DOE/NNSA MSIPP Evaluation Plan

(October 1, 2018 – September 30, 2021)

Submitted by: Quality Measures LLC

MSIPP Program Mission: *Create and foster a sustainable STEM-pipeline that prepares a diverse workforce of world class talent through strategic partnerships between Minority Serving Institutions and the DOE/NNSA Enterprise*

Evaluation Questions	Indicators/Metrics	Data Collection Strategies				Comments
		Source of Data	Data Instrument	Frequency	Responsible Person	
Crucial Success Factor #1: Strengthen and expand MSI STEM educational and/or research capacity in DOE/NNSA mission areas						
EvalQ#1: To what extent did the MSIPP program activities strengthen and expand MSIs' capacity and research experiences in NNSA/DOE mission areas of interest?	**Educational** • # of new MSIPP-*type* courses, labs, degree programs, curriculum modifications • # of enrollments & passing grade averages • # of Certificates	Metric Reports	MSIPP Database	Quarterly	POC at MSIPP Institutions	Inform the extent to which academic programs prepared students for MSIPP opportunities (Skills & knowledge) as well as faculty's ability to expand the MSIPP curriculum, lab, and other educational experiences for students. Credentialing.
		Non-Metric: Students POCs @ MSIs & Lab/Plants NNSA Leadership	• FGs w/ students • Surveys w/ students, faculty, and Plant/Labs • Interviews w/ POCs and NNSA Leadership	• FGs Annually • Surveys Annually • Interviews Y1 & Y3	Evaluator & MSIPP POCs at MSIs and Labs/Plants	
	Professional Development *(students and faculty):* • # and quality of workshops • # and quality of externships	Metric Reports	MSIPP Database	Quarterly	POC at MSIPP Institutions	**Workshop Quality:** Repeat sessions, participant post-responses, and presenter's knowledge **Externships Quality:** Preparedness, hire-ability, and alignment of research interests and needs @ DOE/NNSA
		Non-Metric: Faculty, Students (including GAs), and Lab/Plant POCs	• FGs w/ students • Surveys w/ students, faculty, and Plant/Labs, • Interviews w/ POCs and NNSA Leadership	• FGs Annually • Surveys Annually • Interviews Y1 & Y3	Evaluator, MSIPP POC, and NNSA Leadership	
	Dissemination: • # of publications • # of symposium & conference presentations and posters/awards • # of internal gov't reports	Metric Reports *(Faculty, Student, and Plant/Lab Authors)*	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Also include awards for best paper, poster presentations and other accolades specific to work produced by MSIPP collaborations
	Engagement: • # of faculty in meaningful collaborative research w/ DOE/NNSA staff, laboratories, plants, and agencies in MSIPP • # and quality of co-advising • # and quality of DOE/NNSA Enterprise speaking engagements or events/activities at MSIPP institutions for faculty, students, and staff.	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	**Collaboration Quality:** Level of cooperation and sharing of resources per agreements between MSIs and Labs/Plants. **Co-Advising & Speaking Engagements Quality**: Post evaluations of presenters' relevance of information and ability to engage audiences. Student research outcomes.
		Non-Metric: Faculty, Students (including GAs), and Lab/Plant POCs	• FGs w/ students • Surveys w/ students, faculty, & labs/plants • Interviews w/ POCs & NNSA Leadership	• FGs Annually • Workshop Surveys • Surveys Annually • Interviews Y1 & Y3	Evaluator, MSIPP POC, and NNSA Leadership	

