

# Electric Service Reliability



# Why We're Here

2023 District Performance Plan, Objective 2.1:  
“Recommend new Electric Service Reliability target aligned with similarly situated utilities by the end of Q2.”

No action needed, seeking guidance

# Overall Objective

Of the PUD's eight strategic objectives, two apply to reliability:

#1 Commit to the highest level of customer-owner satisfaction.

#2 Invest in creating long-term value

Goal: To create reliability targets that balance cost, risk, and performance.

# Past Reliability Targets

American Public Power Association benchmarking goal: 13 System Average Interruption Duration Index (SAIDI) minutes per year

Through using this target over the last few years, lessons learned include that target:

- Does not drive decisions for a balanced approach to cost, risk, and performance
- Does not align with customer expectations for reliability

# Reliability Expectations

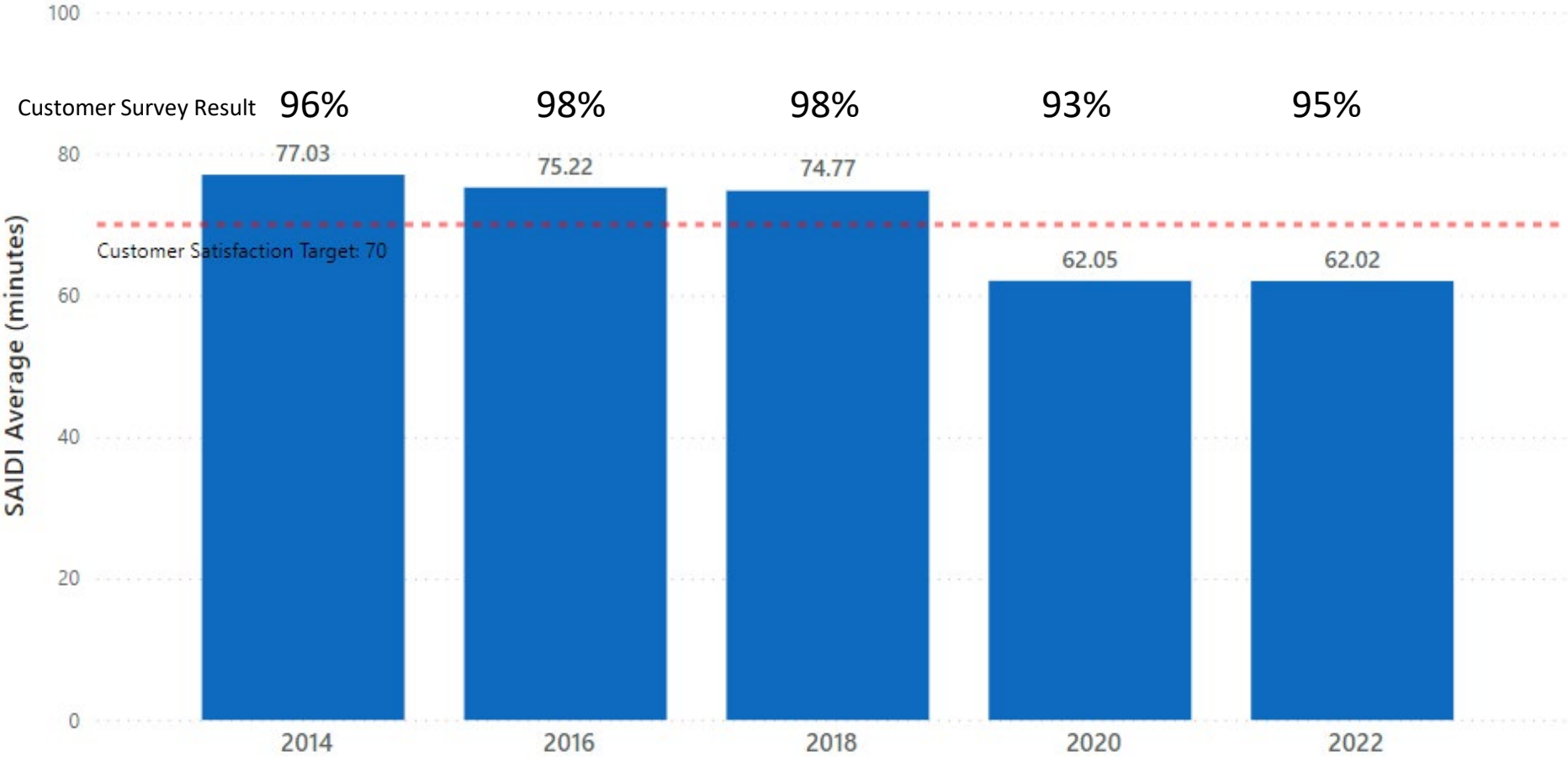
Defining our customer's reliability expectation.

