

# ADVANCED TECHNOLOGICAL EDUCATION NATIONAL VISITING COMMITTEE HANDBOOK

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We dedicate this handbook to Robert (Bob) Reineke: author, evaluator, colleague, friend, former Navy pilot, and coauthor of the first edition of the *NVC Handbook*.

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## Introduction

The Advanced Technological Education (ATE) program funds targeted research, projects, and centers to improve technological education at the undergraduate and secondary school levels. This National Science Foundation (NSF) program's goals are to "produce more qualified science and engineering technicians to meet workforce demands and improve the technical skills and the general science, technology, engineering, and mathematics (STEM) preparation of these technicians and the educators who prepare them" ([NSF 17-568](#)).

ATE centers are required to have a National Visiting Committee (NVC). In general, NVCs are like the advisory committees that many NSF-funded projects already have. However, a key difference is that an NVC reports directly to NSF, as well as to the center they serve. NVCs are expected to prepare written reports and share them with center staff for review and comment. The final reports are then submitted to the center's NSF program officer.

The following is an excerpt from the 2017 ATE program solicitation:

For ATE center proposals, the budget should include provisions for a National Visiting Committee (NVC) to visit the center at least on an annual basis. An NVC is a group of experts who provide advice to the project staff, assess the plans and progress of the project (and make reports both to the project leadership and to NSF), and enhance the dissemination of the project's products. Typically, ATE centers enlist eight to ten members. The proposal should include only the names of NVC members who have agreed to serve should an award be made. After an award is made, an NSF program officer will work with the grantee to finalize NVC membership. The proposal should address how the NVC will be used in the project. (NSF 17-568, p. 11)

ATE center personnel should think of their NVC as a group of "critical friends." The NVC's role is to help centers enhance their strengths and provide advice for how to address challenges. It is important to establish collegial and professional relationships to make this process work.

The purpose of this handbook is to help those who are responsible for organizing, planning, or conducting NVC meetings. It is mainly intended for principal investigators (PIs), but other audiences include center staff, committee chairs, committee members, and others with responsibilities related to NVCs. The *NVC Handbook* is not intended to establish policy, nor does it necessarily apply to other NSF programs.

The handbook is organized around the topics of organizing an NVC, planning an NVC meeting, conducting an NVC meeting, and managing post-meeting activities. Following those main sections, we include tips for holding periodic virtual meetings via phone or web conference.

NVCs are expected to meet annually. PIs whose centers are in no-cost extensions should consult with their program officers to determine if an NVC meeting should be held.

# 1. Organizing an NVC

The primary responsibility for organizing an NVC lies with the center's PI. However, the PIs should obtain approval for their member selections from their NSF program officers.

## Committee Membership

**Determine the size of the committee.**

NVCs should have at least eight members. The committee's size and composition should reflect the scope of the center and the disciplines and industries directly related to its work. Drawbacks to larger committees include increased travel and other costs, as well as challenges with facilitating effective interactions during meetings. Individuals who agree to serve on a committee are expected to attend all meetings. Creating a committee larger than the suggested size, under the assumption that some members will not attend meetings, is not recommended.

**Consult with the center's NSF program officer regarding NVC member selection.**

It is typical to list individuals who have committed to serve on an NVC in the center's funding proposal. If an award is made, the proposed NVC members need to be approved by the center's NSF program officer. The program officer will send the approved candidate NVC members formal letters of invitation.

If any new members need to be added during the life of the center, PIs should follow the same procedures with their program officers for member selection, approval, and invitation.

**Select committee members who are leaders in the academic disciplines, community colleges, and industries that relate to the center's work.**

Committee members should have the necessary knowledge and experience to understand the center's work; its context; its audience; and the technical disciplines, subdisciplines and industries with which it is aligned. The center's PI or other staff should not serve as committee members.

**Assemble a diverse committee.**

It is important to have a broad spectrum of backgrounds among the committee members so that different perspectives may inform the center's work. Seek diversity in terms of discipline, education level, experience, gender, age, race/ethnicity, and other relevant factors.

