

Contents

A	Management Plan	2
A.1	Principles of the management plan	2
A.2	The HALL D collaboration membership	3
A.3	The HALL D governance structure	4
A.3.1	The HALL D collaboration membership structure	4
A.3.2	The working groups	5
A.3.3	The technical review committee	6
A.3.4	The executive group	7
A.3.5	The collaboration board	9
A.4	Summary	11

Appendix A

Management Plan

A.1 Principles of the management plan

The task of the HALL D Collaboration, or simply the collaboration in this document, is to secure scientific approval and funding for the HALL D experiment at the Thomas Jefferson National Accelerator Facility (JLab) and to subsequently design, construct, and commission the beam-line and detectors and to complete the physics program leading to the publication of final results.

The governance of the collaboration is laid down in the Management Plan, MP, in such a way as to assure the timely and successful completion of the tasks above. It emphasizes teamwork and peer-review as essential to the successful execution of this plan. The framework is based on the formation of teams for each task with the autonomy and delegated authority needed for them to carry out their tasks within the integrated structure of the collaboration. Mechanisms of oversight and review of each team's work are implemented to assure that the goals of the collaboration are achieved in a timely, effective and coherent manner. An effective and unhindered liaison with JLab staff and management is paramount to the success of the project.

A collaboration is as good as the members that form it. The philosophy of the MP is to maximize the considerable talent and expertise available in its membership, while, at the same time, preserving a well defined order in decision making. Three principles guide this approach:

- First, the collaboration needs a strong and effective leadership. Such leadership ultimately resides with individuals who are identified with the physics and technical goals of the experiment and who have the confidence of their peers within the collaboration and the community

beyond. The MP endorses a multi-tiered structure designed to encourage and recognize such leadership at all levels within the collaboration.

- Second, the collaboration needs a clear and transparent decision making process, one that is open to every member of the collaboration who wishes to participate. This is accomplished by the principle of representative democracy, where the collaboration and all the teams and groups within it elect their own representatives to the next higher level of decision making. In parallel, the MP makes provisions which safeguard the effectiveness of the structure by outlining the process of conflict resolution at the various levels where such conflict may arise.
- Third, the MP proposes a structure that is both simple and flexible and able to adapt and change as experience and circumstances dictate.

As the collaboration progresses through the various stages of its program, the MP is an adaptable and flexible instrument of governance and can change to best serve the membership based on experience and environment. The basic principles enumerated above provide a reliable basis upon which the MP and its future developments will be founded.

A.2 The Hall D collaboration membership

The HALL D Collaboration membership consists of physicists and engineers who have signed a Memorandum of Understanding (MoU) specifying the expected contributions within the scientific and/or technical objectives of the HALL D Collaboration. Such contributions may be defined as any component of hardware, software, or any aspect related to the scientific basis of the experiment, and which the collaboration deems important to the pursuit of its objectives.

Membership for researchers within either an institutional or a task oriented group will also carry individual membership status. The list of individual researchers within the group brought forward for membership is the responsibility of the group leader. The list, drawn in good faith by the group leader, is a commitment by the individuals named to fulfill the obligations outlined in the MoU and to be active members of The collaboration in all its aspects.

Membership entails specific contributions to the HALL D experiment in all its aspects. As such, a failure by any individual or group to meet the respective MoU commitments constitutes grounds for removal of the individuals or groups from the HALL D Collaboration membership list. The rules governing

such matters will be defined in the appropriate sections of the MP and by the introduction of by-laws to be defined after the adoption of this MP.

Finally, all members in good standing will enjoy equal rights, opportunities for advancement, voting and decision making rights. the collaboration membership is the source of all decision making by elected representation and general voting procedures on the HALL D governance, as stated in the following sections. Even though the collaboration is a layered structure for organizational and functional efficiency, Collaboration members may bring concerns, ideas, and suggestions to any group, team, or representative within the collaboration. Thus, accessibility is an implied doctrine throughout this MP.

A.3 The Hall D governance structure

The governance structure of the HALL D Collaboration consists of five bodies. These are:

- The HALL D Collaboration Membership.
- The Working Groups (WG).
- The Technical Review Committee (TRC).
- The Executive Group (EG).
- the collaboration Board (CB).

