MontanaTech

Principal Investigators' Handbook

2017 – 2018

Quick Reference - Institutional Information

Office of Research:

http://www.mtech.edu/research/index.htm

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Tax Identifier Number (TIN): 81-6001654

CAGE Number: 1CZH4

Authorized Organizational Representative:

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WEBLINKS TO FORMS AND OTHER RESOURCES

NOTE: These supplemental materials are subject to change. All current documents can be accessed on the Policies and Procedures page of the Research Office website (www.mtech.edu/Research/policies_procedures.htm)

Proposal Submitting

- Proposal Certification Form (PDF)
- Proposal Certification Form Instructions (PDF)

Budget Development

- Indirect Cost (IDC) and Benefit Rates
- Indirect Cost Recovery Policy (PDF)
- Federally Negotiated Indirect Cost Rate Agreement (PDF)

Intellectual Property

- Montana University System – Policy and Procedures Manual: Invention and Patents (PDF)
- Invention Disclosure Form (PDF)(MSWord)
- Student Patent Rights MOU Form (PDF)
- Student Agreement for Work on Sponsored Projects (PDF)
- Student Intellectual Property Rights MOU (PDF)
- Board of Regents 407 Submission Form - Example Board of Regents 407 Agenda Item

Conflict of Interest

- Conflict of Interest Policy (PDF)
- Conflict of Interest Disclosure Form (PDF)

Human Subjects Research Approvals

- Institutional Review Board Process

Other Policies and Forms

- Research Guidelines
- Employment Policy for Research Personnel
- Research Policy - Establishment of Research Position Base Salary

- Research Integrity Policy (PDF)
- Montana Tech Safety Policy (PDF)
- Student/Visitor Incident Report Form (PDF)

Principal Investigator's Handbook

- PI Handbook (PDF)

Grant-Writing Resources

- Writing Irresistible Proposals
- Grant Writing Success
- Writing Winning Proposals
- Proposal Preparation Schedule Template

WHO SHOULD USE THIS HANDBOOK?

Activities conducted under Montana Tech's auspices carry an important public and personal responsibility for careful management. This handbook is published by the Research Office (RO), and the Office of Sponsored Programs (OSP) to help you fulfill that responsibility. It describes general procedures, policies, and services available regarding research and sponsored projects at Montana Tech. All members of the Montana Tech community—faculty, academic professionals, staff, and students—who wish to conduct externally funded projects utilizing Montana Tech's facilities, personnel, or other resources must comply with applicable institutional policies and procedures.

How to Use This Handbook

Scan the material in this handbook for a general impression of the procedures described, and then refer to it as necessary. The material included in this handbook and the documents referred to within this handbook will be updated periodically to reflect changes in organization, policies, and procedures. The current versions of a policies, procedures, and forms are posted on the Research Office web site (http://www.mtech.edu/research). Comments and suggestions for improvements to this guide would be appreciated. Please direct them to the Office of Research and Graduate Studies or the Office of Sponsored Programs. Both offices are located on the second floor of the Museum Building, near the Mineral Museum.

The RO or OSP are happy to provide additional information and assist you with topics that may not be covered in this handbook.

SPONSORED PROJECTS AT MONTANA TECH

Most grants, contracts, and other funding agreements from outside sources are sponsored projects. Projects that meet any of the following criteria are considered sponsored projects:

- The proposed project binds Montana Tech to a specific scope of work, and final reports or other deliverables are required.
- Billing, separate accounting procedures, or reports of expenditures are required.
- Unexpended funds must be returned to the sponsor at the end of the project period.
- The project involves disposition of property, whether tangible or intangible, that may result from the project (e.g. equipment, records, inventions, copyrights, or rights in data).
- The project has a specified performance period or completion date.
- The funding source is a government agency (federal, state, or local).

Donations to Montana Tech for its ownership and use, if they do not include any of the above conditions, are generally considered to be gifts. Gift solicitation is the responsibility of the Montana Tech Foundation. All potential donors should be referred to the Montana Tech Foundation for processing and receipt of their gifts.

When there is a question regarding whether external funding should be classified as a sponsored project, contact the Office of Sponsored Programs or the Office of Research.

Who Administers Sponsored Projects at Montana Tech?

Although sponsored project awards may result from the Principal Investigator's professional expertise, the funds are awarded to Montana Tech. These funds may be spent only for the designated purpose, and they must be administered in accordance with the requirements of the sponsor. The Principal Investigator and Montana Tech are jointly responsible for carrying out the sponsored project according to the sponsor's guidelines and the project agreement.

Responsibilities of the Principal Investigator (PI)

The Principal Investigator is responsible for implementing the sponsored project in accordance with sponsor guidelines. The project implementation includes hiring staff and students; expending project funds; requesting the purchase of equipment, materials, and supplies included in the project; conducting the project as described in the proposal and agreed to in the award; preparing the technical reports for the sponsor; and providing information needed by OSP and RO for fulfilling their project administration responsibilities.

Principal Investigators on sponsored projects normally are regular employees of Montana Tech. (A regular employee is someone employed to work for a period of six or more months by a Board of Regents Letter of Appointment, contract, or as a tenure-track faculty appointment.) Under very unusual circumstances other individuals may serve as principal investigator, but only after written approval of the Vice Chancellor for Research.

The Research Office (RO)

The RO is responsible for the research programs and other sponsored activities of Montana Tech. RO provides leadership in the development of policies and procedures to enhance the research mission while protecting programs and interests of Montana Tech. RO assists Montana Tech faculty and staff in their efforts to seek and secure external support for their instruction, research, public service, scholarly efforts, and creative activities. RO provides assistance with proposal development, review, and submission, and acts as the technical liaison between Principal Investigators (PI) and sponsors. RO also helps prospective Principal Investigators identify potential funding sources and strengthen the competitiveness of proposals.

RO is required to review all proposals prior to submission and is responsible for negotiating and approving mutually binding agreements, subagreements, and subawards assisted by OSP on financial aspects. RO is responsible for oversight of compliance with technical (non-financial) requirements applicable to the work. RO reports to the Montana Tech Chancellor. The Vice Chancellor for Research and Graduate Studies (VCR) is responsible for several areas including the Office of Research, the Graduate School, and the Center for Advanced Mineral, Metallurgical, and Materials Processing (CAMP). The VCR is Montana Tech's authorized organizational representative (AOR).

Office of Sponsored Programs (OSP)

The OSP is responsible for all pre-award and post-award financial matters dealing with Montana Tech grants and contracts. OSP provides assistance with budget development and review and provides back up to RO for proposal submission. OSP acts as the fiscal liaison between PI's and sponsors, negotiating the cost and budget aspects of mutually binding agreements, sub-agreements, and subawards. OSP is required to review and approve all proposed budgets and budget modifications for new and continuing proposals. OSP is responsible for post-award compliance with non-technical sponsor requirements, such as financial reporting and invoicing, cash management, and account close-out procedures. OSP also responds to requests for fiscal audits of sponsored agreements, prepares in coordination with the Vice Chancellor for Research the facilities and administrative cost proposal, negotiates the F&A cost rate, provides support for documentation of direct salary charges and cost share, performs special cost studies for recharge centers, and prepares management information reports on proposals and awards. OSP reports to the Director of Finance and Budget, who reports to the Vice Chancellor for Finance and Administration.

Special Committees Related to Research

Research Advisory Committee
Advises VCR on policies and programs to promote and enhance research and creative activities. Membership includes departmental representatives (one per department) and staff persons involved in administering or supporting research.

Radiation Protection
Assigned to the Director of the Office of Environmental Health and Safety.

Hazardous Waste and Safety Committee
Advises RO to ensure coordination between committees and functional service units. Membership includes departmental representatives and staff persons to comply with regulatory requirements imposed by Federal, State, local, or College policies.

Institutional Review Board (IRB)
Reviews, approves, and oversees human subject research. Montana Tech is included in the IRB of the University of Montana and has a representative on that committee.

Contacts for Special Committees

Research Advisory Committee: Dr. Beverly K. Hartline, Vice Chancellor for Research and Dean of Graduate Studies.
Radiation Protection: Marilyn Cameron, Radiation Safety Officer.
Hazardous Waste and Safety Committee: Marilyn Cameron, Office of Environmental Health and Safety.
Human Subjects Research: Scott Risser, Associate Professor of Liberal Studies, Member of University of Montana Institutional Review Board.

WHAT CONSTITUTES A PROPOSAL?

A proposal is a request for financial support. Generally, it has two parts: a technical section and a budget/financial section. The technical section is a description of the work or activity to be performed and the project schedule. The budget is the Principal Investigator's (PI) best estimate of the financial support needed to perform and accomplish the technical goals and activities. It is usually accompanied by a narrative budget justification describing in detail exactly how the budget relates to the technical section. The budget must be approved by OSP **BEFORE** the proposal is submitted.

Types of Proposals:

Formal Proposals

Solicited proposal. Solicited proposals are submitted to a specific funding source and should be written to the guidelines issued by that sponsor. Deadlines (receipt or postmark) may recur annually or several times a year.

Unsolicited proposal. The Principal Investigator develops the idea and uses the proposal to make a formal request to a sponsor for support.

Response to a Request for Proposals (RFP). The proposed project must respond to the specific work statement developed by the sponsor or negotiated with the sponsor. RFPs may have a stated deadline and may be one-time solicitations for specific needs that are not expected to recur.

Informal Proposal, Pre-Proposal, or Concept Paper

A short (usually 2-5 pages) description of the proposed project that does not involve a commitment of University resources or a signature on behalf of Montana Tech and would not result in an award. The PI is strongly encouraged to discuss the concept with the Dean and Research Office and the draft budget proposal with Montana Tech's Director of OSP prior to submittal. If the sponsor requires submission through the AOR, or submission is through a government e-portal, a PCF is required. If the prospective sponsor invites a full proposal, that would become a formal proposal and require a PCF.

Renewal and Continuation Proposals

A competing renewal proposal (also called a competing continuation) is a request for continued funding of a project for which funding is about to terminate. Such proposals usually contain the same information as new proposals. Non-competing continuation proposals, which request the next year's funding within a multi-year grant, usually consist of a progress report, budget, and other relevant materials such as research results, reprints, vitae for new personnel, etc. They may also include a report of expenditures including the residual balance and any budget carryover from the previous year.

Competing renewals must be routed and approved in the same manner as new proposals, including preparing a new PCF. For non-competing continuations, if the sponsor requires a proposal (not just a progress report), the proposal must be routed and approved in the same manner as new proposals. This procedure assures that appropriate officials at Montana Tech are informed of the current status and any changes from the original proposal before an institutional endorsement is provided.

Who Must Approve Submission of a Proposal?

Since Montana Tech is responsible for performance and administration of any award resulting from the proposal, certain internal approvals (institutional authorizations) are required before the proposal may be submitted to the sponsor. Evidence of these approvals is provided on the Proposal Certification Form (PCF, available at http://www.mtech.edu/research/files/pcf-form.pdf).

The Proposal Certification Form (PCF) must be completed by the Principal Investigator for all proposals or applications submitted to outside organizations and seeking financial support of research, creative activities, education, outreach and/or any other special projects that may result in a contract, grant, or other agreement with Montana Tech. The PCF must be reviewed and signed by the Principal Investigator, Co-PI(s), Department Head(s), Dean(s) and, if required, the Physical Plant Director, Environmental Health and Safety Director, Institutional Review Board Campus Representative, VCAA and the Director of the OSP *prior* to forwarding to the Vice Chancellor for Research for final approval and certification. A new PCF is also required for renewal proposals submitted to sponsors for on-going, multi-year projects, if the sponsor requires a new application and a new budget each year. The form is used to obtain required internal academic and administrative approvals, to generate a transmittal letter for the proposal, if needed, and to accurately track and report all research proposals at Montana Tech. The form is not sent to the funding sponsor. After obtaining all required signatures, please submit this form plus one copy of the Proposal (including all budgets and attachments) to the Office of Research at least 7 working days PRIOR to proposal deadline.

