
Request for Proposals

Facilitating Utility Smart Energy Education (FUSED)

Specialized DER Professional Training for Utility Employees

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Project Overview

SEPA requests proposals for assistance in creating and implementing a specialized Distributed Energy Resource (DER) accredited training program for utility employees - Facilitating Utility Smart Energy Education (“FUSED”). SEPA is seeking a firm or team comprised of content matter experts and instructional designers for this project.

Organizational Background and Project Team

SEPA is a non-profit organization dedicated to working with electric power stakeholders through the most pressing issues affecting the growth and utilization of smart energy. We are a trusted platform for education, research, standards, and collaboration to help utilities, customers, and other players deploy and integrate solar, storage, demand response and other distributed energy resources. Through educational activities, working groups, peer-to-peer opportunities, and advisory services, SEPA engages interested parties in facilitating necessary information exchange and knowledge transfer to offer the highest amount of value for our membership and partner organizations.

An under-recognized but critical barrier to DER growth is insufficient understanding of and familiarity with DERs on the part of electric utility professionals. DER training developed with and for utilities will not only build needed skill sets for key roles within the utility workforce, but will also foster more informed and proactive utility/customer interactions, thus reducing soft costs related to the successful integration of DER technology.

SEPA is now seeking both Content/Job Task Specialists and Instructional Designers in support of its FUSED initiative.

Project Goals and Target Audience

The overall goal of FUSED is to develop and validate a set of DER training modules for three primary key occupational areas in the utility workforce - Commercial Account Representatives, System Planners and Operators (to include Grid Operators, Energy Marketers, and Generation Planning) and Distribution Planning Engineers. These are referred to collectively as the “Targeted Occupations.” The goal of this initiative is to expand the electric utility industry’s knowledge base through a collaborative effort between utility partners and DER industry experts. SEPA has identified these occupations based on extensive preliminary research, as well as

through feedback from SEPA's utility membership. Selection priority was based on the pre-existence of currently available accredited training programs, as well as the potential for negative impacts from situational errors made by these Targeted Occupations during the DER integration and operation process. Trainings that reduce or eliminate these potential errors could have significant long term impacts on the successful integration of DER within the utility organizational framework.

Proposed Roles and Responsibilities

Main Contractor/Project Manager

- Manage relationship with SEPA
- Create and maintain project scope of work, key roles and responsibilities, and project schedule
- Manage deployment of Content Specialists and Instructional Designer related to assignments within the scope
- Hold project team meetings at mutually determined regular intervals
- Produce summary reports for each major task and obtain feedback
- Produce final report and recommendations for long term sustainability
- Assist with the training program accreditation process

Content Specialists

- One for Commercial Account Representatives, one for System Operators and Planners, and one for Distribution Engineers
- Define job functions including defining existing job tasks and functional scopes of work for each occupation
- Define critical DER knowledge gaps and key learning objectives for each occupation
- Conduct job impact analyses for each occupation using focus groups, interviews, and online survey instruments
- Develop DER overview modules for use as both course introduction and as general knowledge tutorial for regulators and policy makers
- Identify key utility partners for pilot testing conduct pilot learning sessions with key utility partners

Instructional Designers/Curriculum Development

- Assist in identification and procurement of appropriate cloud-based Learning

Management System (LMS)

- Develop interactive, web-based DER learning modules for Targeted Occupations with feedback from Content Specialists.
- Assist in determining the state and needs of the learner and defining the end goal of instruction
- Development of the online module for each job function, as well as the general DER overview module.
- Validation of the learning approach with appropriate assessment tools.
- Development of in-person, interactive learning formats from online modules and assistance with in-person learning validation assessments.
- Submission of coursework to appropriate credentialing bodies to ensure that continuing education credits can be offered related to the Targeted Occupations.