The schematic diagram of the structure is shown in Figure 1.

A.3.1 The Hall D collaboration membership structure

Based on the general principles of the HALL D membership in Section 11.2, specific issues of membership structure are listed below which help define the membership, introduce grandfather clauses, and outline the mechanisms to be followed for introduction of new members. Purpose-specific by-laws may be added after the adoption of this MP to enhance and refine the process.

- When this MP is voted into existence by the existing membership, it will create the HALL D Collaboration by the current membership, as listed elsewhere in this document. This includes the posts of Spokesman, Deputy Spokesman, and HALL D Leader, as they are listed in this document. This article constitutes the formal grandfather clause of the collaboration.

- It is expected that all current members who wish to remain as Collaboration members will provide an MoU or equivalent document outlining undertaken commitments, for each individual or for each group of individuals, as stated above in Section 2.
- New applicants for membership, after the adoption of this MP, will be admitted into the HALL D Collaboration upon submission of an MoU, or equivalent, to the CB and Spokesman, and voted upon by both the CB and the Collaboration membership.
- The CB and/or the Spokesman may reject or return the application for further actions to be taken by the applicants. It is expected that the CB will communicate with the applicants the reasons of rejection or deferral.
- JLab physicists and/or technical staff will be assigned to HALL D tasks consistent with the objectives of the collaboration. This assignment will be done by JLab management in consultation with the CB Chair and the Spokesman.

A.3.2 The working groups

The WG s address themselves to the core of the reason of existence of the HALL D Collaboration and are the main means of reaching its objectives. The WG concept encompasses groups of Collaboration members working together on specific components of the experiment based on expertise, interest, and MoU obligations. The WG concept foresees an open architecture where members can contribute to more than one WG and where WG s may be added or dissolved as the need arises. Furthermore, members within a general WG may create sub-groups depending on need and work load.

Although new WG s may form as the needs arise and work progresses, it is clearly desirable to establish an initial structure of working groups to allow the installation of a critical structure to the HALL D project. Any changes in the structure and numbers of working groups after the MP is adopted will require the approval of the TRC in consultation with the EG. This will ensure that the needs of the project as a whole are taken into account in such restructuring. Each WG will select a representative to the next higher technical level, that of the TRC. The method of selection is left up to individual working groups.

The seven initial working groups upon approval of this MP are listed below:

- WG-M: is the group responsible for the assembly, installation and operation of the LASS/MEGA magnet and the liquid hydrogen target and their cryogenic infrastructure.

- WG-B: is the group responsible for the construction, installation and operation of the beam line elements, including the tagger, thin diamond radiator and the collimators leading to the delivery of tagged polarized photon beams of quality and intensity necessary to meet the objectives.
- WG-D: is the group responsible for the elements comprising the tracking, calorimetry, ToF, and all particle identification devices in the detector.
- WG-P: is the group responsible for the development and all related tasks necessary to pursue the PWA of the data. This is the working group developing and refining the scientific (Physics) case and looking into future experiments and new ideas that can be pursued by the collaboration. It is a natural working group for the theory group, but not exclusive to theorists.
- WG-C: is the group responsible for overall civil construction, the infrastructure needed to build the beam line, the end-station, control room, roads and radiation control procedures.
- WG-E: is the group responsible for coordinating the read-out electronics, trigger and DAQ hardware. Close cooperation with WG-D and WG-S will be needed.
- WG-S: is the group responsible for integration of all software issues, including simulations, data handling and online analysis. Close working relationships with WG-D and WG-P will be required.

A.3.3 The technical review committee

trc mandate

Although interaction between working groups is not only desirable but necessary, practical matters point to the necessity for a committee of representatives of the various WG s to form a review panel with the EG members and to oversee the total progress and integration, as it unfolds from the WG s. This is a very important committee on technical terms alone, since integration problems and solutions, element compatibility and delivery schedules of the total system will be examined and reviewed and recommendations will be made.

Other tasks may include the approval of prototypes before actual construction of the final elements begins, and addressing budget issues affecting construction and deliveries. Generally, the TRC is the body responsible for decision making on any and all technical and scientific issues concerning the

HALL D experiment. The TRC will also act as a source of technical expertise to the EG members.

