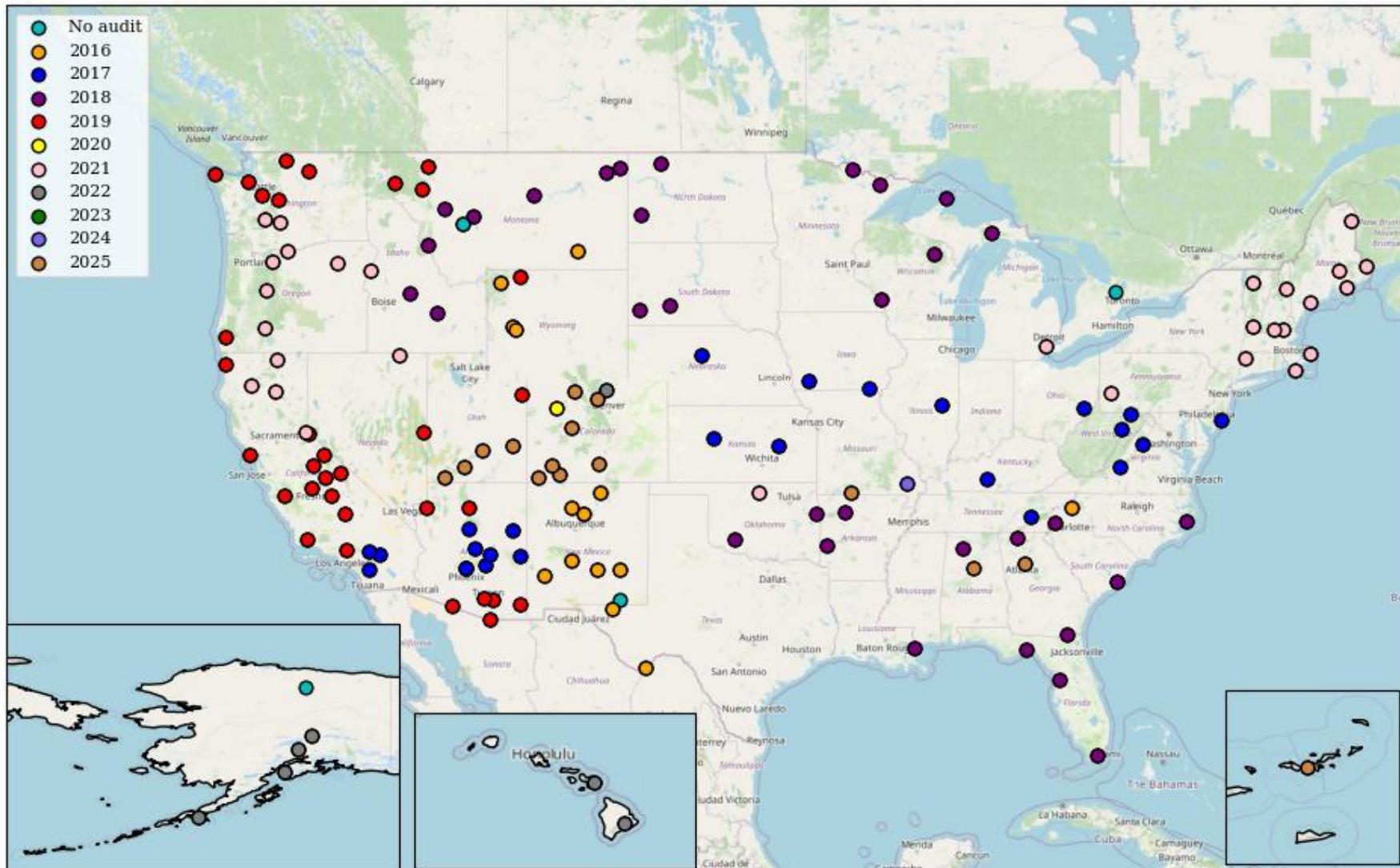


Technical System Audits of IMPROVE Network Sites

- **Purpose:** To ensure the IMPROVE sampling sites are being operated in accordance with the QAPP and SOPs.
- **Implementation:** Every site should be audited **at least once in a ten-year period** by a trained auditor, either lead CSU/CIRA auditor or state partners (AZ and DE previously, MO and CO currently).
- Full TSA Reports are available on the IMPROVE website:
[https://vista.cira.colostate.edu/Improve/wp-content/uploads/2025/02/IMPROVE network TSA Report-2024.pdf](https://vista.cira.colostate.edu/Improve/wp-content/uploads/2025/02/IMPROVE%20network%20TSA%20Report-2024.pdf)

