Quarterly Research Performance Progress Report
Enchant Energy LLC

Federal Agency and Organization Element to Which Report is Submitted	National Energy Technology Laboratory U.S. Department of Energy
FOA Name	FOA-0002058: Front-End Engineering Design (FEED) Studies for Carbon Capture Systems on Coal and Natural Gas Power Plants
Project Title	Large-Scale Commercial Carbon Capture Retrofit of the San Juan Generating Station
Report Identifier	Research Performance Progress Report (RPPR)
Award Number	DE-FE0031843
Award Type	Cooperative Agreement
PD/PI & Submitting Official Name, Title and Contact Information (e-mail address and phone number)	Peter D. Mandelstam, Principal Investigator Enchant Energy LLC 5101 College Boulevard Suite 5055 Farmington, NM, 87402 (o) 505-436-1828 (c) 917-327-2273 PeterM@EnchantEnergy.com
Submission Date	April 30, 2021
Recipient DUNS Number	081518061
Recipient Organization	Enchant Energy LLC 5101 College Boulevard Suite 5055 Farmington, NM, 87402
Project Period of Performance	10/15/2019 - 01/31/2022
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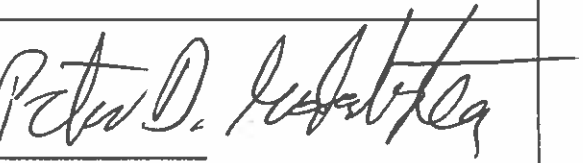
Report Frequency	Quarterly
Signature of Submitting Official	 Peter D. Mandelstam

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1. INTRODUCTION[1]

The proposed project is to conduct a site-specific Front-End Engineering Design (FEED) Study for retrofitting two coal-fired generating units (~847 MWe net) at San Juan Generating Station (SJGS) with Mitsubishi Heavy Industries America (MHIA) KM CDR Process™ for Carbon Capture Utilization and Storage (CCUS) (together, the Project). The SJGS facility, located in Waterflow, New Mexico, has been identified as a prime candidate for retrofitting CCUS technology due to five site-specific factors that have the potential to make the Project attractive from a technical, economic, and financing perspective, including:

1. Environmental upgrades completed in 2017 so flue gas does not need additional controls upstream of the CCUS. Post CCUS, SJGS will have very low CO_2, and continue the extremely low NO_X, SO_2 , and Mercury emissions.
2. Shut-down of Units 2 and 3 in 2017 allows for the CCUS system to utilize existing permitted water rights, cooling capacity, and repurposed in-place equipment, and also provides available space in the plant footprint to construct the CCUS system.
3. Electricity production is currently low cost and will remain so post-CCUS, as it is based on high BTU coal mined adjacent to SJGS. Low electricity cost reduces the impact of the dedicated-CCUS load on the levelized cost of capture.
4. Proximity to the Cortez CO_2 pipeline located only 21 miles from SJGS which is connected to the Permian Basin oil fields where there is a strong commercial market for CO_2 used for Enhanced Oil Recovery (EOR) and also EPA-certified sites for permanent storage of the captured CO_2. (Design of EOR storage not included in the scope of this FEED study.)
5. Proximity to San Juan Basin possible locations for direct geologic sequestration. The investigation of this direct geologic sequestration is partly funded by a separate DOE Cooperative Funding Agreement called CarbonSAFE III where Enchant Energy is a sub-awardee to New Mexico Tech. In addition to the direct geologic sequestration being a separate DOE Cooperative Funding Agreement, it is a wholly separate Federal environmental review under the National Environmental Policy Act, as amended (NEPA).

The combination of these five (5) site-specific factors is anticipated to result in a sufficiently low levelized cost of capture for this application to be technically and commercially feasible.

The FEED study will document the initial engineering and cost estimates for the retrofit project, including the levelized cost of carbon capture utilizing the existing plant, SJGS, and provide estimates of the technical and economic viability of extending the life of the existing SJGS coal-fired power plant through the installation and 12 years minimum of operation of post-combustion carbon capture.

Enchant/Farmington's intention is to move forward into the negotiation of a fixed-priced engineering, procurement, and construction (EPC) contract, as well as final design based on the Design Basis previously submitted to the DOE, procurement, and installation upon completion of the FEED study should the results of this FEED study show the Project to be technically feasible and economically viable. This Project would have a significant impact on the local community by sustaining jobs and tax revenue, as well as the estimated 2 million worker hours associated just with the construction of the carbon capture facility.

