

University of Colorado at Boulder

**Request for Qualifications
INFORMATION PACKET**

Heating and Cooling Plant

The University of Colorado at Boulder proposes to plan, design, and construct a new heating and Cooling Plant and distribution system. This packet provides information and procedures regarding:

- I. PURPOSE / BACKGROUND**
- II. SCOPE OF SERVICES**
- III. SCHEDULE**
- IV. SELECTION CRITERIA**
- V. RESPONSE FORMAT**
- VI. OTHER INFORMATION**

This RFQ is for the purpose of selecting an engineer to design, prepare construction documents, assist with bidding and negotiations, administer the construction contract, commission, and provide a warranty walk-through at the conclusion of the project. **All consultants should carefully examine the materials contained in this packet prior to submitting their response to this RFQ.**

- Contact Person:** George Galida, Architect, Facilities Planner
Phone: (303) 492-0347 / Fax: (303) 492-7186
E-Mail: galida@colorado.edu
- Date of Issue:** Wednesday, September 12, 2007
- Pre-Submittal Meeting:** Thursday, September 27, 2007, 1:00 p.m.
EH&S room 220
CU-Boulder, Main Campus
- Qualifications Due:** Monday, October 15, 2007, 4:30 p.m.
- Submittals to:** George Galida, Facilities Planner
Department of Facilities Management
University of Colorado at Boulder
RL-2, 1540 30th Street, 3rd Floor Reception Desk
453 UCB
Boulder, CO 80309-0453

I. PURPOSE / BACKGROUND

A. Program Description

The University of Colorado at Boulder seeks an engineering and architectural design team to design a new Heating and Cooling Plant, expanded distribution system, and decommission the existing Power Plant.

[Utilities Generation & Distribution](#) is charged with operation and maintenance of the campus “Power Plant” and utility systems. A safe, reliable, and economic utility system is critical to the University of Colorado at Boulder’s mission to lead in learning, research, teaching and service.

Major tenets of utility production include the ability to serve present and future needs safely, reliably, and economically by utilizing the principles of redundancy and spare capacity. The UCB central plant is no longer capable of meeting these basic tenets.

B. Program and Facilities Needs

The present central plant began in 1909 as a coal fired boiler plant located at the edge of campus. The plant is now filled with equipment, overcrowded and too small to serve a campus with 9.2 million square feet of building space. As a result of campus growth, it is now in the center of the academic corridor amidst academic and research buildings. The plant operates with two natural gas fired steam boilers that are inefficient and almost a half century old, three steam absorption chillers that were installed in 1992 and are now too small to meet demand, and two natural gas fired turbines that co-generate to produce both electricity and steam, but are in need of \$10 million of overhauls for continued operation.

Fuel costs and looming maintenance costs have compelled UCB to run the two turbines only during times of high steam loads to provide redundancy to the aging boilers. Utilizing a co-generation process to produce steam for heating and to drive absorption chillers for cooling is no longer the economical process that it once was. Additionally, the capacity of the central plant steam absorption chillers is insufficient to meet present and future campus requirements.

Economic analysis presented in the program plan shows that the campus will save approximately \$2 million annually by abandoning the co-generation system and purchasing all campus electric requirements from the local electric utility provider. A separate project is underway that will provide the campus with the necessary third high voltage electric feeder to accomplish this.

The two existing boilers and three absorption chillers need to be replaced to provide a reliable, redundant and efficient heating and cooling source for the campus. The existing absorption chillers need to be replaced with electric chillers of adequate capacity. Analysis presented in the program plan shows that central chilled water production provides redundancy, efficiency and lower cost for the campus compared to using individual building chillers.

Steam and chilled water are distributed through approximately three miles of pipe in underground tunnels or direct buried. In order to obtain optimum use of a new plant and to serve a greater number of existing buildings, as well as, future buildings, the distribution loops for both steam and chilled water piping will have to be expanded.

The project will include a new compressed air system as well as renovation or relocation of other utilities and the tunnel system.

C. Space Needs Analysis

Space needs are based on industry standards and code requirements for the safe installation, operation, and maintenance of boilers, chillers, pumps, and other equipment of the required size and type. Further analysis was conducted of the current staffing and operation of the existing plant. The majority of space is required for boilers, chillers, pumps, controls, and other equipment. In addition support space for offices, meeting rooms, locker rooms, restrooms and other support spaces is required.

Projected space needs are indicated in Section 4 of the Program Plan.