Status of 10-year TSA plan (2016-2025)

IMPROVE Site Audits



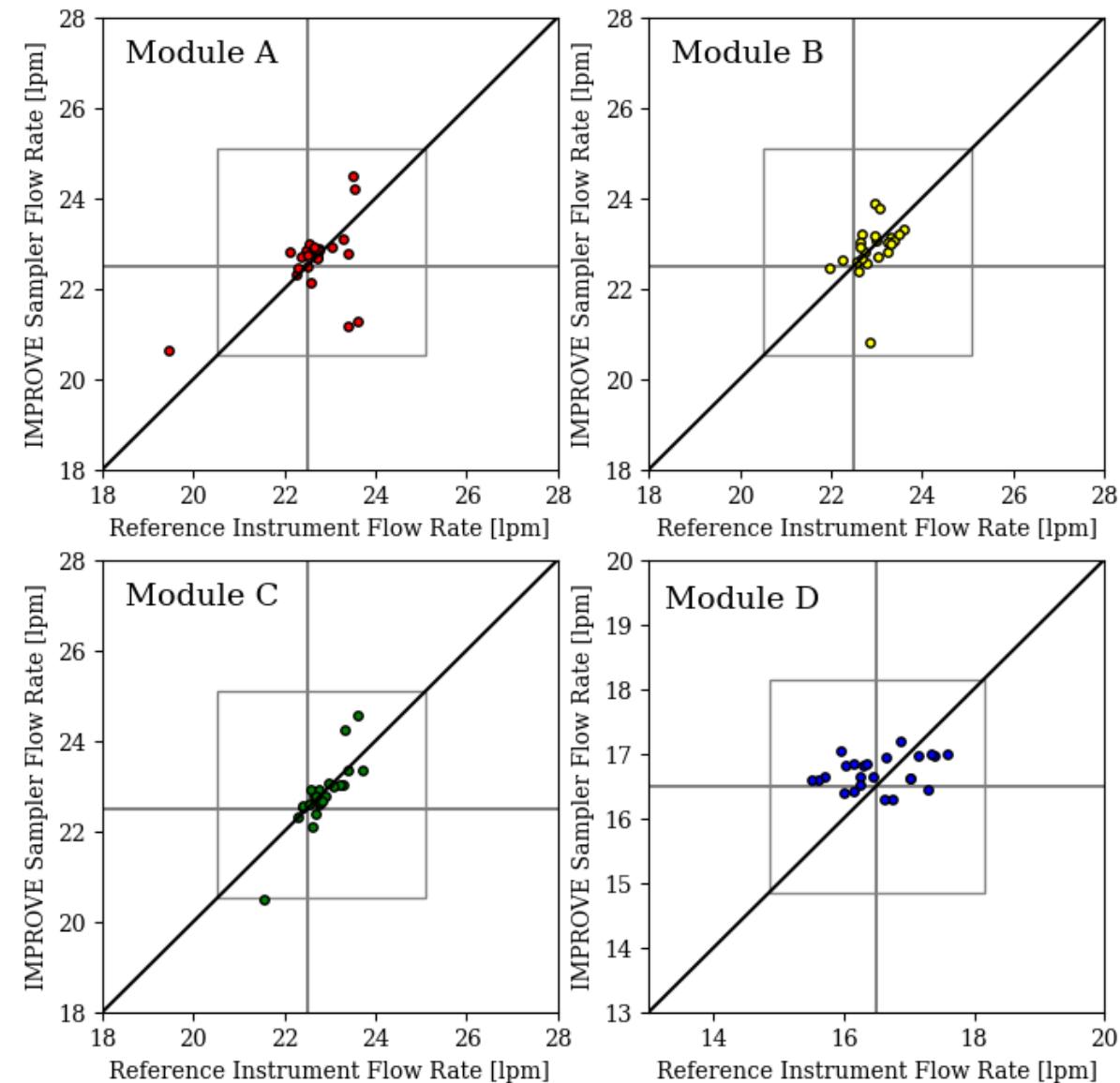
226 Audits performed
(includes site repeats)

