Exhibit A

EERC
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May 15, 2015

Ms. Karlene Fine
Executive Director
North Dakota Industrial Commission
State Capitol, 14th Floor
600 East Boulevard Avenue, Department 405
Bismarck, ND 58505-0840

Dear Karlene:

Please find enclosed a suggested scope of work, time line, and budget for the EERC's *Produced Fluids Gathering Pipeline Study* ("The Pipeline Study") as commissioned by the 64th Legislative Assembly in HB 1358, and as signed into law by North Dakota Governor Jack Dalrymple on April 20, 2015.

As discussed, I will be attending the OGRC meeting on May 26 in Bismarck and will be prepared to provide a short overview presentation regarding this scope of work and to answer any questions and entertain any comments that you, members of the committee, or any Legislators may have.

Please let me know if you have any questions or comments in advance of the May 26 meeting that I can help clarify or answer. I look forward to seeing you soon.

Sincerely,

John Harju
Associate Director for Research

JAH/bjr

Enclosures

c/enc: Lynn Helms, NDIC
Ron Ness, NDPC
Brent Brannan, OGRC
Tom Erickson, EERC
Lucia Romuld, EERC
Jay Almlie, EERC
EERC Contracts

May 15, 2015

PRODUCED FLUIDS GATHERING PIPELINE STUDY

Commissioned by

The 64th North Dakota Legislative Assembly

INTRODUCTION

On April 20, 2015, North Dakota Governor Jack Dalrymple signed into law House Bill (HB) 1358, legislation regarding the state's regulatory oversight of gathering pipelines for produced water and crude oil. The bill includes enhancements for the prevention and detection of pipeline leaks and expands the state's remediation and restoration program for land and water resources impacted by oil and gas development.

HB 1358 also authorizes the North Dakota Industrial Commission (NDIC) to develop new rules involving the construction and operation of gathering pipelines. The bill includes $1.5 million to complete a study by University of North Dakota's Energy and Environmental Research Center (EERC) regarding construction standards and monitoring systems for gathering lines, which will guide the NDIC's consideration of new administrative rules.

SCOPE OF WORK

The scope of work for this project directly reflects the language of HB 1358. According to HB 1358, this project will conduct an analysis of crude oil and produced water pipelines including the following:

- Construction standards
- Depths
- Pressures
- Monitoring systems
- Maintenance
- Types of materials used in the pipeline backfill
- Analysis of the ratio of spills and leaks occurring in this state in comparison to other large oil and gas-producing states with substantial volumes of produced water

HB 1358 further states that the EERC will analyze the existing regulations on construction and monitoring of crude oil and produced water pipelines, determine the feasibility and cost-

effectiveness of requiring leak detection and monitoring technology on new and existing pipeline systems, and provide a report with recommendations to NDIC and the North Dakota Legislature's Energy Development and Transmission Committee (EDTC) by December 1, 2015.

To address these requirements, the EERC has developed a two-phase scope of work. The first phase of work will compile information on gathering pipeline infrastructure in North Dakota, existing relevant gathering pipeline regulations, causes of historical leaks and economic and technical feasibility of pipeline monitoring solutions. These efforts will result in a report and recommendations to NDIC and EDTC. The recommendations will deliver critical information to state legislators and regulators that will provide a basis for the State's evolving regulation of construction, inspection, and monitoring practices of liquids-gathering pipelines.

Critical to the success of Phase I will be recruitment of industrial stakeholders to inform the project on current practices and technologies – both successful and unsuccessful. Positive and negative lessons from the field will guide the investigation. Stakeholders will be invited on several occasions to provide intelligence to the project in open forums hosted by the EERC and via one-on-one conversations with EERC staff.

