

Mechanical Systems Review Frequently Asked Questions

- Q1. [What is the purpose of the CSU Mechanical Review Board \(MRB\)?](#)
The purpose of the CSU MRB is to improve the quality and energy performance of mechanical, electrical and plumbing (MEP) systems of CSU new construction, remodel, and renovation and repair projects.
- Q2. [What is Mechanical Systems Review \(MSR\)?](#)
MSR is a third party independent review of the HVAC, plumbing, fire protection and controls systems by one of the CSU MRB members.
- Q3. [When is the MSR required on a project?](#)
MSR is required for all state or non-state major capital projects regardless of the source of funds. MSR for non energy related projects may be exempted. Examples of these projects may include parking lots and parking structures.
- Q4. [Can the campus select any of the MRB members to provide the MSR services?](#)
Yes. Resumes of all board members are available on the CSU website. Campus should match the qualifications of the MRB members and the project type and contract the selected board member to provide these services.
- Q5. [How are MSR services procured?](#)
Office of the Chancellor has contracted for all board members to provide the MSR services via Master Enabling Agreements (MEAs). These MEAs are available on the CSU website for information purposes only (http://www.calstate.edu/cpdc/ae/review/mechanical_systems.shtml). Campus shall issue one page "Service Order & Authorization to Proceed" along with a copy of the project schedule.
- Q6. [How much turnaround time should be allocated for the MSR?](#)
MRB reviewer will need two weeks after receipt of all documents to be reviewed to provide the MSR service.
- Q7. [When should the MSR of a project start?](#)
MRB reviewer along with the mechanical engineer of record should be invited at the project kick off meeting to provide input to the design. The later the MSR process is started, the less benefit will accrue from the MSR.
- Q8. [Will there be a delay in the project schedule because of the added review process?](#)
No. MSR process occurs in parallel with the Office of the Chancellor CPDC review and should not add any time to the project schedule.
- Q9. [What is the interaction between the MRB member providing MSR and the Commissioning Authority \(CxA\)?](#)
MSR includes the review of the systems design while commissioning of the project during design phase includes the review to ensure that all aspects of project commissioning are adequately specified in the project. However, there are areas that may be common to both reviews and which need to be coordinated between the MRB member and CxA.
- Q10. [How many reviews are required for a typical CSU capital project?](#)
MSR services are provided at each of the following design phases:
- 75% Schematic Design;
 - 100% Schematic Design;
 - 100% Preliminary Design;
 - 95% Construction Documents
- At the conclusion of each review, the MRB reviewer shall provide recommended corrections and design review comments. Concurrence letters will be provided after the 75% schematic design and 95% construction documents reviews once responses to comments are provided and accepted by the reviewer. During the construction phase of a project, the MRB reviewer is available to advise on technical issues that may be encountered