**Choose committee members who have the time and are committed to serve.**

Committee members are expected to attend all meetings. The annual time commitment is typically two to four days, depending on the frequency and duration of meetings and the work expectations. The committee chair has additional responsibilities that will require more time.

In general, committee members volunteer their time and are reimbursed for travel expenses. The opportunity to help improve the nation's technological capacity is expected to be sufficient

compensation for participation on an NVC. In some cases, centers may choose to compensate members if there are valid reasons for doing so.

**Identify and avoid potential conflicts of interest among committee members.**

There may be situations in which there are too many committee members from one organization or a member is associated with a significant beneficiary of the center's work. This could create conditions in which the interests of the center may become secondary to the interests of a committee member's home organization. Although conflicts of interest may be difficult to predict, try to avoid choosing individuals whose interests may conflict with the best interests of the center.

## **Appointments**

**Appoint committee members for a specific length of time.**

ATE centers are funded for five years, with the possibility of one five-year renewal (10 years total). Appointing committee members for either one- or two-year terms with the possibility of reappointment allows for flexibility if the center's direction changes or problems arise with committee members. Effective members may be reappointed, and those who are not serving the needs of the center may be replaced.

**Select a chairperson.**

Prior to the first meeting, choose a chairperson who can effectively plan and run meetings and be responsible for communicating with a center PI and the NSF program officer. The chairperson should be familiar with the ATE program. It is best if the chair has prior experience serving on an advisory committee. The chair role may rotate among committee members from year to year.

**Prepare memoranda of understanding or formal contracts.**

If committee members are paid, prepare a formal contract that specifies the terms of their service, responsibilities, and conditions for payment. If committee members are not paid, prepare a memorandum of understanding that specifies their responsibilities and the terms of their service.

These forms should be signed by the committee members and the PI before the committee work begins.

**Formally recognize the committee members and their contributions.**

Thank you letters are an effective way of showing appreciation for the work of NVC members. This is especially important for members who donate their own time or participate during their usual work hours. Formally recognizing their contribution increases the likelihood of continued and productive service.

Some centers include names and photos of their NVC members on their websites.

## 2. Planning an NVC Meeting

Effective meetings require thorough planning. Figuring out and communicating meeting logistics are just as important as arranging the substance of a meeting.

In-person meetings are optimal for meaningful exchange among participants. However, there may be situations when it is necessary for annual meetings to be held virtually. Center PIs and NVC members should decide on the best format. This section of the handbook is oriented to planning in-person meetings. Virtual meetings are a good option for committees that convene more than once a year. That is, the main meeting occurs annually in-person and interim meetings occur virtually. [Section 5](#) of this handbook includes considerations for holding interim meetings via conference call or web conferencing.

### Meeting Objectives

#### Determine the meeting's objectives.

Two to three months before the annual meeting, the center PI and NVC chair should consult to formulate the objectives and start planning the agenda. General meeting purposes are for the committee to assess the center's progress and advise on how best to move forward. However, each meeting will have its own specific objectives. Good meeting objectives will allow for a meaningful exchange between center personnel and advisors. Meetings should not be used simply to show off achievements while minimizing challenges.

Things to consider when setting meeting objectives include challenges and opportunities the center is currently facing, decisions that must be made, and the impact of recommendations from previous meetings. In addition, the committee members may have questions they wish to address during the meeting.

### Scheduling

#### Determine the appropriate length of the meeting.

NVC meetings are typically held in person and last one to two days. Splitting an eight-hour meeting into two half-day meetings may be helpful for allowing participants to fly home right after the meeting concludes. Likewise, a meeting that takes two full days could be split up into two half days and one full day.

Limit the meeting time to eight hours per day. Provide breaks and give participants opportunities to spend time outside the meeting room. Dinner meetings are good for casual conversation, but not in-depth discussion with presentation of content.

#### Select a date for the meeting that fits well with the center's activities and is convenient for all attendees.

Schedule in-person meetings at least six months in advance to ensure full participation by

committee members. There are several free, online scheduling tools (e.g., doodle.com, whenisgood.net) that are helpful for determining the optimal dates for a meeting. These tools allow respondents to indicate their availability within a specified time frame and enable the organizer to quickly see which potential dates work best.

