

CRM Inspections

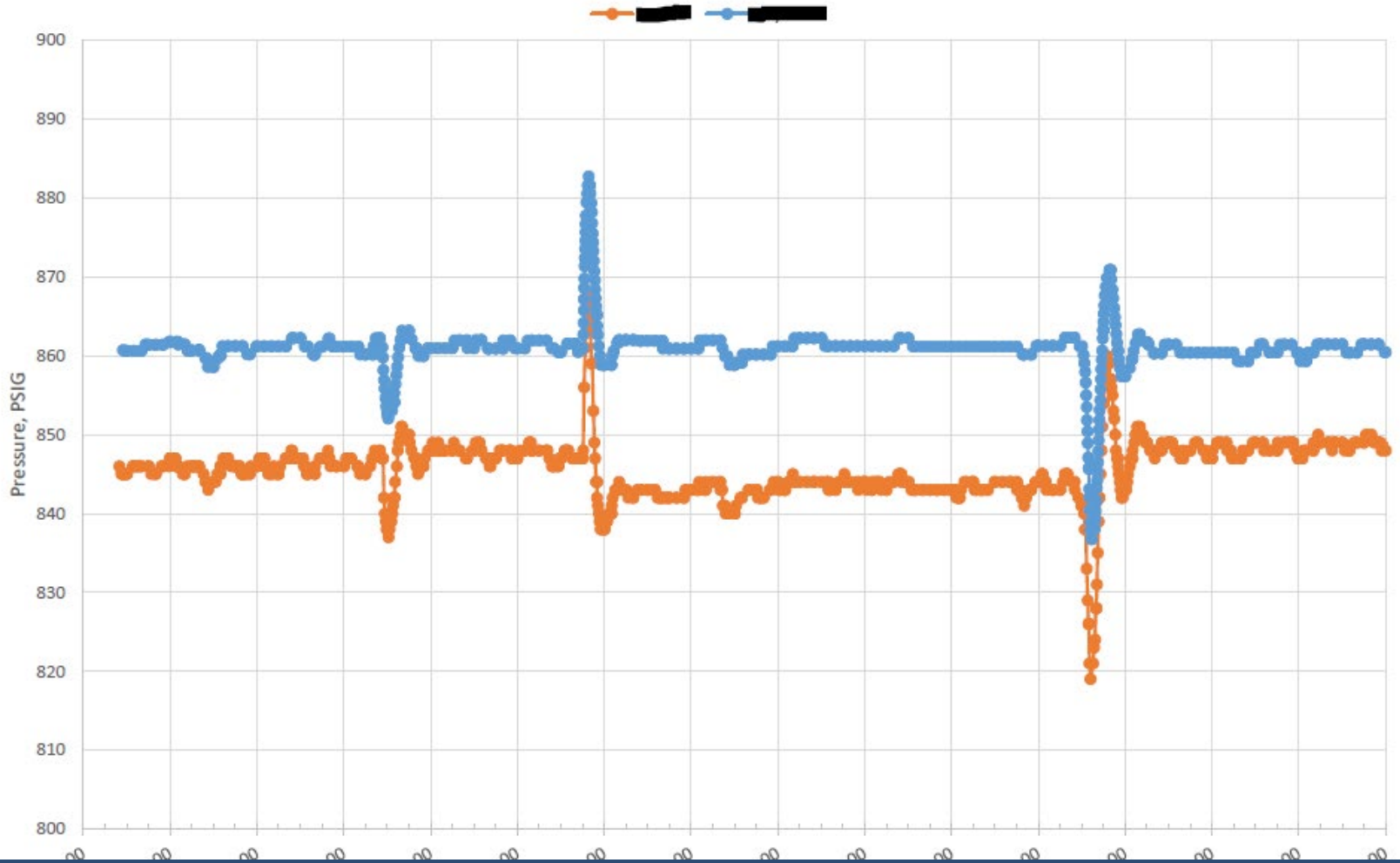
Michigan Public Service Commission

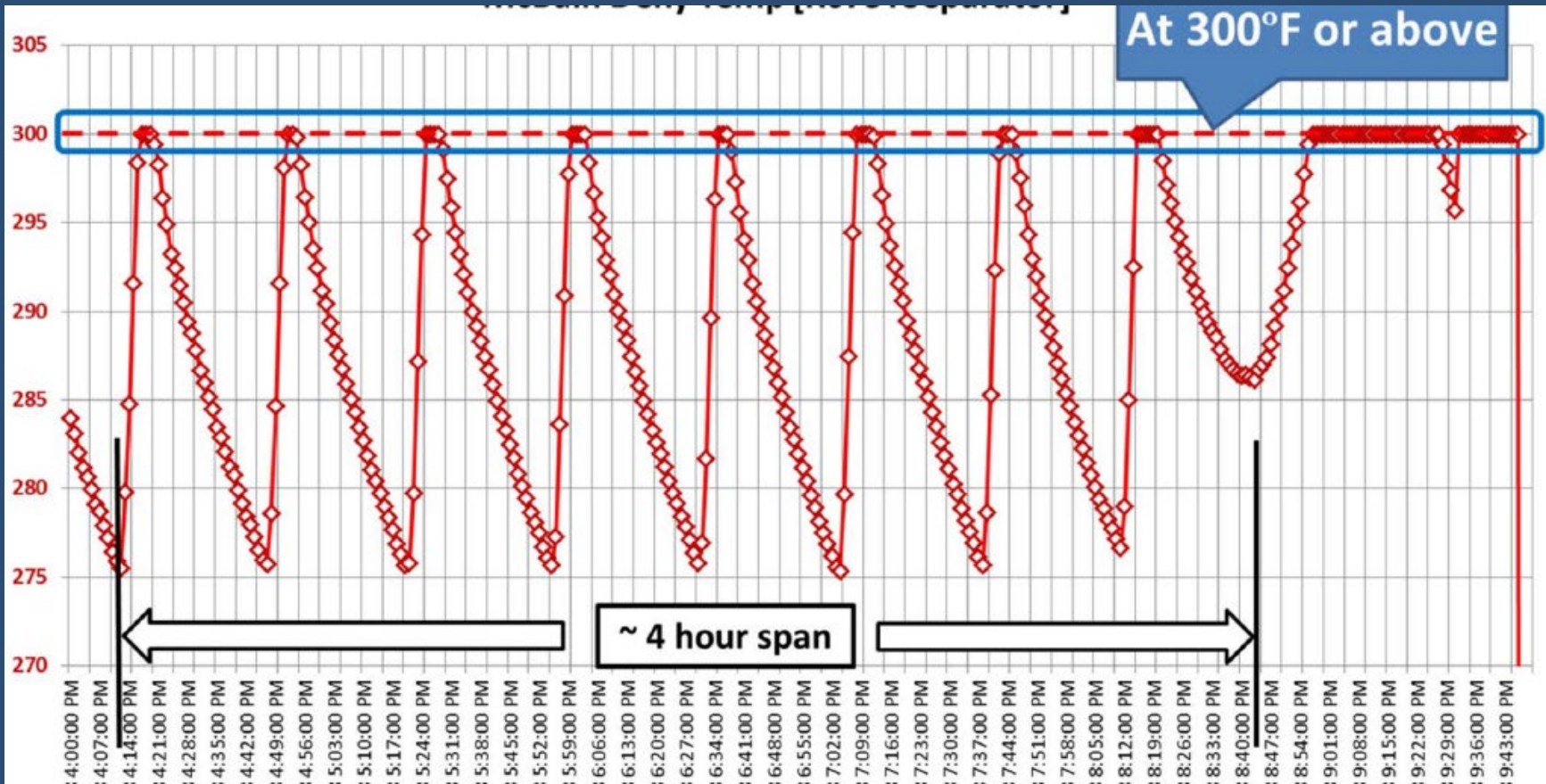
October 9, 2019



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Agenda

- *Control Room Inspection Findings*
- *Best Practices Observed*
- *CRM Rule Changes*
- *CRM Inspections Future*

Prominent Inspection Findings

2013-2018

Findings

- CRM Protocol A – 192.631(a):
 - Failure to document plan revisions

- Best Practice:
 - Revision Sheet – Details, dates, signatures/initials.