4 Sites not yet audited:

1. Egbert (EGBE)
2. Toolik Lake (TOOL)
3. Carlsbad Caverns (CAVE)
 - audit trip cancelled due to shutdown
4. MacDonald Pass (MAPA)
 - new, GAMO audited in 2018

Overview of 2025 TSA

- 15 Sites Audited in 2025:
 - ATLA, BIRM, VIIS, WHRI, ROMO, MOZI, GRSA, WEMI, SHMI, MEVE, CANY, ZICA, BRCA, CAPI, HEGL
 - SHMI failed A, B, C flow checks
(CDPHE planning on re-doing audit)



TSAs for 2025

- **Completed since Spring Meeting (all repeats):**
 - CSU: MOZI, CANY, ZICA, BRCA, CAPI
 - CDPHE: ROMO, GRSA, WEMI, SHMI, MEVE
 - MO DNR: HEGL
- **Issues Reported**
 - SHMI flow, CANY electrical, ZICA structure



CANY

- Moved to a new structure; however, they had been using series of extension cords for power as getting an electrician to the site was difficult.
- ARS confirmed that electrician visited last week and replaced breakers. Site operator is moving pumps/controller over today.
- (Also, no backup operator)



ZICA

2016



Had heavy monsoon rains previous day
Pump box wood was soft and water-logged
Will need replaced soon.



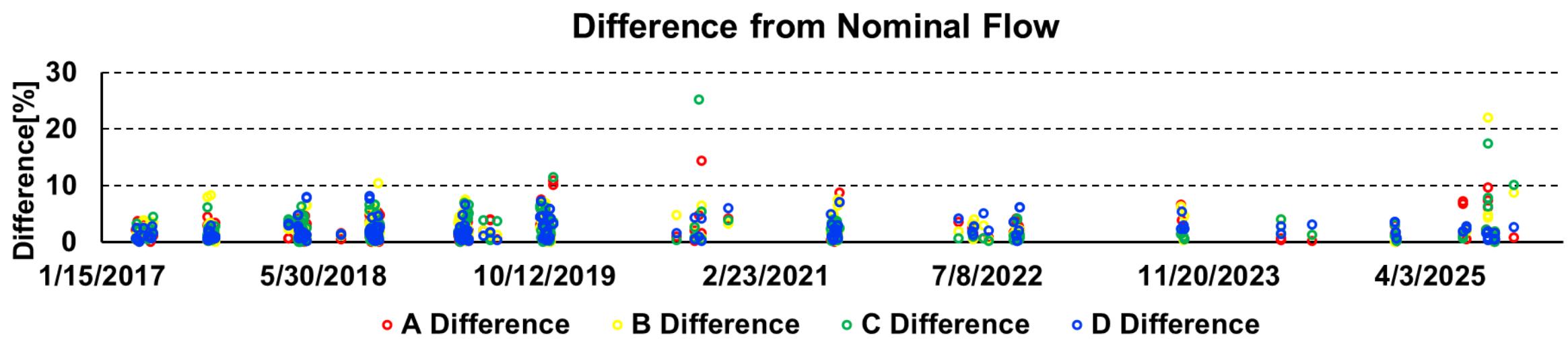
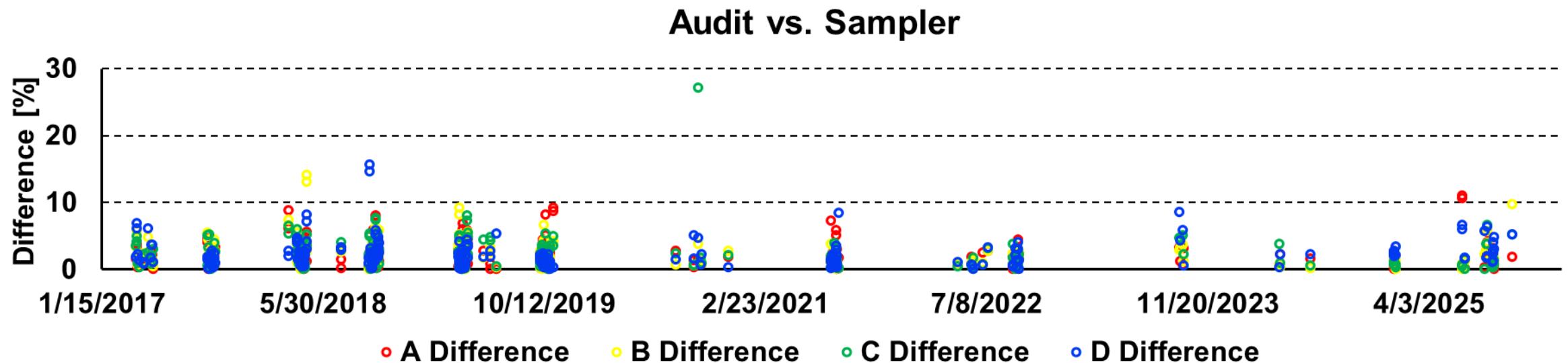
2025