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- Q11. What are the responsibilities of the MRB reviewer during 75% schematic and 100% schematic design reviews?**
MRB reviewer shall participate in a meeting with campus personnel and the project architect/engineer of record at the campus, become familiar with project scope, project goals, physical constraints and established budget. MRB reviewer shall examine the available information on the condition of the building(s), the engineering concepts proposed, discuss design concepts and potential alternatives with the project team; review basis of design report, schematic level construction cost estimate and life cycle cost analysis of various systems analyzed and the proposed system. The MRB reviewer, upon satisfaction with design team's response to MSR comments, shall provide a 75% Schematic Design Review concurrence letter. (See MEA for the detailed scope of services.)
- Q12. What are the responsibilities of the MRB reviewer during the preliminary design and construction document phases of the project?**
During the preliminary design and construction design phases of the project, MRB reviewer will review project plans, outline specifications, construction cost estimate, and the basis of design report including calculations, equipment selection and updated life cycle cost analysis.
- Focus of these reviews shall be on confirming concepts, systems, and assumptions. Assess if the project is 'on target' to provide a well functioning, energy efficient, facility within the established budget. MRB reviewer shall confirm the documents submitted for review includes complete equipment schedules, Title-24 mandatory measurements including energy compliance forms, floor plans, flow diagrams, sections and details. Confirm that the design meets or exceeds the California Title 24 Energy Efficiency goals established in the CSU policy.
- At the completion of the MSR, MRB reviewer will issue a letter stating that all MSR comments have been resolved to his satisfaction and he has no further comments on the plans and specifications. (See MEA for the detailed scope of services.)
- Q13. What are the responsibilities of the MRB reviewer during the construction phase of the project?**
During the construction phase of the project MRB reviewer will be available as a technical resource to the campus. This support will be limited to a few hours of e-mail and phone support only.
- Q14. Is MSR review applicable for Energy Conservation Construction (ESCO) projects?**
Yes. Service provider reviews the preliminary assessment (PA) reports submitted by two or three ESCO firms; participates in one meeting with the campus personnel followed by interviews with the ESCO firms; assists the campus in selecting the ESCO firm to move forward with the investment grade assessment (IGA); reviews IGA reports and provides a MSR of the construction documents developed by the ESCO firm. (See MEA for a detailed scope of services.)
- Q15. Is MSR review applicable to Design-Build projects?**
Yes. MSR for the Design-Build projects is similar to Design-bid-build projects but shall shift the emphasis in the delivery method. (i.e. limited review of costs in later phases, and more focus on confirming that quality is not being diminished from that agreed to at the end of the schematic design phase.) The MRB member should be contracted prior to Design-Build RFP development to ensure that desired mechanical systems requirements are adequately included.

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- Q16. [Can a MRB member who provides MSR services also be the Commissioning Authority \(CxA\)?](#)
Yes. However, comments for the commissioning work shall be separate from the MSR comments. Also the commissioning fee for the project shall be reduced by an amount equal to one half of the MSR fee.
- Q17. [Can review of the electrical design be part of the MSR?](#)
Yes. Scope of work and fee schedule for the review of the electrical design is included in the MEA. Fee for electrical design review is an additional 30% of the MSR. Campus may include the review of the electrical design and fee to provide these services in the “Service Order & Authorization to Proceed”
- Q18. [Is review of the plumbing design a part of the MSR?](#)
Plumbing design review is included in the (MSR) MEA. The campus may also negotiate a detailed peer review of the plumbing design directly with the reviewer.
- Q19. [Can a MRB member contracted as an engineer of record provide MSR of the same project?](#)
No. This would be viewed as a conflict of interest and would defeat one purpose of the MSR, which is to provide different ideas and perspectives on the mechanical system design.
- Q20. [What if the engineer of record does not agree with one of the MSR comment?](#)
The MSR comments are advisory to the campus. The campus should read and understand the MSR comments. The Project Architect/Engineer of record retains full responsibility for the design documents including their completeness and function.
- Q21. [In what format should drawings and specifications be sent to MSR reviewers?](#)
Project submittal shall be in accordance with the Submittal Requirements and Procedure Guide for CSU Capital Projects. The desired format should be confirmed with the MSR reviewer. Other disciplines (architectural, structural, etc.) are typically provided half size. Provide one paper set of specifications and basis of design report for all disciplines. These documents shall also be provided in electronic (pdf) format.
- Q22. [What is the campus project manager’s role with respect to MSR process?](#)
Upon the receipt of the MSR comments from the MRB reviewer, campus project manager shall review all comments and forward them to the architect. Comments log sheet has a column that requires a response back to the MRB reviewer as soon as it is practical but no later than the next submittal due date. Some of these comments need a response by the campus while others need a response by the A/E team. As soon as the campus project engineer receives the response to the MRB comments from the design team, the campus project manager needs to ensure that the MSR comments are addressed and responses that require action are implemented.
- Q23. [How do I download the MSR agreement and scope of services?](#)
MSR agreement is available online at www.calstate.edu/cpdc/ae/review/