The second phase of work will apply knowledge gained during the first project phase toward the goal of demonstrating best practices in a pilot gathering pipeline project. This pilot project will evaluate and demonstrate best construction practices and the most promising pipeline-monitoring practices and technologies identified in Phase I on a working pipeline, thereby promoting advanced gathering pipeline management statewide. This phase of work will require technical engagement and support from one or more industrial stakeholders in the state. The EERC will do the following:

- Plan the design of the pilot site(s)
- Coordinate installation of the pilot site(s)
- Monitor performance of the installed pilot systems
- Analyze the performance of the installed pilot systems after a test period is completed
- Report on the results of the pilot tests at their completion

This second project phase will validate pipeline-monitoring concepts for use in North Dakota, identify operational challenges inherent in their use, and demonstrate their employment in a relevant environment. The state funds budgeted for this work will not be used for purchase of monitoring systems or pipeline installation. No equipment will be purchased in accomplishment of the first phase of work, but limited equipment to facilitate data collection, transfer, and interpretation may be purchased to best accomplish the pilot demonstration.

It is anticipated that industrial partners with vested interest in the success of these systems will purchase the necessary hardware and own the systems after this publicly funded validation effort is complete. This public–industry collaboration will maximize the value to taxpayers and industry entities alike. It will also ensure adequate financial resources are applied to execute a robust demonstration of technologies applicable to the various extremes that are encountered in the North Dakota environment.

A detailed outline of the project scope of work is offered here as follows:

1. Project Management

This management task will assure timely completion of deliverables, appropriate engagement of stakeholders, and optimal quality assurance and quality control. This task will also provide administrative, technical and budgetary oversight on the technical tasks embodied within this effort. Specific interactions with any interim legislative committees, to include EDTC, and for other interactions with the 65th Legislative Assembly, will also be provided under this management task.

2. Phase I – Pipeline Construction and Monitoring Study

a. Research North Dakota pipeline regulations
   i. Research regulations in other oil-producing states
   ii. Summarize regulations in internal minireport
b. Understanding infrastructure
c. Process description
   i. Construction standards
   ii. Pipeline materials
   iii. Monitoring systems
   iv. Maintenance
   v. Reclamation
   vi. Abandonment
d. Analyze options for liquids storage on network
   i. Research issues/risks
   ii. Compile information on opportunities
   iii. Summarize regulations
   iv. Investigate secondary containment options and other mitigation
   v. Cost sensitivity analysis on volumes vs. storage costs
e. Leak/spill statistical analysis
   i. Survey of spills/leaks history
   ii. Federal Emergency Management Agency review
   iii. Comparison of North Dakota to other states
f. Technoeconomic analysis of leak detection and monitoring
   i. Monitoring system vendor discussions
   ii. Obtain pricing and design criteria from vendors
   iii. Construct cost models
   iv. Conduct sensitivity analyses
g. Make recommendations
   i. Construction considerations
   ii. Inspection considerations
   iii. Monitoring considerations
   iv. Material selection considerations
   v. Summary of situational peculiarities

h. Compile final report
    i. Draft report
    ii. Vet draft with key partners
    iii. Incorporate pertinent suggestions
    iv. Draft report to NDIC
    v. NDIC review of draft
    vi. Incorporate NDIC suggestions to complete report
    vii. Final report to NDIC and EDTC w/recommendations
i. Continuing support and outreach after report
    i. Continuing testimony to EDTC
    ii. Landowner education

