

Major Elements of the Revised DIII-D Research Opportunity Forum Process

This memo discusses the major elements of the revised Research Opportunity Forum (ROF), including improvements implemented for the 2026 experimental campaign. While a few elements are unchanged from previous ROFs, several new processes have been introduced with the goal of a more continuous experimental planning process that is open to a broader spectrum of people and has a fair and impartial evaluation of proposals. Two significant changes in particular are that more detailed proposals will be required up front, and the scientific and technical merits of the proposals will be evaluated using an anonymized review process ahead of the ROF group breakout meetings. All proposals, except Frontiers Science and Torkil Jensen Award, will be subject to the above process, although proposals for Director's Reserve will not be included in the ROF group breakout discussions. Proposals for standby experiments may be discussed in the ROF group breakout meetings but late proposals will also be considered.

1. ROF Calendar for 2026 Spring Campaign

Timeline (subject to change):

Est. time	ROF element
Sept 3	2026 DIII-D Strategic Planning Workshop
Sept 16 & 23	Research Council meets to hear high-priority proposals for 2026 Spring campaign and make recommendations
Oct 29	Run Time Guidance announced for 2026 Spring campaign
Oct 29	Proposal Engine opens with updated ROF categories for 2026
Nov 17 – 21	67 th APS-DPP Meeting in Long Beach
Nov 30	Submission deadline for new ROF proposals for 2026
Early December	Education Committee decides on Ph.D. student recommendation
Dec 5	Finish anonymized reviews of new ROF proposals
Dec 8 – Jan 9	ROF breakout sessions; purpose is for each “column” to produce list of prioritized proposals
Jan 16	Run Time Allocation announced for Spring campaign (i.e., finalized list of approved experiments)
Jan 26	All “40 Questions” must have final answers from MP team
Feb 9	Run Coordinator Team issues initial schedule of experiments for Spring campaign
Feb 17	Shot plan reviews completed for experiments, MPs submitted for final review by Area, OPS & Final leaders
Mar 3 – May 11	2026 Spring Campaign

2. Strategic Planning (aka Setting Group Goals)

Strategic Planning Workshops (SPW) are an important starting point in planning the DIII-D experimental program. Early in the ROF cycle, groups will meet to discuss goals and high priority research efforts in their area over the next ~2 years. The SPW may be organized as a series of

separate DIII-D Research Groups meetings, or it may be organized as one meeting that is open to all, depending upon the circumstances. Proposals for “cross-cutting” research tasks that bridge DIII-D Research Groups are especially encouraged at the SPW. These discussions should be “brainstorming” in nature and need to focus on main themes and not individual experiments. The aim is to identify clear objectives (rather than a detailed plan of action) that the group wishes to pursue to develop improved fusion solutions or parameter access. Comments on synergies with other topical areas are welcome and may lead to proposals for thrusts or task forces. The main outcome of the SPW is for DIII-D Research Groups to identify the most compelling ideas for high priority research tasks and assign people to work out polished proposals for the Research Council meeting.

In parallel with the SPW, each topical area of DIII-D research should meet to set their initial research goals for the next two years, which will be published on a Research Division SharePoint website to motivate ideas for ROF proposals.

3. Research Council

Polished proposals for high priority research efforts over the ~2 year ROF cycle that have been selected via the SPW are presented and evaluated at the Research Council (RC) meeting. These proposals should be for multi-day or multi-week campaigns, not individual experiments. Research Council membership is set by the DIII-D User Board. Key people from the DIII-D management team and run coordinator team should be on hand to give advice on wider contexts and capabilities. To be consistent with the anonymized proposal review process discussed below, names and institutions should not be mentioned in the RC presentations, which will be aided by having the DIII-D Research Group Leaders give presentations on behalf of their group. Following the presentations, the RC members will provide their assessment of the proposals to the DIII-D Director using a scoring system (impact, clear progress, urgency, foundational science, achieve deliverables) as well as their comments. The DIII-D Director will then meet with the RC members to discuss the results of the scoring and debate the prioritization of the proposals.

