

Sequence V Surveillance Panel Meeting
July 22nd, 2020 2:25 PM EST

Roll Call:

Afton: Bob Campbell
BP: Jorge Agudelo
Ford: Ron Romano
GM: Bradley Cosgrove
Infineum: Doyle Boese, Caroline Laufer, Andy Ritchie (Chair)
Intertek: Al Lopez
Lubrizol: Jerry Brys, Joseph Gleason
OHT: Jason Bowden
Oronite: Robert Stockwell
Shell: Jeff Hsu
SwRI: Ankit Chaudhry, Pat Lang, Dan Engstrom
TEI: Dan Lanctot
TMC: Rich Grundza
Willis Advanced Consulting: Angela Willis

Meeting Summary:

The panel met to resume last week's discussion on the potential introduction of 931 to replace 1009-1. Equipped now with the input from TMC (see meeting details), the panel understands that calibration periods can be adjusted to facilitate 931 data generation. The 931 data would not be charted until there is enough data to calculate the targets. At that time, the tests would be charted and calibration periods would be adjusted accordingly based on whether extensions were given to currently calibrated stands or if references were conducted early. IAR, SwRI, LZ, and Afton labs are all ok with this plan and will start generating 931 data in the coming weeks.

Actions:

1. None from this meeting.
2. Open action from [June 24th meeting](#): Haltermann to look at fuel data from Sec 8.2.6 requirement and report back to panel.

Next meeting: When 931 data is generated

Meeting was adjourned at approximately 3:10 PM EST

Meeting Details:

Chair's comments: The purpose of this meeting is to continue the discussion from July 15th and make a decision on how the panel proceeds with 931.

Rich Grundza (TMC) reported that he read the meeting minutes from the prior week and explained that the proposal to not use data for charting but to treat the data as if a lab calibrated would not be supported as that is not how extensions are to be used. He offered that an option for this panel could be similar to what we did with Sequence III where a new target had to be established for 434-3. In that example, stands referenced early with 434-3 and the targets were generated based on a total of 6 points (4 tests were references that were moved up and 2 tests were calibration tests when the oil was introduced). The results were then rolled back into the charts later using the new targets. What was left on the calibration period for the 4 early runs was given back. Doyle Boese (Infineum) commented that this would be a cleaner method that what was originally proposed.

Prompted by the Chair's request to explain how the labs execute this option, Rich Grundza (TMC) summarized: Extend the calibration period that is current. Wait until we can generate the data for those targets. As an example, we give IAR 4 months on the current calibration period. By October, we have 6 tests total from the labs. We would then generate the targets, chart those tests, and put them back in that date. On that date, labs gets calibrated. AI's calibration period is only 2 months and will take back the 4 months he gave.

Ron Romano (Ford) asked to clarify if this option would only apply for a stand that is not up for calibration. Similarly, Jerry Brys (LZ) asked if his stand that's been out for 3 weeks would be out of the question for this option. Rich Grundza (TMC) confirmed that this would only apply for stands that are not out of calibration. Rich furthered that one would extend the previous calibration. If a lab is up for calibration, we can do 2 tests: 1 for normal calibration and 1 for a 931 test which would go on the existing calibration. He explained that when 931 is charted, TMC can give 6 months plus whatever is left as an extension. TMC can extend up to 1 full period. Rich clarified that the difference here is we do this on the back end and not from the front end. Re: Jerry's question, Rich explained that calibration status would be pending if he were to run 931. If Jerry plans on referencing this stand, Rich recommended to go ahead and run a reference, then run 931. Jerry would have a stand that's established as calibrated. He could run 931 in a month or so. We don't do anything with that result as it would be pending and non-chartable until enough data is generated to establish a target. Once we do that, TMC can add whatever Jerry did not use up from the previous calibration period on to the previous calibration for 931.

Ron Romano (Ford) commented that this option sounded like donated tests which the panel discussed at the last meeting that no one could do during the current business climate. To help close this gap, AI Lopez (IAR) recapped the intent behind Ben Maddock's proposal. AI provided his example: IAR has a stand, that's due soon, running a candidate now. Once that candidate is done, AI will need to run a reference. Ben's proposal points to 931 being run but the stand remaining calibrated on the previous test from 6 months ago. Fast forward 3 months, IAR then runs a live reference on a different oil like 940 to recalibrate the stand at that point; that period would get extended by 9 months. AI recapped what the labs were trying to get from donating a test under Ben's proposal: 6 months or 15 tests payback.

