NATIONAL SCIENCE FOUNDATION
Division of Environmental Biology
4201 Wilson Boulevard
Arlington, VA 22230

Nov. 22, 2002

Dr. Robert Waide, PI
LTER Network Office
University of New Mexico
Albuquerque,
NM 87131

Re: Review of Proposal (DEB-0236154) and Panel Site Review Report and
recommendations regarding the Renewal of Cooperative Agreement DEB-
9634135

Dear Dr. Waide:

Enclosed please find the report from the LTER Network Office site review panel,
received in my office on Oct. 21, 2002. The report has been read and reviewed by the
programs within NSF that support the Network Office, including the Directorates of
Biological Science, Geosciences, Social, Behavioral and Economic Sciences, and
Education and Human Resources, as well as the Offices of Polar Programs and
International Science and Engineering. This letter is a unified response to the original
proposal and the panel's report and serves to highlight, expand upon, and in some cases
modify the comments and recommendations of the report.

It is our conclusion that it is in the best interests both of the LTER and the greater
scientific communities, as well as the NSF, to maintain a strong Network Office for the
LTER program. The report and this letter should be regarded as the next stages in the
negotiation of a new Cooperative Agreement to take affect when the previous one expires
on 1/31/03.

The panel report mentions but does not expand upon the critically positive role that the
Network Office has played over the past six years in the LTER program. It endorses
continued support for the Network Office activities as carried out over the past
cooperative agreement period. However, the report is highly critical of many of the
activities proposed for new additional funding. The overall recommendation of the panel
was that level funding for the Network Office be provided for only one year (starting on
2/1/03), with any subsequent funding dependent on the submission of a detailed
addendum containing the results of program analyses and strategic planning exercises,
independently run but variously involving the LTER sites and Network Office. This
overall recommendation is followed by six specific recommendations, most of which are
well founded and articulated and each of which is discussed below. At the end of this
letter, specific actions by the Network Office are listed, which must be carried before a

new Cooperative Agreement can be articulated. Please read these carefully and contact me for any further clarifications or concerns.

After considering the panel report, the NSF has made two overarching decisions. First, support will be provided for current functions of the Network Office at its current base level for the next six years, augmented by (a) a "cost-of-living" (inflationary) increase that recognizes the level funding over the past six years, (b) potential support for some of the assessment activities proposed in the panel's report, the exact amounts and forms of which must be negotiated, and (c) some new funding in the IM/NIS and synthesis areas as described below. Second, in order to allow ongoing activities to effectively continue, as well as to allow for some dovetailing of the assessments that we agree are necessary, all of the assessments and evaluations called for must be completed by the middle of Yr 2 of the new agreement (rather than after one year, as the panel proposed). That will allow sufficient time for both the Network Office and NSF to fully consider the results and propose potential modifications to the agreement starting in Yr 3.

Before expanding upon the recommendations, please let us add our compliments to the Network Office for its accomplishments and contributions to the success of the LTER program. Under your leadership, the Network Office has played a key role in generating a truly pioneering IT/IM/communications program for the LTER and greater scientific communities, has facilitated strong and diverse research synthesis, education and outreach programs, and has been the driving force behind the development of the ILTER, the international manifestation of the LTER program. Finally, we all appreciate the work that your team did to facilitate this review and especially acknowledge the opportunity to discuss the LTER with UNM's upper administration and seeing and hearing first hand the obvious commitment it has made to supporting the Network Office.

Rec. 1: A Strategic Plan for NET Management Structure and Operations.

"The panel recommends that the NET engage in a strategic planning process, in close consultation with the LTER Executive Committee/Coordinating Committee, that focuses on the NET's mission, its role in relation to other organizations, and the most effective management structure (both internal to Net and overall). We further recommend that a strategic plan focused on management of the NET be included in the addendum to be reviewed in one year. This plan should include: a) a mission statement, management organization chart, and defined scope of external relations; b) mechanisms of personnel evaluation; c) reporting structures and mechanisms of accountability; d) relations to NSF, UNM and the LTER leadership; e) processes for program evaluation, priority setting, and priority implementation; f) defined role in LTER-wide initiatives; g) defined role in LTER-related research; h) assessment of the most effective structures and activities for independent advisory groups."

NSF agrees with wholeheartedly this recommendation, including the details of what the planning document should contain. You are encouraged to work both with the LTER Executive Committee and the UNM administration to identify an appropriate independent consulting firm for leading this effort and provide a plan within your overall revised Scope of Work (SOW) for its completion. If additional funding is required to ensure the completion of this task, a written request to this office should be made. However, this activity was called for in the mid-term site review and should already have been completed, so we encourage the Office and UNM together to find the resources now to

conclude it. The timing should be such that the results from other assessments, run more independently (see below, for the international and education areas), can be incorporated. We encourage this activity be accomplished as soon as possible, but no later than the middle of Yr 2.

