Technology Readiness Level Questions

Grant Title:	< Insert grant title here >
Organization:	< Insert organization name here >
Starting TRL	< Insert starting TRL here >
Anticipated Ending TRL	< Insert anticipated ending TRL here >
Current Status	<Insert current status>
Actual Ending TRL	< Insert actual ending TRL here >

Note: Current status' is used for intermin reporting of TRLs. You may need to add mo

		To be completed at the start of the project					
TRL	**Question**	**Start of Project**			**Anticipated End of Project**		
		Yes	**No**	**N/A**	**Yes**	**No**	**N/A**
1	Do rough calculations support the concept?						
1	Do basic principles (physical, chemical, mathematical) support the concept?						
1	Do paper studies confirm basic scientific principles of new technology?						
1	Has a scientific methodology or approach been developed?						
TRL 1 Achieved	**Basic principles observed and reported.**						
2	Has potential system or component applications been identified?						
2	Have paper studies confirmed system or component application feasibility?						
2	Has an apparent design solution been identified?						
2	Have the basic components of the technology been identified?						
2	Have technology or system components been at least partially characterized?						
2	Have performance predictions been documented for each component?						
2	Has a functional requirements generation process been initiated?						
2	Does preliminary analysis confirm basic scientific principles?						
2	Are basic scientific principles confirmed with calculation based analytical studies?						
TRL 2 Achieved	**Technology concept and/or application formulated.**						
3	Have calculated predictions of components of technology capability been validated?						
3	Can all science applicable to the technology be modeled or simulated?						
3	Do experiments or modeling and simulation (M&S) validate performance predictions of technology capability?						
3	Do experiments verify feasibility of application of technology?						
3	Do paper studies indicate that technology or system components can be integrated?						
3	Are the technology or system performance metrics established?						
3	Has scientific feasibility of proposed technology been fully demonstrated?						
3	Does analysis of present technologies show that proposed technology or system fills a capability gap?						
TRL 3 Achieved	**Analytical and experimental critical function and/or characteristic proof-of-concept.**						
4	Has acceptance testing of individual components been performed?						
4	Has performance of components and interfaces between components been demonstrated?						
4	Does draft system architecture plan exist?						
4	Have end user technology/system requirements been documented?						
4	Has component compatibility been demonstrated?						

4	Does technology demonstrate basic functionality in simplified environment?						
4	Have performance characteristics been demonstrated in a laboratory environment?						
4	Have low-fidelity assessments of system integration and engineering been completed?						
TRL 4 Achieved	**Component and/or breadboard validation in laboratory environment.**						

5	Have internal system interface requirements been documented?						
5	Has analysis of internal interface requirements been completed?						
5	Can all system specifications be simulated and validated within a laboratory environment?						
5	Is the laboratory environment high-fidelity?						
5	Have individual component functions been verified through testing?						
5	Have objective and threshold operational requirements been developed?						
5	Has a Product Breakdown Structure been developed?						
TRL 5 Achieved	**System/subsystem model or prototype demonstration in a laboratory environment.**						
6	Have system integration issues been addressed?						
6	Is the operational environment fully known?						
6	Have performance characteristics been verified in a simulated operational environment?						
6	Has prototype been tested in a simulated operational environment?						
6	Has system been tested in realistic environment outside the laboratory?						
6	Has engineering feasibility been fully demonstrated?						
TRL 6 Achieved	**System/subsystem model or prototype demonstration in a relevant environment.**						
7	Have all interfaces been tested individually under stressed and anomalous conditions?						
7	Has technology or system been tested in a relevant environment?						
7	Are available components representative of production components?						
7	Has operational testing of technology/system in relevant environment been completed?						
7	Has fully integrated prototype been demonstrated in actual or simulated operational environment?						
TRL 7 Achieved	**System prototype demonstration in an operational environment.**						
8	Are all technology/system components form, fit, and function compatible?						
8	Is technology/system form, fit, and function compatible with operational environment?						
8	Has technology/system form, fit, and function been demonstrated in operational environment?						
8	Is technical Developmental Test and Evaluation (DT&E) successfully completed?						
TRL 8 Achieved	**Actual system completed and qualified through test and demonstration.**						
9	Does technology/system function as defined in Operational Concept document?						
9	Has technology/system has been deployed in intended operational environment?						
9	Has technology/system been fully demonstrated?						
9	Has Operational Test and Evaluation (OT&E) been successfully completed?						
TRL 9 Achieved	**Actual system proven through successful mission operations.**						