Evaluation Criteria: U.S. Department of Energy (DOE)
2023 Hydrogen Program Annual Merit Review

B. HydroGEN Seedling Project Evaluation Form

This evaluation form is for use with HydroGEN seedling projects.

Please provide specific, concise comments to support your evaluation—it is important that you write in full sentences and clearly convey your meaning to prevent incorrect interpretation.

1. Approach to performing the work—the degree to which barriers have been clearly identified and are being addressed through project innovation; and the extent to which the project is well-designed and feasible. A strong emphasis should be placed on the appropriateness of the scope of work toward validation of the project's technology innovation. **(Weight = 20%)**

4.0 - Outstanding. Sharply focused on critical barriers and validating technology innovation; difficult to improve significantly.
3.5 - Excellent. Effective; contributes to overcoming most barriers and validating technology innovation.
3.0 - Good. Generally effective but could be improved; contributes to overcoming some barriers and validating technology innovation.
2.5 - Satisfactory. Has some weaknesses; contributes to overcoming some barriers and validating technology innovation.
2.0 - Fair. Has significant weaknesses; may have some impact on overcoming barriers and/or validating technology innovation.
1.5 - Poor. Minimally responsive to project objectives; unlikely to contribute to overcoming the barriers or validating technology innovation.
1.0 - Unsatisfactory. Not responsive to project objectives; unlikely to contribute to overcoming the barriers or validating technology innovation.

Comments on Approach to performing the work:

2. <u>Accomplishments and Progress</u> toward overall project and DOE goals—the degree to which progress has been made and measured against performance indicators, and the degree to which the project has demonstrated progress toward DOE goals as well as the HydroGEN Consortium mission. A particular emphasis should be placed on the strength of the data presented by the accomplishments (including data from the HydroGEN nodes leveraged by the project) in terms of supporting accomplishments. An additional emphasis should be placed on the strength of the project's current budget period's Go/No-Go Criteria if applicable and on project progress toward meeting these criteria. **(Weight = 30%)**

4.0 - Outstanding. Outstanding progress toward ambitious Go/No-Go Criteria; accomplishments are supported by strong and convincing data; difficult to improve significantly.
3.5 - Excellent. Excellent progress toward impactful Go/No-Go Criteria; accomplishments are supported by strong data.
3.0 - Good. Significant progress toward meaningful Go/No-Go Criteria; accomplishments are supported by adequate data.
2.5 - Satisfactory. Satisfactory progress toward adequate Go/No-Go Criteria; accomplishments are supported by some data.
2.0 - Fair. Limited data and accomplishments to support the Go/No-Go Criteria; Go/No-Go Criteria may be weak.
1.5 - Poor. Unlikely to meet the Go/No-Go Criteria; Go/No-Go Criteria may be weak.
1.0 - Unsatisfactory. Unlikely to meet the Go/No-Go Criteria; Go/No-Go Criteria are inadequate or missing.

Comments on Accomplishments and Progress toward overall project and DOE goals:

3. <u>Collaboration Effectiveness</u> with HydroGEN and, if applicable, other research entities—the degree to which the project has engaged with the HydroGEN EMN and has effectively used nodes to accelerate materials development and improve the likelihood of the project's success and impact. This also includes the effectiveness of project engagement with the broader materials research community, including work with HydroGEN's cross-cutting benchmarking/protocols (2b) project team, the HydroGEN Data Team, pathway-specific working groups, and others. An additional factor is the broader value and impact of the project's data sharing through the HydroGEN Data Hub. **(Weight = 25%)**

4.0 - Outstanding. Close, appropriate collaboration with other institutions, specifically the HydroGEN Consortium with appropriate use of nodes, contributions to the benchmarking/protocols (2b) project and the HydroGEN Data Hub; partners are full participants and well-coordinated.
3.5 - Excellent. Good collaboration with other institutions, specifically the HydroGEN Consortium with appropriate use of nodes, contributions to the benchmarking/protocols (2b) project and the HydroGEN Data Hub; partners participate and are well-coordinated.
3.0 - Good. Collaboration exists with the HydroGEN Consortium and includes node utilization and engagement with the benchmarking/protocols (2b) project and the HydroGEN Data Hub; partners are fairly well-coordinated.
2.5 - Satisfactory. Some collaboration exists; coordination between partners could be significantly improved, specifically with respect to the HydroGEN Consortium node utilization activities and engagement with the benchmarking/protocols (2b) project and the HydroGEN Data Hub.