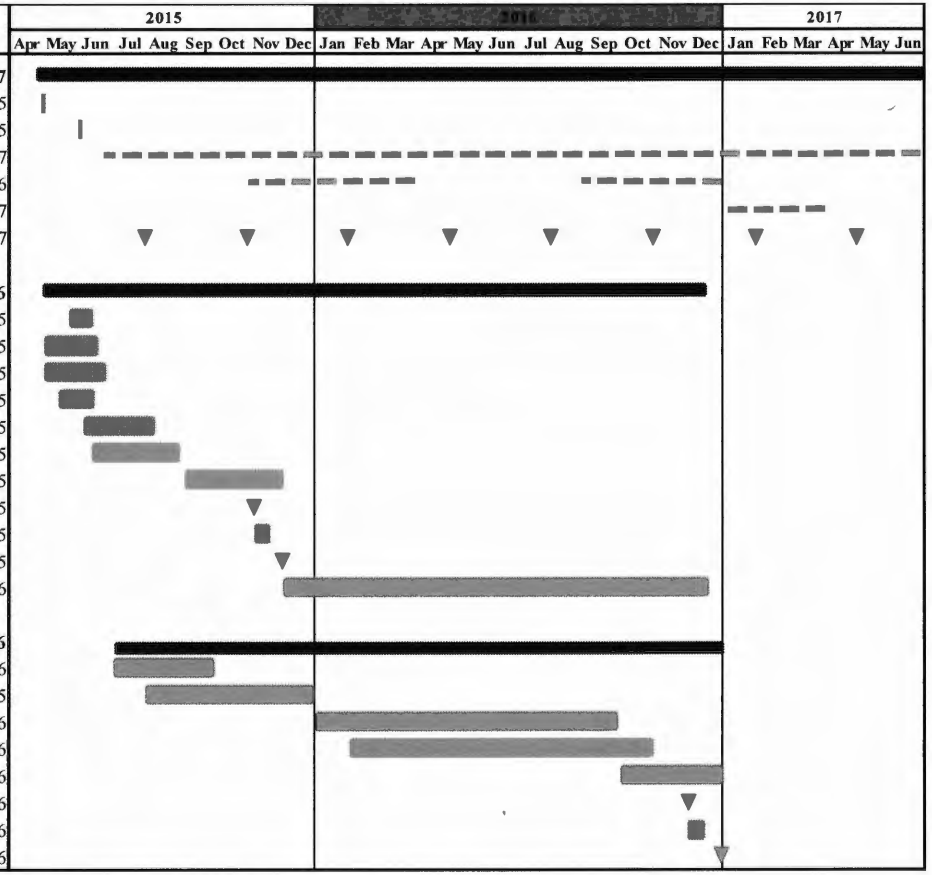
3. Phase II – Pipeline -Monitoring and Leak Detection Pilot Project

a. Planning the pilot project
    i. Industrial partner(s) recruitment (producers, midstreams, pipeline operators, monitoring system vendors)
    ii. Site(s) selection
    iii. Design of site-specific pilot system(s)
    iv. Coordination with industry partner(s) for procurement activities
b. Supervision of pilot project construction
    i. Coordination with industry partner(s) for construction activities
    ii. Monitoring of pilot project performance
c. Data monitoring
    i. Ongoing instrument condition assessment
    ii. Instrument calibration verification
    iii. Sharing project data with industrial partner(s)
d. Analyzing pilot project performance
    i. Posttest data analysis
    ii. Sensitivity analyses with temperature, sunlight, moisture, and snowcover as factors
    iii. Measurement error analysis
e. Report on pilot project

PROJECT TIME LINE

The period of performance for this project is April 20, 2015, to June 30, 2017. A detailed time line is presented in Figure 1.

	Start Date	End Date
Project Management	**4/20/2015**	**6/30/2017**
Kickoff Meeting – EERC Internal	4/27/2015	4/27/2015
Kickoff Meeting – Stakeholders	6/2/2015	6/2/2015
Stakeholders Meetings	6/22/2015	6/30/2017
Interactions with Interim Legislative Committee (EDTC, others)	11/1/2015	12/31/2016
Interactions with 65th Legislative Assembly	1/2/2017	3/31/2017
Quarterly Reports	7/31/2015	4/30/2017
Phase I – Pipeline Construction and Monitoring Study	**5/1/2015**	**12/23/2016**
Understanding Existing Pipeline Regulations	5/25/2015	6/12/2015
Understanding Infrastructure	5/1/2015	6/18/2015
Analyze Options for Liquid Storage on Network	5/1/2015	6/25/2015
Leak Spillage/Statistical Analysis	5/18/2015	6/12/2015
Technoeconomic Analysis of Leak Detection Monitoring	6/5/2015	8/7/2015
Make Recommendations	6/15/2015	8/28/2015
Compile Phase I Final Report	9/7/2015	12/1/2015
Draft Report to NDIC	11/6/2015	11/6/2015
NDIC Review of Final Report	11/9/2015	11/20/2015
Final Report Due to NDIC and EDTC	12/1/2015	12/1/2015
Continuing Support and Outreach After Report	12/2/2015	12/23/2016
Phase II – Pipeline-Monitoring and Leak Detention Pilot Project	**7/6/2015**	**12/31/2016**
Selecting/Planning the Pilot Project [1]	7/6/2015	9/30/2016
Supervision of Pilot Project Construction [1]	8/3/2015	12/31/2015
Monitoring of Pilot Project Performance	1/5/2016	9/30/2016
Analyzing Pilot Project Performance	2/1/2016	10/28/2016
Compile Phase II Final Report	10/1/2016	12/31/2016
Draft Report to NDIC	12/1/2016	12/1/2016
NDIC Review of Phase II Final Report	12/2/2016	12/15/2016
Phase II Final Report Due to NDIC and EDTC	12/31/2016	12/31/2016