Evaluation Questions	Indicators/Metrics	Data Collection Strategies				Comments
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EvalQ#2: To what extent did the grants create opportunities for MSIPP students to conduct cutting edge research on MSIPP campuses that enhanced student learning and research opportunities?	**Research:** • # and quality of collaborative research projects for students and faculty with DOE/NNSA resources on MSIPP campuses • # and quality of undergraduate and graduate research opportunities and experiences at MSIPP campuses	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Measure student preparedness for lab/plant opptys., presentations from collaborative research, hiring or hire-ability of students, timing of completed research. Also, growth/loss of faculty credentialing/eligibility (i.e., ABET)
		Non-Metric: Faculty, Students (UG & Grad), and Lab/Plant POCs	• FGs w/ students • Surveys w/ students, faculty, and labs/plant POCs • Interviews w/ POCs	FGs Annually Surveys Annually Interviews Y1 & Y3	Evaluator & POCs at MSIPP Institutions and Lab/Plants	
Crucial Success Factor #2: Target collaborations between MSIs and the DOE/NNSA enterprise to increase interactions that provide MSIs direct access to DOE/NNSA STEM resources.						
EvalQ#3: To what extent did the MSIPP collaborations between MSIs and the DOE/NNSA Enterprise increase interactions and provide MSIs direct access to DOE/NNSA STEM resources?	**Interactions:** • # of onsite visits of faculty to labs and labs to MSIs • # of telecons, meetings, and webinars • Level of involvement and helpfulness **Direct Access:** • Access to lab equipment per lab protocols/process	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Measure interactions based on metrics and self-reported experiences of faculty/labs & plants via surveys and interviews. Also, contextualize "access" based on protocols and processes of Labs/Plants and MSIs for equipment use, data-sharing, and research collaborations
		Non-Metric: Faculty, Students (UG & Grad), and Lab/Plant POCs	• Surveys w/ students and POCs @ MSIs and labs/plants • Interviews w/ POCs and NNSA Leadership	Surveys Annually Interviews Y1 & Y3	Evaluator, MSIPP POC, and NNSA Leadership	
EvalQ#4: To what extent did the MSIPP program provide internships that aligned w/ students' academic preparation and professional goals?	**Internship Experiences:** • # and quality of internship experiences *(growth in knowledge, skills/abilities)* • # and quality of professional/career development activities/events provided to students outside of day-to-day internship work duties • # of student publications and conferences presentations *(single and joint)*	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Measure knowledge, awareness, behavioral growth via surveys and interviews w/ students, faculty, & Labs/plants site supervisors. Conduct FGs w/ students during industry and MSI events, and possibly professional conferences where students conduct poster presentations
		Non-Metric: Faculty, Students (UG & Grad), Lab/Plant POCs & NNHQ	• FGs with students • Surveys w/ students and POCs @ MSIs, labs/plants, & NNHQ • Interviews w/ POCs	FGs w/ students Surveys Annually Interviews Y1 & Y3	Evaluator & POCs at MSIPP Institutions and Lab/Plants	
Crucial Success Factor #3: Grow the number of minority (MSIPP) students who graduate w/ STEM degrees						
EvalQ#5: To what extent did MSIPP funding enhance the position of MSIs to attract and retain students in STEM disciplines of interest to the DOE/NNSA enterprise?	• # of new, returning, and transfer students at MSIPP institutions in STEM degree programs *(retention/persistence)* • GPA Eligibility and graduation rates of MSIPP and non-MSIPP students • # of new, returning, and transfer students at MSIPP institutions in STEM degree programs *(retention/persistence)* • # of students from MSIPP institutions who enter graduate school in STEM degrees	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Measure academic preparation (UG & Grad), , hire-ability or intent-to-hire students (Labs/Plants). Compare MSIPP and non-MSIPP students in STEM with regard to retention/persistence.
		Non-Metric: Faculty and Students (UG & Grad)	• Surveys w/ students, and POCs @ MSIs and labs/plants	FGs w/ students Surveys Annually Interviews Y1 & Y3	Evaluator and MSIPP POC	

Evaluation Questions	Indicators/Metrics	Data Collection Strategies				Comments
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Crucial Success Factor #4: Grow the number of minority (MSIPP) graduates and post-doctorates hired in DOE/NNSA STEM Workforce						
EvalQ#6: To what extent did the MSIPP program activities result in an increased number of minority graduate students and post-doctorates hired in the DOE/NNSA enterprise?	• # of graduate student offers, rejections, acceptance of positions in STEM or DOE/NNSA enterprise • # of post-doctoral placements from MSIPP Institutions in STEM careers • # of post-doctoral placements from MSIPP Institutions in the DOE/NNSA Enterprise in a STEM position	Metric Reports	MSIPP Database	Quarterly	POCs at MSIPP Institutions and Lab/Plants	Metrics will inform the number of students entering and remaining within the pipeline in disciplines of interest to DOE/NNSA. Additional measures—surveys, focus groups, and interviews—will inform the ways in which these activities informed the metrics as well as how and why certain experiences and activities had an impact, and the extent of the impact.
		Non-Metric: Faculty, Students (UG & Grad), and Lab/Plant POCs	• FGs w/ students • Surveys w/ students and POCs @ MSIs and labs/plants • Interviews w/ POCs and NNSA Leadership	FGs Annually Annual Surveys w/ students, and POCs @ MSIs and Labs/Plants Interviews Y1 & Y3	Evaluator, MSIPP POC, and NNSA Leadership	