When scheduling meetings, keep your location's typical flight schedules in mind and be accommodating to members who are traveling longer distances.

## Meeting Agenda and Other Materials

### **Create a detailed agenda, with schedule.**

It is important to establish an agenda that is feasible within the allotted time. It is easy for agendas to become overly ambitious in an effort to cover everything. Maintain focus on the meeting's objectives, recognizing that participants need time to share their perspectives and opinions on the topics covered. Providing pre-meeting reading materials, such as center updates organized by goals to objectives, in advance of the meeting also helps with agenda management.

The agenda should include topics to be addressed, the start and end times for each meeting segment, and scheduled breaks. It is courteous to inform participants of the meeting schedule, sharing information about timing encourages shared responsibility for keeping the meeting on track.

Breaks should occur about every two hours—15-minute breaks and 60-minute lunches are recommended. If lunch takes place off-site, allow more time. Allow participants time to stretch and get fresh air. (For some ideas on how to host a healthy meeting, refer to the National Alliance for Nutrition and Activity Healthy Meeting Toolkit at [bit.ly/healthtoolkit](http://bit.ly/healthtoolkit)).

Agendas need to be followed if they are to serve their purposes. However, some flexibility is needed with the specific time allocations.

### **Send meeting information and review materials at least one week prior to meeting.**

Only materials that are directly pertinent to the meeting's purpose should be shared. Providing materials in advance gives participants an opportunity to fully prepare for the meeting.

Below are items that are helpful to provide in advance:

- Meeting location information, including how to get to the site (if at a site where parking permits are needed, send them in advance to anyone who is driving to the meeting)
- Information about any refreshments or lunch items that will be provided
- Hotel information
- Information about group dinners or other planned activities
- Travel expense and reimbursement information
- Attendee names with photos/titles
- Agenda with detailed schedule
- Documents to be reviewed in advance of the meeting, for example:

- Brief updates on the center’s deliverables and progress toward goals
- Internal or external evaluation reports or executive summaries
- If applicable, the previous year’s NVC report and the center’s written response
- Discussion topics or questions that members will be asked to address

These materials may be emailed or shared via the cloud through services such as Google Drive and Dropbox. Provide print copies of pertinent materials at the meeting.

## Meeting Participants

- Invite the center’s NSF program officer to attend part of the NVC meeting.**

It is important for program officers to be apprised of developments and challenges faced by centers, which represent substantial investments by NSF. Including the center’s program officer in the NVC meeting is an effective way for them to stay informed about the center’s work. If the center’s program officer is not able to travel to attend the meeting, arrange for remote participation. Alternately, the program officer may choose to send a representative.

- Determine who else should be invited to the meeting, in addition to committee members and center staff.**

The center’s external evaluator should attend all meetings if possible. In some cases, it may be appropriate to invite others, such as key partners or executive-level administrators from the center’s institution. Decisions about whom to invite should be driven by the meeting’s objectives. The role of each invited person should be explicitly conveyed to all meeting participants.

- Arrange for remote participation, if needed.**

If some meeting participants cannot attend in person, arrange for remote participation via phone or web conferencing service. Technology should be tested in advance.

- Determine if any participants have special needs that require accommodation to ensure their full participation in the meeting.**

Disabilities such as hearing and visual impairments should not inhibit full participation in meetings. Attend to such situations through seating charts or other actions to ensure that all members can effectively participate without drawing undue attention to their special needs.

## Meeting Site

- Choose a meeting site that can be conveniently accessed by both center personnel and committee members.**

NVC meetings are typically held at colleges, collaborating organizations, or hotels. Look for a meeting site with parking, meeting rooms, Wi-Fi, ease of accessibility, access to local transportation, and good proximity to the airport.

- Select a room that will be comfortable and able to accommodate the meeting needs.**

Consider such things as room size and layout, noise level, Wi-Fi, power outlet accessibility, and audio-visual capabilities.

- Arrange for meals, Wi-Fi access, and hotel rooms.**

Beverages and light snacks should be available during the meeting. If lunch is to be catered, check with participants about any dietary restrictions. Include a list of refreshments and lunch items with the meeting agenda so participants can plan accordingly.