Finally, the TRC will also act as the panel of final technical judgement on actions to be taken if a WG or an MoU signatory fail to meet progress milestones which affect other WG s and/or the project overall. In such a case, the TRC will recommend to the CB whatever action is deemed necessary to rectify the situation, including loss of Collaboration membership status.

trc structure

The TRC consists of the representatives of each working group (chosen by their respective WG members) and the three members of the EG. The TRC will be chaired by the Spokesman, who can also invite any other member of the Collaboration to attend, based on a specific issue of need and expertise. In order to preserve flexibility and effectiveness, the Spokesman may invite experts outside the Collaboration to attend specific meetings.

All reasonable freedom of action should be given the TRC to accomplish the Collaboration's objectives. The Spokesman has the authority to replace the representative of a WG, for cause, with another member of the same WG selected by its members. Such action by the Spokesman must be preceded by consultation with the CB Chair and the membership of the TRC in an effort to resolve the issue prior to removal.

A.3.4 The executive group

The EG consists of three members, the Spokesman, the Deputy Spokesman, and the HALL D Leader.

The experiment spokesman

The experiment spokesman is the Collaboration's central scientific figure to the world. The spokesman is expected to act as the principal investigator (P.I.) on the main funding application, present most of the presentations (at least initially), and be familiar, but not necessarily an expert, with all physics and technical aspects of the experiment. Furthermore, and just as importantly, the Spokesman must provide leadership, encouragement, and continuity without undue interference, together with the ability to take charge of and motivate individuals.

As the P.I. of the experiment, the Spokesman is responsible for all scientific, technical, and financial affairs of the HALL D Collaboration. On financial

matters, the Spokesman's duties must be consistent with all the requirements of the funding agencies and JLab structure. The Spokesman is the primary contact and ambassador between the HALL D Collaboration and JLab management and is expected to consult often and effectively with the CB Chair, the HALL D Leader, and the TRC. Finally, the Spokesman will chair the TRC and will nominate the Deputy Spokesman to the CB for approval.

The position of Spokesman is a term position. The initial stages of the HALL D Collaboration's objectives, such as the funding approval and the construction phases, require conditions of stability and continuity which are consistent with a longer term of tenure than later phases of data taking and analysis. Thus, the initial term is fixed at four years from the date of adoption of this MP

The term for Spokesman is renewable without any restriction on number of consecutive terms served. Upon the expiration of the stated term, the CB will call for nominations among the collaboration. The CB will act as an initial search committee to select no more than two candidates, based on technical, scientific, personality traits and, most importantly, leadership qualities, from among the pool of nominees. The CB endorsed nominee(s) will be presented to the the Collaboration membership for final vote.

The deputy spokesman

The Deputy Spokesman is the Spokesman's load-sharing, stand-in during absence and close advisor. The Deputy Spokesman will generally carry duties and responsibilities assigned by the Spokesman. In case the Spokesman is either removed from office or resigns, the Deputy Spokesman will be assigned as Spokesman (acting) until the collaboration elects a new Spokesman.

The Deputy Spokesman will be selected by the Spokesman from among the Collaboration membership and presented to the CB and JLab management for confirmation only. In the case of the CB, there should be important and overriding concerns in order to reject the selection by the Spokesman. A rejection will require a two-thirds vote by the CB members.

The normal term for the Deputy Spokesman coincides with that of the Spokesman. There is no limit on the number of consecutive terms the Deputy Spokesman serves.

The Hall D leader

The HALL D Leader is a JLab staff physicist appointed by JLab management in consultation with the Spokesman, Deputy-Spokesman, and the CB Chair.

The HALL D Leader must be either a Collaboration member, or become one immediately upon acceptance of the position.

The duties of the HALL D Leader are as diverse as they are important. The person will be the official representative of JLab management within the collaboration. The coordination of the civil construction and that for all elements necessary to deliver a high quality electron beam to the tagging facility, are primarily the responsibility of the HALL D Leader. All safety related administrative and engineering procedures and controls are also within the HALL D Leader's direct responsibility and authority.

The HALL D Leader is an important member of the TRC and is expected to interact and consult with members of the relevant Working Groups.