4. Run Time Guidance

Following the RC meeting, the DIII-D Director will issue a Run Time Guidance (RTG) memo to announce the high priority research efforts for the next ~2 years, which can be organized as thrusts, task forces, or occasionally new topical areas. (Periodic updates to the RTG memo may be issued.) The RTG memo will also emphasize the most important research goals that the Research Groups should pursue. There should be sufficient detail in the RTG memo that the ROF categories (i.e., ROF “boxes”) can be determined as these are needed to organize the ROF breakout sessions later. The estimated amount of run time for each group should be included in the RTG memo.

After the RTG memo is issued, an expedited Expression of Interest (EOI) process will be used to choose the leaders for the thrusts, task forces and newly created topical areas. The thrusts, task

forces and topical areas will have the opportunity to revise their ~2 year research goals to account for the updated guidance.

5. Submission of ROF proposals

Detailed ROF proposals will be submitted using a “Proposal Engine” on SharePoint that will steer people through the ROF process. While ROF proposals can be submitted to the Proposal Engine at any time (i.e., once opened it will not close except for updates), a submission deadline will be announced for proposals to be considered in the upcoming run time allocation. Proposals submitted after the deadline will not be considered for run time until the following allocation. Run time allocations may be cover the whole two year ROF cycle or may be for fewer weeks (between 8 and 20) & more frequent (at least annually); there is a tradeoff between minimizing the amount of time consumed by experimental planning and making it easier for new DIII-D team members and new ideas to be incorporated.

An important change to the ROF process is that more detailed proposals will be required than in the past. While this is necessary for the anonymized review process discussed next, requiring more detailed experimental proposals up front will make it easier and quicker to turn successful ROF proposals into mini-proposals later. The latter will be facilitated by using a ROF proposal format akin to the mini-proposal structure, i.e.,

1. Purpose of Experiment
2. Background
3. Experimental Approach
4. Resources
5. Experimental Plan
6. Analysis Plan

The “Purpose” section should include a discussion of the group goal being addressed (or else state a new goal for the group) and a clear statement of how the results will impact the fusion energy path. “Background” material should put the new proposal into context, and the “Experimental Approach” section should explain the rationale for key choices in the approach and an overview description of the techniques used. The “Experimental Plan” should just convey the main scans to be done and how much experimental time (or shots) are needed, while the “Analysis Plan” should include an assessment of the skills the proposal team will bring to the experiment. While people are encouraged to form proposal teams to improve the proposal quality and reduce duplicate proposals, the ROF proposals are meant to be concise (3-5 pages, 3 pages being appropriate for a LRHO or half-day experiment) and are not expected to be worked out to the same level of detail as an approved mini-proposal.

When first submitting a ROF proposal, the author will select the relevant review category from the supplied ROF category list, which is determined from the RTG memo. Besides helping to determine the eligible reviewers, the selected ROF category will be used to link the proposal to the appropriate ROF breakout session. If the author doesn’t select a category then the DIII-D Research Director will select one for them based on the proposal’s content.

Because the first stage of the ROF review process is anonymized, the submitted file containing the ROF proposal shall not contain names or information (including metadata) identifying the proposing team; while author and co-author information will be collected at the time of submission, it will not be divulged until after the anonymized review.

In addition, when submitting the ROF proposal the Proposal Engine will prompt the submitter to answer the “40 questions” (most of them, anyway) that the DIII-D Run Coordinator Team (RCT) have been asking mini-proposal leaders to answer in the past. The information from the “40 answers” will become part of the ROF evaluation process. If the submitter is unable to answer a question at the time of submission, they can select “not determined” and answer that question later.