Summary Task ▬ Activity Bar ▬ Activity to be Performed as Needed - - - Deliverable ▼

[1] Overlap of selecting/planning the pilot project and supervision of pilot project construction reflecting potential early start of the activity during summer 2015 and attendant uncertainty.

Figure 1. Project time line.

DELIVERABLES

Products that will be delivered to the state include the following:

- Quarterly reports to NDIC, summarizing progress made during each quarter and highlighting expected accomplishments during the next quarter – due 30 days after the end of each calendar quarter.

- Phase I final report with recommendations to guide state efforts to deduce effective and economically viable approaches to regulation of gathering pipeline construction, monitoring, and inspection – due December 1, 2015.

- Phase II final report summarizing the pilot demonstration design, the data collected during the pilot demonstration, analysis of that data, and recommended practices resulting from the pilot demonstration – due December 31, 2016.

KEY PERSONNEL

Jay Almlie will serve as project manager. Mr. Almlie has managed numerous large projects during his tenure at the EERC and prior to that during his tenure at National Aeronautics and Space Administration – Johnson Space Center. Mr. Almlie has served a central role in the related Bakken Production Optimization Program, also funded by NDIC.

John Harju will serve as a project advisor. Mr. Harju will provide valuable insight regarding industry conventional wisdom and pertinent relationships within the industry and between the industry and the state.

Tom Doll will also serve as project advisor, offering insights into the regulator's perspective of the issues being studied. Mr. Doll formerly served as the principal oil and gas regulator in Wyoming.

Dr. John Hurley, an EERC materials scientist, will investigate pipeline materials and all related aspects.

Dr. Bruce Folkedahl, an EERC materials engineer, will also investigate pipeline materials, their compatibility with the North Dakota environment, and known failure modes and effects.

Michael Collings, an EERC process engineer and data systems expert, will investigate pipeline-monitoring systems and their compatibility with pipeline construction practices and materials. Mr. Collings will lead the technoeconomic analysis of pipeline-monitoring systems.

Dr. Steven Schlasner, an EERC process engineer with pipeline and refinery experience, will also investigate pipeline-monitoring systems, focusing on advanced monitoring technologies.

Brad Stevens, PE, an EERC civil engineer with experience in remediation and reclamation activities will investigate construction practices and reclamation practices as they relate to the goal of the project and the resulting recommendations.

BUDGET

A detailed budget for all phases of the project is included in Table 1. Budget notes are included in Appendix A.

Table 1. Budget

BUDGET

Category	Phase I Pipeline Construction and Monitoring Study	Phase II Pipeline Monitoring and Leak Detection Pilot Project	Total
Labor	$ 822,747	$ 450,898	$ 1,273,645
Travel	$ 44,957	$ 16,632	$ 61,589
Equipment > $5000	$ -	$ 70,000	$ 70,000
Supplies	$ 6,020	$ 53,978	$ 59,998
Other*	$ 12,040	$ 2,394	$ 14,434
Laboratory Fees & Services			
Graphics Service	$ 13,513	$ 6,821	$ 20,334
Total Project Costs – U.S. Dollars	$ 899,277	$ 600,723	$ 1,500,000

*May include costs such as food, printing, communications, or other miscellaneous expenses.

Labor Categories	Phase I Labor Hours	Phase II Labor Hours	Total Hours
Research Scientists/Engineers	4,798	2,683	7,481
Research Technicians	460	217	677
Senior Management	140	84	224
Under Graduate Research Students	1,200	-	1,200
Technical Support Services	194	99	293
Total	**6,792**	**3,083**	**9,875**

Note: Phase I and II include project management activities