*Strategic objective: Commit to the highest level of customer-owner satisfaction.*

Using customer satisfaction surveys and associated reliability we discovered...

# Historical System Average Interruption Duration Index (SAIDI) Data

SAIDI Averages by Year



# Recent Challenges

- Wildland fire mitigations
- New regulations
- Supply chain issues
- Changing customer demographics in rural areas

# Setting the Goal

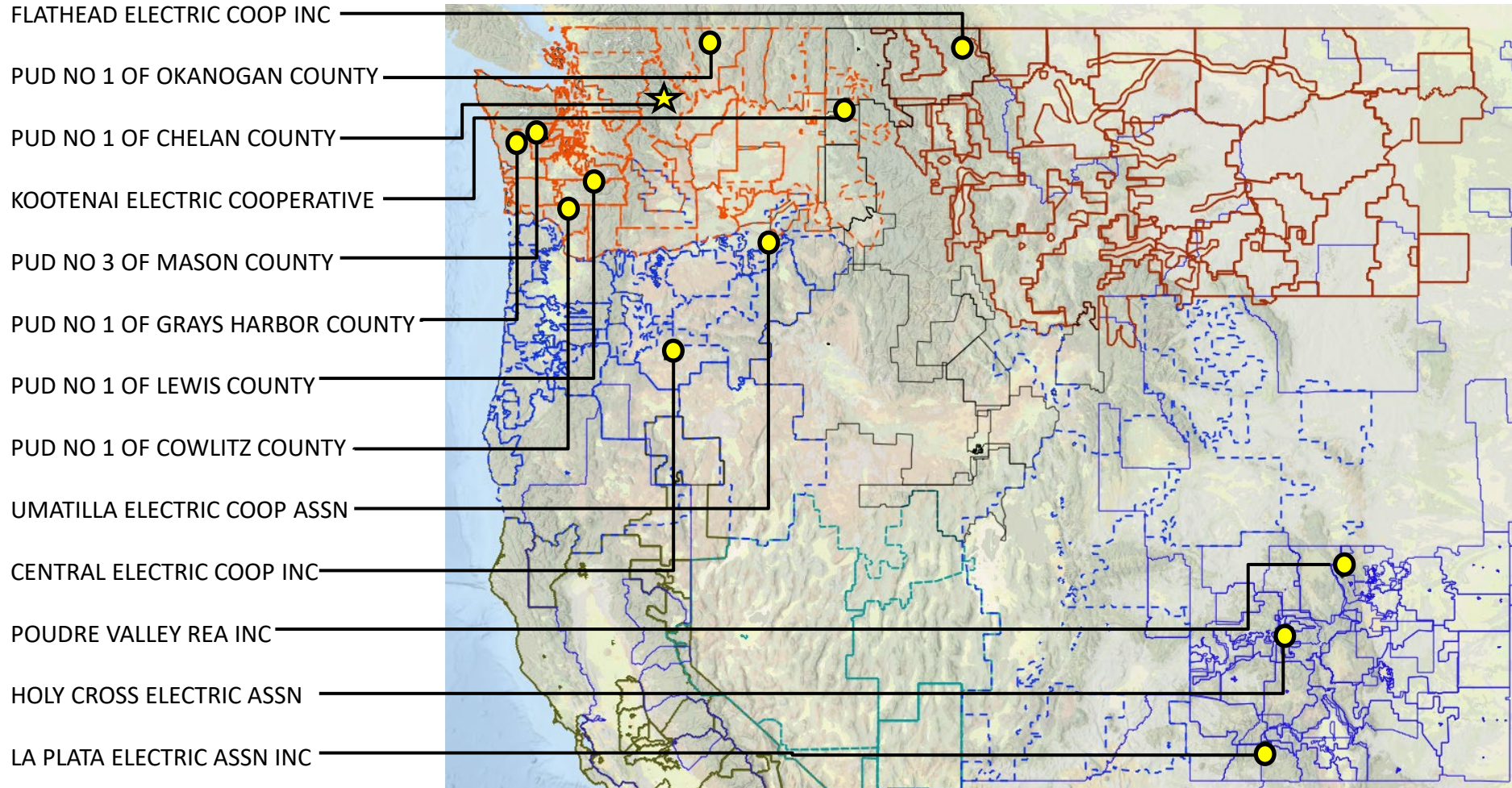
- The goal should be proactive but achievable
- The goal should be consistent with investing in long-term value
- The goal should consider our challenges
  - Wildland fire mitigations
  - New regulations
  - Evolving customer expectations
  - Market pressures



