

**Governance of Hydrologic Measurement Facility Activities**  
**Version 1.3**  
**Proposed to the CUAHSI Board of Directors June 17, 2007**

**Background** This proposed structure for governance of the CUAHSI Hydrologic Measurement Facility (HMF) assumes that activities will begin in “Nodes” and “Affiliate Nodes”. Nodes are facilities based in universities hosting a suite of instrumentation and having access to the technical expertise required to maintain and repair the instruments and to acquire and interpret data. Nodes are those facilities paid for in part or whole by grants specifying these resources were to be provided for community use as part of the HMF. Nodes differ from Affiliate Nodes in that the former follow a selection process as defined in the following section. Unless otherwise indicated, the governance rules are applicable only to Nodes. Affiliate Nodes report directly to the NSF or appropriate agency for their governance rules. Nodes require a common set of guidelines for operation, access, and deployment of instrumentation and for issues (e.g., data ownership, intellectual partnerships) associated with the development of collaborative research relationships, which is described in a separate document. The HMF administrative operational activities will be run from an HMF Administrative Core (HMF-AC); initially supported by CUAHSI at their Washington DC site. It is envisioned that a ‘Technical Core,’ possibly co-located with the HMF-AC, will ultimately undertake non-administrative activities such as housing instrumentation that does not require technical expertise, research and development of needed sensors, and training activities.

The following committees and boards are required in the governance of the HMF and are defined as follows:

- ***CUAHSI Board of Directors (BOD)***. This body has the legal authority to commit the corporation funds and resources and to establish CUAHSI policy. Its decisions are carried out by the Executive Director and his staff. The BOD has the financial authority to disperse funds as subawards or to withhold funds if it is not satisfied with the performance of a subawardee. The Board evaluates, supported by its HMF Standing Committee (below), the effectiveness of the HMF on a regular basis, reports these findings to the National Science Foundation and CUAHSI membership, and can propose alternative strategies to achieve the objectives of the facility.
- ***HMF Standing Committee (SC)*** is the management oversight committee that reports to and advises the BOD on all HMF activities and on how well it is fulfilling its mission. This Committee represents the community interest in the HMF and annually evaluates the performance of each Node. The HMF SC should also provide a periodic review of the portfolio of Nodes and provide the BOD with strategic advice on future development of the HMF.
- ***Interim Management Committee***. Prior to the establishment of a HMF center director, the HMF PI’s form an executive body to make decisions about Node management and carries out the policies established by the HMF SC with the

support of the CUAHSI staff. The activities of the Interim Management Committee include coordinating community outreach, establishing a web presence for the HMF, and drafting initial policies and procedures for review by the Standing Committee.

## *Node Selection*

In its role of representing the hydrologic science community, CUAHSI has the responsibility to prioritize equipment needs from this diverse community and to prepare a proposal, on behalf of the community, to the NSF. This process must be open, fair, and authoritative. Thus selection for Nodes beyond the three initial establishment Nodes (Geophysics, Water Cycle, and Biogeochemistry) will employ the process laid out below.

The following schedule outlines the preparation of a proposal through CUAHSI to NSF for support of new Nodes; all times are prior to the submission deadline for a proposal to NSF.

- 6 months prior. Solicitation for pre-proposals for new Nodes are to be posted on the CUAHSI web site. CUAHSI members are notified of the opportunity by newsletter and e-mail,
- 4 months prior. Short (< 5 pages) pre-proposals are due to CUAHSI. These pre-proposals will be reviewed and prioritized by the HMF Standing Committee. (selection by the standing committee is to be completed within one month),

The Standing Committee will provide all authors of pre-proposals with explanation of the basis of the decision, and advice to improve the proposal. CUAHSI staff will work with selected Nodes to develop their proposals, including budget, support letters, and partnerships (such as other agencies).

Scientists interested in establishing an HMF Affiliate Node will also benefit from being able to identify this commitment to further justify the purchase of community-beneficial instrumentation. A PI who wishes to commit equipment as an Affiliate Node through the CUAHSI HMF should obtain a “Notification to CUAHSI” letter through the HMF website to include in their proposal. The PI will provide information to complete the following statement:

The CUAHSI Hydrologic Measurement Facility has received a notification from **NAME** indicating that they will make arrangements with the HMF to share **EQUIPMENT** if proposal **ID** is funded. CUAHSI supports the community sharing of resources and will provide a directory of equipment available for community use on its website. Beyond such a directory, CUAHSI does not commit any resources to deploy or to facilitate the sharing of this equipment. If the proposal is successful, CUAHSI will work with **NAME** to formalize a use plan. Any funds required to implement such a use plan are the responsibility of the proposer and not CUAHSI. The data use policy for this sharing arrangement will also be negotiated. In general, it is assumed that data will be made publically available after a period of time and that the site PI, rather than the instrumentation PI, has primary publication rights to data collected through this instrumentation sharing arrangement during the proprietary period.

This automated process will ensure that the HMF has a complete list of proposals promising to commit resources for community use. The HMF will contact PIs annually to identify successful proposals and to add secured instruments to the HMF available equipment list.

***Access to Instrumentation.*** Instrumentation suites exist to support individual PIs to pursue their specific science questions through competitive access. HMF instruments and services will be allocated in a fair and open process reviewed annually by the HMF Interim management team. The Node will establish a protocol for selection of service recipients during the proposal development process that is appropriate to the equipment and staff requested.

