

Guidance for MDP collaboration meeting speakers:

Draft 1

Presenters - General format of slides:

- Why? One or two slides that put your work in the context of the MDP plan
- How? A few slides to clearly show how your work is addressing the “why”
- What? As many (significant) results as you have. Be open about both the positives and the negatives, e.g. what issues were encountered, what uncertainties remain in the results, etc.

- For reference, last year’s talks can be found at:
 - o <https://conferences.lbl.gov/event/133/>, password US-MDP2018
- As much as possible, use the “assertion” approach in preparing your slides:
 - o the slide title should be an assertion that is then supported with evidence in the slide content; If you listed just the slide titles, they should effectively summarize your presentation “story”
- There is a lot of territory to cover at the meeting, so we need to adhere to the schedule. Please work within your allotted time. We strongly suggest less than 1 slide per minute. But you can have unlimited backup slides that can be used as appropriate during the discussion periods at the end of each main session.

Session moderators:

- *Maintain the meeting schedule! The discussion period should be for focused discussion that you moderate (not schedule float).*
- *The discussion session should result in tangible outcomes: clarity in the next steps for your area, who will lead what effort, and who will contribute. The result should be a list of milestones as well as a summary of needed resources.*

More specific suggested guidance on each area:

Nb3Sn Magnets:

- Cos-t:
 - o What has been done since previous CM? What issues have been found and how they were addressed?
 - o What work remains before testing? What resources are needed? Who can help, and in what capacity?
 - o What spares exist, and what are the primary scenarios envisioned after the first test?
 - o Outline plans for the next 3 months, 6 months, and 1 year. What resources are needed, who will lead efforts, and whose expertise is important to make effective progress
 - o Summarize conductor needs: essential needs for ongoing work (e.g. spares), and tentative needs looking forward (specifications, amount, piece length...)
- CCT magnets:

- summarize what has been done since CM2 and what we have learned. Create a list of unknowns that we suspect drive performance. How can they be addressed? Identify elements, so others can propose/perform experiments/research to address them.
- How do you see the subscale CCT playing a role?
- Outline plans for the next 3 months, 6 months, and 1 year. What resources are needed, who will lead efforts, and whose expertise is important to make effective progress
- Summarize conductor needs: essential needs for ongoing work (e.g. spares), and tentative needs looking forward (specifications, amount, piece length...)
- *Charge to presenters and session moderators:*
 - *What are the near-term needs for testing the Cos-theta magnet? Who is responsible for the magnet preparation? Who is responsible for testing? What support is needed, and who's help is requested?*
 - *What are the scenarios for the 15T, and how do we respond to the various cases? What spares do we have, and are there investments we should make now, or plan for in the near future, to maximize the value of the 15T investment?*
 - *What design efforts are being/should be undertaken in the near-term for Nb₃Sn magnets? What are the figures-of-merit for designs? What "technology" developments/data are most valuable in developing next designs (materials properties? Modeling capabilities? Test data analysis?)*
 - *We need to plan a workshop (recommendation from the GARD comparative review) once sufficient data is obtained from the Cos-t and CCT efforts. What criteria should trigger that workshop?*

HTS magnets:

- Review development roadmaps. What was the plan from the last collaboration meeting, and what progress has been made over the last year?
- How have the roadmaps evolved since last year? What are the near and mid-term technical hurdles? Who can help, and how?
- Summarize conductor needs: essential needs for ongoing work, and tentative needs looking forward (specifications, amount, piece length...)
- *Charge to presenters and moderators:*
 - *What are the near-term priorities for HTS magnets: Hybrid or all-HTS? Field strength? Quench protection? Current-sharing? Degradation?*
 - *What are the conductor needs: quantity, quality/characteristics; what are priorities in terms of conductor development, and who should lead those efforts?*
 - *What are the priorities for facility investment/utilization, e.g. Bi2212 furnace expansion, BNL common coil, CCT5 as background, etc.*

Technology:

- Modeling:
 - What was the status of your work at the last collaboration meeting, and what was proposed moving forward?

- What has been accomplished over the last year? Summarize both positive results and issues encountered.
- Magnet materials:
 - Summarize data to-date, particularly since the last collaboration meeting.
 - What are the goals, and what does it take to get there?
 - What additional feedback is needed from the magnet tests to guide magnet materials developments (epoxies, coatings; surface prep, etc.).
 - As identified in the MDP plan, interfaces are now becoming a primary issue. Identify a roadmap for development/experiments that can make significant advances on that front.
 - Who can help, and how? Universities? Industry?
- Diagnostics:
 - Describe the unique characteristics of the diagnostics being described.
 - What are the data telling us about magnet performance?
 - What are the next priorities for diagnostic developments?
 - What is the value-added to other magnet applications, and how can they provide data that is useful to MDP?
 - What is the investment needed for others to use our diagnostics? Is there a role for universities? For industry?
- *Charge to moderators:*
 - *Are the current efforts in technology development properly prioritized?*
 - *Are there clear goals for each area? Can we define specific milestones to track progress?*
 - *What facilities are available within the MDP collaboration to make progress, and what facilities/capabilities are missing?*
 - *What collaborations are ongoing, and what collaborations should we pursue on this front? Are University connections being fully leveraged?*

Superconductors:

- what are specific results obtained over the last year?
- What performance characteristics are driving the conductor development?
- What are the technical hurdles moving forward – near term, mid-term, and long-term? How are you addressing the next steps?
- Who can help, and how? What additional resources are needed?
- *Charge to moderators:*
 - *Summarize the near and mid-term conductor needs for the program, based on magnet sections of the program*
 - *Do current conductor developments have clear goals and roadmaps to achieve them?*
 - *Are the conductor developments sufficiently supported? What additional facilities/expertise can be applied to facilitate the developments?*