Approvals Required for all Proposals

1. All Principal Investigators and Co-Principal Investigators (Co-PIs) must review and sign the Proposal Certification Form (PCF). Note: This form contains a place for each PI to certify reading and understanding the Montana Tech Policy on Conflict of Interest. Department Heads, Deans, and the Office of Sponsored Programs must also approve the proposal to be submitted. Final approval must be obtained from the VCR <u>before</u> submission of the proposal.
2. Department Heads and Deans must sign the PCF. Their signatures reflect departmental and School/College review of the proposal for substance and academic appropriateness, consistency with the department's priorities,

Principal Investigator's eligibility, and for commitment and availability of department resources, personnel, space, facilities, and/or equipment. (For proposals involving more than one department, all affected department heads and deans must review and approve the proposal.) Departments share responsibility with the investigators for performance of the work, compliance with sponsor and Montana Tech requirements, and verification of cost-share obligations. If faculty release time is requested, approval of the Department Head(s) and Dean(s) are required. If a new faculty position (temporary or tenure-track) is included, approval of the Provost and Vice Chancellor for Academic Affairs is also required.

3. The Director of Montana Bureau of Mines and Geology (MBMG) must approve proposals originating from MBMG staff. Proposals originating from other research centers or administrative units must be approved by the Director or Program Manager of that unit and the associated dean or Vice Chancellor, in addition to OSP and VCR.
4. After the Department Head has approved and signed the PCF, it is then submitted at least 7 days before the submission deadline, <u>along with the full near-final draft proposal and budget</u> to the Director of the OSP and the RO for review and signature. The RO reviews the proposal's narrative and abstract. The Director of OSP reviews and approves the budget.
5. Other approvals - If approved funding requires the purchase of new equipment, which would require building or utility modifications, such as a specialized concrete pad or high-voltage outlet, then the approval of the Director of Physical Facilities must sign-off on the PCF. If the research involves Human Subjects (even if you are just using a survey), IRB approval must be obtained. If the research involves anything that might be a hazard, or create hazardous waste, the PCF must be signed by the Director of Safety. The RO strongly encourages PIs to check if in doubt.
6. The PI must use the feedback from the RO and OSP to update the proposal, budget, and budget narrative. The feedback will clearly indicate whether certain changes are mandatory or up to the discretion of the PI. Changes needed to make the proposal comply with sponsor or Montana Tech requirements are mandatory, while others are offered to improve the proposal's chances for being funded.
7. The VCR is the "Authorized Organizational Representative" and must give final signature approval on the PCF prior to proposal submission.

Do you have the necessary signatures for your proposal?

1. Your Department Head(s) and Dean(s) have reviewed the proposal and signed the PCF to confirm appropriateness and support for any committed resources or match?
2. The Director of MBMG has signed the PCF for proposals originating from MBMG staff? The Center Director or Administrative Unit Head has reviewed and signed for proposals originating from other centers?
3. The Dean and Department Head have initialed the form for requested release time?
4. The Provost/Vice Chancellor for Academic Affairs has approved any new faculty positions included in the proposal and signed the form.
5. The Director of Physical Plant has reviewed the plans and initialed the PCF if any modifications to facilities or new facilities are needed or funded.
6. The Director of the Office of Environmental Health and Safety has signed the PCF if your proposal involves hazardous materials or wastes?
7. The Director of Facilities has reviewed and signed your PCF (if required).
8. If required, your proposal has been reviewed by the IRB representative. If you are working with animals or humans, this step is mandatory. If in doubt, ask!
9. The Director of OSP has checked the budget and signed the PCF?
10. The RO has reviewed the proposal narrative to verify compliance with sponsor requirements and any commitments of Montana Tech resources and signed the PCF?

- ❖ If you have obtained all the required signatures, submit your proposal to the RO for final approval review and signature.
- ❖ All these steps MUST be completed PRIOR to submission. Note that the deadline to submit the PCF and near final draft proposal to RO and OSP is 7 days prior to the submission deadline, unless other arrangements are made IN ADVANCE.

Steps to Developing and Submitting a Proposal

1. Develop your idea. Contact others who will or could be involved (colleagues, college and department administrators, outside groups, etc.) or have resources or expertise needed.
2. Search for a funding source. Visit RO for information and assistance with your search and check the Agency web pages for some funding sources and current Requests for Proposals. The Montana Tech Library has on-line searching capabilities. For private (non-government) funders, Montana Tech's Library has full access to the Foundation Center's databases and books. Acquire guidelines and application forms and instructions from potential sponsors.
3. The best way to contact the RO for a new proposal, proposal revision, or additional funding for an existing project is to email grants@mtech.edu. Once the RO is notified of an incoming proposal a proposal file will be created and we will help shepherd your proposal through the review and approval process. This includes but is not limited to coordinating budget review with OSP, proposal development/review, assisting with any approvals/signatures on forms, completing forms, ensuring compliance with sponsor guidelines, and proposal submission (if needed).
4. Alert your dean and department head of your intent, the sponsor, and the deadline.
5. Make an appointment with the Director of OSP for assistance in budget development.
6. Write your proposal.
7. Get an objective pre-review. Use other faculty and/or RO to provide a peer review and critique your proposal. This step is important! The RO can help researchers find an internal pre-reviewer.
8. Obtain any special approvals needed. If the project involves human subjects, lab animals, hazardous materials, modification to facilities, or bio-safety agents, obtain the appropriate approvals.
9. Complete the PCF. If cost share (contributed effort, matching funds, or waiver of F&A costs) is involved, contact RO. Any tuition waivers also need to be documented and require approval of the appropriate office— Dean of the Graduate School, Dean or Department Head. Supplemental forms may be required for NSF and PHS.
10. Obtain appropriate Montana Tech approvals. Submit the proposal and applicable internal forms to the Department Head and Dean. If more than one department is involved, obtain the signature of each Department Head and Dean on the PCF.
11. Submit the draft proposal, the budget, and PCF to RO, grants@mtech.edu at least seven working days before the submission deadline.
12. Obtain OSP approval of the package and budget. Obtain and follow RO advice on the proposal.
13. The VCR is the Official/Authorized Organizational Representative (AOR) and is the only designated person who can commit Montana Tech to Grants and Contracts. Be sure to allow sufficient time (a minimum of seven working days prior to proposal deadline) to obtain final review and signature from

the VCR. If you require assistance for assembly, copying, or mailing notify RO one week prior to this internal deadline. One complete FINAL copy of the entire proposal must be submitted to RO with the PCF at the time of submission.

Determining if you are ready to submit your proposal.

Before you submit your proposal to the sponsor, be sure that you confirm the following:

- ✓ The OSP has reviewed and approved the proposal budget.
- ✓ The RO has reviewed and endorsed the proposal plans and narrative.
- ✓ The participating and authorized personnel have signed the PCF (PI, co-PI and correlating department chairs and deans).
- ✓ The necessary information, certifications, and forms are included in the proposal.
- ✓ The proposal has been compiled in the proper order.
- ✓ If a paper submission, the correct number of copies requested by the sponsor are included.
- ✓ If an electronic submission, the format and submission method are as required.
- ✓ The sponsor checklist and requirements have been reviewed, and the proposal includes all the required parts and addresses all the factors important to obtaining excellent reviews.
- ✓ The RO has a complete copy or e-copy to file.
- ✓ Any required cover letters have been prepared.
- ✓ Any required support letters have been obtained and are included.
- ✓ The envelope has been addressed properly or the electronic submission method has been verified and communicated to RO.

- ❖ Be sure that when you send your proposal, it will reach its destination by the specified deadline.
- ❖ If the proposal requires an e-submission (online portal), make sure to follow the same procedures, but communicate the submission method to RO ahead of the deadline.

General Format for Formal Proposals

Many sponsors supply standard application forms or have a prescribed format for proposal preparation. Most sponsors also have page limitations, making it particularly crucial to meet all requirements on the narrative. Be sure to read and reread all instructions related to the proposal EARLY, and to read them again before finalizing the proposal to be sure you have addressed all required topics and the review criteria and are complying with the formatting requirements. If forms are provided, use them (application forms for most federal and many private sponsors may be obtained from RO or from the sponsoring agency's web site). Failure to follow requirements may jeopardize a proposal's success or have a proposal returned without review. The RO has templates for many of these documents on hand. Please e-mail grants@mtech.edu for the appropriate templates.

For sponsors without specified formats, suggested organization of the proposal is as follows:

- Title Page and/or Application Form
- Abstract/Project Summary (one page or less)
- Table of Contents
- Project Description: Introduction, Problem Statement, Hypothesis and Goals, Preliminary Studies and/or Literature Review, Methodology, Management, Evaluation, Dissemination
- References (Literature Cited)
- Budget, Budget Justification, and Project Schedule
- Current and Pending Support for each PI and co-PI (usually only for Federal agency proposals)
- Description of Facilities and Equipment
- Letters of Support, letters of collaboration, letters confirming eligibility, or other specific documents required by the sponsor
- Appendices and Vitae/Bios for key personnel

What to Include in Your Proposal

Title Page and/or Application Form

If a standard application form is not required, the title page should contain enough information to clearly identify the proposed project and offer the following:

- Project Title
- Identification of the sponsor's program (RFP or program number)
- Name and address of sponsor
- Name and department of the Principal Investigator
- Name and address of Montana Tech
- PI and authorized official's signatures, their titles, offices, and phone numbers.
- Date of Submission and/or Deadline Date

Abstract/Project Summary
The abstract should be a condensed version of the proposal with about 250 words and should concisely state the connection of the proposal with the sponsor's mission and priorities, the significance of the project, what will be accomplished, how it will be accomplished, and the proposed period of performance. The abstract is vital in creating a favorable first impression. Proposal writers often write the abstract last.

Table of Contents
A typical Table of Contents should identify the page numbers and other requested material as well as appendices and other additional information. Often sponsors request that proposals are organized in a specific order, the Table of Contents should be organized to match.

Project Description
In the proposal guidelines, the funding organization often specifies what to include in the narrative. The description should answer basic questions about the project: *What problem/need do you address with your project? Why is it important to the sponsor? What do you plan to do? Why is this work important? What have you or others already done on the project? How does it build on the state of the art? How do you plan to achieve your objectives? Is the project accomplishable within the stated period of performance?* State the goals, aims, or objectives for the project. If it is a research project, state the hypothesis clearly. Provide enough detail to explain what you intend to do and how you will carry out the project. What are the potential challenges and back-up plans, in case the approach does not work. Objectives should match the need statement, and procedures should describe how objectives would be accomplished. This section of your proposal will be reviewed thoroughly by experts in your field. If the project requires an evaluation component, this section usually follows the project description section. Many sponsors also require discussion of how project results will be disseminated (i.e. conferences, journal articles, newsletters, travel to meetings, or by other means). Some sponsors require a description of the management approach, timelines or milestones, and organization. Clearly address any review criteria published by the sponsor.

For the best chances of receiving funding, the project description should:
- Make the project seem interesting and important, according to the intended sponsor's criteria.
- Convince the reviewers that it can be accomplished.
- Convince the reviewers that it can be accomplished by the PI and team at Montana Tech.
- Be written to interest and be understood by the sponsor and likely reviewers.

References (Literature Cited)
List full references of any citations made in the project description or body of the proposal and ensure that all references used are up to date. Using updated

references demonstrates to experienced reviewers that the work proposed is on the cutting-edge and for reviewers less expert in the specific topic provides the background or foundation on which the study is proposed.

Management Description
Identify all contributing faculty and staff members, describe their project duties, and emphasize their experience as it relates to the project. Include current biosketches for all key personnel (e.g. faculty, staff and consultants). Biosketches are usually included in the appendices unless otherwise specified. They should be provided in the format requested by the sponsor. If no format is specified, a 2-page bio is usually sufficient. Sponsors rarely desire full *curriculum vitae.*

Budget and Budget Justification
Developing the budget is often the most difficult part of preparing a proposal. Since a proposal budget may become an award budget, careful front-end preparation is important. The Director of OSP can assist in interpreting guidelines and completing budgeting forms. If the sponsor does not provide standard budget formats, contact OSP for assistance. For more information on budgeting, contact OSP (406-496-4176).