Wi-Fi should be provided in the meeting room. Include log-in information and password requirements on the meeting agenda.

Provide hotel information at least two months prior to the meeting. Whether a center pays the hotel directly for all attendees or reimburses travel expenses after the meeting, the arrangement should be stated in early communications.

### **3. Conducting an NVC Meeting**

Effective meetings will cover agenda items in a timely fashion and provide adequate opportunities for committee members to share their comments and suggestions.

#### **Operating Principles**

- Identify the person who will facilitate the meeting.**

The decision about who will be responsible for running the meeting should be made in advance of the meeting. If the facilitator is someone other than the center PI, the facilitator, committee chair, and PI should discuss the meeting agenda and materials prior to the meeting to address any questions the facilitator may have. This will help keep the meeting running smoothly. Different segments of the meeting may be led by different individuals, but one person should be responsible for managing the overall meeting.

- Determine and clarify the process the group will use to make decisions.**

Because NVCs are required to prepare formal reports, they need to reach consensus about their conclusions and recommendations. Members discuss and negotiate an issue and formulate a decision that all members can support. Sometimes reaching a consensus can be time-consuming, but it should be manageable with a skillful chair. The advantages of group agreements—broader participation and support of decisions—generally outweigh the disadvantages.

If one or more members strongly object to a consensus opinion, this should be mentioned in a footnote to the report; however, there is no need to list the names of those holding a minority opinion.

- Make sure all committee members have opportunities to participate in the discussions.**

The meeting facilitator should encourage all members to speak up and prevent the meeting from being dominated by a few individuals. Similarly, center personnel should not dominate the meeting. One strategy for ensuring all voices are heard is to periodically pause for a “round robin” and ask participants to express their opinions or observations regarding a preceding discussion. To ensure this does not take up too much time, ask each participant to only say a few words about the topic.

- Record key decisions and major issues.**

A designated person, ideally a committee member, should be responsible for taking notes, including key issues addressed and decisions made. These notes will be useful when preparing the NVC report.

- Provide time and a place for the committee to meet in an executive session.**

Executive sessions are an opportunity for NVC members to review meeting information and formulate conclusions and recommendations about the center. These sessions should be included in the meeting agenda and attendees of that session identified beforehand. Ordinarily, executive sessions are for NVC members exclusively—center staff, NSF program officers, and evaluators or other consultants should not attend the session to ensure committee members can speak candidly. This session should occur near the end of the meeting. Its main purpose is for NVC members to discuss their views and outline a report. The provided meeting space and location should ensure privacy for the committee’s discussion.

## **Meeting Facilitator Responsibilities**

- Be punctual with starting, ending, and break times.**

Effective meetings begin on time, have firm limits for breaks and lunch, and end as scheduled. Such behavior encourages meeting participants to be prompt and increases meeting productivity.

- Cover the items on the agenda.**

While some flexibility may be necessary, it is the facilitator’s responsibility to make sure the agenda items are discussed. Failure to address all agenda items might jeopardize the committee’s work. However, the facilitator should also be receptive to additional items that might arise during the meeting. The agenda should have some built-in flexibility, so these concerns can be considered.

Some issues may surface during the meeting that cannot be addressed at that time. Rather than addressing all emergent issues, create a “parking lot” on a whiteboard or flipchart and record the new topics. Topics that are important and relevant to the center may then be discussed at the end of the meeting or at a subsequent meeting. This will keep the meeting on schedule, but will also keep track of items that may be appropriate for future discussions.

## Center Staff Responsibilities

**Greet meeting participants and make introductions.**

Unless all meeting participants are acquainted with one another, it is courteous to provide name tags or name tents for everyone in attendance and allow time for introductions.

**Welcome committee members' suggestions and accept constructive criticism.**

NVCs exist to help centers. As mentioned earlier, it is useful to think of them as critical friends—individuals who provide honest, constructive criticism for the betterment of a center. Center personnel do not have to accept all recommendations and suggestions, but should be committed to earnest consideration of them. The meeting is a time to listen and receive feedback. Center staff should refrain from taking a defensive stance.

