

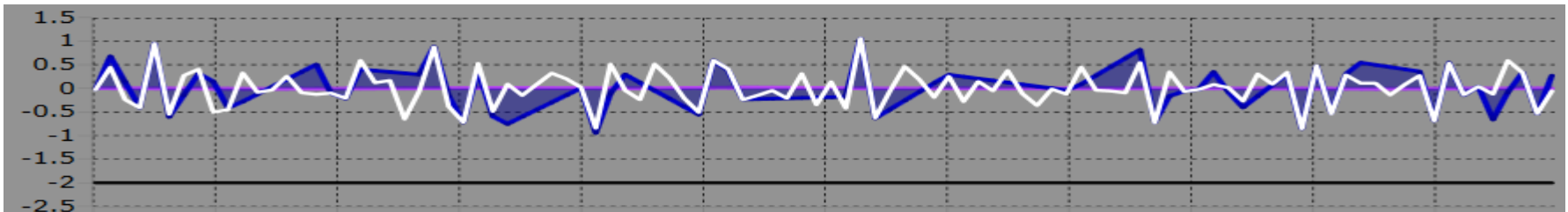


API RP 1175 Alarm Management

Alarm Management

Alarm management involves:

- Data collection
- Categorization
- Alarm Review
- Threshold Setting
- Tuning



Alarm Management: Data Collection

- Data Collection – uses information that was recorded during the alarm. Alarm data collection considers:
 - Post alarm actions to capture the information recorded at the time the alarm occurred
 - Adding additional information to create an accessible database of leak alarm information and to build an alarm history that can be used for alarm review
- Determine or verify alarm cause.
- Determine how well Control Room responded (was teamwork used,)

Alarm Management: Categorization

- Was the alarm clear and credibility
- Confirm cause
- Bin in one of three categories (shutdown immediate); investigation before shutdown/not shutdown); non-leak alarm
- Further categorization: data failure; operational issue, model issue
- Maybe use 1130 categories (data failure, irregular operating condition, possible leak)
- Capture sufficient information to make adjustments

Alarm Management: Alarm Review

- Alarm review is the process of analyzing alarms with the goals of: increasing the confidence of the alarms, looking for improvements; learning; threshold changes; reducing alarms overall
- Short term review: review alarms, determine alarm response, .. Take action to improve performance
- Long term periodic review: not to exceed 5 years In depth review using risk-based approach. Include review of metrics; actual leaks; testing; system changes; procedures review;
- What changes should be investigated (tuning vs threshold changes)

Alarm Management: Threshold Setting

- Ideally reduce thresholds
- Consider selection thresholds
- Balance of reliability to sensitivity
- Short term adjustments if necessary
- Make improvements to equipment, operations, procedures, etc.
- Careful review
- Make minimum changes

Alarm Management: Tuning

- Tuning – adjusting LDS factors or pipeline hydraulics to improve performance and lower thresholds without increasing alarms
- Changes may be at SCADA or PLC level or in software
- Use vendor's suggested method where applicable
- Test tuning changes (off-line ideal)
- Use MOC