



Standards Oversight Council (SOC)

Developing effective technical standards that protect Wisconsin's natural resources

131 W. Wilson St., Suite #601, Madison, Wisconsin 53703
(608) 441-2677 || Fax (608) 441-2676 || socwisconsin.org

1072 Horizontal Directional Drilling Standard Team

MEETING NOTES

Monday, December 9, 2019 ▲ 9:30am – 3:00pm ▲

Alliant Energy office, 4902 N. Biltmore Lane, Madison, WI 53718

9:30 Welcome & Introductions (Kate, Team)

Goal: Welcome, review meeting objective, and review and approve 10/11/19 draft meeting notes.

Attendance:

Kate Brunner; C. Kim Gonzalez (Team Leader); John Edwardson; Brad Eifert; Matt Fehler; Mike Hackel; Dana Halverson; Elliott Mergen; Lance Newman; Ann Nye; Geri Rademacher; and Abby Williamson.

Team agrees to finalize the draft 10/11 minutes. Kate will post online in a couple days; reach out to her ASAP if you identify any changes after this meeting.

Google group is used for emails within the team (and not outside the team list and Kate). We won't share documents on Google Drive. Some employers have restrictions with firewalls and access for these documents. Working files may be emailed around and reference materials will be posted on the website. Kate will let the team know via email when documents are posted for team use.

Action Items from last meeting (10/11/19). All completed, though two items have not yet been shared back to the team. Kate and Kim will share in the future, when these topics are reached in our team discussion:

- WI Water and Sewer standards HDD section
- NSF list of approved drilling fluids for drinking water

Meeting Quorum and Consensus (Kate)

Goal: Clarification of the team decisions for meeting quorum and consensus.

Revisit details of what team agrees constitutes a quorum: 1) minimum to hold a meeting; 2) minimum to vote at a meeting; and 3) desired agreement for decision making.

- Team Leader must be present to hold a meeting.
- Of our 12-member team (includes Team Leader, does not include SOC Program Manager), at least 8 team members must be present to have quorum to hold a meeting. The minimum of 8 to hold a meeting can include phone participation or substitutes.
- At least 8 voting team members must attend meeting to hold a vote. Team members participating remotely can vote. Substitutes cannot vote.

- Reminder: we strive for consensus but sometimes we just need substantial agreement. We would like the team to agree on goal for what constitutes a team decision. Team agrees that at least 8 team members should agree for a decision.
 - If 8 are in attendance, we need full consensus for a decision. If not all 8 agree, we can postpone vote to a subsequent meeting.
 - If 12 are in attendance, we'd still only need 8 team members in agreement for a decision.

HDD Introduction – Part 1 (John)

Goal: Summary of the basics of horizontal directional drilling with small rigs.

Presentation on smaller rig HDD in-field process. Key points:

- Basic tooling:
 - Drill rig – “small rig” is about 5/8” to 2” diameter.
 - Locating system – goes in drill head and locates the path so operator can direct the drill.
 - Drill fluid supply trailer/truck – water, bentonite and environmentally safe additives.
 - Hydro vac – used to find the existing utility(ies); much less risk of damage than an excavator; used for “potholing”.
- Typical small rig considerations:
 - Control pits at drill side and exit side.
 - Utilities paralleled or crossed.
 - Culverts, streams, wetlands.
 - For larger holes, (like >1”, depending on the soil), they have to ream with multiple passes.
 - Smaller projects often don't have geotech report or site-specific contingency plan.
- Monitoring and communication are key.
 - Their crews have a person with headset at drill rig, exit side and monitoring the drill path and adjacent areas (not just line from start to exit).
 - In the event of an inadvertent release, consistent monitoring and communication would minimize impact.

HDD Introduction – Part 2 (Brad)

Goal: Presentation on the basics of horizontal directional drilling.

Handout of a typical Contingency Plan by Michels

Presentation on larger rig HDD in-field process. Key points:

- Their crews are often 10 to 12 people.
- Tank and circulation can include 100,000s of gallons of drilling fluid.
- Typical larger rig considerations
 - Control pits at drill side and exit side. They can also drill from both sides and meet in the middle.
 - Can ream multiple passes to accommodate pipe up to 60” in diameter.

- They use a variety of locating systems: magnetic guidance, tru-tracker, para-tracker, gyroscopic (newer, military technology so requires a 3rd party contractor).

Identify Groups of Topics (Team)

Goal: Team exercise to identify groups of topics.

Handout of goals and key issues that we created in our last meeting – The handout is for reference in this exercise, but we are looking for bigger picture now. Kate and Kim will keep these goals and issues in mind as meetings continue to make sure these are eventually addressed.

Three breakout groups work together to develop a simplified group of HDD topics to help focus subsequent meeting agenda items (and possibly used to structure the technical standard). The team discusses ideas for natural groupings of projects.

Report on Groups of Topics (Team)

Goal: Breakout teams report back on the topic groups, identify similarities among the topic groups and summarize into one list.

Each breakout group reports back their summary, then full team discusses and creates the following consolidated list. The following three groups of project-specific issues were developed:

1. **Size** – borehole diameter, bore length, bore volume, flow rate of fluid;
2. **Geology** – soil type, bedrock type, karst features, contaminated soil in project area; and
3. **Resources** – wetland type and quality, surface water use (fishing, recreation, etc.), well proximity, threatened/endangered resources.