Current and Pending Support
Some sponsors require a list of pending proposals and active awards for all the key personnel listed on a project. This document would include the name of the proposal, sponsor, active dates, total budget, and level of activity and time commitment (in calendar months, academic months, summer months, or percent effort). Be sure to follow the sponsor's guidelines on formatting and contents.

Facilities and Equipment Description
Describe the physical facilities, resources, and equipment available at Montana Tech that are important to the project, and explain how they make Montana Tech an advantageous location for the project. (In some cases, the equipment may be used as a basis for providing matching funds for the grant.) Please contact the RO for an updated list of Tech's available facilities/equipment.

Letters of Support or Collaboration
Obtain letters of support/commitment from all individuals or organizations mentioned in the narrative, especially if the individual has been designated as an important collaborator or consultant, or if the organization is named as a subcontractor, or has agreed to provide matching funds for the proposal. In many cases, a letter of support from Montana Tech (Chancellor, Provost, Dean, VCR, or Department Head) will be required or beneficial. Provide a draft for your Montana Tech letter of support well in advance (outside institutions will be responsible for drafting their own letters of support) and the RO can help arrange for these letters. Contact the Director of OSP for additional information if other organizations will need to be paid from project sources. Contact RO for suggestions on letters that would be helpful for the specific proposal.

Consultants/Subcontractors
If an outside organization has been named in your project as a subaward entity, subcontractor, or consultant, be sure to provide sufficient detail throughout the proposal and in the budget narrative about any work to be performed and funds necessary for these groups to perform the work. Copies of the proposed statements of work and budgets (quotes) by outside organizations should be included in proposals as well as a signed letter of commitment. Information from outside entities should be signed by their authorized organizational representative.

Appendices and Biosketches
It is a good idea to provide a separate list of all appendices, especially when there are many or large appendices attached to the proposal. This list helps to organize any proposal consisting of many different parts and makes it less confusing to the reader. Oftentimes, although the PI may consider the information in the appendices to be crucial to the overall proposal, this information is less important to the review committee. **It is recommended that the proposal narrative include any important information, be able to stand alone, and not depend on any information in the appendices.** Any important graphical information in support of the proposed project should be included in the body of the proposal and not in the appendices. CAUTION: Reviewers are not required to read appendices or other supplemental material. In some cases, including certain types of appendices may cause the sponsor to return the proposal without review. Be sure the supplementary material to be included IS permitted by the sponsor.

If not already required elsewhere, copies of the biosketch for the PI and other key collaborators proposed in the project should be included in the appendices. Unless a longer version is explicitly allowed, it is best to provide a biosketch no longer than 2 pages.

Calculating Your Budget

The proposal budget provides the framework within which the expenditures for the proposed statement of work will take place. The OSP can provide valuable assistance in preparing the project budget. A proposal budget lists and groups the proposal expenditures into categories. For ease in working within Montana Tech's financial system, the major budget categories are:

- **Direct Costs**: Personnel (Salaries & Wages, Fringe Benefits), Operations, Subcontracts, Supplies, Communication, Travel, Student/Participant Support, Capital Equipment
- **Facilities and Administrative Costs** (previously called indirect costs).

A discussion of the costs that should be included in a proposal budget follows. This discussion is not comprehensive since only the more common costs are specifically itemized. It is important to keep in mind when preparing your

proposal budget that the items should be consistent with the project description. The more realistic the budget, the easier it will be to work within the budget when the project is funded.

Direct Costs: those expenses that will be incurred solely for work on the proposed project. Provide justification as appropriate to establish the need and benefits of the proposed spending to the project.

Personnel

Salaries and Wages. List the amount of time to be spent by each Montana Tech employee who will work on the project and the rate of pay. Time can be shown in percent of full-time effort or in person-hours, days, weeks, or months. Percent of full-time effort, months, or hours are the preferred methods, because days and weeks vary by pay period, and using these units can create discrepancies in budgeting estimates versus actual costs.

- Compensation on sponsored projects must not exceed an employee's authorized base rate of pay at Montana Tech. Some employees, such as faculty, may occupy two or more positions with different base pay rates. The appropriate position and salary should be used when budgeting for grants. OSP can provide assistance in obtaining information on salaries for employees. For multi-year projects, the budget should add potential salary increases. Note that Montana Tech manages salaries and wages. Use of a specific percentage for salary increases does not cause the salary to increase by that amount.
- New job classifications and compensation must conform to Montana Tech employment classifications.
- Additional justification for administrative, secretarial, or clerical positions is required, because this type of support is not generally included as direct costs.

Fringe Benefits. Known as "employee-related expenses" (ERE), are employer costs for employee programs including: retirement, worker's compensation, federal social security (FICA), unemployment tax (FUTA), leave assessment, and health insurance. There are different budgeting rates for faculty, staff, and students. To find the most up-to-date fringe rates, check http://www.mtech.edu/research/indirect-costs-and-benefits.htm

Operations (also called supplies and expenses)

- Materials and Supplies: may include lab supplies, teaching aids, and office supplies.
- Publication Costs: anticipated cost of publishing the results of the research including page charges, poster production, and reprint costs.
- Consultants: personnel who provide professional service for a fixed period of time and are not Montana Tech employees. Consultants should be budgeted only where on-campus expertise does not exist or is not readily available. May include fees and travel expenses. The use and payment of consultants is often restricted; therefore, discuss it with OSP.
- Photocopying, telephone costs, mailings, equipment maintenance, rental

and/or lease.

- Space rental and renovation as appropriate. (These expenses are typically covered by F&A)
- Hazardous Waste Disposal Costs (Contact the Montana Tech Office of Environmental Safety and Health).

Subcontracts. Include the proposed subcontractor's statement of intent to participate in the project if funded, including a statement of work, estimate of time required, proposed budget, and an AOR signed sub-award letter of collaboration. **This signed letter is required by Montana Tech, even if it is not required by the sponsor.**

Travel. Itemize each trip and include transportation costs, number of travel days, registration fees for conferences as appropriate, and per diem. Any travel outside the US and its territories or Canada should be listed separately as foreign travel; since it almost always requires specific authorization from the sponsor. All travel is subject to Montana Tech and sponsor regulations.

Student/participant support costs. Books, tuition and fees, stipends, etc., if allowed by sponsor. Participants are individuals the project is intended to benefit. Tuition payments on behalf of a graduate student doing research for the project are participant costs, but the student's assistantship stipend would be listed as a personnel expense. For a summer program, the travel costs, lodging, meals, and any stipend would all be considered participant support costs.

Capital Expenditures. Expenditures for the acquisition cost of capital assets (equipment, buildings, and land), or expenditures to make improvements to capital assets that materially increase their value or useful life. Acquisition cost means the cost of the asset including the cost to put it in place. Acquisition cost for equipment, for example, means the net invoice price of the equipment, including the cost of any modifications, attachments, accessories, or auxiliary apparatus necessary to make it usable for the purpose for which it is acquired. Ancillary charges, such as taxes, duty, and in transit insurance, freight, and installation are included in the acquisition cost. Equipment means an article of nonexpendable, tangible personal property having a useful life of more than one year and an acquisition cost which equals or exceeds $5,000. Shipping, taxes, insurance, and installation charges should be included under this category. (However, these costs are not considered when determining if an item meets the $5,000 or more per unit capitalization criteria.) Equipment rental, maintenance, or repair costs should be listed under operations costs. (Montana Tech's full F&A rate includes equipment maintenance and repair) An exception would be if the equipment is *only* being used for this specific project.

Facilities and Administrative Costs (F&A)

Facilities and Administrative costs or overhead include all activities essential to support sponsored projects that cannot be directly charged to a specific grant or contract (e.g. lab and office space; utilities and building maintenance;

administrative services such as secretarial, purchasing, accounting, human resources; and library resources). F&A cost percentages or rates are determined through a detailed cost accounting procedure and are negotiated with the federal government. Facilities and Administrative rates are applied to Modified Total Direct Costs. For the most up-to-date F&A rate see: http://www.mtech.edu/research/indirect-costs-and-benefits.htm.

There are a few sponsors who, through published rule, limit payment of F&A costs. If applicable, discuss the F&A limitation with the VCR and/or the Director of OSP early in the planning and proposal-writing phase.

Montana Tech charges the full allowable F&A rate on all contracts and grants, unless lower limits are set by the sponsor or MUS policy.

Cost Sharing and Matching Funds

In some instances, Montana Tech may be requested or required to contribute to the costs of a sponsored project. Cost sharing obligations must be met between the effective start date and end date of the agreement. If the obligation is not met, the sponsor may reduce the project funding and any costs not funded must be paid from departmental non-sponsored funds. Montana Tech is subject to audit on any quantified cost sharing. All cost sharing proposals must have consent of the VCR, Director of OSP and your Department Head and Dean or Director of MBMG or other Center director.

Contributed Effort (payroll and fringe benefits). It is advantageous to select items for cost sharing that are easy to document. One such cost is effort of employees supported by non-sponsored funds, who will be contributing to the project. Commitment of Montana Tech employees' time to a project must be authorized by the appropriate Department Head and/or Dean or MBMG Director and approved by the Director of OSP. Contributed effort is documented and certified with time and effort reports. The individual's time as well as associated fringe benefits and F&A charges may be included in calculating these costs. Uncompensated effort, such as summer salary for faculty, cannot be used as match.

Other Direct Costs. Other types of cost sharing, such as matching funds for equipment or supplies, should be discussed in detail with your Department Head and Dean. Tuition waivers for graduate students working on the project can be used as match if approved by the Department Head and Dean of the Graduate School. The source of contributed funds must be explicitly indicated in the PCF. If required by the sponsor, the source and type of match or cost share must be detailed in the proposal. If the grant is awarded, documentation of actual cost sharing is primarily the responsibility of the Principal Investigator and department. Minimal systems exist to document non-personnel cost sharing and thus some costs can be burdensome to document, e.g. telephone and copying charges. Talk to the Director of OSP about the feasibility of

documenting costs prior to making any commitment of non-personnel matching funds. Any matching committed, whether "cash" or "in-kind" must be approved by the Director of OSP and VCR.

Facilities and Administrative costs. Montana Tech may reinvest collected F&A to partially meet cost share requirements, but does not reduce its F&A rate to provide cost sharing.

Unrecovered F&A. If the sponsor requires a lower rate or waiver of F&A, the difference between Montana Tech's rate and the sponsor's allowable rate can be shown as cost share, if not prohibited by the sponsor.

Representations and Certifications

Some federal sponsors may require applicants to provide assurances, or sign certifications of compliance with a variety of federal concerns whether or not they may be applicable to the proposed project, such as regulations regarding civil rights, lobbying, drug-free workplace, debarment and suspension, procurement integrity, and others. When such forms are needed, submit the forms to RO more than one week before the proposal is due, to allow them time to complete the forms and obtain the authorized signature. RO will transmit the forms with the proposal. The AOR will most likely be the signature needed for these forms.

Conflict of Interest

Montana Tech cannot allow conflict-of-interest issues to raise questions about the quality of research performed by University faculty and staff. The State of Montana, Montana University System (MUS), National Science Foundation (NSF), Public Health Service (PHS), and several other sponsors have policies regarding conflict of interest. Montana Tech has a Conflict of Interest Policy, which complies with the requirements of these agencies, and is available on the Research Office web page (http://www.mtech.edu/research/conflict-interest-financial-disclosure.pdf). Faculty and staff engaging in ANY outside activities or outside employment must be familiar with Montana Tech's Conflict of Interest Policy and they are required to acknowledge this familiarity and compliance on the PCF. Principal Investigators are required to keep their Department Head, Dean or Supervisor, and VCR fully informed of potential conflict of interest situations.