# How Do We Compare to Similar Utilities

- Find similar utilities using a Geographical Information System (GIS) view
- Obtained reliability statistics using Energy Information Agency (EIA) reports
- Identified similar utilities with wildland fire, customer base, etc. in the northwest

# Methodology – GIS Review



# Identified Comparable Utilities

Utility	Location	Customer Count	SAIDI Minutes	Territory Size (sq. mi)	Line Miles
Chelan County PUD	WA	50,729	89	2,994	1,888
PUD No. 1 of Lewis County	WA	34,114	345	2,452	2,925
PUD No. 1 of Cowlitz County	WA	52,328	98	1,166	622
PUD No. 1 of Okanogan County	WA	21,908	154	5,315	1,810
PUD No. 3 of Mason County	WA	35,721	198	600	1,800
PUD No. 1 of Grays Harbor	WA	43,635	201	1,800	1,825
Central Electric Co-Op Inc.	OR	55,000	228	5,300	4,051
Umatilla Electric Co-Op Association	OR	15,952	108	1,962	2,300
Flathead Electric Co-Op Inc.	MT	69,430	165	3,000	5,014
Kootenai Electric Cooperative	ID	31,046	213	1,000	2,300
La Plata Electric Association Inc.	CO	45,046	65	3,370	3,606
Poudre Valley REA Inc.	CO	48,877	77	2,000	4,000
Holy Cross Electric Association	CO	59,885	68	1,149	3,000

First Quartile	92.75
Second Quartile	159.50
Third Quartile	204.00

# Current Top 3 Strategies

## Cable Replacements

- Investment in future

## Vegetation Management

- Wildland fire mitigation
- System hardening

## Technology Innovations

- Recovery from wildland fire mitigations

# Current Top 3 Strategies

Strategy	Investment Annual	Est SAIDI Future Reduction
Cable Replacements	\$2.5M	5-10min
Vegetation Management	\$3M	5-10min
Technology Innovations	\$300k	12-25min
Total		22-45min

Our goal is to reduce our current SAIDI minutes by 22-45 minutes over 5 years.