D. Projected Scope, Size, Cost, and Schedule

The project consists of an initial building to house:

- An array of multiple gas fired boilers with a total combined capability of 400,000 lbs/hr. with the space to add two – three additional boilers at a future date for a grand total of approximately 650,000 lbs/hr.
- An array of multiple electric centrifugal chillers with a total combined capacity of between 6000 and 9000 tons with space to add additional chillers at a future date for a grand total capacity of approximately 15,000 tons.
- Projected space needs are indicated in Section 4 of the Program Plan

It is anticipated that the new plant will be approximately 74,164 total GSF in size and of a two story configuration. Planning will also include consideration for future building expansion to accommodate changing or alternative technologies.

The distribution system will include expanded and renovated underground tunnels or direct buried piping for steam, and chilled water, as well as other utilities and renovation for impacted utilities, and hardscape and softscape surface restoration.

Decommissioning of the existing Power Plant and site will consist of planning and management of hazardous material abatement, abandonment of select utilities, and removal or salvaging of boilers, chillers, cooling towers, turbines, and other equipment. The building and selected mechanical and electrical systems will remain in place.

The total project budget is \$75,190,195 of which \$62,664,285 is budgeted for construction and decommissioning.

The project delivery method is expected to be Design/Bid/Build.

Please see Section III below for key project dates.

E. Relationship to Institutional and Facilities Master Plans

The [Campus Master Plan](#) of March, 2001 includes a “Utilities Infrastructure Plan” that provides an overview of the various utility systems on campus and their functional interrelationship. Key principles that establish the foundation of the campus utilities infrastructure are safety, reliability, and minimization of operating costs as appropriate to support the primary mission of the University of Colorado at Boulder. The realization of a growing campus and eventually the subsequent need to expand both steam and chilled water capacity and the associated distribution systems was identified.

The [Utilities Master Plan](#) of 2001 assessed the configuration and capacity of steam, chilled water, and electrical co-generation on campus for a 20 - 30 year period. To accompany the [Utilities Master Plan](#) the University initiated several studies to address options in capacity needs, configuration, co-generation, distribution, and the physical location of the plant.

The [East Area of Main Campus Land Use Evaluation](#) of 2002 assessed site locations for various uses including a new Utility Plant. This study identified site “D”, a site northeast of the Coors Conference and Event Center as the “best single site for a central utility plant”. The proximity of this site to other campus buildings and 28th Street will have a significant bearing on the architecture of the plant.

II. SCOPE OF SERVICES

A. General

The University desires complete engineering and architectural services for program development, design, construction, and commissioning of a new Heating and Cooling Plant and; revisions to and expansion of the associated distribution system and; decommissioning of the existing Power Plant. To that end, the consultants may be required to provide services beyond those listed in the description below.

B. University Services

The University will provide access to all records of surveys, maps, and all base data available on the proposed site, including utilities, and related work completed to date and existing building plans for adjacent structures that may be impacted by this project.

The University will provide access to information about campus planning initiatives and design and construction standards that will apply to this project. The latest University standards for construction and materials can be viewed on-line at: <http://decker.Colorado.EDU/standards/>.

C. Consultant Services

The list of services that are designated by the University include but are not limited to:

- Participate with the University's public review process as appropriate, including, but not limited to, meetings with students, staff, faculty, the University's [Design Review Board](#), the [Boulder Campus Planning Commission](#), [Historic Resources Advisory Committee](#) and others as necessary. The level of reviews will be based upon the design and the level of impact to the campus.
- Participate with the University in the selection of any building mechanical, electrical, and technology consultants and other key consultants.
- Confirm and enhance programmatic data collected to date with input from proposed users, Facilities Management, and others as appropriate.
- Conduct investigative research and surveys and verify and document existing conditions, including all physical components and structures of the campus that may have an impact on or be impacted by the project. This shall include but not be limited to all structures, utilities, streets, landscaping, geological conditions, drainage systems, and irrigation systems.
- Lead design team meetings, documenting results and decisions made and distributing them to design team members, including the CU-Boulder Campus Director of Planning, Design, and Construction.
- Provide optional approaches to phasing and scheduling of design services and construction sequencing with regard to the project budget, schedule, and impact to the physical campus and campus operations and events. Assist the University in analyzing options to achieve the optimum cost, and schedule benefits while minimizing campus impacts.
- Participate in meetings with the University and other Consultants to coordinate the design and construction schedule and sequence with other University projects.
- Provide supporting information and assistance to the University and its Permit Consultant in applying for and obtaining operational permits.
- Provide conceptual, schematic, design development, and construction documents necessary to secure approvals of the University. Each submission shall include appropriate architectural, FF&E, mechanical, electrical, technology, and life-safety information. All drawings shall be submitted in AutoCAD (Autodesk Inc.) .DWG format at the current highest release level or level that is 100% compatible to the current highest release level.
- Provide AutoCAD compatible Building Information System (BIM) 3D geometric modeling of the geometric representation of spaces and components to aid in visualization and coordination during the design and construction processes.
- Provide supporting documentation necessary at each phase for proper review by the Department of Facilities Management and user client including but not limited to opinion of probable cost, specifications with appropriate detail, code analysis, narrative description of project, and other materials appropriate to each phase of design.