Regulatory Issues

Projects that involve any of the issues listed below are subject to special review processes to assure compliance with federal, state, and/or Montana Tech regulations and to ensure the health and safety of those involved in the project.

Human Subjects

Research and teaching projects involving human subjects may require review and approval by the University of Montana Institutional Review

Board (IRB). This approval **must** be obtained *before* the project starts. Any modification to the research plans, scope, or protocol also require approval in advance. In some cases, IRB approvals must be obtained *before* submitting the proposal for external funding. Contact RO well in advance of the proposal deadline for guidance and assistance, at least three months before the deadline during the academic year and possibly longer in the summer. To access the most up-to-date IRB process:
http://www.mtech.edu/research/images/irb-procedures.pdf

Laboratory Animals
Montana Tech does not have the procedures or facilities on campus to handle laboratory animals. Laboratory animals are vertebrate, non-human animals produced for or used in research, testing, or teaching. The Animal Welfare Act of 1966 (AWA), as amended, regulates the treatment of research animals. The Office of Labor on Animal Welfare (OLAW) of NIH oversees all animal studies funded by the Public Health Service and NSF. Every institution that uses vertebrate animals for federally funded research must have an Institutional Animal Care and Use Committee (IACUC). Thus, all research or teaching activities involving the use of vertebrate animals must be reviewed and approved by IACUC prior to obtaining or using the animals. No animal may be procured or accepted unless approved. Principal Investigators should carefully consider if animal use is necessary and whether alternatives exist to animal use. Principal Investigators should contact VCR early in the proposal development to discuss the research or teaching activity needing to use vertebrate animals. The preferred approach is to collaborate with and use facilities at the University of Montana or Montana State University. Prior to using laboratory animals, Montana Tech must meet all the regulatory requirements.

Safety Issues
Projects that involve any of the issues listed below are subject to special review processes to assure compliance with federal, state, and/or Montana Tech regulations and to ensure the health and safety of those involved in the project. Principal Investigators are responsible for obtaining the approval of the Director of the Office of Environmental Health and Safety (EH&S) before submitting proposals for external funding. To access the most up-to-date safety policy:
http://www.mtech.edu/env_health_safety/safetyprogs/safety-policy.pdf

Radiation Safety
Principal Investigators are individually responsible for ensuring that the use of radiation sources complies with Federal, State, and University standards. Projects involving radioactive materials, ionizing-radiation-generating equipment, and lasers must be coordinated with the EH&S. For the most up-to-date information on radiation safety:
http://www.mtech.edu/env_health_safety/radiation/index.htm.

Hazardous Materials

All research and teaching activities involving the use of hazardous materials or generation of hazardous wastes must be reviewed and approved by the EH&S. For the most up-to-date information on hazardous materials:
http://www.mtech.edu/env_health_safety/

Respiratory Protection Program

According to OSHA 29 CFR 1910.134, Montana Tech is responsible for adhering to strict provisions set for the use of respirators in preventing human exposure to potentially harmful, airborne contaminants. Contact the EH&S Director for clarifications on this topic, or other OSHA standards that may affect teaching or research activities.
http://www.mtech.edu/env_health_safety/safetyprogs/index.htm

Treatability Studies

All research and teaching activities are subject to Hazardous Waste 'Administration Rules of Montana' (ARM) 17.53.501 which adopt and incorporates the Code of Federal Regulation, 40 CFR 261.4 (e)and (f). The regulations require a 45-day Notification of Treatability Studies and Waste Management Permits. Principal Investigators MUST contact the EH&S Director about ALL treatability studies. EH&S is responsible for required notifications and acquiring permits, but responsibility for paying fines will fall on PIs and their departments. Protect yourself and your department. For more information on the Treatability Study Regulatory Guidance or to help determine if your research would fall under the Treatability Study rules, contact the Office of Environmental Health and Safety.

AWARDS

How will I know if I get an award?

The Principal Investigator and/or the Research Office (RO) will receive written or email notification of the sponsor's decision regarding the proposal. If you receive notification of award, please forward to RO at grants@mtech.edu to ensure the award is processed in a timely fashion. Sometimes a Principal Investigator receives a telephone notification that the proposal will be funded. Unfortunately, verbal notification is not sufficient for Montana Tech to authorize work to proceed so it often requires patience to await the written notification.

How are Awards Made?

Awards are usually made in the form of grants, cooperative agreements, or contracts. The terms and conditions of awards will vary accordingly.

The Chancellor of Montana Tech has authorized the Vice Chancellor for Research and Graduate Studies to sign agreements on behalf of Montana Tech.

Award Acceptance

Award documents that require a signature for acceptance are to be signed by the VCR. Only those persons specifically authorized by the Chancellor may legally sign agreements for Montana Tech. In consultation with the Principal Investigator, RO and OSP will review the budget, terms, and conditions of the award before obtaining an authorized signature and, if necessary, will return the document for the sponsor's signature. The processes that follow formal acceptance of the award are covered in the section titled Project Administration.

Contracts

Awards made by contractual agreements are usually more complicated than awards made by grants. RO is responsible for preparing and negotiating contracts with industry, agencies of state and federal government, local municipalities, and nonprofit organizations. Cooperative efforts are encouraged with private and public partners to support research and creative activities that are consonant with Montana Tech's research, teaching, and public service missions. General policies applicable to agreements between Montana Tech and industrial and commercial organizations are stated below. Many of these policies apply to Federal, State, local governments, and nonprofit organizations as well.

Subcontracts

Projects requiring work outside of MT Tech or needing consultants require sub-contracts to be issued through OSP. Principal Investigators should work with the OSP to develop Memorandums of Understanding, Letter Contracts, Work Statements, and sub-contract budgets.

Montana Tech Review and Administration

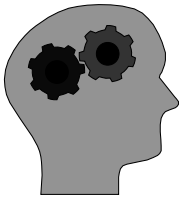
Initial informal discussions between sponsor representatives and Montana Tech faculty and staff are encouraged since they can help confirm mutual interest. However, such discussions are informal and they cannot officially confirm or finalize the terms of a possible sponsored project. Sponsored projects can be formally established at Montana Tech only after a proposal has been submitted and approved through regular internal review procedures, and an acceptable agreement is negotiated and signed by the authorized representatives of the organizations involved. The e-mail box grants@mtech.edu is always monitored, and its use can expedite processing of any proposal, grant, or contract.

Policies Governing Research Activities

All persons conducting research activities and other sponsored work, comply with Montana Tech and MUS policies, regulations, and procedures. Verify all questions related to Campus or University policies with the appropriate Campus Department or Office responsible for that policy. Refer to the Faculty Staff Handbook on the faculty and staff resources web page (http://www.mtech.edu/about/facultystaff/index.htm) for additional information. Montana Tech's research-related policies are posted at http://www.mtech.edu/research/policies_procedures.htm. Verify information related to research with the Vice Chancellor for Research and Graduate Studies.

Publication Policy

Montana Tech's sponsored activities are conducted as an integral part of the total educational program, and these activities often form the basis for articles in professional journals, seminar reports, presentations at professional meetings, and student dissertations and theses. Therefore, Montana Tech will only enter into contracts if the results can be published or otherwise disseminated. For development work that may be competition sensitive, Montana Tech may enter into an information embargo agreement for a duration not to exceed one year. Alternatively, the agreement could specify ways that the results can be published in a thesis or dissertation without compromising the sponsor's proprietary interests (for example, by not providing the location of a study area). Copyrights and publication rights belong to Montana Tech and/or the author. Montana Tech may allow the sponsor to retain ownership of information, as long as Montana Tech has full publication rights as described above and the Principal Investigator signs a statement acknowledging such.



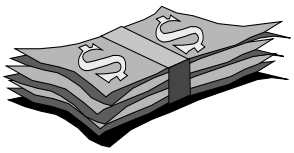
Intellectual Property

Montana Tech is subject to the Montana Board of Regents' intellectual property policies, which are intended to promote the progress of science and technology, assure that discoveries and inventions are used to benefit the public, and provide recognition

to the inventor(s) and Montana Tech. See the link listed for the MUS Policy 401.2 on Inventions and Patents: http://mus.edu/borpol/bor400/401-2.pdf.

When negotiating sponsored project agreements that may involve patents, RO will coordinate with the Principal Investigator in negotiating any terms and conditions involving patent rights or licensing agreements following the Montana Board of Regents policy. The policy states that Montana Tech retains ownership to inventions and discoveries arising from its research whether patentable or not. Under contracts with industrial sponsors, the first right to negotiate for license rights is normally granted to the sponsor. If neither organization chooses to pursue the patent, the inventor may petition the sponsor for the right to pursue the patent at his or her own expense. When a sponsor or prospective sponsor wants Montana Tech to protect its confidential or proprietary information, a non-disclosure agreement is used. Montana Tech will only agree to non-disclosure if all the Montana Tech employees involved in the work agree in writing to the terms, and to ensuring any students or others who might become involved later will also be informed that the information is proprietary and agree to be accountable. Otherwise, Montana Tech cannot be responsible for the protection of confidential or proprietary information. An alternative agreement could be entered into by a Montana Tech employee as an individual, such that any proprietary information disclosed by a sponsor to a Montana Tech employee shall be governed by individual nondisclosure agreements between the sponsor and the individuals performing the work. However, if Montana Tech is a party to the agreement, Montana Tech's Authorized Official, the VCR, must be the signatory.

Compensation and Payments



Contracts with for-profit sponsors are performed on a full cost recovery basis. Project budgets must include both direct costs and full F&A costs at Montana Tech's federally negotiated rate. Montana Tech requests payment, or partial payment, from for-profit sponsors in advance, since Montana Tech does not have a source of funds with which to finance sponsored projects. The schedule of payments is negotiable depending on type and scope of project, length of project period, and anticipated pace and pattern of actual expenditures.

Use of Montana Tech's Name

It is Montana Tech policy that under no circumstances shall a sponsor be permitted to state or imply in any publication or other published announcement that Montana Tech has approved any product that is or might be manufactured, sold, or otherwise distributed. Montana Tech also requires that its name is not used in connection with any advertisement, press release, or other form of business promotion or publicity, nor may a sponsor refer to an agreement with Montana Tech without prior written approval.

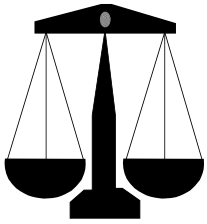
Visual Identity of Montana Tech

All publications, correspondence, and other communication originating from Montana Tech are subject to strict standards for visual icons. The guidelines are to insure consistency among visuals used to identify Montana Tech. Refer to Montana Tech's Logo Guidelines webpage (http://mtech.edu/pr/logo-use.htm) for specific details on color, font, size, and leading. To download specific logos, see the Montana Tech Logo Use and Downloads webpage (http://www.mtech.edu/pr/logo-use.htm).

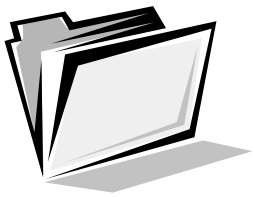
Best Effort

Since research by its nature is unpredictable and without guarantee of successful results, Montana Tech will not accept contract provisions that guarantee results, impose penalties for failure to make progress by firm deadlines, or allow withholding of payment if the sponsor is not satisfied with the results.

Liability and Risk



Both constitutional and statutory restrictions preclude Montana Tech from contractually indemnifying another party. This is not intended to affect any common law or statutory rights to indemnity or contribution that either party may have against the other relative to an incident arising out of the performance of a contract. Montana Tech is self-insured by the State of Montana Risk Management Program and does maintain coverage for liabilities arising from the acts and/or omissions of its employees.



State-Required Clauses

Montana Tech, as a State-supported entity, has constitutional and statutory requirements to insert in all contracts certain clauses dealing with non-discrimination, conflict of interest, non-appropriations, and arbitration. For further information, contact RO.