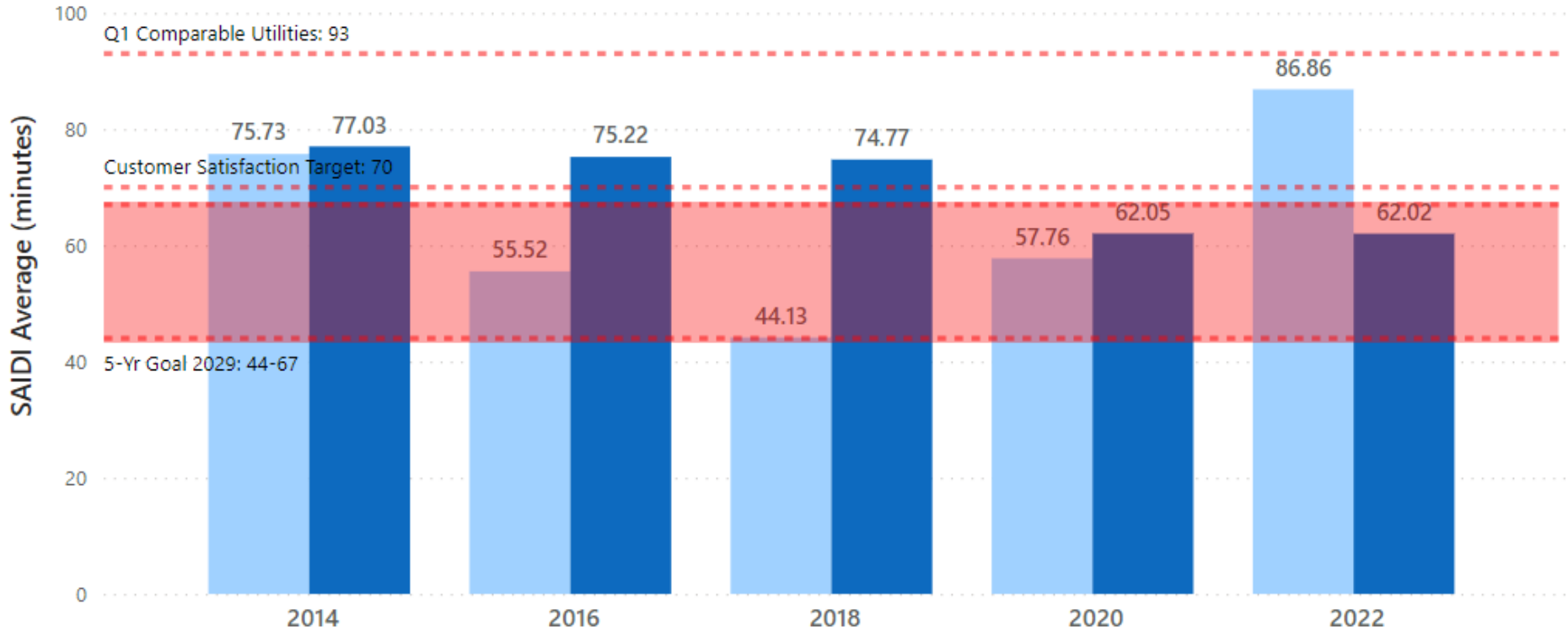
Note: Goals and SAIDI reductions developed from graphical interpretation and historical experience. Staff is developing a reliability model to improve estimations.