- Participate in the University’s technical review process and respond to all comments made during the review. The Department of Facilities Management maintains a website to facilitate collection of comments and responses made by consultants.
- Provide energy and life cycle cost analysis as required by State statute (C.R.S. 24-30-1304 and C.R.S. 24-30-1305) and additional services and documentation required to attain LEED Silver certification.
- Provide bidding documents in sufficient quantity to facilitate competitive prices for this project. Respond to questions made by bidders and documenting those answers in the form of addenda.
- Provide construction administration services including field observation, shop drawing and submittal review, participation in weekly construction meetings, responding to Requests for Information, issuing Proposal Requests, review of progress payments made by the Contractor, review and comment on contract change orders, and other services required for successful construction of the project.
- Assist the University in the selection of interior colors, furnishings, and movable equipment. Provide documentation of systems furnishings for installation by contractor
- Provide start-up, troubleshooting, and commissioning services and project close-out services including operations and maintenance manuals, record documents, and other necessary materials for all components and systems.
- Provide warranty reviews at six and eleven months after acceptance of the project by the University.

III. SCHEDULE

The SB 92-202 capital construction process dictates the following schedule. The selected consultant must demonstrate that they have sufficient resources to meet this tentative schedule.

- | | |
|--|--------------------------------------|
| • Publish RFQ for Architectural Services | September 12 and 19, 2007 |
| • Pre-Submittal Meeting (Non – Mandatory) | Thursday, September 27, 2007 |
| • Deadline for Submittals | (4:30 p.m.) Monday, October 15, 2007 |
| • Committee Screening of Submittals | Tuesday, October 16, 2007 |
| • Consultant Interviews | Tuesday, October 23, 2007 |
| • Board of Regents Approval of Architect Selection | Thursday, November 29, 2007 |
| • Conclude Contract Negotiations | February 7, 2008 |
| • Initiate Design | February 8, 2008 |
| • Schematic Design Review by DRB | June 12, 2008 ¹ |
| • Design Development Review by DRB | October 9, 2008 ¹ |

¹ The Design Review Board will meet the second Friday of every other month during 2006. If the schedule can be accelerated, consultant will be expected to provide review documents at a quicker pace.

- Open Bids July 2, 2009
- Construction Start August 3, 2009
- Certificate of Occupancy January 6, 2011
- Start Operation March 7, 2011
- Decommission Power Plant May 7 – June 27, 2011
- Project Completion September 1, 2011

The University expects to enter into aggressive contract negotiations with the top ranked firm such that design can begin immediately after the State Legislature approves the project.

IV. SELECTION CRITERIA

Consultant responses shall furnish credentials to be evaluated according to selection criteria established by the Board of Regents. These criteria include:

A. Recent, direct experience with projects of a similar scope and budget

- Demonstrated design expertise, qualifications, and experience with similar projects.
- Commitment to projects of this size, scope and magnitude.
- Experience with designing to a program and budget.
- Familiarity with institutional projects and availability of adequate resources (staff and facilities) to appropriately handle a project of this size and complexity.
- Location within Colorado of the team's principal office, and availability and appropriateness of and need for special consultants.

B. Design and Understanding of the project and University goals

- Demonstrated interest and understanding of this particular project by this organization (a major university); in this particular place (the City of Boulder).
- Sensitivity to the goals and objectives of Utilities Generation and Distribution..

C. Demonstrated ability to plan, schedule, and manage this project or one of similar scope and budget.

- Evidence of experience and qualifications for providing architectural design services to a public entity.
- Ability to collect, organize, synthesize, and communicate complex information from several University administrative and research departments in a timely manner.

Description of the firms cost estimating procedures and methodologies.

Description of firm's methodologies for meeting the universities WBE/MBE goals.

D. Demonstrated understanding of the financial constraints of this project.

- Ability to scale work performed to fall within the client's limited budget.
- Maintaining the proposed project schedule incorporating the scope of work and the dates listed in this information packet.

E. Commitment to the University of Colorado at Boulder Design Guidelines

- Recognition of the importance of the role of the campus architecture in defining CU-Boulder as a unique place.
- Certification of having read the Boulder Campus Design Guidelines available at <http://fm.colorado.edu/construction/DesignGuidelinesforPlanningatCUBoulder.html>
- Understanding of the University of Colorado's design process, and responses consistent with the Boulder campus requirements.