- CRM Protocol B – 192.631(b):
 - Incomplete or missing shift change documentation.
 - Inadequate procedures for shift change.
- Best Practice:
 - Shift Change – Detailed information (N/A), signed, SharePoint.

- CRM Protocol C – 192.631(c):
 - Failure to provide adequate details for internal communication plan (Manual Operation).
 - Inadequate Point-to-Point verification documentation.
 - Missing records of back-up SCADA system tests.
- Best Practice:
 - Manual operation – Detailed, specific, records.
 - Complete Electronic Records.

- CRM Protocol D – 192.631(d):
 - Inadequate records of fatigue management training.
 - Inadequate Staffing.

- Best Practice:
 - Retain fatigue records, including refresher training.
 - Cross training of staff to help shortages.

- CRM Protocol E – 192.631(e):
 - Inadequate Alarm Management Plan.
 - Inadequate Review of Alarm Management Plan.
 - Inadequate Workload Summary/Analysis.
- Best Practice:
 - Detailed Alarm Management records.
 - Involvement of multiple entities within your company.

Findings

- CRM Protocol H – 192.631(h):
 - Inadequate/Lack of Training Program.
 - Lack of Review of Training Program.

- Best Practice:
 - Detailed, intensive training programs.

- R 460.20319 – Requires O&M submissions to the Staff to include elements of 192.605. Including 192.605(b)(12), which requires CRM plans to be included in the Operator’s O&M.
- Various Exit Items, requests and recommendations.
 - Average Exit Items: 21+/-
 - Ranging from 10 to 52 Items.

CRM Rule Changes

Since Implementation

CRM Rule Changes

- **192.631 Control room management.**
- (b) * * *
- (5) The roles, responsibilities and qualifications of others with the authority to direct or supersede the specific technical actions of a controller.

- (h) * * *
- (6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph by no later than January 23, 2018.

CRM Inspection Future

Future Inspections - MPSC

- Traditional Approach:
 - CRM Inspections of all Michigan Operators every 4 years.
- Beginning in 2020:
 - Balanced schedule begins
 - 1/4 of the operators per year
 - Maintain interval no greater than 4 years

Future Inspections - PHMSA

- PHMSA has begun to work on a CRM initiative.
- PHMSA will be working to complete full CRM inspections of all control rooms in the next 3 years – 2020-2023. (Both IntERstate and IntRAstate)
- This initiative will involve a discussion with each of the operators around “Cyber Risk Safeguarding”.
- The Cyber Risk Safeguarding portion will NOT be an inspection, but will be concurrent with the inspection.
- All trade agencies have been informed about this initiative and some members (if not all) have been contacted.

Future Inspections - PHMSA

- Currently, PHMSA is:
- Contacting all of the operators to assist with inspection planning efforts.
- PHMSA has started to develop a risk algorithm to help determine which inspections will be prioritized.
- The control rooms to be inspected in 2020 will not be determined until December 2019 at the earliest and will not start prior to February of 2020.

Future Inspections - PHMSA

- PHMSA will likely start with federal regulated control rooms and plan to invite state partners to relevant inspections.
- PHMSA's Byron Coy will lead the initiative.
- The PHMSA inspection team will consist of PHMSA CRM core team members and 10 dedicated inspectors, including two dedicated team members from each PHMSA region.
- Each inspection will consist at least of 2 members. Some inspections may have more present in the early stages.
- In the beginning core CRM team members will be utilized to help confirm consistency in the inspection approach.

Questions

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"We've simplified the control panel to 2 buttons — snooze and panic."