| **Capabilities Demonstrated**  | **Exceeded Expectations** | **Match Expectations** | **Less Than Expected (Fair)** | **Need Improvements** | **Failure** | **Pts.** |
| --- | --- | --- | --- | --- | --- | --- |
| **Background and Customer Needs Analysis*** Identifying stakeholders
* Identifying and analyzing needs
 | All users and stakeholders are identified along with critical analyses of potential issues. Issues are prioritized. | Most users and stakeholders are identified along with critical analyses of potential issues. | Many users and stakeholders are identified along with analyses of potential issues. | Some users and stakeholders are identified, but little or no analysis of potential issues. | No users and stakeholders are identified and little or no analysis of potential issues. |  |
| **System Requirements** * Correlated with customer’s needs
* Design constraints Engineering specifications
 | All relevant requirements and constraints are identified, prioritized, and translated into clear and measurable engineering specifications. | Most critical requirements and constraints are identified. Some non-critical requirements missed. Many of the requirements are translated into measurable engineering specifications. | Many key requirements and constraints are identified and translated into measurable engineering specifications. | Some requirements and constraints are identified and translated into measurable engineering specifications. | Customer needs are not translated into clear requirements. Most of the requirements are not translated into measurable engineering specifications. |  |
| **Safety Issues*** Defined in the specification
* Included in the design
* Implemented
 | Safety issues are addressed in the specifications, design, and implementation.  | Safety issues are addressed in the specifications and design but may not have been carried to implementation.  | Safety issues are addressed in the specifications but may not have been carried to design & implementation.  | Safety issues are partially addressed in the specifications, design, or implementation.  | Safety issues were not addressed.  |  |
| **Final Design*** Application of design process
* Supporting evidence (design artifacts)
 | Solution and approach fully demonstrate the use and understanding of the engineering design process. | Many artifacts of the engineering design process are present. | Some artifacts of the engineering design process are present. | Few artifacts of the engineering design process are present. | Solution and approach do not appear to have followed the design process. |  |
| **System Evaluation** * Evaluation procedures
* Documenting results
* Analyses
 | System evaluations and experiments were used to confirm design performance with thorough consideration of relevant parameters. Test results are analyzed, compared with engineering analysis, and used to provide appropriate design guidance. | System evaluations and experiments were used to confirm design performance with thorough consideration of relevant parameters. Test results are analyzed and used to provide appropriate design guidance. | System evaluations and experiments were used to confirm design performance with consideration of relevant parameters. Test results were presented with some analysis. | Ad-hoc system evaluations and experiments are present. The coverage is poor. Results are inconclusive and/or interpretations of the results are questionable (or incorrect). | No appropriate evaluation (or experiment) is given. |  |
| **Conclusions*** Supported by data
* Honest and realistic
 | All claims or estimates are realistic and supported by data. | Many claims or estimates are realistic and supported by data. | Some claims and estimates are realistic and supported by data. | Few claims and estimates are realistic and supported by data. | No claims and estimates are realistic and supported by data. |  |
| **Professional Societal Consideration (Appendix)*** Benefits and impact of the solution beyond technical issues, such as economic, environmental, sustainability, ethical, health and safety, social, political considerations, etc.
* Justification for issues that do not apply to the project
 | It is comprehensive, and the issues are realistic. | It covers a good breadth and the issues are mostly realistic. | It covers a reasonable breadth and the issues are usually realistic. | It includes some obvious issues that are usually realistic. | Few obvious issues are superficially addressed.  |  |

Continue to the next page.

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| --- | --- | --- | --- | --- | --- | --- |
| **Documentation*** Consistent, logical flow and organization
* Professional (grammar, no typos, proper citations, third-person used)
* Tables / figures properly labeled and cited / described in the text
* Appropriate use of references and citations
* Appropriate use of diagrams, figures, sketches, models
* Facts and evidence provided to support conclusions
 | The report is consistently clear and concise, using a technical writing style with little or no spelling / grammatical errors. Well formatted and always flows smoothly, in a logical manner. Numerous diagrams / figures appropriately used to illustrate the text. In-line citations with proper references were always included. | The report is usually clear and concise, generally uses a technical writing style with few spelling / grammatical errors. Information usually flowed smoothly and in a logical manner. Many diagrams / figures were included to clarify the text. References were often used and properly cited. | The report is generally clear and concise with a few spelling / grammatical errors. The technical writing style was not consistently followed. Information generally flowed smoothly and in a logical manner, but some parts were difficult to follow. Some diagrams were used to accompany the text. Some errors in referencing / citing were made. | The report is unclear and overly wordy or missing significant detail. It was not in a technical style (e.g. “diary-style”). The information did not flow smoothly, and a logical structure was not often used. Few diagrams were included and were not properly related to the text. Few or incomplete references were used, and citations were missing or incomplete. | The report contained few details and was unclear. Information was not organized. The writing style was informal / casual. No diagrams or illustrations were included or were improperly used. References were not used or were incomplete or missing. |  |