Termination of the Agreement

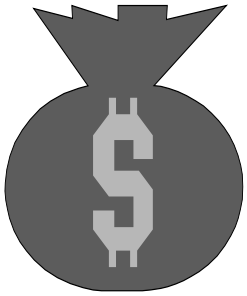
In the event the sponsor for any reason terminates a funding agreement, the sponsor will be expected to reimburse Montana Tech for all costs incurred up to the date of termination and for all non-cancelable obligations. Any expenditure for which Montana Tech does not receive reimbursement is the responsibility of Principal Investigators and their departments.

PROJECT ADMINISTRATION

The Principal Investigator has primary responsibility for ensuring the technical success of the project while complying with financial and administrative policies and regulations. Refer to *Policies Governing Research* in this Handbook for more specifics. For administrative matters, it will save time and energy to talk to RO and OSP for many actions such as authorization to proceed, re-budgeting, prior approvals, and no-cost extensions.

For invoicing and financial reporting, Principal Investigators should contact the Director of OSP.

Pre-Award Costs



Sometimes the technical officer at the sponsoring agency will inform Montana Tech that a project has been recommended for funding. If it is important to order equipment or begin a personnel-recruiting process prior to official notification from the sponsoring agency, there are procedures that may allow for a Banner index to be established. There is always an element of risk in starting project work prior to formal award notification. Charging costs to another established account is not acceptable since transferring charges from accounts is problematic. Never charge expenses for one sponsored project to an account for another project or to academic department accounts. Instead, contact OSP before making any financial commitments to determine what pre-award approval process is available.

Pre-award costs may be incurred within 90 days of the effective date for most grants from the National Science Foundation (NSF), the Public Health Services (PHS), National Aeronautics and Space Administration (NASA), Department of Energy (DOE), US Department of Agriculture (USDA) and some Department of Defense agencies. The VCR approval is required to request an account for pre-award costs and to authorize a non-sponsored account to cover the costs in case the award does not come through.

Account Setup

When RO receives the final, fully executed award document, an Authorization to Proceed Form, indicating the banner index number, performance period, award amount and cost share requirement will be completed by the OSP. OSP will send the PI an Authorization to Proceed Form with copies to the Department Head, College Dean, Center Director, or Director of MBMG.

Questions about the sponsor's policies on financial and administrative management should be discussed with the OSP.

Personnel

Montana Tech's personnel policy applies to all personnel actions, including those funded by external sponsors. The Personnel Office or someone within your department with personnel responsibilities can assist with personnel actions. Hiring policies are found on Human Resources web site: http://www.mtech.edu/administration/hr/.

Hiring

The Principal Investigator is responsible for initiating all hiring and payroll actions, and for supervising sponsored project personnel. The following regulations may aid you:

- Personnel must be paid in accordance with Montana Tech's guidelines. Salary rates, job classifications, and regulations for personnel employed on sponsored programs are established by Montana Tech.
- Letter Contracts for limited term and/or non-tenure positions supported by grants or contracts are processed through the Vice Chancellor for Research (VCR) and must be approved by the Personnel Office and the Chancellor. Contact RO for instructions.
- Currently employed faculty, staff, or students may be assigned to a sponsored project. Each department is responsible for processing such assignments with the help of the Personnel Office. The Enrollment Services Office processes assignments for students.
- Individuals not currently employed by Montana Tech or employed at a different job classification may fill any sponsored project position. Individuals must be recruited, interviewed, and selected in accordance with Montana Tech's personnel procedures. Refer to the *Selection and Recruitment Manual* http://www.mtech.edu/administration/hr/ before you advertise.

Salaries and Wages

Any salary adjustment, including a merit increase, must be consistent with institutional procedures. If a campus-wide salary increase is not authorized, employees working on sponsored projects will not receive pay increases even though funds may have been budgeted to cover the additional costs. Personnel benefits paid from a sponsored project account are subject to the same policies as personnel benefits paid from other funds. Contact the Personnel Office for additional information on policies and procedures. Inclusion of a specific salary estimate for a position in a grant budget does not mean that the person filling that position will be paid that amount.

Only actual costs are charged to the account, however, variances from budgeted amounts sometimes occur. If the personnel costs are less than budgeted and such savings generally can be used for other project-related purposes during the award period, assuming that the sponsor allows spending flexibility under the terms of the award.

Vacation and Sick Leave Accruals

Eligible faculty and staff employed on sponsored projects accrue vacation and sick leave time. They are encouraged to use accrued vacation before the project's termination date. Faculty with academic year appointments do not accrue vacation benefits. See Montana Tech's Employment Policy for Research Personnel for additional information:
https://www.mtech.edu/research/files/research-employment-policy.pdf

Effort Reporting

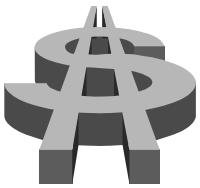
The federal government requires effort certification. Effort reporting is a federally mandated process that ensures the salary charged to a sponsored project is being certified by the PI as reasonable in relation to the effort spent on the project. It is important because this is an easily auditable way to document salary costs on a sponsored project. Compliance is necessary to assure continued federal funding.

It is the Principal Investigator's responsibility to make sure the actual level of effort corresponds to the reported level of effort, whether paid or contributed. Cost share in excess of that required by agreement is unnecessary and costly to Montana Tech.

Purchasing

Purchase of goods and services for sponsored projects must comply with both the overall intent and specific detail of the sponsor's regulations, the purpose of the project, as well as with Montana Tech's policies. It is important to become familiar with the terms and conditions governing expenditures to ensure that all expenditures are allowable and are adequately documented to demonstrate how expenditures benefit the project.

It is essential that any purchase or other expense charged to the project clearly advances the project goals and be an allowable expenditure. The documentation should be sufficient to make the need for the expenditure evident to an outside reviewer. Keep in mind, that the Department must cover any disallowed costs.



Purchasing Procedures

Procedures for purchasing on sponsored projects are generally the same as for other Montana Tech activities. Departments may already have someone who handles purchasing; if not, contact OSP for assistance. Some issues that are specifically related to purchasing on sponsored accounts are discussed below.

Purchasing Outside Services

Subcontracts and Subawards

Subcontracts or subawards are used when the subrecipient is functioning as a co-investigator on the project, i.e., they are involved in a creative way in

designing and/or conducting the sponsored activity and often the subrecipient's qualifications were instrumental in helping the university obtain the award. The program compliance requirements and other terms and conditions of the prime award are passed down to these subrecipients. To subcontract a portion of the work on a sponsored project to another organization or individual, provision must normally have been stated in the funded proposal or in subsequent written approval from the sponsor. Contact OSP for assistance before having any discussions with a potential subcontractor. Once a subcontract is approved by the funding agency, the PI initiates a requisition to establish a subcontract agreement with OSP. Subcontractors submit invoices directly to OSP. OSP confirms with the PI that the work has been done and payment is authorized.

Contracted Service Agreements/Purchased Services

Generally, contracted service agreements are entered into with a vendor for the purpose of performing a specific objective within the scope of work. Typically, vendors provide goods or services within their normal business operations, and operate in a competitive environment where they provide similar goods or services to many different purchasers. The program compliance requirements of the University's award do not apply to the goods or services being provided and the terms and conditions of the award are not passed down to the vendor. The monitoring requirements of 2 CFR 200 and the Single Audit Act do not apply to contracted service agreements. Contracted, service agreements are prepared by the Purchasing Department.

Equipment

Ideally, all equipment purchases have been itemized in the proposal and approved in the original award. Prior approval may be needed from the sponsor to buy equipment not previously authorized, and this approval may take several weeks. Some federal sponsors have delegated this prior approval authority to Montana Tech for most of their grants, and those requests can be quickly handled. Other agencies, such as the Department of Defense, also require specific prior approval of certain types of equipment (e.g. automated data processing equipment) and/or formal screening for equipment availability prior to purchase, even if the equipment is listed in the approved budget. The PI is responsible for verifying that approval is given prior to submitting any purchasing or payment requests. As a rule, general-purpose equipment such as office equipment and furnishings, modular offices, telephone networks, information technology equipment and systems, air conditioning equipment, reproduction and printing equipment, and motor vehicles will not be approved unless its justified use is primarily or exclusively for the actual conduct of research or technical activities for the specific project.

Purchases Near to Termination Date

Items not received during the project period are not considered by a sponsor to be beneficial to the project and may be disallowed. Orders for supplies and equipment should be placed well in advance of the project end and account closure to ensure delivery and use before project completion.

Travel

Standard Montana Tech travel policies and procedures apply to travel on sponsored accounts *unless sponsor regulations are more restrictive*. Travel may be limited in terms of dollars and/or specific trips. If the purpose of the travel is attendance at a conference to disseminate research results, the travel authorization request should include a statement to that affect and the title of publication or lecture. Justify travel in terms of project benefit. To be allowable, travel must directly benefit the project rather than enhance the reputation of Montana Tech or the traveler.

Overspending the travel budget category (including domestic and foreign travel, separately) by more than 20% often requires prior approval from the sponsor. OSP is available to provide advice on travel restrictions for your particular project.

Foreign Travel

Foreign travel often requires specific prior approval from the sponsor and American flag carrier restrictions usually apply. Most sponsors require written approval for each foreign trip, sometimes even if the travel was itemized in the proposal and included in the award budget. Requests for written approval of foreign travel should be submitted to the sponsor well in advance of the planned travel. Some sponsors require that the travel request be submitted 60 to 90 or more days in advance of the planned travel. Note that the Montana University System has requirements for registering foreign travel in advance. The principal investigator is responsible for making the required registration in a timely manner.
For travel policies and forms, see the Accounts Payable website: http://www.mtech.edu/administration/acctspay/.

Financial Management

The PI is responsible for the proper conduct of the work (performance of the project activities) and for the administrative and financial management of the award. While the university is the legal recipient of the award, and the university is legally responsible to the sponsor for the performance of the funded activities and the proper use of sponsor funds, the university cannot meet its responsibilities to the sponsor unless the PI meets his/her responsibilities. Only the PI can truly know if expenses charged to a restricted account are legitimate, project-related costs. Only the PI can assure performance of the technical aspects of the project and completion of sponsor-required technical reports. The University is responsible for maintaining adequate fiscal controls and ensuring that fiscal policies are applied consistently. Therefore, management of externally funded projects is truly a collaboration between the PI and the University.

The PI is responsible for complying with all the financial terms and conditions of the award. This includes ensuring that costs are correctly charged to the restricted account according to the sponsor-approved project budget and the terms and conditions of the award. Each expense charged to the account must be directly related to the project, must be allowable under the terms and conditions of the award, and must be included in the sponsor-approved budget. Any questions concerning allowability of costs should be directed to OSP staff prior to incurring the cost. OSP staff can assist the PI in determining if the cost is allowable under the current budget or if a budget revision is required. The OSP staff will assist PIs in managing their accounts, but the PI is ultimately responsible for all costs charged to restricted accounts. The OSP monitors expenditures against restricted accounts for compliance with university, state, federal, and sponsor guidelines to ensure policies are consistently applied, but only the PI can verify that each individual expense is appropriate to the account. Ultimately, the PI and the PI's department are responsible for any overruns or any costs that are determined to be unallowable by the OSP or auditors. It is therefore incumbent upon the PI to monitor carefully all expenditures charged to his/her accounts and to implement whatever procedures are necessary to ensure compliance with the terms and conditions of the award. Note that OSP provides to each PI a monthly budget report for each sponsored project. This report should be used by the PI to monitor the budget regularly.

Budget Revisions

Because the budget approved by the sponsor was an estimate based on the PI's knowledge at the time of the application, it is not uncommon for PIs to determine, once the project is underway, that the budget needs to be modified to reflect changed circumstances. The PI should contact RO and OSP as soon as he/she determines modifications of the sponsor-approved budget are needed. In many cases, sponsors have granted the university the ability to approve some budget changes through the university's process. In other cases, a budget revision will need to be approved by the sponsor. All requests to sponsors for budget revisions must be reviewed and approved by the OSP prior to submission to the sponsor.