We emphasize that a new relationship between UNM and the Network Office should be considered. Organizationally, a more optimal form for the Office within the State university system should be considered (i.e., should it become a Center? What type? Reporting to whom?). From the personnel perspective, it might include considering other types of faculty appointments for senior Office members (principally Waide and Michener). Such moves could clarify the relationship between the Office and the University, both of which currently suffer because there is so little apparent relationship. This would also provide a local evaluation mechanism for Network Office personnel, raising the local level of visibility and credibility of the Office and facilitating a greater involvement of Office staff within their home institution. In this context, Waide's appointment as Director of the Office should be reconsidered as a full-time, 12-month position, which would encourage him to focus his time on that role, rather than on the necessity of finding support for the remaining three months of his salary. This might require reallocation of time among all of the Office staff, which should be a consideration of the strategic planning process.

Rec. 2: A Program of Assessment and Evaluation.

"We request that the NET design and complete an evaluation by the LTER community of the activities of the staff of the NET within one year of the date of this site visit and to be submitted for review in the addendum. Such an evaluation should include, but not be limited to, an assessment of the functional requirements of LTER scientists (e.g., technical research support needs that are not currently met by site or NET services) and the effectiveness of the NET in responding to those requirements. It is critical that this evaluation distinguish between NET activities and LTER Network activities.

This evaluation process should be "institutionalized" as part of the regular interaction between the NET and the LTER Network. Included in this process would be an annual report by the NET to the LTER Network describing the activities of the NET, particularly as it fulfills the needs of the LTER Network distilled from the previous evaluations and assessments."

NSF strongly endorses this recommendation and feels that it is one that could and should be accomplished within one year, should be developed as part of the Office's strategic planning, and should not require additional financial resources from NSF; in fact, much of this information may already exist and some was shown during site visit. NSF also strongly agrees with the second part, which recommends the process be institutionalized in the Office's annual reports to NSF and in a joint annual report from the Network Office to the LTER community (and we suggest, the University) that includes feedback from the sites. There are clearly communication and information gaps between many of the sites, or at least PIs, and the activities of the Network Office, and between NSF and the Network Office that must be addressed and remedied.

Rec. 3: NET Information Technology and Information Management Plan.

"NET [should] develop a five year plan for advancing the information infrastructure and informatics capabilities of the LTER network, to be included in the addendum. The plan should consider: 1) a system overview describing approaches, technologies and benefits to the LTER community; 2) specification of a system architecture for the NET system including its linkages to LTER site systems; 3) a description of the informatics tools or other capabilities that currently exist and that will be added during the 5 years; 4) an implementation plan; and 5) a five year budget. The implementation plan needs to include specifications for HW/SW required to build the architecture and provide the NET services, staffing required to develop and maintain the systems and tools, strategic partnerships necessary for implementation, and timelines for completion of tasks for incorporating new capabilities into the system."

NSF endorses this recommendation. The activities indicated, along with the involvement of the Net Office staff in new ITR projects and collaborations, should lead toward a well-defined IT/M future for the global LTER Program. This will require involvement from the LTER and ILTER sites as well as the non-LTER communities. NSF is aware that the Office already has numerous well-developed collaborations with partners in the IT/M areas. NSF also views the development of a NIS to ultimately be of high priority and would like to see activity in this area proceed.

Rec. 4: A Plan for the De-accession of the ILTER Program.

"We conclude that ILTER now falls outside the scope of the NET. The ILTER operation should be transitioned to another program or organization (possibly international in origin and funding) whose defined mission will be more consistent with the growth of international scientific collaboration. This transition should not cause the ILTER program to be discontinued. The panel recommends to NSF that, during the next year, the NET develop a plan for this transition that acknowledges the international goals of NSF, and submit it to NSF for review and action. This plan should also be included in the addendum. Management of the ILTER program should not be a component of the NET in any future renewal of the NET cooperative agreement."

This is a highly controversial recommendation and one also made by the previous mid-term site review team and rejected by NSF, as noted in the report. At this time, NSF is not prepared to support the abrogation of the international role and impact of the US LTER Program (by agreeing with the last sentence of the above quote), but recognizes that management of the rapidly expanding ILTER program cannot be effectively dealt with simply by continuing business as usual, even with the provision of additional funding.

The Network Office clearly has a role to play in the coordination of the ILTER, regardless whether the full secretariat responsibilities ultimately remain in the Office or not. On the other hand, it is not clear what effective role the Network Office can play in encouraging and facilitating truly collaborative field research among US sites and their internal counterparts. In order to clarify these issues, NSF calls for an independent assessment of the current forms and levels of activities within the greater LTER program and specifically within the Network Office, in three areas: (1) facilitating and coordinating the ILTER program (i.e., secretariat functions), (2) facilitating synthesis of environmental data across the LTER/ILTER network (e.g., basic training on IM/communications, promoting metadata standards), and (3) facilitating and coordinating

international research between LTER scientists and sites abroad, whether or not members of ILTER.. The assessment will be done as an independent consultancy funded directly by NSF, coordinated with the Network Office as well as individual LTER and ILTER sites and scientists. The recommendations emerging from the assessment of the international component will inform the development of a strategic plan for the international aspects of LTER that is consistent with the broad objectives of NSF's environmental research and education program. The international assessment activity will commence as soon as possible so that it can feed into the larger Network Office (and LTER) strategic planning process.