[1] This introduction is an extract from PMP

2. ACCOMPLISHMENTS

2.1. Project Goals

The overall goal of this project is to perform a Front-End Engineering and Design (FEED) study for the retrofit of the San Juan Generating Station (SJGS) with post-combustion carbon capture (the Project). The FEED study will document the initial engineering and cost estimates for the retrofit Project, including the levelized cost of carbon capture on an existing plant, and provide estimates of the technical and economic viability of extending the life of the existing SJGS coal-fired power plant through the installation and operation of post-combustion carbon capture. The FEED study will enable SJGS to move forward into detailed engineering, procurement, installation, and operation in future work.

In January 2021, Enchant Energy worked with the DOE to revise and update the Cooperative Funding Agreement for both cost share allocations as well as schedule. Enchant Energy submitted the revised Project Management Plan January 22, 2021. As a result of this PMP update, the Milestone Log reflected changes which are represented in the below Milestone Status Report.

The milestones for this Project are provided in Table 1-1 below.

Table 1-1. Milestone Status Report

Task/ Subtask	Milestone Title/Description	Planned Completion Date	Actual Completion Date	Verification	Status/Comments
1.0	Kickoff Meeting	5/22/2020	5/22/20	Presentation File	**Complete/Meeting Occurred**
1.0	Updated Project Management Plan	1/22/2021	1/22/2021	PMP file	**Complete/**Updated PMP provided in support of newly definitized contract
2.1	Design Basis Finalized	6/25/2020	7/16/2020	RPPR	**Completed/**The 125-Page Design Basis was submitted by Peter D. Mandelstam to DOE/NETL, titled as follows: OVERALL DESIGN BASIS & CRITERIA ISSUE: FOR DOE INFORMATION, REV. C JULY 16, 2020 PROJECT NO. 13891-010 OVERALL DESIGN BASIS & CRITERIA
2.3	Four Factor Analysis to NMED	9/1/2020	9/1/2020	RPPR	**Completed/**Submitted to NMED, awaiting final determination
2.3	Preliminary Constructability Review	9/10/2020	9/10/2020	RPPR	**Completed**

Task/ Subtask	Milestone Title/Description	Planned Completion Date	Actual Completion Date	Verification	Status/Comments
2.3	Final Constructability Review	3/24/2021		RPPR	**Delayed**, new completion date forecasted to be 9/22/2021
2.3	HAZOP Review Completed	7/2/2021		RPPR	**Updated completion dates currently being assessed by EPC consortium with Farmington-Enchant**
2.1	Process Island Design Completion	8/5/2021		RPPR	
2.2	Balance of Plant Engineering Completion	8/16/2021		RPPR	
2.3	Studies and Investigations Completion	1/19/2022		RPPR	
2.4	Cost Estimating Completion	1/19/2022		RPPR	
3.0	FEED Study Package	1/26/2022		Engineering Drawings	
1.0	Final Report	4/26/2022		Written Report	

2.2. What Was Accomplished

In the third quarter of 2020 MHIA indicated their needs to perform the FEED work would require stack testing be performed at SJGS with coal supply that would be representative of the supply to be mined in support of the extended operating life of the plant with the carbon capture retrofit. Enchant and Sargent and Lundy (S&L) engaged Alliance Source Testing (AST) to perform the stack testing and coordinated the schedule with the SJGS operator. The plant had numerous operating issues causing the stack testing to be delayed several months. The stack testing was completed in late December 2020.

While stack testing was being rescheduled Enchant Energy LLC (Enchant) was in discussions with an investor for development capital. The parties executed a term sheet and began definitive document negotiations. Several factors occurred with the investor that delayed closing on the financing which impacted Enchant's ability to fund its full cost share obligation as previously submitted to the DOE in January 2021. This delayed financing additionally impacted Enchant's ability to pay the stack testing vendor, resulting in a delay in the release of stack testing results to Enchant, S&L and MHIA. Enchant's Co-founders subsequently provided Enchant the funding necessary to pay the stack testing vendor and meet its cost share obligations, The stack testing results have now been received, reviewed by S&L and are pending submission to MHIA upon approval from the SGJS operator. MHIA has resumed performance of the services under the FEED Study and along with S & L and Enchant are currently reviewing and discussing the schedule impacts stemming from the delays.