To maximize the University's understanding of the consultant's credentials and qualifications, the University reserves the right to request of any consultant further clarification of its position or to supply additional information deemed necessary to further assess the consultant's qualifications, or to reject any or all responses received.

A screening committee, chaired by the Campus Architect and composed of representatives from the Department of Chemistry and Biochemistry and Facilities Management staff, will review the submittals, conduct oral interviews, and provide a ranked recommendation of three applicants to the Board of Regents for their consideration at their November 29, 2007, meeting.

V. RESPONSE FORMAT / SUBMITTAL OF QUALIFICATIONS

- Respondents will provide two (2) copies of their response packets. Material should be bound-in and consist only of material in direct response to the selection criteria. Each packet must be in the following format or the University may deem the submittal to be non-responsive.
 - (1) **Cover Letter** -- one page, bound-in, summarizing the overall qualifications of the team -- **in particular the member responsible for leading the design team** -- and including address, phone, e-mail, and fax numbers for **one** primary contact person
 - (2) **Table of Contents** -- identifying page numbers for criteria requested below
 - (3) **Summary of Experience** -- similar projects or experiences with the scope of services requested. Provide dates of service and name of principal project person involved.
 - (4) **Understanding of the University's Goals** -- consultants' understanding of the goals and objectives of this project and the consultant's role in fulfilling each.

- (5) **Methodology** -- consultants' methods of achieving the University's goals and objectives including, but not limited to, processes, and MBE/WBE participation
 - (6) **Financial Constraints:** Consultants' understanding of the financial and schedule constraints of the project.
 - (7) **Commitment to Campus Design Guidelines:** Consultants' commitment to maintaining the architectural heritage of the Boulder Campus
 - (7) **Appendices** -- other materials the consultant wishes to submit **not to exceed 10 pages.**
- Submittals will be received by the University at the following address no later than 4:30 pm on Monday, October 15, 2007. **The University will not accept submittals received after this noted time and date.**

*George Galida, Facilities Planning
University of Colorado at Boulder
RL-2, 1540 30th Street, 3rd Floor Reception Desk (FEDEX, UPS or hand)
453 UCB (US postal Service)
Boulder, CO 80309-0453*

NOTE: Submittals through U.S. Postal Mail should use the campus box number, 453 UCB, rather than the street address.

- All materials submitted in response to this RFQ become the property of the University. The University will return materials from unsuccessful submittals upon request received within 10 working days of the close of submittals.
- The University is not responsible for any submittal preparation expenses, submission costs, or any expenses incurred in negotiations or site visits.

VI. OTHER INFORMATION

A. Questions and Inquiries

- After receipt of this Information Packet, and prior to the Pre-Submittal Meeting, applicants may submit questions to George Galida, Facilities Planner, by fax to (303)-492-7186 or by e-mail to galida@.Colorado.EDU. Questions will be compiled, and every effort will be made to answer the questions at the time of the Pre-Submittal Meeting and on the project web page (see D. below).

B. Pre-Submittal Meeting / Site Visit

- A Pre-Submittal Information Meeting will be held on Thursday, September 27, 2006, from 1:00 to 3:00 p.m. at the Environmental Health and Safety Building room 220 on the UCB campus. This site visit will be the opportunity for consultants to ask questions of the selection team members present. While attendance at the Pre-Submittal Meeting is not mandatory, information presented may be very informative; therefore, all interested applicants are encouraged to attend or send their representative in order to be better able to prepare viable submittals.

C. Addenda

- The University reserves the right to issue addenda to the RFQ at any time as a result of questions, change in acquisition schedule, or other matters. Such information will be posted on the Consultant Selection Information web page listed in Section VI-D below and on the State of Colorado Bids page. The University also reserves the right to cancel or reissue the RFQ.

D. Project Web Page

- CU-Boulder maintains a project information web page to assist in communicating with potential consultants. Information on questions received, addenda, meeting notices, background information and links to other important information is available on this site. Consultants interested in this project should **frequently** visit <http://fm.colorado.edu/planning/consultantselection/H+CPlant/index.html> for up-to-date information about this project.

E. Selection of Firms for Interviews – “Shortlisting”

- Upon receipt of submittals by those interested firms the Screening Committee will review and determine those firms best qualified to be interviewed. This determination will be based on the four criteria as set forth by the Regents, discussed previously in section entitled SELECTION CRITERIA. Those firms deemed best qualified for interviews will be notified by telephone and U.S. mail immediately after screening is completed.