Cost Transfers

A cost transfer is the reassignment of charges between cost centers or budgetary departments. If a principal investigator determines that a cost transfer is necessary and appropriate, a Cost Transfer request should be forwarded to the OSP within 90 days of the original charge, or if at the end of a project, then 15 days prior to the final grant expenditure report due date, whichever comes first. The cost transfer request must be detailed and complete. Insufficient data and/or inadequate explanations will be cause for requesting additional information to justify the transfer or returning the request to the principal investigator unapproved.

The reason for transferring the expenditure must be sufficiently stated to establish that the transfer is within the approved guidelines of the budget to be charged and is in direct support of the project's objectives. It is important to stress the benefit to the program receiving the cost. The explanation provided should be sufficient to clearly indicate both why the cost was not charged correctly initially and why the cost is a proper and allowable charge to the transferee project. Where appropriate, the explanation should also indicate what steps have been taken to prevent similar errors from occurring in the future. An explanation that merely states that the transfer was made "to correct error" or "to transfer to correct project" is not sufficient and will not be accepted. In addition, cost transfers will not be approved if the justification given is to remove cost overruns on the transferor project, as this clearly violates the federal regulation cited above.

Requests should be signed by the principal investigator or designee for each sponsored program budget involved in the transaction. If this responsibility is delegated, written authorization must be maintained at the department level and with OSP. Designees should sign their own names followed by "for *Name of PI*." If the transfer involves a non-sponsored program account, an authorized departmental signature is acceptable for that account.

Cost Transfers After 90 Days

Cost transfers should be managed in a timely fashion. However, cost transfers beyond the standard 90 days may be considered only when unique, unavoidable circumstances exist. Any requests for cost transfers beyond the standard 90 day allowance must provide an explanation justifying the unusual circumstance and why the need for a cost transfer was not identified in a timely fashion.

Corrections Where Cost Transfers Are Not Required

Transfers necessary because of Business Services or OSP clerical errors may be initiated by the OSP staff without approval of the principal investigator. Transfer of costs between object codes or sub-object codes within the same sponsored project do not require PI approval. These transfers can be initiated by an OSP accountant, explaining why the transfer to another object code is appropriate. As with all cost transfers, this correction must be made within 90 days of incurring the cost or prior to the submission of the final grant expenditure report, whichever comes first.

Cost Overruns and Unallowable Costs

Ultimately, the PI and the PI's department are responsible for any overruns or any costs that are determined to be unallowable by the OSP or auditors. It is therefore incumbent upon the PI to carefully monitor all expenditures charged to his/her restricted accounts and to implement whatever procedures are necessary to ensure compliance with the terms and conditions of the award. All overruns or any costs that are determined to be unallowable by the OSP or auditors will be transferred off the grant to a departmental account.

Cost Principles

On December 26, 2013, the Office of Management and Budget ("OMB") published final guidance in the Federal Register entitled "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards" ("Final Guidance"), located at Title 2 of the Code of Federal Regulations ("C.F.R. Part 200"). This Final Guidance supersedes and combines the requirements of eight existing OMB Circulars (A-21, A-50, A-87, A-89, A-102, A-110, A-122 and A-133) to streamline the federal grant-making and monitoring process, to ease administrative burden for grant applicants and recipients, and to reduce the risk of waste, fraud and abuse.

The Final Guidance was effective on December 26, 2014, one year after its publication date. Standards set forth in Subpart F (Audit Requirements) apply to audits of fiscal years beginning on or after December 26, 2014. See Final Guidance § 200.500

PIs should also refer to Montana Tech's Facilities and Administrative (F&A) cost agreement with the federal government.

These guidelines take into account the unique needs and requirements of the University's research community while establishing guidance to ensure compliance with special cost principles required by the federal, state and university rules and regulation.

Future modifications to this and other internal policies may be necessary as further adjustments and interpretations are issued by the federal government.

Responsibility
The University delegates considerable authority and responsibility for fiscal compliance to principal investigators (PIs) and departments. This requires the development of significant expertise at the department level and relies heavily on PIs and departmental fiscal staff to comply with University policies and various sponsor rules and regulations.

Definitions
a. **Reasonableness**: Project costs may be considered reasonable if the nature and amount of the goods or services acquired or applied reflect a prudent person's decision under similar circumstances to incur such costs. (See 2 CFR 200 for major considerations involved in the determination of the reasonableness of a cost.)

b. **Allocability**: Allocable costs are expenses which may be assigned or charged to one or more sponsored project cost objectives, in accordance with the relative benefits received or other equitable relationship. To be allocable,

project costs must advance, benefit, or be necessary for the sponsored agreement. (See 2 CFR 200)

c. **Allowability**: A cost may be charged to a sponsored agreement only if it meets all of the following criteria:

- It must be **a reasonable cost**,
- It must be **allocable to the sponsored program**,
- It must be **treated consistently**, through the application of generally accepted accounting principles, and
- It must be **within the type and dollar amount limitations** specifically defined in 2 CFR 200 and the particular contract or agreement.

d. **Direct Costs**: Direct costs are defined as **costs that can easily and with a high degree of accuracy** be identified with or assigned specifically to one of the following:

- A particular sponsored project,
- An instructional activity,
- Any other institutional activity.

A cost is considered direct when a specific grant or contract gains explicit benefit from the cost for a specific programmatic purpose. For example, when a PI's activity involves scientific effort on a particular grant or contract, his or her salary for the time worked on the project is an allowable direct cost to that grant or contract.

e. **Facilities and Administrative (F&A) Costs**:
Facilities and administrative costs (F&A costs) are those that are **incurred for common or joint objectives** and therefore cannot be identified readily and specifically with a particular sponsored project, an instructional activity, or any other institutional activity. (2 CFR 200)

Research Records Retention

Unfunded proposal files are maintained in the research office for two years, after which they are shredded.

For sponsored activities, the University retains all research records while the project is active, and for **five (5) years following project close-out**, unless otherwise specified by the sponsor. If legal or audit issues are raised, records will be retained for three years following resolution of such issues.

Such records include all original documents that pertain to grant funds, such as invoices, ProCard receipts, purchasing documents, student payroll documentation, travel, work orders, and charges for services such as the mailroom, motor pool, and bookstore.

The PI and department are responsible for physically storing records for all indexes associated with the project. If the sponsor requires a longer retention period and storage becomes problematic after five years, the department may contact OSP to make alternate arrangements.

Invoicing and Reporting

Financial Status

PIs will receive a monthly financial report generated and distributed by the State of Montana's accounting system (Banner). These reports should be reviewed to verify that the expenditures and encumbrances are correct and charged to the right account. The report also provides budget availability information. It can also be used to do projections based on your intended spending. You can also contact OSP with specific questions.

Invoicing and Financial Reporting

OSP will prepare and submit financial reports and invoices to the sponsor. OSP also operates in an accounts-receivable capacity and pursues prompt payment of sponsor commitments. Occasionally, difficulty in collecting amounts owed by sponsors arises. In this situation, Principal Investigators might be consulted as to whether it is in the best interest of the PI and Montana Tech to continue work on the project.

Technical Reports

The Principal Investigator is responsible for interim technical progress reports, deliverables involving technical results, and the final technical report. One copy of each technical report and the transmittal letter should be provided to RO and OSP for Montana Tech's official project file.

Miscellaneous Reports

OSP and/or RO completes or coordinates the submission of the following reports that are often required for sponsored programs: contractor's release forms; contractor's assignment of refunds, rebates, and credits; patent reports; and property certification or inventory reports.

Facilities and Administrative Costs (F&A)

Facilities and Administrative costs are costs incurred by Montana Tech that cannot be readily identified or associated with a single sponsored project or institutional function. Typical examples are utilities, public safety, building and equipment use and maintenance, libraries, student administrative services, personnel, payroll, academic and sponsored research administration, and purchasing.

Determination

The US Office of Management and Budget (OMB) has established procedures for institutions of higher education to determine each University's F&A rate. Ratios are developed that relate these F&A costs to the direct costs of the primary functions of the institution, such as instruction, organized research, and other activities. The resulting rates are then reviewed by Montana Tech's Federal audit agency, the US Department of Health and Human Services (San Francisco), final rates are negotiated, and a formal rate agreement is signed. The established rates apply to all agreements with Montana Tech unless other mandatory stipulations apply. Current F&A rates are found on the Research Office webpage http://www.mtech.edu/research/idc-rate-agreement.pdf.

Calculation
The applicable F&A rate and percentage for an agreement is identified in the award process. F&A costs are charged to your account based on the agreed upon rate. The federally negotiated F&A rate is applied to Modified Total Direct Costs. Other F&A rates may apply to a different base.

Distribution of Recovered F&A Costs
F&A cost recovery partially reimburses Montana Tech for actual costs incurred for the administration and support of sponsored projects at Montana Tech. A portion of the recovered F&A costs is distributed to the Principal Investigators and their departments to enhance their research capability and maintain research equipment. F&A cost recovery is also used to cover the administrative costs of complying with the various sponsor regulations, to fund internal research programs for faculty and students, and to meet cost share requirements for large equipment purchases that enhance Montana Tech's research capability.

Property Management

Acquisition of Property for Sponsored Projects
Property is considered capital equipment if the unit cost is $5,000 or more (not including sales/use tax and freight) and has a life expectancy of at least one year. Note, however, that if you buy a computer, monitor, keyboard, and operating software all on the same purchase order, all four items will be considered capital if the aggregate cost is $5,000 or more. If you purchase the items on separate purchase orders the capital equipment definition will apply to each item separately.

Any planned property purchases on a sponsored project should be itemized in the proposal budget and agreement. However, some sponsors and agreements still require specific prior approval on certain types of property, even if listed in the approved budget.

Management of Sponsored Property
Sponsors require property purchased with their funds to be used only for the reason for which it was intended during the project period. Some sponsored property will remain the property of the sponsor and should not be integrated with Montana Tech property if it will lose its identity. Sponsor-owned property must be managed with strict control.

The Montana Tech Purchasing Office is responsible for the property system, inventory, and audit at Montana Tech. This office maintains a two-year perpetual physical inventory cycle, tags all College and sponsored property, and maintains inventory records. In addition, the Purchasing Office is responsible for passing yearly audits including those conducted by the Legislative Auditor Division, and various federal and state agencies as required.

Ethical Conduct in Research

Montana Tech is committed to maintaining integrity and truthfulness in research and scholarship through the responsible and ethical conduct of its faculty, staff, and students. To this end, Montana Tech has established procedures for dealing with alleged misconduct (Research Integrity Policy). The Chancellor has designated the VCR as the Research Integrity Officer (RIO), responsible for handling inquiries and investigations into allegations of misconduct in research. Formal allegations of misconduct should be presented in writing and in a confidential manner to the VCR. After determining that an allegation falls under the misconduct policy, the VCR will see that the allegations are evaluated, first in an inquiry, then, if warranted, in an expanded investigation under Montana Tech policy. The VCR may convene a special committee to investigate specific cases. The University is committed to investigating allegations of research misconduct objectively, treating the accused person fairly, and protecting the person who reported the potential misconduct from retaliation. Deliberately false allegations of research misconduct will be treated as research misconduct.

Montana Tech is committed to maintaining integrity and truthfulness in research and scholarship through the responsible and ethical conduct of its faculty, staff, and students.

Principal Investigators should know and understand the policies surrounding research at Montana Tech. Contact RO for clarification, concerns or questions regarding policies or regulations.