The above cumulative factors have delayed achievement of the Final Constructability Review milestone, which is now forecasted for September 22, 2021.

Task 1.0 – Project Management and Planning

The Recipient shall manage and direct the Project in accordance with this Statement of Project Objectives (SOPO) and the Project Management Plan (PMP) to meet the project's technical, schedule, and budget objectives and requirements. The Recipient shall manage, coordinate, and report on the technical scope, budget, risk, requirements of the National Environmental Policy Act (NEPA), and schedule consistent with a task-oriented work breakdown structure (WBS) to effectively accomplish the Project. The Recipient shall ensure that Project plans, results, and decisions are appropriately documented, and Project reporting and briefing requirements are satisfied. The Recipient will work with the DOE Contract Specialist (CS) and Project Officer (PO) to make revisions to the award and its associated documentation when necessary.

During this reporting period, Enchant and Enchant's consultants focused on revisions to the Project Management Plan, its milestones and the FEED Study budget in support of Enchant's submission provided in late January and in support of the new cooperative agreement. In addition under Task 1.0 relating to the National Environmental Policy Act (NEPA) ongoing consultations occurred with both local and Washington-based Federal officials by S&L and Enchant. Consultations specifically included discussions of the interaction with Bureau of Indian Affairs, as well as Bureau of Land Management Farmington field office (BLM) officials in the Farmington Field Office. These consultations furthered the on-going NEPA work and allowed Federal officials to ask questions about potential environmental impacts, such that the Federal officials can make informed decisions about any additional NEPA reviews.

Enchant held regular meetings with S&L to review in-scope documents and plans in anticipation of upcoming work with MHIA. Such meetings specifically included a detailed analysis of carbon dioxide emissions rates and the impact of one or more trains being out of service. This emissions analysis is vital to the economic operation of the Carbon Capture Island. This carbon dioxide emissions work is required for the economic viability analysis under the FEED Study, Subtask 2.4, cost estimating. Deliverables included many drafts and the issuance of a final report of carbon production intensity, named ETA CO2 Emissions Calculation.

Task 2.0 – Front-End Engineering & Design Study

The purpose of the FEED study is to complete engineering and design work to support developing a detailed cost estimate for retrofitting CO2 capture at SJGS. As part of the overall FEED study, multiple design studies will be performed based on Project-specific details. Various design and engineering packages will be developed which will help define commodity quantities, equipment specifications, and construction requirements to execute the Project. These FEED study packages will be prepared with the intent to develop an overall project Association for the Advancement of Cost Engineering (AACE) Class 2 capital cost estimate with an accuracy of ±15%, requiring approximately 50-75% project definition completed.

Subtask 2.1 – Process Engineering and Design

An overall Project Design Basis will be developed which will identify site-specific design characteristics, ambient conditions, fuel and flue gas characteristics, environmental

requirements, and site-specific design considerations. Process Engineering and Design will be completed by the carbon capture technology provider and a series of process engineering documents will be developed.

Enchant notes that while the stack testing is not specifically in-scope under the SOPO, MHIA, S&L, and Farmington-Enchant unanimously agreed that the work needed to be done in order for the FEED to proceed. Accordingly, S&L in coordination with MHIA, designed the stack testing protocols, and Enchant was required to use AST, the preferred vendor of the San Juan Generating Station operator, PNM.

During this reporting period, the stack testing consultant, AST, finished their analysis of their on-site investigations. The AST report was analyzed by S & L in early April 2021 and was transmitted to PNM, current SJGS operator, as required for their review before the information can be shared externally with MHIA. Once PNM's review is complete, the stack testing results will be made available to MHIA (expected in early May 2021) for their use in finalizing the Design Basis. Enchant expects only modest design changes that would allow MHIA to increase its CO2 capture percentage above 90% of the treatment of 100% of the flue gases. Assuming a higher percentage of carbon is captured, Enchant will request that the higher percentage be warranted during the operational life of the project. Enchant notes that DOE's report on the Petra Nova project showed Year 3 capture of 95%.

Subtask 2.2 – Balance of Plant Engineering

This subtask involves the balance of plant (BOP) planning, design, and engineering to incorporate the CO2 capture technology into the existing SJGS facility. A site-specific Design Criteria Document will be developed which will document the primary design criteria, applicable codes and standards for the civil, structural, mechanical, electrical, and Instrumentation & Controls (I&C) designs.