Rec. 5: Educational Evaluation and a Strategic Plan.

"The panel recommends that a formal evaluation of the SLTER and its activities should be conducted in collaboration with an advisory group from the LTER education committee…"

NSF agrees with the recommendation, including that the LTER Education Committee should be centrally involved, as it is already in the midst of its own strategic planning exercise for all the education programs within the larger LTER program. LTER educational programs reside primarily within individual LTER sites, so that this activity should only be marginal to the Network Office. Therefore, a revised SOW and budget for the Office should include only the current level of assistance to sites for education, including facilitation of regular meetings of the LTER Education Executive Committee. Separate funding will be provided to facilitate a formal independent evaluation of the sLTER and other LTER education programs. The final configuration of this review will depend upon recommendations from NSF/EHR, the LTER Education Committee, and the LTER Executive Committee, and will be subject to availability of funds from the appropriate program(s) at NSF.

Rec. 6: A Leadership Plan for Synthesis

"We recommend that existing levels of synthesis activity be maintained, including meeting planning and follow up activities. We request that NET provide in the addendum a strategic, and specific, plan for creating high-level leadership and facilitation in this domain."

This is one area (closely related to the other, IT/M and NIS development) in which the Network Office can clearly play a critical role in the future of LTER science. NSF is committed to supporting the LTER "Decade of Synthesis" and looks forward to interacting with the Network Office in carrying this out. The panel commended the Network Office for its support thus far for synthesis at individual sites and across the LTER network, and recommended that this be continued. Strategic planning to facilitate synthesis beyond the current level and type of activity should be considered as part of the overall Network Office strategic planning activity. NSF recognizes that most synthesis activities facilitated by the Office were funded by supplements. NSF is willing to provide new funding to the Network Office for the further facilitation of synthesis activities within the LTER program. How this funding would be allocated for this specific purpose should be explicit and detailed in the revised budget and budget justification; this support should lead to a decrease in supplemental funding to the Network Office.

CONCLUSIONS and ACTIONS TO BE TAKEN

Based on the review and the above analysis, we request the following actions on the part of the Network Office in order to move the renewal process along. These actions are required before a new Cooperative Agreement can be drafted, so hence there is a short time line.

1. The Network Office must provide a revised budget via Fastlane for an average annual total of $1,350,000/yr for a period of 6 years, not to exceed a total of $8,100,000 for the renewal period of 6 years. This these totals include (a) level funding at the current level of $1,000,000/yr, (b) a 15% cost of living adjustment over the current base, (c) new funding of up to $150,000/yr for NIS development and additional database and IM/T activities to be clearly specified, and (4) new funding for up to $50,000/yr explicitly for synthesis. Funding for each year does not need to be the same. The budget should be explicitly tied to and justified in terms of the activities to be performed, including the personnel time for each. Note that this is not a formal commitment of funding from NSF at this time, which will depend on availability of funding from the appropriate programs.

2. The Network Office must submit a revised Scope of Work that addresses the reduction in budget from the amount proposed in DEB-0236154 and the revised totals as indicated in #1 above. This must include a plan and schedule for the maintenance of current Network Office functions, with base (plus COLA) financial support as indicated above. This revised SOW should include consideration of the panel recommendations, including any modifications brought up in this letter. The revised SOW should also clearly spell out what activities as originally proposed could not be carried out with the revised budget and what will be done with the additional new funding as indicated under item #1. Keep in mind that activities to be carried out specifically to assist in the research of the LTER sites, ILTER members, and/or the general state of science should be clearly identified as such.

3. A plan, schedule and proposed budget for a Net Office strategic planning process to be completed by the middle of Yr 2 of the renewal period. This process should be facilitated by the University of New Mexico, but be run by an independent organization, and must include formal input from LTER sites through the LTER Executive and Coordinating Committees. However, it must clearly and distinctly focus on the structure, function and management of the Network Office. Additional funding - if necessary - would be provided independently from the renewal either as a supplement to the Net Office or as a contract to an independent organization (given sufficient funds are available from appropriate programs within NSF). The plan should take into account the separate assessments carried out on the international and educational aspects of LTER.

Note that the revised budget and SOW must be submitted via Fastlane. After they are submitted, this office will review them and on that basis prepare a draft Cooperative

Agreement for the period 2/1/03-1/31/09, which will be sent to you for consideration and approval, or further negotiation. Funding levels beyond Yr 2 will depend upon progress on the issues identified in this letter and must be further negotiated.

Sincerely,

Henry L. Gholz
Program Director, LTER

cc: Mary Clutter (BIO), Joann Roskoski (BIO), Quentin Wheeler (DEB), Sylvia Spengler (DBI), Polly Penhale (OPP), Phillip Taylor (Bio-Oce), David Campbelll (EHR), Thomas Baerwald (SBE), Frances Li (INT), Robert Wharton (OPP)

enclosure