Conflict of Interest

Special attention is required of Montana Tech faculty and staff engaging in outside employment or activities should be familiar with campus policy, state and federal laws regarding conflict of interest. Note that potential conflicts involving spouses, domestic partners, and close relatives are potential conflicts for the Montana Tech employee. The first step in minimizing the influence of conflicts of interest is disclosure. Principal Investigators should keep their Department Head and Dean fully informed of potential conflict of interest situations, and ensure their conflict-of-interest disclosure and management plan (if needed) are up to date. The Conflict of Interest policy is available at http://www.mtech.edu/research/conflict-interest-financial-disclosure.pdf
Annual disclosure of actual or potential conflicts is required at the beginning of each academic year or as a change in personal circumstances may dictate. The annual COI Disclosure form is available here: http://www.mtech.edu/research/files/coi-disclosure.pdf

Intellectual Property

Montana Tech is subject to the Montana Board of Regents' intellectual property policies. For any potentially patentable or marketable invention or discovery, the inventor should file an invention disclosure with RO as early as possible and request submission of a preliminary patent application. The preliminary application establishes the priority date for the invention. The disclosure is reviewed and the VCR either recommends pursuit of patenting and licensing the invention or determines if the invention can be released to the inventor/discoverer (many times the sponsor has rights to pursue a patent before the inventor). The Montana University System Board of Regents Policy 401.2 addresses intellectual property (http://mus.edu/borpol/bor400/401-2.pdf).

If at any time during the course of a sponsored project it is determined that there may be a potentially patentable invention or discovery, it is important to contact RO. Many sponsored program agreements require submission of an invention disclosure report within a relatively short, defined time frame, as well as a patent and inventions report annually and/or at the close of the program. Patent Law gives priority to the "first to file," so a patent application or preliminary patent application (good for 12 months) may be needed. RO can supply the patent and inventions report forms and coordinate the submission of any disclosure and/or periodic reporting to the sponsor. Patent disclosures may also be required as part of the project closeout documentation.

Project Extension and Termination

No-Cost Extensions

If it is necessary to extend the project period (without requesting additional funds) in order to complete the project, such requests must be submitted at least 45 days prior to the grant end date. Different procedures are used depending on the type of award and sponsor. To request additional time, contact RO and OSP with information describing why the additional time is needed to accomplish project goals. If an extension is needed and cannot be granted internally, OSP will need to request approval from the sponsor. The Principal Investigator will need to submit a memo to OSP that requests the extension, describes why the additional time is needed, how much time is needed, and how the remaining funds will be spent. Additional information may be necessary depending on sponsor requirements. Extension requests should be sent at least 60 days prior to the scheduled termination (time period may vary depending on the sponsor's requirements).

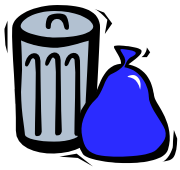
Project Termination

The Principal Investigator should arrange to move personnel paid on the project to an alternate funding source or advise them of pending layoff at least two weeks before the project ends. The two-week notice is specified in most of Montana Tech's employment contracts. The PI may also need to terminate

maintenance agreements, remove telephones or change billing instructions, return leased equipment or take other action. Final reports are usually due on the program's end date or up to 90 days later.

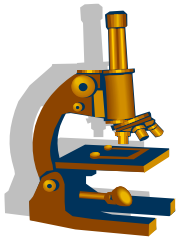
In addition to sending technical reports to the sponsor, copies of the reports should be given to the RO. A PDF or paper format is acceptable. The reports should accompany a Project Closure and Final Technical Report Transmittal Form. Contact OSP (406-496-4176) for the Project Closure and Final Technical Report Transmittal forms. For many sponsors, these reports are submitted by email or through a web portal.

Disposition of Waste



Notify the **Environmental Health and Safety Director** for procedures to dispose of any hazardous materials or waste. It is important to remember that there can be significant charges associated with the disposition of hazardous waste. If the charges were not budgeted for in your proposal, the costs will be charged to your department.

Disposition of Property



Notify the **Director of OSP** for procedures to dispose of inoperable or unwanted property. In some cases, prior approval from the sponsor may be necessary. Never trade, cannibalize, or dispose of property purchased with sponsored funds without prior approval from the Montana Tech Purchasing Office.

TERMS, ACRONYMS, AND DEFINITIONS

Some of the defined terms are not in the narrative portion of this handbook, but are included because they are commonly used in sponsored project administration.

Activity Distribution Report (ADR)
Effort reporting and certification form required for compliance with federal regulations.

Administrative Rules of Montana (ARM)
The governing and regulatory rules of Montana.

Allowable Costs
Determined by the Office of Management and Budget (OMB), the sponsor's requirements and/or College policy. 2 CFR 200 defines allowable costs as those that are reasonable; allocable to the project; given consistent treatment by use of Generally Accepted Accounting Principles (GAAP); and conform to any limitations or exclusions set forth by the sponsored agreement or 2 CFR 200. Contact the OSP for advice on questions regarding the consent of expenditures.

Assurances
See Certifications.

Award
Funds provided from an external sponsor for support of a project at Montana Tech. This term is used for both original award and supplements; it can mean moneys or equipment.

Banner Grant Inception to Date Report
Monthly statements of expenditures are generated from this system.

Banner Index Number
Also known as an account number, this code identifies each award within Montana Tech financial system.

Broad Agency Announcement (BAA)
An announcement from a Federal Agency that is general in nature and that identifies areas of research interest, including criteria for selecting proposals and soliciting the participation of all offers capable of satisfying the government's needs.

Budget
An estimate of expenditures to be incurred in the performance of a proposed statement of work.

Budget Category
A portion of the budget designated for certain kinds of expenditures, e.g. salaries, operations, travel, equipment.

Budget Justification
A narrative accompanying the budget explaining and justifying the budget.

Center for Advanced Mineral and Metallurgical Processing (CAMP)
Montana Tech's, CAMP is a center of academic research excellence in materials science and engineering, mineral processing, and metallurgy preforming research for industry, government, and academic sponsors.

Center for Disease Control and Prevention (CDC)
A Federal agency of the Public Health Services and the US Department of Health and Human Services that sponsors research activities.

Certifications
Conflict of Interest (Disclosure of Financial Interest).
For NSF and PHS an institutional representative to certify that the institution has implemented and is enforcing a written policy on conflicts of interest consistent with federal regulations, all financial disclosures required by the conflict of interest policy were made; and that conflicts of interests, if any, were or will be resolved prior to the institution's expenditure of any funds under the award, and will be satisfactorily managed, reduced or eliminated in accordance with the institution's conflict of interest policy and or disclosed to the agency (as required by the agency).

Debarment and Suspension.
A certification assuring the federal agency that research personnel and the institution are not presently declared ineligible for receiving federal support, have not been convicted of fraud or a criminal offense in the performance of a federal award, are not in violation of federal or state statutes, are not presently indicted for criminal or civil charges and have not within a three year period preceding the application had one or more federal, state or local transactions terminated for cause or default.

Delinquent Federal Debt.
A certification provided to the federal awarding agency that the applicant organization is not delinquent on the repayment of any federal debt.

Drug-Free Workplace.
A certification assuring the federal agency that the institution does, and will, continue to provide a drug free workplace as required by the Drug-Free Workplace Act of 1988.

Lobbying.
A certification assuring the federal agency that no federal appropriated funds or any other non-Federal funds have been paid or will be paid for influencing any federal official or employee in connection with the awarding of any contract, grant or agreement.

Misconduct in Science.
A certification that the institution has established administrative policies dealing with and reporting possible misconduct in science, and that it will comply with the policies for preventing, discovery, and requirements as published in the federal agency's regulations.

Classified Research
Research sponsored by a federal government entity and can be further defined as a national security information at the levels of Top Secret, Secret, and Confidential, and as being governed by the Department of Defense National Industrial Security Program Operating Manual (NISPOM) requirements. Classified Research can also involve restrictions imposed by agreement or otherwise on the

distribution or publication of the research findings or results following completion, for a specified period or for indefinite duration.

Cognizant Audit Agency
The office or staff that is designated to perform audits on behalf of the federal government for sponsored projects at a university. The cognizant audit agency for Montana Tech is the Department of Health and Human Services (DHHS).

Conflict of Interest Certification
See Certifications.

Consortium
A consortium is two or more institutions working on the same research project, either funded directly by the supporting agency or one prime institution subcontracting out the funds to the other members of the consortium.

Consultant
A non-employee individual whose expertise is required by the Principal Investigator to perform the research. (A consultant may be a paid or unpaid contributor).

Contract
A contract is an agreement between parties to acquire services that primarily benefit the sponsor. For an award to be considered a contract, it normally must contain all of the following elements:

1. Detailed financial and legal requirements with a specific statement of work to be performed.
2. A specific set of deliverables and/or reports to the sponsor.
3. Separate accounting procedures.
4. Legally binding contract clauses.

Contractor Purchasing Systems Review (CPSR)
A complete and in-depth review and evaluation by the US government of Montana Tech's purchasing system. This evaluation includes the Purchasing Department's system and RO's system for procurements issued under sponsored projects.

Contributed Effort
Effort expended on a sponsored project that in not funded by the sponsor. It is a form of cost share.

Cooperative Agreement
A funding mechanism which can be used by federal agencies when a program requires more agency involvement and restrictions than a grant but is less formal in terms of a deliverable than a contract.

Co-Principal Investigator (Co-PI)
An investigator who shares responsibility for the direction of a sponsored project with another Principal Investigator. (PHS/NIH does not recognize the concept of co-Principal Investigator).

Cost Reimbursement Contract
A type of contract whereby payments are based on actual allowable costs incurred in performance of the work.

Cost Share
College and/or non-sponsor resources provided in support of sponsored programs; includes contributed effort and matching funds.

Debarment and Suspension Certification
See Certifications.

Delinquent Federal Debt Certification
See Certifications.

Department of Energy (DOE)
A Federal Agency that sponsors research activities.

Department of Health and Human Services (DHHS)
A Federal Agency that sponsors research activities.

Donated Property
Property provided by an outside party for specific activities related to sponsored project and/or research activities of Montana Tech; title to the property passes to Montana Tech at essentially no cost.

Drug-Free Workplace Certification
See Certifications.

Effort
The amount of time usually expressed as a percentage of the total that a faculty member or other employee spends on a project. Effort is certified and documented through the Time and Effort reporting system.

Employee Related Expenses (ERE)
See: Fringe benefits.

Environmental Protection Agency (EPA)
A Federal agency that sponsors research activities.

Equipment
Generally, articles of non-expendable, tangible personal property having a useful life and an acquisition cost which meets or exceeds the established thresholds for defining equipment. Equipment is not a replacement part or component returning a piece of equipment to its original condition. If a component increases the capability of the original equipment and has an acquisition cost that meets or exceeds the established equipment cost thresholds, it is considered a capital item.

Expanded Authorities
Policy implementation by some Federal granting agencies which delegate certain prior approval authorities to grantee institutions. This delegation allows for internal College approval of administrative and spending actions, thus avoiding delays in project progress.

External Support
Funding for research, training or public service programs provided by federal or private sources outside Montana Tech.

Fabrication
Equipment that is constructed by combining or assembling modular components and/or materials into one identifiable unit. Procurement of the components and/or materials may preclude open competition and may require the cooperation of the Principal Investigator, RO, and Purchasing.

Firm Fixed-Price Contract
A type of contract whereby payment is not based on actual costs expended, but upon a mutually agreed upon price, Statement of Work, Schedule and Deliverables.

Foreign Travel
Foreign travel includes travel outside of the United States and its territories and possessions (Guam, American Samoa, Puerto Rico, the Virgin Islands, and the Canal Zone) and

Canada. A trip is considered foreign travel for all legs of the itinerary if the traveler does not return to his/her post prior to departure for foreign destinations.

Formal Proposal
Any proposal submitted by a College employee to an outside entity that may directly lead to an award. All formal proposals require an institutional endorsement by the Vice Chancellor for Research.

Fringe Benefits
Also known as employee-related expenses. Employer costs for retirement, worker's compensation, federal social security, unemployment tax, unemployment, and health insurance.

Full and Open Competition
The solicitation of bids from prospective suppliers that is used to assure that every responsible bidder is permitted to compete for the procurement.

General Purpose Equipment
Equipment that is not limited to use for research, scientific, or other technical activities. Examples of general-purpose equipment include office equipment and furnishing, air conditioning equipment, reproduction and printing equipment, motor vehicles, and automatic data processing equipment.