- Civil Engineering – Nothing to Report
- Structural Engineering – Nothing to Report
- Mechanical Engineering – Nothing to Report
- Electrical Engineering – Nothing to Report
- Instrumentation & Controls (I&C) Engineering (System Integration) – Nothing to Report
- Fire Protection Engineering – Nothing to Report
- Facilities Engineering and Site Security – Nothing to Report

S&L focused efforts finalizing the remaining open items MHIA requires for their Basic Engineering & Design Data, specifically related to trace flue gas constituents, steam supply parameters, and cooling water demands. In addition S&L supported Enchant's discussions with potential CO_2 routes/offtake models that helped better define the CO_2 product pressure and quality requirements for MHIA's design consideration.

Subtask 2.3 – Studies and Investigations

Various studies and investigations will be conducted which will provide key decisions on scope of work or selection of project-specific needs. This subtask will also provide detail on the permitting requirements necessary for the specific project development at SJGS.

The following studies will be performed, at minimum, as part of the input to the overall FEED study:

- Steam and Electric Sourcing Study – Nothing to Report
- Water Supply Study
  - S&L in coordination with Enchant and its partner, the City of Farmington reviewed the water supply resources historically available to the SJGS. The existing BOR Permit 2838 was deemed sufficient for the continued operation of the SJGS plus the addition to the Carbon Capture Island.
- Water and Wastewater Treatment Study – Nothing to Report
- Cooling Water Options Study – Nothing to Report
- Environmental Permitting, and Regulatory Review
  - Enchant and S&L continued consultations with the New Mexico Environment Department (NMED) answering questions and providing additional information in support of the submitted Four Factor Analysis
  - Enchant and S&L continued to engage in consultations with Federal environmental officials.
  - S&L working closely with Enchant, commissioned an emissions analysis which is covered by this subtask 2.3. The deliverable was a final report that showed that proper operation of the Carbon Capture Island can be achieved and that the carbon intensity can meet New Mexico State law. The final report of carbon production intensity, is named the ETA CO2 Emissions Calculation.
- Cause and Effect Diagrams – Nothing to Report
- Compressor System Overpressure Relief Study – Nothing to Report
- HAZOP Review – Nothing to Report
- Basic Contracting and Purchasing Strategy – Nothing to Report
- Project Logistics – Nothing to Report
- Constructability Review – Nothing to Report
- Project DOR – Nothing to Report
- Project Execution Schedule – Nothing to Report

Subtask 2.4 – Cost Estimating

The team will develop an overall project capital cost estimate that is consistent with an AACE Class 2 cost estimate (approximate accuracy of ± 15%), corresponding to ~50-75% Project definition. As part of the overall project estimate, capital costs will be developed along with operating and maintenance (O&M) costs. Together, the costs will be used to develop an overall cost of carbon capture.

The SOPO notes three cost areas: 1) Project Capital Cost Estimate, 2) Operating and Maintenance Costs, and 3) Cost of Capture. In this reporting period S&L met with Enchant numerous times to refine Item 1, Project Capital Cost Estimating. As a transparent preview of the next reporting period, the EPC consortium of Kiewit Power Constructors, S&L and MHIA met with Enchant on April 27, 2021 to discuss cost estimating. All parties agreed that the updated FEED Study schedule being developed needs to focus on brining the cost estimation work in as quickly as is possible. By the end of May 2021, Enchant expects that the EPC consortium should be able to provide a FEED Schedule that facilitates a timely completion of the FEED Study and enables Enchant to begin EPC legal and budgetary drafting by June 2021, and conclude EPC contract negotiations in Q1 2022.

Task 3.0 – Final FEED Study Package

The final FEED study package will be prepared and submitted in accordance with the SOPO.

Nothing to Report.

2.3. Opportunities for Training and Professional Development

There was ongoing progress and accomplishment in the realm of training and professional development. Specifically, Enchant Energy, the City of Farmington, and the San Juan College School of Energy (SJC) continued efforts on workforce development and job training ("WFD") at San Juan College. This WFD continues with Internet-based training due to COVID-19. Once it is safe to do so, training will continue in-person in the sophisticated hands-on laboratories at San Juan College.