Risk – The team agrees on the need for a project-specific risk evaluation. Team discusses ideas (like a matrix or flow chart) for determining the appropriate risk based level of site investigation (geotechnical investigation, wetland delineation), planning (contingency plan, staging plan, APC curve, plan and profile details), and monitoring requirements. Size and sensitivity are key components to the risk evaluation discussion.

FERC Guidance Review (Team)

Goal: Identify pieces of the FERC guidance document that might be used or adapted for use in our standard. What did you like and dislike?

The FERC guidance is for a very specific type of project so not relevant to all the projects DNR would be involved in, though portions are appropriate. The technical standard should avoid requiring something that contradicts the FERC document. Some projects may have to comply with both DNR and FERC documents.

Each team member identifies one thing they like and one thing they dislike about the FERC *Guidance for Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plans*.

LIKES

- Details on “common sense” practices—like monitoring
- Clarified language for requirements vs options
- Always have a contingency plan
- Contractor training aspect
- Personal responsibilities – good to have training, monitoring, communication roles
- Notification procedures (cleanup and restoration)
- Detail good
- Clear definitions
- Specific layouts required – makes review much easier
- Good to see arrangement and format to get head around our work
- NSF 60 drinking water fluids specified
- Recommends geotech early in process, with scope contingent on length, complexity and sensitivity of HDD planned
- Contents of the HDD plan and the IR plan

DISLIKES

- Too much required so early in the process, like: every drilling fluid possible, source of water not known, easements not in place yet, anticipated fluid loss at each crossing, etc.
- Required to permit the contingency
- Inconsistent language, abbreviations
- Detailed but may not have adjustments for construction field modification
- Documentation – too vague and should be more specific to size/project
- Not enough detail what’s required for varying size of project since documentation and impact differs by project
- This document was for only certain type of projects, more how to write a frac out plan so not directly relevant to all our work
- Prediction of specifics for frac out and mitigation is not known until it happens—needs flexibility appropriate to the problem
- Section 3.7.2 – accessing releases off-site – would be difficult and maybe impossible to pre-arrange access for potential future release
- A lot of detail that isn’t relevant to small projects

Of the “likes”, the team will return to this language when we discuss each topic.

Of the “dislikes”, the team will be reminded of these areas as things to avoid, when we come to each topic.

Scope Design and Engineering Presentation (Kate)

Goal: Team exercise to identify topics for upcoming presentation on design and engineering of HDD.

Three breakout groups work together to come up with list of questions/topics that we’d want to understand for the design and engineering side of HDD.

Each group then reports back and full team discusses. The following topics result:

- Design differences with type of utility and project size
- Use of existing soil maps and nearby boring information
- Limitations of product pipe (or other material pulled through)
- Who decides what site-specific information in plan? At what point?
- Who decides # soil borings, depth, when and if needed?
- Who makes decision if HDD is an option or requirement? (note: tech std assumes HDD already selected)
- New technologies
- Case studies:
 - Example from a larger FERC project (plan and profile dwgs)
 - Example from a smaller non-FERC elect. project
 - Example from fiber optic project

Plan of Action (Kate, Kim)

Goal: Review Action Items and agenda items for next meeting (January 16, 2020).

Action Items:

1. Kate – prepare draft meeting notes with Kim, then send to full team for review and comment. Notes will be approved by the team at the next meeting (Jan. 16, 2020).
2. Kate and Kim – prepare next meeting agenda and share with team by Jan. 9, 2020.
3. Susan and Matt and Dana – Design and Engineering presentation coordination. Kate will send each of them the list of questions the team developed in this meeting.
4. Ann – Look into the DNR ER flow chart, evaluate the usefulness of this model for HDD approach.
5. Team – share any other flow charts or similar evaluation tools that we shape for possible use the HDD standard.
6. Kate – confirm venue for rescheduled meeting now on 3/31. Possibly find option for new location for Jan and Feb.

Next agenda topic ideas:

1. Design and Engineering Presentations by Stantec (FERC projects) and We Energies (mid-size electrical project) and Alliant (fiber optic example).
2. Cleanup solutions? Minimize disturbance and control release.
3. Kate and Kim will discuss other ideas from the issues list and get back to the team with possible assignments and ultimately, with the next meeting agenda.

Team meetings will be 9:30 am to 3:00 pm at the following dates and locations (also in calendar invitations):

Jan 16, 2020 – DNR service center in Waukesha (moved from Extension in Oshkosh)

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Feb 13, 2020 – DOT in Waukesha (same address as Jan. 16 mtg, different side of building)

March 31, 2020 (note: this is new date, rescheduled from Mar 17) – Portage, Columbia Co. office building

Apr 22, 2020 – Portage, Columbia Co. office building

May 14, 2020 – Stevens Point - Schmeckle Nature Preserve

June 18, 2020 – Stevens Point - Schmeckle Nature Preserve

July 16, 2020 – Madison – UW Extension Dane Co.

Aug 13, 2020 – Madison – UW Extension Dane Co.

3:00 End