**Inform committee members about travel expense reimbursement or invoicing processes and provide necessary forms.**

Travel expense forms and invoice forms, if applicable, should be included with the pre-meeting materials. Take time during the meeting to provide instructions on how to complete the forms and give a deadline for submission.

## 4. Post-NVC Meeting Activities

There are a few important tasks that need to be completed after an NVC meeting takes place, both by center personnel and NVC members. The most important task is the NVC's preparation of a report, which is submitted directly to NSF once finalized.

### NVC Chair Responsibilities

**Draft and seek feedback on the committee report.**

The NVC chair is responsible for writing a draft report and distributing it to the other committee members for review and feedback. If applicable based on member feedback, the chair revises the report, then sends it to the center staff for their review. Their primary task is to make sure that the factual portions of the report are accurate. Occasionally center staff may disagree with one or more of the committee's observations or recommendations. If the disagreements are substantial, they should be communicated to the chair, who should note them in the final report. This helps assure an open discussion of the issues.

**Finalize and distribute the committee report.**

Following the receipt of feedback from center staff, the chair revises the report and sends the document to the committee members, center PI, and the center's NSF program officer. The NVC report should be submitted within an agreed-upon time frame, ideally in advance of the center's submission of its annual report to NSF.

## Center Responsibilities

**Send thank you letters to meeting participants.**

It is important to acknowledge the contributions of committee members. Personal thank you notes are an effective way to do this. These letters should be sent shortly after the meeting.

**Issue payments promptly.**

Committee members should submit their invoices or reimbursement forms right away. When the forms are received, immediately check the submitted information. Let them know if corrected or additional information is required. If they fail to submit forms, send reminders.

**Keep committee members informed of center activities throughout the year.**

Effective committees are knowledgeable about the center and its activities. Because committees meet in person only once a year, it is important to keep members informed of center activities. Possible topics to include in updates are: staff changes, recent activities or newly created products, host institution updates, and new ventures. This can be done through newsletters, e-mails, or center websites. Periodic virtual meetings are an option as well—see tips in Section 5.

**Prepare a formal response to the NVC's report.**

The center PI should prepare a formal, written response to the NVC report. It should explain how each recommendation is being addressed by describing what actions were taken or will be taken. If no actions are identified for a specific recommendation, the response should explain the reasons. The response is usually discussed at the next NVC meeting. The time frame for submitting the response to the committee should be determined and agreed upon in advance.

## 5. Conducting Virtual Interim NVC Meetings

It is standard for NVCs to meet once a year in person. Some centers find it useful to hold additional meetings periodically to connect with their NVCs to keep them up-to-date on center activities. Because NVC members usually come from different parts of the country, holding in-person meetings can be costly. Therefore, it may be more practical for interim meetings to be virtual. That is, members meet via conference call or a web conferencing service.

Below are some tips for organizing and conducting virtual meetings.

- Online meeting platforms allow participants to view documents or slides at the same time. A variety of online meeting platforms are available, both free and paid, such as Google Hangouts, GoToMeeting, and Adobe Connect. Some colleges have institutional subscriptions.
- Conference calls are an appropriate option for meetings that do not need a visual element.
- Limit virtual meetings to two hours.
- The meeting facilitator should log in or call in at least 10 minutes early to make sure the technology

is functional and to greet participants as they join the session.

- At the beginning of the meeting, the meeting facilitator should conduct a roll call to confirm all members are present and that their audio is at a satisfactory level.
- To minimize background noise, meeting participants should mute their phones or microphones when they are not talking.
- As with in-person meetings, a meeting agenda and associated materials should be sent to participants at least one week in advance of the virtual meeting.

## **Conclusion**

The role of NVCs in the ATE program is to advise center personnel, assess center progress, and enhance dissemination of center products. This handbook provides guidance to enhance ATE centers' coordination of and engagement with their NVCs. It should be treated as a flexible guide and resource for decision making rather than a set of rigid rules. When center PIs or NVC chairpersons have questions pertaining to NVC matters, they should consult their NSF program officers.