While it is preferred for authors to submit their experimental proposal to only one ROF category, occasionally an author may feel that they need to submit to multiple categories. In these cases, authors should follow the following procedure to avoid overburdening the anonymized review process with duplicate reviews. First, the author should submit their proposal to a single ROF category and wait for the anonymized review process to complete. Once the proposal has been fully reviewed, the author should submit the form found on the introduction page of the Proposal Engine to request additional ROF Categories, and the DIII-D Proposal Engine admins will fulfill this request.

6. Anonymized Review of ROF Proposals

All submitted proposals will undergo an anonymized review, meaning that the submitters and reviewers will not be known to each other, to evaluate its scientific and technical quality. Three reviewers will be randomly assigned to each proposal. The reviewers will be members of the DIII-D Team, not including students, who “opt in” to the anonymized review process. To avoid conflicts of interest, the eligible pool of reviewers will not include the proposal’s author or co-authors, or scientists who are “conflicted” (usually because they have submitted, or will be submitting, a proposal to the same ROF category during the current ~2 year cycle). The two reviewers will be randomly selected from a non-conflicted pool of people who are experts in the ROF category; the third reviewer will be randomly selected from a non-conflicted pool of people who are non-experts in the ROF category.

The reviewers will evaluate the submitted proposals and submit a recommendation of “Yes,” “Maybe” or “No” in regard to running the experiment on DIII-D. There are mandatory comment boxes for Scientific Merit, Fusion Energy Goals and Uniqueness so that reviewers can explain the basis for their recommendation. Additionally, reviewers will need to fill out a fourth comment box about possible technical challenges, listing any concerns about potential problems with the proposed experiment or analysis plan, as well as alternative strategies that should be considered. Finally, there are three optional comment boxes for reviewers to discuss what they didn’t understand about the proposal, what is missing from the analysis plan, and how the proposal can be improved.

7. Pinboard

Following the anonymized review, ROF proposals will be posted to a pinboard viewable by the DIII-D Team. At this point the proposal will be uncloaked, with all its data and authors made public, together with the reviewer recommendation and comments, but not reviewer names. The proposal author will be able to post comments in response to the anonymized review, and DIII-D Team members will be able to post comments about proposals; comments should be professional and constructive. The pinboard will only display the “as reviewed” version of the proposal.

New experimental ideas will sometimes require plasma development work to be done beforehand, usually through a “control session.” The run time for these control sessions should be included in the total run time requested for the experiment; however, the proposal author may not realize that a control session is needed for their experiment. To help with this situation, members of the Physics Operations organization will examine the ROF proposals posted to the pinboard and can add a comment pointing out if a control session will be needed.

8. ROF Breakout Sessions

Breakout sessions by ROF category are a key part of this experimental planning process, the aim being to discuss subjectively and logically which experimental proposals most effectively address the RTG and group goals. Breakout groups should work towards a consensus decision on a prioritized list of experiments, or at least achieve group buy-in on the prioritization. The discussion may involve combining similar proposals, or modifying proposals to better address important topics. Since the submitted proposals will be more substantive than in the past, and the anonymized review process will have already evaluated the scientific and technical merits of the submitted proposals, authors should not present their proposal at the ROF breakout sessions. This should shorten the amount of time needed for breakout sessions compared to previous years. Participants should familiarize themselves with the purpose/goal of each proposal and the anonymous review scores and comments ahead of the meeting (the breakout session leaders can send out a compilation of this information to the group).

ROF proposals whose status in the Proposal Engine are marked as “No Decision” or “On Hold for Later”, and the unused parts of “Partially Selected” proposals, should be discussed in the breakout sessions to determine their position in the group’s prioritized list for the next run time allocation. Besides effectively addressing the RTG and group goals, other issues that can be discussed in the breakout sessions are (1) how to factor in inconsistent review results, (2) assessment of the proposal team’s readiness and workforce development plan, including the suitability of skills and selection of the mini-proposal leader(s), and (3) the incorporation of “piggyback” experiments into main experiments.