2.4. Dissemination of Results to Communities of Interest

Outreach to communities of interest is an organizing principle for Enchant and its partner, the City of Farmington. Due to the innovative nature of this project and its importance to the San Juan County, there is regular media interest in the project. In this reporting period, Hank Adair, Electric Utility Director of Farmington Electric Utility System (FEUS), the City of Farmington's municipal utility, and Cindy A. Crane, Enchant's Chief Executive Officer, have done a number of Communities of Interest presentations (all via COVID-safe methods, and media interviews. All of these can be found on Enchant's web site, https://www.enchantenergy.com/.

The full extent of the outreach to communities of interest is too extensive and the files too large to attach as an exhibit. The Enchant website has the complete media items and their outreach to communities of interest outreach for this reporting period.

2.5. Plan for Next Reporting Period

Enchant, S&L and MHIA expected greater progress in advancing the FEED Study scope of work during the next reporting period, specifically focused on updating the PMP, Schedule, Milestones and Spend Timing reconciling to the impacts of the delay. The expected work for each task is listed below:

Task 1.0 – Project Management and Planning

- Revise PMP to adjust to impacts from the delay
- Revise FEED Study Schedule & Milestones to adjust to impacts from the delay

Task 2.0 – Front-End Engineering & Design Study

- Analysis of Stack Testing Results
- Basic Engineering Design Data – including Tie-In List, Block Flow Diagram, Process Flow Diagram, Utility Flow Diagram, and Initial Equipment List with Technical Data
- Initiation of MHIA Process Data Sheets
- Development of Process Design Basis (CSA, Piping, Electrical & I&C)
- Development of Engineering Standard Specs & Drawings for Process Equipment
- Initialize Construction and Logistics Study
- Engage with STG OEM related to Steam Sourcing Study
- Further develop Cooling Water, Electric Sourcing, and Control System Study

Task 3.0 – Final FEED Study Package

Nothing expected in next reporting period

3. PRODUCTS

3.1. Publications, Conference Papers, and Presentations

There were several presentations during this period, all done via video, due to Covid-19 travel restrictions (shown below).

Presentation Title	Audience	Date	FEED Study Project Presenters
San Juan Generating Station Carbon Capture Update	San Juan County Commissioners	1/5/2021	Cindy Crane
Introduction to Enchant Energy Project	All State of New Mexico Legislators	1/21/2021	Cindy Crane
San Juan Generating Station Carbon Capture Update	Farmington Public Utility Commission	2/10/2021	Cindy Crane
San Juan Generating Station Carbon Capture Utilization and Storage Environmental Characteristics	New Mexico Federal Congressional Delegation	3/11/2021	Peter Mandelstam

3.2. Website(s) or other Internet site(s)

As described above, the Enchant Energy website is a repository of all of the outreach, initial research, and media coverage of ongoing FEED work.

3.3. Technologies or techniques

Nothing to Report.

3.4. Inventions, patent applications, and/or licenses

Nothing to Report.

3.5. Other products

Nothing to Report.

4. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

Several participants and organizations will be collaborating to achieve the goals of this FEED Study as the nature of work to complete these tasks requires specific technical knowledge and capabilities.

4.1. Individuals

Below is a list of individuals involved in the FEED study, including the PI and each individual who worked at least one person month per year on the project in this last quarter.

Name: Peter Mandelstam
Nearest Person Months Worked: 2.75
Project Role: Chief Operations Officer / Principal Investigator
Contribution to Project: Project Operations and Project Management
State, U.S. territory, country of residence: City of Farmington, New Mexico, U.S.A.
Funding Support: DOE and Enchant
Collaborated with individual in foreign country: Yes
Country(ies) of foreign collaborator: Japan
Travelled to foreign country: No

Name: Hank Adair
Nearest Person Months Worked: 1
Project Role: Co-Applicant
Contribution to Project: Site Coordination
State, U.S. territory, country of residence: City of Farmington, New Mexico, U.S.A.
Funding Support: DOE and Enchant
Collaborated with individual in foreign country: Yes
Country(ies) of foreign collaborator: Japan

Travelled to foreign country: No

4.2.Change in Active Other Support of PD/PI(s) or Key Personnel

Enchant is actively recruiting for an engineer to supplement Enchant's management of the FEED Study. This is included in the PMP.