Summary of 2025 findings

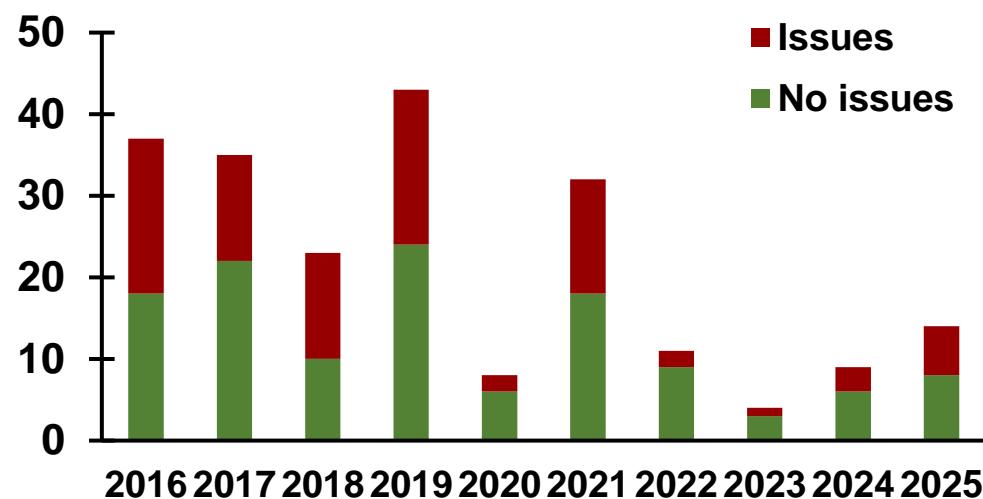
- Samplers are generally running well. Flow control changeover seems to have gone smoothly.
- New audit procedures for flow control may have led to some auditor confusion.
- More structures are getting older (BRCA and CAPI).
- The constant issue of operator turnover
 - Operation is fairly easy but knowledge not fully transferred
 - Unaware of resources
- Some operators had fairly low morale and were feeling a lot of uncertainty.