Gift
A unilateral transfer of money, property, or other assets to the recipient for the recipient's ownership and use by a donor who makes no claims on the recipient in connection with the gift. Gifts normally have the following characteristics: the statement of work allows the Principal Investigator significant freedom to change emphases within the general area of work as the project progresses; no deliverables are involved; separate accounting procedures are not required; benefits of the project are to accrue to the nation and the world; sponsor has no audit rights; and no regulatory issues are involved, such as human subjects or animal care.

Governmental Donated Property
Property donated or transferred to the institution by a municipality, county, state agency, or the federal government.

Government Furnished Equipment (GFE)
Equipment provided to Montana Tech by the Federal government or government contractor. The title may or may not remain with the government.

Grantee
A grantee is the recipient of a grant. When Montana Tech accepts a grant award, on behalf of an individual, it becomes the grantee.

Hazardous Waste
A waste or combination of wastes as defined by the Administrative Rules of Montana. ***Refer to Treatability Study Regulatory Guidance in the Inserts.***

Hazardous and Solid Waste Amendments (HSWA)
The 1984 Amendments in which the EPA defines a hazardous waste. Refer to Treatability Study Regulatory Guidance.

Human Subjects
A Human Subject is a living individual about whom an investigator conducting research obtains data through intervention or interaction with the individual or identifiable private information.

Identifiable Information
Information from which the identity of the subject is or may be readily ascertained or associated.

Facilities and Administrative Costs (F&A)
Also referred to as overhead, overhead costs, indirect costs (IDC) or administrative costs. F&A costs are actual costs incurred to conduct the normal business activities of an organization that cannot be readily identified or directly charged to a specific project or activity.

F&A costs are real, auditable costs incurred by Montana Tech each time it accepts an award for a sponsored project. If Montana Tech does not collect full reimbursement for these costs, other College resources must be used to subsidize them.

F&A Rates
The rates used to recover the indirect costs of a sponsored project. Negotiated, approved rates are to be used for all agreements with the federal government and for most non-federal projects, as allowable. Information on current indirect cost rates is available from the RO and OSP.

Informal Proposal
A short (generally 2-5 pages) description of the proposed project that does not involve a commitment of College resources or a signature on behalf of Montana Tech. An informal proposal may include a total cost estimate but does not include a budget and is not expected to result directly in an award. The purpose of an informal proposal is usually to inform and interest the potential sponsor enough to request a more detailed formal proposal. Also sometimes called a letter proposal, mini-proposal, preliminary proposal, pre-application, or concept paper.

Informed Consent
The voluntary agreement obtained from a subject (or the subject's legally authorized representative) to participate in research or related activity, before participating in that activity. The consent must permit the individual (or legally authorized representative) to exercise free power of choice without undue inducement or any element or deceit, fraud, force, duress, or other form of coercion or constraint.

In-Kind Contribution
A non-cash commitment (such as contributed effort, facilities use, or supplies) to share the costs of a sponsored project.

In-State Travel
Travel within the borders of Montana.

Institutional Authorized Officials (Also called Authorized Organizational Representative-AOR)
Individuals authorized by the Board of Regents to sign grants, contracts, and agreements on behalf of Montana Tech.

Intergovernmental Agreement (IGA)
An agreement whereby two or more public agencies of the state may contract with each other provided that such contracts are authorized by the governing bodies of each agency and that the contracts are executed in accordance with Montana law.

Invitation to Bid
Also known as a Request for Proposal (RFP). Written documents soliciting pricing and/or technical proposals to supply goods or services as specified in the requesting document. Correct use of RFPs constitutes full and open competition.

Key Professional Personnel
Key professional personnel (or key personnel) are all individuals who participate in the scientific development or execution of the project. Typically, key personnel have a Ph.D. or MD, but may also include the master's or baccalaureate level, provided they contribute in a substantive way to the research.

Letter of Inquiry
A letter of inquiry is initiated by an applicant to determine if a proposed project is within a private agency's fundable program areas and to request agency policy and program information, instructions and forms.

Letter of Intent
A letter of intent advises a funding agency that an application will be submitted in response to their solicitation. The letter may contain general program information, unofficial cost estimates, and a request for specific application guidelines, instructions and forms.

Lobbying Certification
See Certifications.

Loaned Equipment
Property provided by an outside party for use by the institution for sponsored project or research related activities; title to the property does not pass to Montana Tech.

Matching Funds
A cash commitment to share the costs of a sponsored project.

Modification
Any change made to an existing sponsored agreement.

Modified Total Direct Costs (MTDC)
All direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first $25,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of $25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs.

Montana Hazardous Waste Administrative Rules (related to Treatability Studies)
The specific part of the Administrative Rules of Montana (Title 17, Chapter 54) that deals with Hazardous Wastes, Treatability Studies and related regulations.

Montana Bureau of Mines and Geology (MBMG)
A Department of Montana Tech and a non-regulatory applied research agency of Montana that provides advisory, technical, and informational services on geology, mineral, energy, and water resources in the State.

Montana University System (MUS)
Montana's Office of the Commissioner of Higher Education, its Board of Regents, and 11 public institutions of higher education including five community colleges, three regional bachelor's/master's institutions, one special focus institution (Montana Tech) and two doctoral-granting "flagship" campuses. Five additional community colleges are part of one of the other universities.

Montana Department of Environmental Quality (MDEQ)
The State Department that enforces ARM policies related to hazardous wastes.

National Aeronautics and Space Administration (NASA)
A Federal agency that sponsors research activities.

National Institutes of Health (NIH)
A Federal agency of the US Department of Health and Human Service that sponsors research activities.

National Science Foundation (NSF)
An independent Federal agency that promotes advancement of scientific and engineering progress through competitive sponsored research activities.

No-Cost Extension (NCE)
Provides for an additional period of performance to accomplish project goals. May be handled internally in certain circumstances or sought externally from the sponsor.

Occupational Safety and Health Administration (OSHA)
The administrative body that enforces rules regarding worker safety.

Office of Sponsored Programs (OSP)
The Office responsible for review and approval of all proposal budgets and any other financial matters of proposal budgets. OSP is also responsible for generating financial reports, responding to audits, negotiating cost rates, cost shares rates, and other financial information.

Office of Environmental Health and Safety (OEHS)
OEHS is the office responsible for coordinating and overseeing hazardous materials, generation of hazardous waste, disposal of hazardous materials, OSHA regulations, and most other safety issues at Montana Tech.

Out-of State Travel
Travel outside the borders of Montana.

Peer Review
A process utilized by some federal and private agencies, whereby committees of research investigators in the same area of research or with the necessary expertise review and recommend applications to the funding agency.

Public Health Services (PHS)
A Federal agency of the US Department of Health and Human Services that sponsors research activities.

Principal Investigator (PI)
Typically, a faculty member who submitted a proposal that was accepted and funded by an external sponsor. The PI has primary responsibility for technical compliance, completion of programmatic work, and fiscal stewardship of sponsor funds.

Program Income
Gross income earned by a research grant recipient from the activities, part or all of which are borne as a direct cost by the grant.

Project Director
See above for Principal Investigator; terms used interchangeably in this Handbook.

Proprietary Research
Research sponsored by non-governmental entity or individual that involves restrictions on the distribution or publication of the research findings or results following completion, for a specified period or for indefinite duration.

Re-budgeting
Process by which funds available for spending are reallocated between budget categories to allow best use of funds to accomplish project goals.

Request for Applications (RFA)
Any resulting awards would normally be funded by a grant. The RFA instructions include the information necessary to complete the application and mailing instructions

Request for Proposals (RFP)
Also known as an invitation to bid. A RFP contains the detailed information that must be supplied in the proposal. The proposal procedure is often complex and must satisfy specific requirements. Any resulting award would normally be funded by a contract.

Research and Related Activities
All formal investigative efforts (whether or not funded) by faculty, students, and staff that are designed to develop or contribute to generalized knowledge, including analyses of secondary data.

Research Office (RO)
The Office is directed by the Vice Chancellor for Research and Graduate Studies. Staff assists the Vice Chancellor in his/her duties of managing all research and contract activities involving College property and faculty.

Resource Conservation and Recovery Act (RCRA)
The 1976 act in which the EPA defines a hazardous waste and other related issues.

Single Source Acquisition
Issuing an award to a subcontractor without full and open competition. This may be done if an award is the result of collaboration (where two parties jointly develop the ideas, concepts, and methodology). There are restrictions on the use of this means of procurement and documentation must show justification for using single source acquisition.

Site Visit
An agency-initiated review of a proposed project conducted at the applicant's institution.

Sole Source Acquisition
A procurement that does not provide full and open competition but is effected because only one source is available.

Special Purpose Equipment
Equipment which can be used only for research, scientific, or other technical activities.

Sponsor
An external funding source which enters into an agreement with Montana Tech to support research, instruction, public service or other sponsored activities. Sponsors include private businesses, corporations, foundations and other non-profit organizations, other Colleges, and federal, state and local governments.

Subcontract
A contract issued under a prime contract, agreement, purchase order, or grant for the procurement of services or program-related tasks. Issuance of subcontracts under federal prime award are subject to compliance with federal law and all subcontracts are subject to the terms and conditions of the prime award and the normal purchasing requirements of the State of Montana and Montana Tech policy.

Total Direct Labor Costs
The portion of direct costs on which the indirect costs are based, namely: salaries and wages, plus fringe benefits.

United States Department of Agriculture (USDA)
A Federal agency that sponsors research activities.

UPAS
A UPAS form is used to request an account for pre-award costs and to authorize a non-sponsored account to cover the costs in case the award does not come through.

Provost and Vice Chancellor for Academic Affairs
The approval of the Vice Chancellor is required for any requested faculty release time.

Vice Chancellor for Research (VCR)
The Vice Chancellor for Research oversees all grant, contract, subcontract, and research activities involving Tech Employees or property. The Vice Chancellor is the Authorized Organizational Representative and can sign agreements on behalf of Montana Tech.

CAMPUS DIRECTORY

Vice Chancellor for Research and Dean of Graduate School

Museum 210,
Dr. Beverly K. Hartline, VCR
406-496-4456

Museum 211
Paige A. Payne, Admin. Assoc. IV
406-496-4102

Museum 211
Trisha Southergill, Grant Support Manager
406-496-4727

Office of Sponsored Programs

Vacant
Director of OSP
Museum 213
406-496-4769

Joanne Lee, Assistant Director
406-496-4176
Museum 212

Kramer Ungaretti, Accounting Assoc. III
406-496-4340
Museum 212

Office of Environmental Health & Safety

Marilyn Cameron, Director
406-496-4463
Chemistry and Biology Building, Room 003
(Also Radiation Safety Officer)

Montana Bureau of Mines and Geology

John Metesh, Director
406-496-4159

Catherine McKillips, Admin. Associate II
406-496-4180
Natural Resources Building

Budgets, Payroll, and Personnel

Brant Wright, Vice Chancellor Administration and Finance
406-496-4316
MG 305

WEB ADDRESS DIRECTORY

MT Tech Home Page-Research

http://www.mtech.edu/research/

MT Tech Home Page-Library

http://www.mtech.edu/library

University of Montana Research Home Page

http://umt.edu/research/

University of Montana NSF EPSCoR Home Page

http://www.umt.edu/epscor/

Grants.gov

http://www.grants.gov

National Science Foundation Home Page

http://www.nsf.gov

National Science Foundation—FastLane

https://www.fastlane.nsf.gov/

Community of Science

http://www.cos.com

US Department of Energy

http://www.doe.gov

US Environmental Protection Agency

http://www.epa.gov

For announcements and application instruction:
https://www.epa.gov/grants

University of Montana Research Funding Sources Page

For Federal Funding Sources:
https://www.umt.edu/research/ORSP/propdev/funding/federal.php
For Non-Federal and State Funding Sources:
https://www.umt.edu/research/ORSP/propdev/funding/nonfederal.php
For International Funding Sources:
https://www.umt.edu/research/ORSP/propdev/funding/international.php