Doyle Boese (Infineum) added another perspective about the proposal from last week vs the option proposed by TMC: if a lab blows a 931 result, the lab would still get credit under last

week's proposal but under Rich's option, the stand would not calibrate. Doyle remarked that a benefit of Rich's recommendation is that severity adjustments would be based on at least 3 tests results over the period of a year and half. Ron Romano (Ford) asked what would be the advantage for the labs to run these tests. Doyle answered that once the 6 tests with 931 are done, targets would be calculated, and severity adjustments and calibration status would be determined at that point. If we don't use the 931 data or if a lab fails the 931 tests, they still maintain calibration.

Jerry Brys (LZ) questioned what the chances are that one of these test would be an outlier and commented that if we did have an outlier, it would set a large standard deviation for that target. Doyle Boese (Infineum) recommended to not change the standard deviation and that the standard oil deviation should be used until we have enough data. An option could therefore be to use an oil that is similar in performance such as 1009.

The Chair checked that TMC would not accept last week's proposal. Rich Grundza (TMC) confirmed that management would say no. The Chair asked Rich to provide an acceptable proposal. Rich replied with:

TMC can adjust calibration periods (extend or move up) to accommodate running / generating 931 data. The 931 data would not be charted until we have the data we need to calculate the targets. At that time, we chart those tests and adjust calibration periods accordingly based on if we gave extensions to currently calibrated stands or if references were conducted early.

Rich mentioned that we would need to determine how to handle getting an extension for AI's stand running a candidate now. But overall, it would be good to get 2 tests from IAR, 1 from LZ, 1 from Afton, and 2 from SwRI. To Doyle's point, Rich said that since 931 is designed to be a borderline oil, using 1009's standard deviation might be ok but would prefer to get 6 data points but ultimately, that would be up to the panel.

Clarifying questions re: the TMC option (all answers from Rich Grundza):

- Q: The extension that a lab would get is from the point when they run 931 until the calibration period is over and you add that on somewhere else? - Ron Romano (Ford)
A: Exactly.
- Q: If AI's stand, that comes out of reference after the candidate, runs 931, would it basically be getting a whole calibration period? - Ron
A: Yes. If AI runs a test tomorrow, he'll have his calibration period to run candidates. For the next test, if he runs 931, that result would sit until a target is generated. Once a target is generated, that result is charted. Then AI will get what he didn't use up from the start of 931 or from whenever we start charting that test. He'll still be running off time and run numbers. IIIH engineers have done this (can talk with Addison S).
- Q: What if we don't get the 6 points in 6 months? - AI Lopez (IAR)
A: At that point, for stands that have run calibrations, I would be willing to extend those until we gather all the data we need. For example, if we don't get the full 6 data points until March of next year and someone ran a test in August, technically, that lab would be out before that happens. We can extend that calibration period until the data is ready to be put in the chart. I would not go beyond a year and I can only extend up to a year (technically 363 days). We would not chart 931 until we're ready to capture that and adjust the backside when 931 does get charted. So instead of a 6 month period, I'd give

a 5 month period. This is general housekeeping, an action for me from 2 calls ago. We're just applying the models we use in the past.

- Q: As more data is generated, do we revisit and adjust standard deviation? - AI
A: We have and haven't. Once we set targets, we should be allowed to adjust. We have not gone back routinely to look at targets after 10, 20, 30, etc data points have been generated. But we can do this to see if standard deviation changes. We need the data first and then we'll have a better idea of what we're dealing with.

The Chair asked the labs for their overall views:

- Al Lopez (IAR) commented there wasn't a point to locking into a data resolution now, let's see what the numbers tell us and then we'll discuss.
- Dan Engstrom (SwRI) is ok with Rich's option. No issues. Pat Lang (SwRI) added that they are in a similar boat as AI (ie: some stands calibrated, some not).
- Jerry Brys (LZ) stated that he can run in the next couple weeks.
- Bob Campbell (Afton) said he was close to be able to run a test as well.

The Chair tested if this plan was ok with Ford. Ron Romano (Ford) replied that they're ok with the plan as long as the labs accept it. The Chair thanked TMC for explaining this to the panel, and the labs for offering information so we can have an open discussion.