

**Detail Design Review Evaluation**

Individual/Team:

Ian Frank #08427

Reviewer:

Christopher Hoople

Circle the rating that best applies

Deliverable	Excellent/Very Good	Good/Acceptable	Barely acceptable	Unacceptable	Comments
Bill of Materials	BOM is complete, and long lead time items and vendors have been identified. (3 points)	BOM is partly complete - some specifics still remain to be defined. (1-2 points) <i>2pts</i>	BOM is incomplete, most items not specified. (0 points)		
Drawings/Schematics	All drawings for parts to be manufactured are complete, assembly drawings demonstrate that system assembly is feasible. (5 points)	Most drawings or schematics are complete, assembly drawings are nearly done. (3-4 points) <i>3</i>	Few, if any, drawings or schematics exist beyond hand sketches or concept drawings. (0 points)		
Feasibility Analysis	Significant analysis has been done to demonstrate feasibility of all systems/components. (6-7 points)	Most design features have convincing support, some require further work. (4-5 points) <i>4</i>	Little analysis has been done to demonstrate feasibility. (0 points)		<i>Simulations on Electric Circuits performance</i>
Risk Assessment/Mitigation	Risks have been thoroughly (re)assessed and mitigation plans are in place for all key (high tech) risks. Impact to cost & schedule are clear. (3 points)	Mitigation plans are in-place for most of the key risks but a complete risk analysis has not been done. (0-1 points) <i>2</i>	Mitigation plans are not in place and risks have not been adequately (re)assessed. (0 points)		
Knowledge & Understanding of Design	Thorough and in-depth understanding is evident of the design (system & relevant subsystems) and rationale for design decisions and tradeoffs. (6-7 points)	Good understanding is evident of the design and rationale for most design decisions and tradeoffs. (4-5 points) <i>5</i>	Superficial understanding of the design is evident at either the system or subsystem level. Rationale for specific design decisions and tradeoffs is poorly understood, if at all. (0 points)		
Plan to Meet Customer Needs/Engineering Specifications	Sufficient evidence is presented to demonstrate that customer needs and design specs will be met. (5 points)	Team demonstrated that most customer needs and design specs will be met. (3-4 points) <i>4</i>	Many questions remain as to whether needs and specs will be met. (0 points)		
Detailed Design Review Execution	Design Review was very well planned and executed with appropriate attendees. All subsystems discussed, key issues addressed, notes and action items documented. (5 points)	Design Review execution was acceptable but was weak in one or more areas: breadth of participants, preparation, thoroughness, or documentation. (1-4 points) <i>4</i>	Design Review was not held or was poorly executed: key subsystems were not reviewed, key issues were not addressed, little/no preparation or documentation. (0 points)		

Other Comments:

Detail Design Review Evaluation

Individual/Team: 8427 6 Feb 2009

Reviewer: E. Hamelik

Circle the rating that best applies

Deliverable	Excellent/Very Good	Good/Acceptable	Barely acceptable	Unacceptable	Comments
Bill of Materials	BOM is complete, and long lead time items and vendors have been identified. (3 points)	BOM is partly complete - some specifics still remain to be defined. (1-2 points)	BOM is incomplete, most items not specified. (0 points)		Good Document, Good tracking clear and concise
Drawings/Schematics	All drawings for parts to be manufactured are complete, assembly drawings demonstrate that system assembly is feasible. (5 points)	Most drawings or schematics are complete, assembly drawings are nearly done. (3-4 points)	Some drawings are complete, others are not done or require modification. (1-2 points)		Good detail mechanically/electrical Good explanation
Feasibility Analysis	Significant analysis has been done to demonstrate feasibility of all systems/components. (6-7 points)	Most design features have convincing support, some require further work. (4-5 points)	Many design features require further analysis to demonstrate feasibility. (2-3 points)		Lacking fundamental basis of the envelope on mechanical drive train form a LL, N etc viewpoint. Guesstimated on steering.
Risk Assessment/Mitigation	Risks have been thoroughly (re)assessed and mitigation plans are in place for all key (high tech) risks. Impact to cost & schedule are clear. (3 points)	Mitigation plans are in-place for most of the key risks but a complete risk analysis has not been done. (0-1 points)	Mitigation plans are not in place and risks have not been adequately (re)assessed. (0 points)		Action Items from System Review Addressed
Knowledge & Understanding of Design	Thorough and in-depth understanding is evident of the design (system & relevant subsystems) and rationale for design decisions and tradeoffs. (6-7 points)	Good understanding is evident of the design and rationale for most design decisions and tradeoffs. (4-5 points)	Superficial understanding of the design is evident at either the system or subsystem level. Rationale for specific design decisions and tradeoffs is poorly understood, if at all. (0 points)		Explanation of concept selection was good - Good explanation of ECO impact
Plan to Meet Customer Needs/Engineering Specifications	Sufficient evidence is presented to demonstrate that customer needs and design specs will be met. (5 points)	Team demonstrated that most customer needs and design specs will be met. (3-4 points)	Many questions remain as to whether needs and specs will be met. (0 points)		Very good alignment - Cost is the big problem,
Detailed Design Review Execution	Design Review was very well planned and executed with appropriate attendees. All subsystems discussed, key issues addressed, notes and action items documented. (5 points)	Design Review execution was acceptable but was weak in one or more areas: breadth of participants, preparation, thoroughness, or documentation. (1-4 points)	Design Review was not held or was poorly executed: key subsystems were not reviewed, key issues were not addressed, little/no preparation or documentation. (0 points)		Very Well Done.