Review of (10) Years Flow Checks of Audits

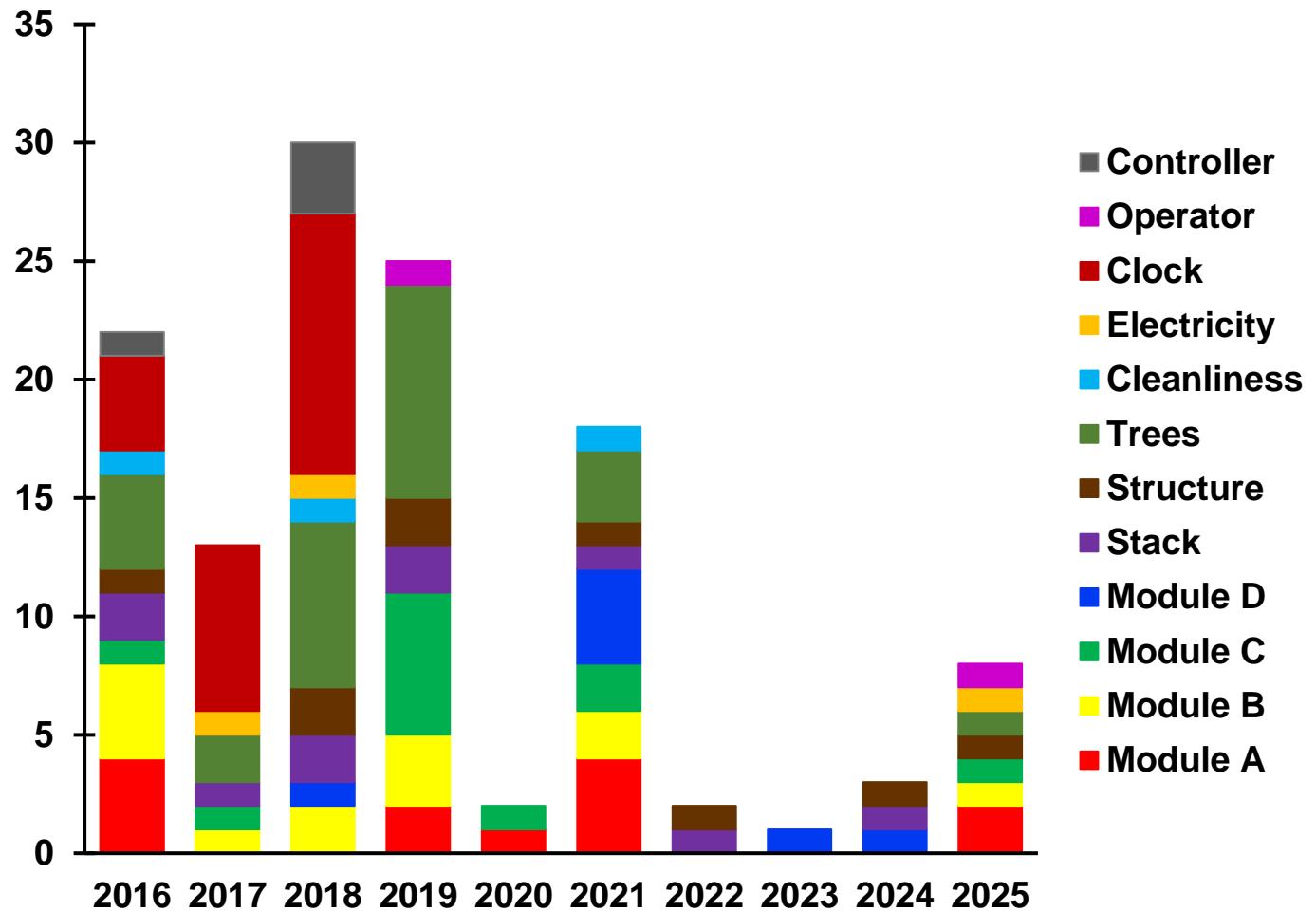


Issues by Year

Site Audits



Audit Issues



Other QA Program Activities

- QMP version 2 approved in January 2025
https://vista.cira.colostate.edu/Improve/wp-content/uploads/2025/01/QMP_IMPROVE_Network_v2_2025.pdf
- QAPP currently being updated (next slide)
- Updating and posting QA documents, call will now go out to contractors every January for updated SOPs
- Updating IMPROVE website (CIRA)

QAPP Status

Task	Original Timeline	Updated Timeline
Planning Meeting	March 2025	
First Drafts from Labs	May/June 2025	August/September 2025
Review and Revisions		October/November 2025
Draft to IMPROVE Steering Committee/NPS	October 2025	October/November 2025
Send to EPA for Review	November 2025	December/January 2025
Sign and Approve	January 2026	