F. Interviews

- An oral presentation will be required after the University screens written submittals and selects those firms best qualified to be interviewed for this project.
- The scheduled date for oral interviews by the screening committee will be Tuesday, October 23, 2007 and each shortlisted firm shall have 30 minutes for presentation and 20 minutes for questions and answers from the selection committee.
- Each firm should be prepared to discuss and substantiate any of the areas of the RFQ it has submitted, its own qualifications for the services required, and any other area of interest relative to this RFQ. Interviewees should focus their presentations on relevance of their qualifications to this specific project, rather than repeating information contained within the submittal.



The University of Colorado at Boulder strongly supports the principle of diversity in all its forms. We are interested in receiving applications from women, ethnic minorities, persons with disabilities, veterans, and veterans of the Vietnam era.



REQUEST FOR QUALIFICATIONS
State of Colorado
University of Colorado
Notice Number: 07- 45

Project No: **PR 003214**
Project Title: **Heating and Cooling Plant**
Estimated Total Project Cost: **\$75,190,195**

Project Description

The University of Colorado at Boulder seeks an engineering and architectural design team to design a new campus Heating and Cooling Plant, expanded distribution system, and the decommissioning of the existing Power House. A safe, reliable, and economic utility system is critical to the mission of the University of Colorado at Boulder. The plant is anticipated to replace the existing Power House and provide capacity for future campus needs.

The new Heating and Cooling plant will be located just northeast of the Coors Conference and Events Center. It will house gas fired boilers capable of 650,000 PPH and chillers capable of 16,000 tons. In addition operational control, maintenance, offices, and other support spaces will be included. The plant will be approximately 74,164 GSF in size. The underground distribution system for steam, chilled water, and other utilities will be will be modified and expanded to serve a larger area of the main campus.

This solicitation is being made with the understanding that the University is still securing necessary approvals. No work shall be authorized before all approvals from the State of Colorado are secured.

Scope of Services

RFQ for Services of: Engineers

RFQ for services of: Engineers with emphasis in heating and cooling plant and distribution systems.

See the RFQ information packet for a description of professional services required of the consultant team.

Minimum Requirements

Qualified applicants will be determined as those that can meet the criteria that will be used for selection by a Screening Committee and the Board of Regents of the University. These criteria include: (1) Recent, direct experience with projects of a similar scope and budget. (2) Design and understanding of the project and University goals. (3) Demonstrated ability to plan, schedule, and manage this project or one of similar scope and budget. (4) Demonstrated understanding of the financial constraints of this project. (5) Commitment to the University of Colorado at Boulder Design Guidelines. The successful applicant will demonstrate broad-based experience in all phases of project planning, construction and management with special emphasis on projects of a similar nature. Those interested in providing these services should submit three (3) copies of a packet with a concise letter of interest bound-in providing a summary of qualifications, and a description of the applicant or firm and its consultants including credentials, experience, and three current references. A Screening Committee will review the submittals and invite those firms felt to be most appropriate for undertaking this work to **oral interviews on October 23, 2007.**

Firms meeting the minimum requirements may obtain the RFQ documents by contacting

By internet <http://fm.colorado.edu/planning/consultantselection/H+CPlant/index.html>

By e-mail: galida@colorado.edu

By picking up during working hours at Research Laboratory No. 2, 1540 30th Street, Third Floor Reception Desk, Boulder, CO 80303

Pre-Submittal Meeting

An informational Pre-Submittal Meeting will be held **09/27/2007 01:00 PM**, at Environmental Health & Safety (EH&S) – **Room 220, on the CU-Boulder Main Campus**. A map to EH&S can be found at <http://www.colorado.edu/directories/webmap/map.html?bldg=EHSC>

Comments:

Qualifications Due

Date & Time: **10/15/07 04:30 PM**

Address: **George Galida, Facilities Planner
Department of Facilities Management
Research Laboratory No. 2
1540 30th Street, Third Floor Reception Desk
Campus Box 453 UCB
Boulder, CO 80309-0453**

Comments: **Submittals through U.S. Postal Mail should use campus box number: Campus Box 453 UCB, rather than street address.**

Point of Contact

Name: **George Galida, Facilities Planner**
Agency: **University of Colorado at Boulder**
Phone: **303-492-0347**
Fax: **303-492-4082**
Email: **galida@colorado.edu**

This Notice is also available on the web at www.colorado.gov/dpa/dfp/sbrep

Media of Publication(s): The Daily Journal

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Transmit two (2) copies of the Affidavit of Publication, and invoice to:
Helen Calvo, University of Colorado at Boulder, Department of Facilities Management, 453 UCB, Boulder, CO 80309-0453.