Other Comments:

Detail Design Review Evaluation

Individual/Team: P08427

Reviewer: Stevens

Circle the rating that best applies

Deliverable	Excellent/Very Good	Good/Acceptable	Barely acceptable	Unacceptable	Comments
Bill of Materials	BOM is complete, and long lead time items and vendors have been identified. (3 points)	BOM is partly complete - some specifics still remain to be defined. (1-2 points)	BOM is incomplete, most items not specified. (0 points)		Lead times? <del>Lead times?</del> Lead solder? LED not spec out?
Drawings/Schematics	All drawings for parts to be manufactured are complete, assembly drawings demonstrate that system assembly is feasible. (5 points)	Most drawings or schematics are complete, assembly drawings are nearly done. (3-4 points)	Some drawings are complete, others are not done or require modification. (1-2 points)	Few, if any, drawings or schematics exist beyond hand sketches or concept drawings. (0 points)	See comments Still need some details <del>of</del> such as motor - friction design, LED location light stand.
Feasibility Analysis	Significant analysis has been done to demonstrate feasibility of all systems/components. (6-7 points)	Most design features have convincing support, some require further work. (4-5 points)	Many design features require further analysis to demonstrate feasibility. (2-3 points)	Little analysis has been done to demonstrate feasibility. (0 points)	Changing circuit simulation needed. Friction drive analysis A lot of questions around the motor
Risk Assessment/Mitigation	Risks have been thoroughly (re)assessed and mitigation plans are in place for all key-high tech risks. Impact to cost & schedule are clear. (3 points)	Mitigation plans are in-place for most of the key risks but a complete risk analysis has not been done. (0-1 points)	Mitigation plans are not in place and risks have not been adequately (re)assessed. (0 points)		Good job. How might these impact your schedule + costs?
Knowledge & Understanding of Design	Thorough and in-depth understanding is evident of the design (system & relevant subsystems) and rationale for design decisions and tradeoffs. (6-7 points)	Good understanding is evident of the design and rationale for most design decisions and tradeoffs. (4-5 points)	Superficial understanding of the design is evident at either the system or subsystem level. Rationale for specific design decisions and tradeoffs is poorly understood, if at all. (0 points)		See comments. There seemed to be some areas such as copoints friction drive and power bases in circuit where there could be a more solid level of understanding.
Plan to Meet Customer Needs/Engineering Specifications	Sufficient evidence is presented to demonstrate that customer needs and design specs will be met. (5 points)	Team demonstrated that most customer needs and design specs will be met. (3-4 points)	Many questions remain as to whether needs and specs will be met. (0 points)		Should <del>there</del> revisit specs and make sure all is being met. This was not fully demonstrated.
Detailed Design Review Execution	Design Review was very well planned and executed with appropriate attendees. All subsystems discussed, key issues addressed, notes and action items documented. (5 points)	Design Review execution was acceptable but was weak in one or more areas: breadth of participants, preparation, thoroughness, or documentation. (1-4 points)	Design Review was not held or was poorly executed; key subsystems were not reviewed, key issues were not addressed, little/no preparation or documentation. (0 points)		Great job.
Other Comments:	See attached comments				

# Stevens Comments

- Revisit and renegotiate specs.
- Still work on mechanical parts of the Friction drive subsystem. How are things attached?
- Seems like there is loose ends on generator details that need to be resolved
- Ecopoint seems to be <sup>an</sup> after thought rather than driving design decisions.
- Should have pricing worked out on all subsystems for prototype and large quantity
- Simulations on power changing unit should be done soon ~~to~~ to ~~check~~ check for potential problems
- What is contingency plan if transformer ~~the~~ generator doesn't work.
- Board layout design?
- Think through environmentally sealing entire unit.
- Light distribution, good first step of testing, but seems testing was done ~~at~~ under different conditions than <sup>those you will use in your</sup> design.
- Light stand design needed even if it is simple.
- Seems like a lot of guess work on several areas (motor, light distribution, etc.) Friction drive
- <sup>Bike</sup> stand design? Probably best to hold off