Three different routes exist to gain access to HMF instrumentation. First, new proposals to the NSF may request use of the instrumentation. Second, supplemental proposals to existing NSF grants may be developed to access the instrumentation. Finally, non-NSF grantees may wish to use instruments from a Node. This section describes the procedures for each of these routes.

1. New proposal to NSF. The proposing PI will formally request a letter from the Node committee. This letter will certify that the intended use of the facility is feasible within the capabilities of the Node's instruments and expertise and schedule. This letter should make no judgment on the scientific merits of the proposal except in the case that the proposal misrepresents the capabilities of the instrumentation. If this proposal is awarded, the HMF SC would work with the Node PI to schedule the resources among the awardees i.e., site PIs. In general, NSF grantees would have preference over non-NSF awardees when considering competing uses, however once formally scheduled, each commitment is honored equally.
2. Supplemental proposal to NSF. The HMF SC would review the supplemental proposal and prepare a letter advising the program officer of the suitability and availability of the requested HMF instrumentation. If the supplemental grant is awarded, the HMF SC would schedule its use along with other awardees. Again, NSF grantees will be given preferential access to the instrumentation.
3. Non-NSF grantees. Proposals for use of HMF instrumentation by other grantees would be accepted by the HMF SC on a published regular basis, probably twice per year following final allocation of services and equipment to successful NSF proposals. The HMF SC would evaluate each proposal based on its relative merits. The cost recovery structure will vary depending upon the suite of instrumentation and will be devised with the NSF.

If after following these procedure there are yet unallocated resources, the Node may allocate the tools and services on an ad-hoc basis. All uses must be justified via written documentation, available for CUAHSI BOD review, and must follow all fair-use policies.

It is anticipated that non-NSF grantees will contribute the full estimated cost of the Node services, while NSF grantees will pay only the additional operational costs incurred by the Node through using the instrumentation.

### ***Node PI Rights and Responsibilities***

The HMF Node PIs provide day-to-day support for current and potential future science PIs. They are responsible for routine deployment at research sites, and maintenance for the instrumentation according to the schedule decided upon by the HMF SC. Each Node is responsible for establishing a metadata, data quality and assurance, delivery of data products in a timely manner to the site PIs. The Node is also responsible for archiving all data and complying with the HMF Fair Use Policy (see below). In most cases, this will require management of support staff and technicians, at education levels ranging from Bachelors to PhD degrees dependent on the sophistication of the instrument. The Node PI is only responsible to provide data to the site PIs that are specific to the use of the HMF instrumentation to address the science questions that are outlined in the proposal.

The Node PI's scientific interest in the data should be accommodated to the greatest extent possible. The Node PI may be granted some portion of the instrument use for their individual research projects as justified in the Node proposal. Additionally, the Node PI can use the HMF data for ancillary research questions that do not infringe on those presented by the site PI, as per the Fair Use Policies (see below). For example, the application of a technique to a new set of conditions or among site comparisons may well be publishable and should be encouraged. In general, the HMF encourages the site PI to view the Node PI as a scientific collaborator rather than as a service provider.

### ***Data Fair Use Policy***

Through the CUAHSI HMF contracts with site PIs, hydrologic instrumentation will be loaned for a fixed period of time and for a designated (set of) research question(s). This HMF contract will be approved through the governing process set forth by the CUAHSI board of Directors and the steering committee. By the PIs agreeing to the use of HMF instrumentation, they also agree to the following fair use policies.

The CUASHI HMF will loan hydrologic instrumentation and provide technical expertise to advance scientific discovery. Data collected using HMF instrumentation will ultimately be made available to the community. However, the Node PI and site PI's have publications interests that must be recognized, such as assuring graduate students a fair chance to publish the data collected by the project. To balance these competing interests, the following data use policy applies to data collected by HMF instrumentation.

1. Datasets generated from the HMF instrumentation will be archived by the CUAHSI HIS Node at San Diego Supercomputing Center, and will be available for public use no later than 2 years after the termination of the HMF contract. The HMF client is responsible for provision of meta data sufficient to allow others to

- know the location of use, relevant environmental conditions, instruments employed and precision of the data.
2. Some HMF instrumentation is turn-key, others require technical assistance, e.g., PhD-level expertise (“expert”) provided by the HMF, to assure data quality, control and appropriate analyses. In this latter case, we strongly encourage, but do not require, a formal scientific agreement of collaboration between the site PIs and the expert. This agreement should include the provision that the data collected by the HMF instrumentation may be used by the expert as long as: the use does not infringe upon the site PIs’ research questions as described in the HMF contract and the project PI is given opportunity to request co-authorship of resulting publications as merited. This criterion is only applicable if the data is used before the 2-year fair use period has ended (*cf.* policy #1).
  3. When data gathered, techniques developed or tested, or ideas generated by the use of HMF data and/or equipment becomes part of a presentation or publication, Investigators shall acknowledge the HMF contribution.
  4. When the HMF dataset becomes public, any request for the data will automatically generate a message to the HMF and site and node PI(s) indicating how the data will be used with specific indication of plans for development of publications. If the site PI(s) feel that they should be acknowledged or offered participation as authors, they will undertake a conversation with a goal of coming to an agreement before publishing and/or use of the data for publication. . If an amiable agreement cannot be reached, by participating in the HMF, all parties agree a priori to a final decision made by the HMF SC.
  5. All people making use of archived data should provide copies of publications based on the data, for the site PI(s) and the CUASHI data archive.
  6. Subsequent requests to the HMF facility must demonstrate that the site PI has complied with data policies. Renewal of Node PI awards must demonstrate that the Node PI has complied with data policies.