Note that a person should not lead more than one experiment per year per ROF category to facilitate greater participation and new ideas. The set-aside run time for Directors Reserve/standby/ Ph.D. is considered to be their own areas for this purpose. If a proposal author has

multiple high-ranking proposals in the same ROF category that the group wants to run in the same year, then there are three basic options. Option 1: The author selects which proposal they wish to lead that year and the remaining proposal(s) are deferred to the following year(s). Option 2: The author selects which proposal they wish to lead that year and the breakout group picks different mini-proposal leader(s) for the remaining proposal(s). Option 3: If multiple proposals are combined into one, then one of these proposal authors can be picked to lead who hasn't been selected to lead another proposal that year.

While substantial weighting should be applied to the anonymized reviews, it may well be the case that the breakout group gives high priority to one or more proposals that didn't have strong reviews in order to meet RTG and group goals. Breakout session leaders need to present well thought out arguments to the Research Group Leader and/or DIII-D Research Director to justify large deviations from the reviews to preserve the integrity of the anonymized review process. It is generally expected that proposals that have strong reviews and are well aligned with the RTG and group goals will be given high priority. Research Group Leaders will review the prioritized lists of all ROF categories under them and may make adjustments, in discussion with the breakout group leaders, to the selection balance or number.

9. Run Time Allocation

The leadership of the DIII-D Research Division serves as the formal tensioners in the experimental planning process. The Research Group Leaders should weigh the relative priority of all the ROF categories under them, and the final prioritized experimental list from each Research Group (including thrusts) and task force should be discussed amongst the leadership of DIII-D Research Division, under the guidance and chaired by its Director, and adjusted to form an overall balance that most effectively meets the run time goals. This will be submitted to the DIII-D Director, who will then issue a Run Time Allocation (RTA) memo to confirm the approved experiments and amount of run time for each area. More than one run time allocations may be made between Research Council meetings, keeping the same set of ROF categories (see previous discussion). The DIII-D User Board will be consulted regarding the run time allocation prior to release.

Following the issuance of the RTA memo, the DIII-D Director or DIII-D Research Director will give a presentation to the DIII-D Team explaining how the allocation decisions were reached. Decisions about the ROF proposals will be entered back into the proposal engine by the Research Group Leaders or DIII-D Research Director to ensure the tracking of all proposals, identifying if they were selected, merged, deferred to later selection, rejected, or simply not assessed. Periodically, proposals marked as "Selected" or "Not Selected" will be removed from the ROF proposal list and archived to keep the list of active proposals manageable.

10. Ph.D. Students

Detailed proposals from Ph.D. students need to be submitted to the Proposal Engine and undergo anonymized review as described above (authors should identify themselves as Ph.D.

students when submitting their proposal). The DIII-D Education Committee will be charged with making recommendations to the DIII-D Director for allocating run time for these student proposals based on the anonymized reviews, dissertation need and urgency. Students should not expect to receive more than one such run time allocation during the course of their dissertation. Note that ROF breakout groups can also include Ph.D. student proposals on their prioritized list of experiments if merited by the review scores and alignment with the RTG and group goals. To avoid duplicate allocations of run time, the DIII-D Education Committee should strive to make their student run time recommendations before the start of the ROF breakout sessions so that the breakout groups can factor this into their prioritizations. (If a student proposal does receive duplicate allocations of run time, then in most cases the ROF category will be given extra time back to execute additional proposals on their list.)

11. Director's Reserve

The DIII-D Director may also hold back run time to allocate later as Director's Reserve (DR). While the present DIII-D Director welcomes initiatives to explain compelling new ideas either in person or at the DIII-D SET meeting, he adopts a requirement that all such ideas must also be (i) discussed amongst a pertinent Research Groups or task forces within the DIII-D Research Division, and (ii) be subject to a recommendation from the DIII-D Research Director. DR time may also be used to simply complete existing run selections in cases where program time is challenged.