2.0 - Fair. A little collaboration exists; coordination between partners could be significantly improved, specifically with respect to the HydroGEN Consortium node utilization activities and engagement with the benchmarking/protocols (2b) project and the HydroGEN Data Hub.
1.5 - Poor. Most work is done at the sponsoring organization with little outside collaboration; there is little or no apparent coordination with partners or the HydroGEN Consortium.
1.0 - Unsatisfactory. No apparent coordination with partners and the HydroGEN Consortium.

Comments on Collaboration Effectiveness with HydroGEN and, if applicable, other research entities:

4. <u>Potential Impact</u>—the degree to which the project supports and advances progress toward the DOE Hydrogen Program goals and objectives, and also supports and advances the HydroGEN Consortium mission. A strong emphasis should be placed on the project's potential to advance the discovery and development of novel, advanced water splitting materials systems, which will enable meeting the DOE ultimate hydrogen production goal of \$1/kg H_2 or interim hydrogen production goal of \$2/kg H_2. An additional factor to consider is how well the project fits into, leverages, and potentially enhances the framework and resources of the HydroGEN Consortium. **(Weight = 15%)**

4.0 - Outstanding. Project is critical to the Hydrogen Program, has potential to significantly advance progress toward DOE RD&D goals and objectives, and is significantly leveraging and contributing to the resources and framework of the HydroGEN Consortium.
3.5 - Excellent. The project aligns well with the Hydrogen Program and DOE RD&D objectives, has the potential to advance progress toward DOE RD&D goals and objectives, and is aptly leveraging and contributing to the resources and framework of the HydroGEN Consortium.
3.0 - Good. Most project aspects align with the Hydrogen Program and DOE RD&D objectives, and the project is adequately leveraging and contributing to the resources and framework of the HydroGEN Consortium.
2.5 - Satisfactory. Project aspects align with some of the Hydrogen Program and DOE RD&D objectives, and the project is leveraging and contributing to the resources and framework of the HydroGEN Consortium to some extent.
2.0 - Fair. Project only partially supports the Hydrogen Program and DOE RD&D objectives, and the project is not adequately leveraging and contributing to the resources and framework of the HydroGEN Consortium.
1.5 - Poor. Project has little potential impact on advancing progress toward the Hydrogen Program and DOE RD&D goals and objectives, and the project has minimal interaction with HydroGEN to leverage and contribute to the resources and framework of the HydroGEN Consortium.
1.0 - Unsatisfactory. Project has little to no potential impact on advancing progress toward the Hydrogen Program and DOE RD&D goals and objectives, and the project is not leveraging and contributing to the resources and framework of the HydroGEN Consortium.

Comments on Potential Impact:

5. <u>Proposed Future Work</u>—the degree to which the project has effectively planned its potential future work in a logical manner and leverages progress made in previous budget periods toward meeting end-of-project goals and advancing the materials research mission of the HydroGEN Consortium. **(Weight = 10%)**

4.0 - Outstanding. Sharply focused on critical barriers, meeting end-of-project goals and advancing the materials research mission of the HydroGEN Consortium; difficult to improve significantly.
3.5 - Excellent. Effective; contributes to overcoming most barriers, meeting most end-of-project goals and advancing the materials research mission of the HydroGEN Consortium.
3.0 - Good. Generally effective but could be improved; contributes to overcoming some barriers, meeting some end-of-project goals and has potential to advance the materials research mission of the HydroGEN Consortium.
2.5 - Satisfactory. Has some weaknesses; contributes to overcoming some barriers, meeting some end-of-project goals and may contribute to advancing the materials research mission of the HydroGEN Consortium.
2.0 - Fair. Has significant weaknesses; may have some impact on overcoming barriers, make minimal progress towards end-of project goals and insignificantly contributes to advancing the materials research mission of the HydroGEN Consortium.
1.5 - Poor. Minimally responsive to project objectives; unlikely to contribute to overcoming the barriers or meet end-of-project goals and will most likely not contribute to advancing the materials research mission of the HydroGEN Consortium.
1.0 - Unsatisfactory. Not responsive to project objectives; unlikely to contribute to overcoming the barriers or meet end-of-project goals and is unlikely to contribute to advancing the materials research mission of the HydroGEN Consortium.

Comments on Proposed Future Work:

<u>Project Strengths:</u>

<u>Project Weaknesses:</u>

<u>Recommendations for Additions/Deletions to Project Scope:</u>