4.3.Partner Organizations

Enchant has coordinated a team of highly qualified sub-awardees, independent contractors, vendors and participants to complete the proposed project including particularly in this reporting period, Sargent & Lundy LLC (S&L), Navigant Consulting (Navigant) also referred to as Guidehouse, EJM Associates, LLC (EJM), and Baker Tilly (BT). Additionally, Enchant continues to work with the City of Farmington and Mitsubishi Heavy Industries America, Inc. (MHIA) as sub-recipients of this award. City of Farmington is also a cost-share supporter. Further information on these partner organizations is provided below.

- Mitsubishi Heavy Industries America, Inc. (Sub-Awardee)
  - Location: Houston, Texas
  - Contribution to Project: Collaborative research
  - Additional Detail: vendor to provide commercial engineering services
- City of Farmington (Sub-Awardee)
  - Location: Farmington, New Mexico
  - Contribution to Project: In-kind support
  - Additional Detail: City to provide legal services
- Sargent & Lundy LLC
  - Location: Chicago, IL
  - Contribution to Project: Collaborative research
  - Additional Detail: Vendor to provide engineering and costing services for the FEED Study.
- Navigant Consulting
  - Location: Chicago, IL
  - Contribution to Project: Collaborative research
  - Additional Detail: Vendor to provide generating plant cost and performance evaluation.
- EJM Associates, LLC
  - Location: Washington, D.C.
  - Contribution to Project: Collaborative research
  - Additional Detail: Vendor to provide regulatory review and environmental analysis
- Baker Tilly
  - Location: Austin, Texas
  - Contribution to Project: Other
  - Additional Detail: Vendor to provide accounting services for project.

4.4. Other Collaborators or Contacts Involved

Nothing to report.

5. IMPACT

5.1. What is the impact on the development of the principal discipline(s) of the project?

Nothing to report.

5.2. What is the impact on other disciplines?

Nothing to report.

5.3. What is the impact on the development of human resources?

As described above, the SJC, Farmington, and Enchant signed a Memorandum of Understanding (MOU) on workforce development and job training in the previous reporting period. This MOU has led to Internet based training in this reporting period. This WFD provides a path to well-paying jobs building the Project, which will require a minimum of 2 million worker hours. The WFD training specifically seeks engagement by members of the Navajo Nation, veterans, and other underserved communities.

5.4. What was the impact on teaching and educational experiences?

Nothing to report.

5.5. What is the impact on physical, institutional, and information resources that form infrastructure?

Nothing to report.

5.6. What is the impact on technology transfer?

Nothing to report.

5.7. What is the impact on society beyond science and technology?

As the United States emerges from the COVID-19 pandemic, and as the Biden Administration has now articulated their climate goals, it is clear that the burgeoning carbon capture industry will have a major impact on society beyond the narrow successes of decarbonizing specific baseload power plants such as the San Juan Generating Station. Among the positive impacts are A) regional employment at the San Juan Generating Station carbon capture project, and B) the positive employment benefits and economic output from the continued operation and deferred maintenance at the San Juan Generating Station. The construction of the carbon capture project, with an estimated capital cost of $1.295 billion, will require more than 2,000,000 worker hours, according to an analysis performed by the general contractor, Kiewit Power

Constructors. The deferred maintenance is currently estimated to cost more than $139 million. While no analysis has yet been performed as to the number of worker hours associated with the deferred maintenance work, Enchant expects it to be a significant benefit to the regional workforce and the regional economy. Enchant's success at retrofitting the SJGS with carbon capture is expected to stimulate further large-scale carbon capture retrofits, in New Mexico and the Rocky Mountain West.

5.8. What percentage of the award's budget was spent in foreign country(ies)?

As of March 31, 2021 the cumulative costs incurred amounted to $1,446,668.05. Of this, 8% of these cumulative budgeted costs were incurred from Mitsubishi Heavy Industries, Japan, however no payment has been remitted or funds actually spent as of the end of this quarter.

6. CHANGES/PROBLEMS

6.1. Changes in approach and reasons for change

Nothing to report.

6.2. Actual or anticipated problems or delays and actions or plans to resolve them

Development financing and stack testing delays are expected to impact the FEED Study PMP, schedule and milestones from what was submitted in January 2021. Enchant, S&L and MHIA are focused on reconciling and mitigating those impacts to the fullest extent possible. This will be a significant focus in May and will enable Enchant to provide the DOE/NETL with an updated PMP, FEED Schedule, Milestones and Spend Timing by the end of May, 2021.

6.3. Changes that have a significant impact on expenditures

None at this time. MHIA has communicated a no cost impact to Enchant associated with the delays referenced elsewhere in this report.