A.3.5 The collaboration board

The structure of the cb

The elected representative body of the collaboration is the CB. Its membership will consist of six voting members called CB Officers. The CB Officers will be elected directly by the Collaboration membership and they will choose their own chair. The Spokesman, Deputy-Spokesman, and the HALL D Leader, who cannot be elected to the CB, can attend CB meetings upon invitation by the CB Chair. No more than one voting member per institution or MoU group may serve on the CB. The CB membership tenure will be two years, with no more than two terms served consecutively for any member.

The mandate of the cb

The role of the CB is to address all issues related to the overall framework of the collaboration. It will decide on new membership applications in committee with the Spokesman. It will ratify the proposed by-laws for the collaboration and vote on proposed amendments. On major issues which affect the structure of the collaboration and the MP, both the CB and the general membership vote will be required. The exact mechanism will be defined in the by-laws, to be defined after the adoption of this MP.

Another important role of the CB is the management of issues related to graduate students. The very nature of the HALL D experiment, which is also a Collaboration as well as a facility, presents challenges and opportunities for the allocation of theses material for graduate students among the university based members of the Collaboration. A set of by-laws will be needed to govern such matters and to ensure fairness and objectivity to students and faculty.

The CB represents the interests of the membership in all aspects relating to the objectives of the HALL D Collaboration. It is expected that the CB Chair will play an active role in the governance of the collaboration and will bring issues of interest and concern of the membership to the attention of the EG and JLab management. The CB may recommend to the membership the removal of either the Spokesman or Deputy Spokesman by a two-third majority in the CB vote. The CB will meet regularly as conditions and needs arise and not less than three times within a calendar year.

The CB, like the EG, is entrusted with essentially the well being of the collaboration. It is self evident that all avenues of communication and substantive exchange of views will be pursued among these two committees and that electronic polling and conference calls will be employed to enhance the time response and frequency of contact between these two groups, over and above formal CB meetings a few times a year.

The chair of the collaboration board

The Chair will be responsible for calling CB meetings. However, any CB Officer can request to the Chair that a meeting be held. The Chair will consult with the other Officers and decide on the merit of such a request. The Chair will announce general Collaboration meetings in consultation with the Spokesman.

The CB Chair, like the Spokesman, is a position of high responsibility and sensitivity because the role is primarily that of human interaction rather than technical aspects. It is expected that Robert's Rules of Order are followed. On the issue of voting, the Chair will not vote on routine matters where simple or absolute majority is required, thus eliminating the possibility of split decisions in the six member committee. If the Chair wants to vote on such matters, an alternate Chair from among the other CB Officers must chair the meeting. On issues that require two-thirds majority, all members of the CB are eligible to cast a vote.

General duties of cb officers

The assigned duties of the other five CB Officers, as delegated by the Chair in consultation with the Officers of the Board, reflect the mandate of the CB. Thus, CB Officers will be assigned one or more of the following duties:

- Dealing with membership issues.
- Dealing with nominations issues.

- Dealing with publication issues.
- Coordinating the speaker bureau.
- Keeping accurate records and minutes as the CB Secretary.
- Coordinating graduate student projects and theses.

If the need arises, either due to special circumstances or due to load factor, one or more Officers may request from the Chair the formation of subcommittees to assist in specific tasks. Such subcommittees are advisory to the CB and are to be recruited among Collaboration members. If necessary, non-Collaboration members may be invited to participate due to expertise and specific skills. Such subcommittees are of limited time duration and scope.

A.4 Summary

A management plan should create the minimum structure necessary to accomplish the ultimate objectives of the collaboration. It should preserve flexibility, while, at the same time, create a structure which is well defined and maximizes the individual talent and contribution of its membership. Due to the unique character, within the JLab structure, of HALL D as an experiment, but with a clear facility component, the MP could not necessarily be a direct or slightly modified copy of present models. The role of JLab management and structure for HALL D remains to be defined outside this MP, however, it should be an easy task to integrate new elements into this basic structure. Finally, the structure of the MP can be modified by the two-thirds majority vote rule in both the CB and the HALL D general memberships.

List of Figures

List of Tables

Bibliography