

DRAFT SUMMARY

HOT MEETING BPA HEADQUARTERS NOVEMBER 9, 2016 BPA

ATTENDEE LIST

George Brown – BPA, co-chair
Andrew Long – USACE, co-chair
Bent Mouritsen – USBR, co-chair
Erin Foraker – USBR, R&D Office
Dan Ramirez – USACE, HDC
Rick Reiner – USACE, NWP TDA
John Yen – USACE, HDC
Ken Yokohama – BPA

INTRODUCTION SUMMARY

George Brown led introductions and reviewed the agenda.



11-9-2016 HOT
Meeting Agenda-draft.

The actions list was reviewed and revised during the meeting.



HOT Team
Actions-11-9-2016.xls

FLAMING GORGE PERFORMANCE TESTING

Erin Foraker provided the briefing on the USBR and ORNL testing.

- Participants include USBR Dave Hulse, Shanna Durham, John German, Toby Steves and ORNL include Patrick March and Paul Wolfe
- Erin updated that the general finding is that operators were dispatching the units fairly well and could be improved by only about 0.4%.
- The improvement realized is due to properly identifying peak efficiency and therefore improved unit dispatch.
- Performance of all machines was very similar, but they are Francis units.
- Performance characteristics derived from on-line data correlate well with field test measurements.
- Better power scheduling could gain 1.8% efficiency. USBR is looking into doing this.
- They are using the stand alone T2 software to implement the optimization.

GLEN CANYON DAM SCANNING AND MODEL CREATION

Erin Foraker provided the briefing on the USBR, Univ of Tenn, AutoCAD work.

- 3D model of dam, generated by underwater and unmanned aerial scanner. Laser scanning techniques used with accuracy to 1 ft.
- AutoCAD/AutoDesk software being integrated with the scanning technology to create 3D dot models.
- This was an informational presentation that might have some application to optimization and asset management in the future.

JOC/ESC MEETING

The team discussed the JOC/ESC meeting. HOT should stay the course. HOT should continue to pursue plant wide EE efforts. George to circulate comments from the JOC/ESC meeting.

Discussed the idea of requiring an energy efficiency review for applicable capital replacement projects, to assure we are purchasing products with the maximum efficiency that can be justified. Can we discuss a policy for that with the JOC and other management? Should we raise this issue?

INDEX TESTING AT THE DALLES

Andy Long

- Funding still is not coming through, either from the coordination account (Dan Davis) or NREX (Scott Thoren, Chris Allen)
- George and Andy to continue working with their counterparts to investigate funding options
- Also discussed that the team could consider TI funding for FY18.

ENERGY EFFICIENCY DISCUSSION

Andy Long has done some work to investigate Corps capability, but we don't have funding for the proposed pilot project, so not much can be done at this time.

Andy to look into Corps headquarters funding (John Coho).

George to re-connect with BPA Energy Efficiency.

Previously Erin Foraker had mentioned that NREL has an interagency agreement with the USBR and they have some EE expertise. Might be able to access that. Bent to follow up on that.

GBO STATUS AND 3D CAM SURVEYS

Dan Ramirez and John Yen. GBO status and FY16 progress

- ACCS (John Marshall's group) needs to update the software associated with head sensing at TDA. They have a problem with the head sensing which has stalled the GBO work. This has not changed since the last meeting in the Spring.
- Speed sensing criteria is also proving challenging. HDC is working on improving the criteria.

- Do we want to program a testing protocol and stop waiting for online data to naturally accumulate?

Dan Patla, 3D Cam surveys

- HDC hasn't requested funding yet for this year. Jeff Sedgwick will check with Dan Davis about funding this. This should be a base item of work in the coordination account.

STAND ALONE T2 UPDATE

Bent Mouritsen provided an update.

- In a holding pattern, waiting for the improvement to incorporate spinning reserves into the optimization suggestions. This was mentioned at the last meeting.
- USBR is working with GMT and ACCS to integrate these new constraints. Shawn Martin's team is working on this.

BRAINSTORMING – NEW INITIATIVES

- Optimization inventory.
 - HDC to continue working on this.
- User interface tools for T2 and other systems.
 - Ongoing work to understand T2 adoption, use, potential improvements
 - HDC/ACCS to continue looking into this.
- Incentives for operators to maximize efficiency.
 - Not specifically discussed at this meeting
- Energy losses.
 - Relays
 - John Yen suggested looking at relays. How much station service energy do they consume and how much could be saved if we go to solid state?
 - Concerns about reliability of solid state relays.
 - No new developments at this meeting.
- Blade measurement system at JDA Unit 16 has failed, but it never yielded much benefit. Blade measurement remains an optimization topic to consider for the future.
- Short convergent intakes, absolute flow measurement. PTC-18 folks have reached out to the Corps for a test facility. CHJ Unit 11 would be ideal because it has a flow meter and the Corps has done a lot of testing there already. Corps/BPA would have to come up with funding for site support.
 - Renasonic is the vendor
 - Could potentially seek CEATI support and maybe BPA TI funds. BPA solicits for projects in the Spring.
 - No new developments at this meeting.

- Other far-fetched ideas for future thought:
 - Reclaiming heat from the unit and transformer heat exchanges for use in powerhouse heating.
 - Teflon thrust bearings to reduce frictional bearing losses.
 - No new developments at this meeting.

REVIEW ACTION ITEMS

Reviewed and revised new action items list at the meeting.

ANNUAL CHARTER REVIEW

The team reviewed the charter and no changes were suggested.

NEXT MEETING

The next HOT meeting is scheduled for April 19, at BPA.