6.4. Significant changes in use or care of human subjects, vertebrate animals, and/or Biohazards

Nothing to report.

6.5. Change of primary performance site location from that originally proposed

Nothing to report.

7. SPECIAL REPORTING REQUIREMENTS

Nothing to report.

8. BUDGETARY INFORMATION

A summary of cumulative budgetary information for the overall project as well as the federal and cost share portions as of quarter ended 3/31/2021 for Phase 1 of the project is provided in Table 8.1 below. Please note that the budgetary information is based on the revised cooperative agreement that was definitized in January of 2021. Included in the total cumulative expenditures are $517.50 of cost share recognized from the City of Farmington for attorney fees incurred in relation to the FEED study as of 3/31/2020.

On May 22, 2020 Enchant received the first bill from MHIA for their contractual 15% advance payment in the amount of $903,631.65. To be in conformance with the GAAP matching principle, Enchant has only recognized expenditures for the period ending 3/31/2021 related to cost spend expenditures actually incurred as of that date which amounts to $ 197,900.39.

Table 8-1. Budgetary Information for Quarter Ending 3/31/2021

Baseline Reporting Quarter	Budget Period 1					
	Q1		Q2		Q3	
	10/1/2019–12/31/2019		1/1/2020–3/31/2020		4/1/2020–6/30/2020	
	Q1	Cumulative Total	Q2	Cumulative Total	Q3	Cumulative Total
Baseline Cost Plan						
Federal Share	$ -	$ -	$102,290	$ 102,290.40	$540,983	$ 643,273.24
Non-Federal Share	$ -	$ -	$25,573	$ 25,572.60	$135,246	$ 160,818.31
Total Planned	$ -	$ -	$127,863	$ 127,863.00	$676,229	$ 804,091.55
Actual Incurred Cost						
Federal Share	$ -	$ -	$ 102,288.35	$ 102,288.35	$ 540,971.99	$ 623,639.44
Non-Federal	$ -	$ -	$ 25,574.65	$ 25,574.65	$ 135,256.56	$ 180,452.11
Total Incurred	$ -	$ -	$ 127,863.00	$ 127,863.00	$ 676,228.55	$ 804,091.55
Variance						
Federal Share	$ -	$ -	$ (2.05)	$ (2.05)	$ (10.85)	$ (12.91)
Non-Federal Share	$ -	$ -	$ 2.05	$ 2.05	$ 10.85	$ 12.91
Total Variance	$ -	$ -	$ (0.00)	$ (0.00)	$ (0.00)	$ (0.00)

Baseline Reporting Quarter	Budget Period 1					
	Q4		Q5		Q6	
	7/1/2020–9/30/2020		10/1/2020–12/31/2020		1/1/2021–3/31/2021	
	Q4	Cumulative Total	Q5	Cumulative Total	Q6	Cumulative Total
Baseline Cost Plan						
Federal Share	$268,587	$ 911,860.38	$520,000	$ 1,431,860.38	$2,240,137	$ 3,671,997.38
Non-Federal Share	$67,147	$ 227,965.09	$130,000	$ 357,965.09	$560,000	$ 917,965.09
Total Planned	$335,734	$ 1,139,825.47	$ 650,000.00	$ 1,789,825.47	$ 2,800,137.00	$ 4,589,962.47
Actual Incurred Cost						
Federal Share	$ 268,581.75	$ 941,925.08	$ 133,387.14	$ 1,108,212.35	$ 49,098.87	$ 1,157,311.22
Non-Federal	$ 67,152.17	$ 197,900.39	$ 33,350.13	$ 198,350.39	$ 91,006.44	$ 289,356.83
Total Incurred	$ 335,733.92	$ 1,139,825.47	$ 166,737.27	$ 1,306,562.74	$ 140,105.31	$ 1,446,668.05
Variance						
Federal Share	$ (5.39)	$ (18.30)	$ (386,612.86)	$ (386,631.16)	$(2,191,038.13)	$ (2,577,669.29)
Non-Federal Share	$ 5.39	$ 18.30	$ (96,649.87)	$ (96,631.57)	$ (468,993.56)	$ (565,625.13)
Total Variance	$ -	$ (0.00)	$ (483,262.73)	$ (483,262.73)	$(2,660,031.69)	$ (3,143,294.42)

9. PROJECT OUTCOMES

Nothing to report.