DOE/NNSA MSIPP Evaluation Monitoring Plan

(October 1, 2018 – December 15, 2021) | Submitted by: Quality Measures LLC

Evaluation & Monitoring Activities	Year 1 (Oct. 2018 – Sept. 2019)			Year 2 (Oct. 2019 – Sept. 2020)				Year 3 (Oct. 2020 – Sept. 2021)			
	2nd Qtr Jan-Mar '19	3rd Qtr Apr–Jun '19	4th Qtr. Jul-Sept '19	1st Qtr Oct-Dec '19	2nd Qtr Jan-Mar '20	3rd Qtr Apr-Jun '20	4th Qtr Jul-Sept '20	1st Qtr Oct-Dec '20	2nd Qtr Jan-Mar '21	3rd Qtr Apr-Jun '21	4th Qtr Jul-Sep '21
1. Evaluation Framework and Plan	Mar. 21 (Finalize)	Apr. 16, 2019 (Share @ Mtg)		Oct. 1 (Review)				Oct. 1 (Review)			
Instrument Design and IRB Approval											
2. Develop Data-Collection Tool & Protocols	Mar 30										
3. DOE/IRB Application and Approval*	Apr 1 (Application)	Jun 1 (Approval)									
Implementation Fidelity											
4. Share evaluation plan and data-collection of metrics with MSIPP grantees		April 16-18, 2019				April 2020				April 2021	
5. Create and Monitor Data-Sharing Agreement with MSIs (FERPA Best Practices)		Apr 1 (Create)	Jul 1 (Monitor)				Jul 1/Aug 1 (Monitor)				
6. Review of MSIPP and Consortium level evaluation activities and challenges	Consortia Annual Meeting			Consortia Annual Meeting				Consortia Annual Meeting			
	MSIPP Technical Meeting			MSIPP Annual Technical Meeting				MSIPP Technical Meeting			
	Consortia Site Visits			Consortia Site Visits				Consortia Site Visits			
Data-Collection & Analyses (See NOTE Below)											
7. Consortia will send Quarterly METRICS to Evaluator	March 13 *(1Qtr/General)*	Apr 30 *(2Qtr/General)*	Jul 30 (3rdQ Metrics)	Oct 30 *(Jul-Sept '20)*	Jan. 30 *(Oct-Dec '20)*	Apr 30 *(Jan-Mar '20)*	Jul 30 *(Apr-Jun '20)*	Oct 30 *(Jul-Sept '20)*	Jan. 30 *(Oct-Dec '20)*	Apr 30 *(Jan-Mar '21)*	Jul 30 *(Apr-Jun '21)*
8. Receive Quarterly Reports from NNSA	Mar 13|1stQ19 (Oct-Dec '18)	April 30 (2nd Qtr)	Jul 31 (3rd Qtr)	Oct 30 (4th Qtr)	Jan. 30 (1st Qtr)	April 30 (2nd Qtr)	Jul 31 (3rd Qtr)	Oct 30 (4th Qtr)	Jan. 30 (1st Qtr)	April 30 (2nd Qtr)	Jul 31 (3rd Qtr)
9. Receive evaluation results from consortia	Optional Data collected Oct 1 thru Aug 30 (End of Fiscal Year Due Sept 30 | See #19)			Optional Data collected Oct 1 thru Aug 30 (End of Fiscal Year Due Sept 30 | See #19)				Optional Data collected Oct 1 thru Aug 30 (End of Fiscal Year Due October 30 | See #19)			
10. Send Quarterly Updates to NNSA			Aug 15th	Dec 15	Feb 15	May 15	Aug 15	Dec 15	Feb 15	May 15	Aug 15
11. Administer Surveys to Faculty, Students, & POCs @ MSIPP Institutions and Labs/Plants	Summer 2019 *(After IRB Approval)*			End of Summer 2020				End of Summer 2021			
12. Focus Group/Interviews with Students		Spr/Summer				Spr/Summer				Spr/Summer	
13. Interviews w/ NNSA, POCs @ MSIs, Labs/Plants		Spr/Summer								Spr/Summer	
14. Data Analysis (Metrics Roll-Up and Surveys)				Nov 2019				Nov 2020			Nov 2021
15. Data Analysis (Qualitative)				Nov 2019				Nov 2020			Nov 2021
Meetings & Training											
16. Monthly Consortium Meetings	TBD			TBD				TBD			
17. Biweekly/Monthly Evaluation Meetings/NNSA	Thursdays @ 11:00 AM			Thursdays @ 11:00 AM				Thursdays @ 11:00 AM			
18. Annual MSIPP Technical Meetings	April 16-18, 2019			April 2020 (?)				April 2021 (?)			
Evaluation Reports & Status Updates											
19. Consortium Specific Evaluation Results *(Optional)*			Sept 30				Sept 30				October 30, 2021
20. Formative Evaluation Reports (Metrics & Non-Metrics to NNSA) (Process Evaluation Efforts)				Dec 15, 2019				Dec 15, 2020			
21. Summative Evaluation Report for Entire Project											**Dec 15, 2021**

NOTE: Data collected in the 4th quarter of the final year (2021) must be received by QM no later than October 30, 2021 and will be included in the summative evaluation report. Consortia responsibilities highlighted in green.