# 5 Year Goal

## SAIDI Averages by Year

Record Type ● Actual ● Baseline

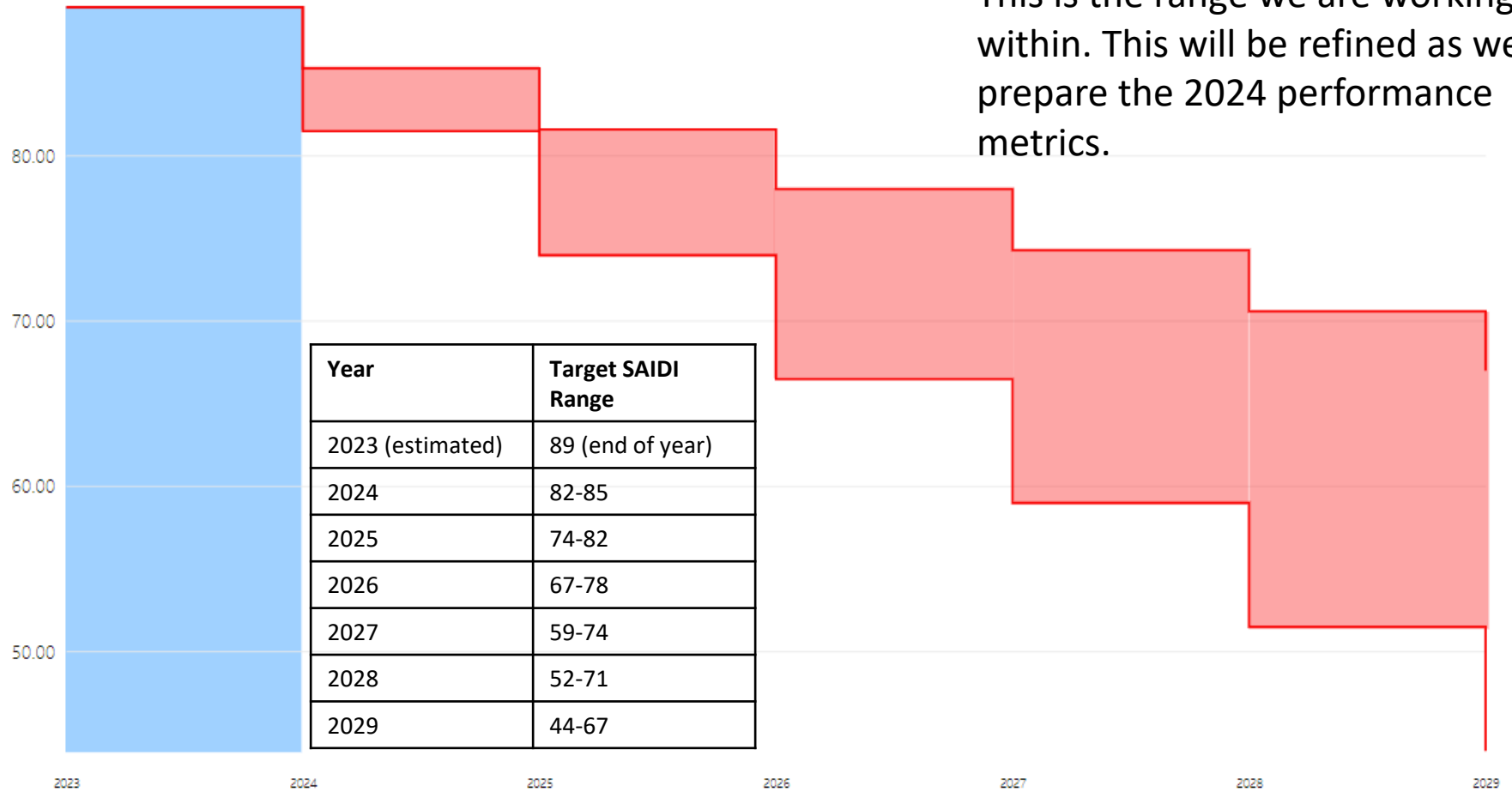
Baseline = last 5-year annual average



# Forecasted 5-Year Range

## Future 5 Years

SAIDI Minutes



This is the range we are working within. This will be refined as we prepare the 2024 performance metrics.

# Additional Considerations

- With the wildland fire SCADA non-reclose work, the target should be achievable
- Continuing with tree trimming and replacing underground cable should result in sustaining the target
- More studies, measures and targets are being developed to monitor the target and the results from investments
- Once Advanced Metering is fully deployed, it will help with notifications and bring a higher degree of accuracy and predictability



# Recommendations

1. Set an initial SAIDI target of 70 minutes annually. This is consistent with current high customer satisfaction levels.
2. Set 5-year goal to reduce SAIDI by 22-45 minutes from our current target of 70 minutes to 44-67 minutes

Questions and Feedback/Guidance?