Deliverables

Project Relevance and Outcomes

FUSED is designed to develop and deliver a series of online educational modules that can also be utilized as in-person DER training programs as needed for Targeted Occupations in the utility workforce, specifically, Commercial Account Representatives, System Operators and Planners, and Distribution Engineers. The first set of training modules will provide key staff with a basic understanding of how DER technology works within the utility framework. This information can be shared with all levels of utility staff as well as with utility regulators to ensure that methods for effectively integrating DERs are well understood by the utility sector as a whole. Additionally, the program will provide specific information related to DER's current and future impacts on these individual utility roles, such as how new and innovative DER business models are being deployed by and for customer applications, being able to safely operate on a distribution feeder heavily loaded with DERs, as well as gaining a grasp of DER's aggregated potential on the bulk power system. Further, the program will offer insight into solutions for legacy utility operating and engineering challenges which can be mitigated or resolved through applications and controls of DER power electronics. Through the provision of this enhanced knowledge, FUSED will support the continued growth of DERs, improving the efficiency of DER integration, reducing soft costs, and ultimately improving the DER marketplace.

The selected contractor will work SEPA to develop relevant performance metrics and a robust evaluation plan, combining front-end, formative, and summative evaluation, to continually assess the effectiveness of the training modules and measure training impact, job impact, and

knowledge retention. The project has three expected outcomes: 1) a series of fully-vetted and performance-tested DER training modules focusing on the process of ensuring successful DER integration and best practices for utility personnel 2) successful implementation of at least two utility functional job impact analyses 3) and curriculum validation by at least 40 utility personnel over the first year, with an estimated 300 participants per year after the curricula have been finalized and validated.

Project Objectives

The overall goal of FUSED is to develop and validate a set of DER training modules for three targeted occupations in the utility workforce - Commercial Account Representatives, System Planners/Operators, and Distribution Engineers – expanding the industry’s knowledge base through a collaborative effort between utility partners and industry experts.

Objectives:

- Increase DER knowledge among electric utility Targeted Occupations that are typically underserved in DER training initiatives and efforts
 - Lower soft costs related to DER integration, by designing training modules that address common organizational and operational challenges surrounding the implementation and management of these resources.
 - Enhance comfort levels related to DER visibility and predictability of DER’s aggregated performance in front and behind the meter as well as throughout the electricity market value chain
 - Continually assess the effectiveness and relevance of training programs, through front-end, formative, and summative evaluation techniques
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Work Breakdown Structure

The selected bidder will work with SEPA staff to develop training programs for utility personnel across the U.S. in an effort to increase employee understanding of DERs, their technology, and integration processes. SEPA has identified 1) Commercial Account Representative 2) System Operators and Planners and 3) Distribution Engineers as the initial utility personnel types where DER job-impact analysis and training is most beneficial. The topics covered in each training will vary based on the targeted personnel’s needs, which will be identified in the first stage of the project. The curriculum that is developed will be vetted by the utility partners selected to support the program. The selected contractor must employ front-end, formative, and summative

evaluation to assess the DER training modules at all phases of the project. As summarized in Figure 1, and detailed below, the contractor will conduct this work over three discrete performance periods. It is expected that the first set of tasks (Task 1) would be completed prior to the end of 2017 with at least one (1) education module ready for testing prior to the end of January 2018. The goal for final completion of all module development and validation testing is December 2018.

Figure 1

	Subtasks	SEPA Role	Contractor Role (Content Specialists, Instructional Designer)	Supporting Partner Role Utility and Association Partners
Task 1: Function Task Analysis	1.1 Survey landscape of training materials and clarify participant objectives	Review existing training materials compiled by contractor and provide feedback	Collect and compile existing training resources on DER for target occupations	
	1.2 Administer interviews to ascertain training needs	Provide contractor with list of target utility/association partners	Hold phone interviews and online questionnaires with selected employees from partner utilities and subject matter experts	Participate in phone interviews and online questionnaires
	1.3 Develop interview guides for targeted occupations	Develop interviews and questionnaires for each targeted occupation	Develop interviews and questionnaires for each targeted occupation	
	1.4 Draft function task analysis	Review job task descriptions	Generate a draft of the function task analysis for each targeted occupation: 1) Analyze interview data to identify generalized and specialized work activities performed at the	

			<p>intersection of identified occupation and DER technology</p> <p>2) Identify the skills one would need to know how to perform DER-related tasks successfully</p>	
	1.5 Utility professional roundtables	Attend workshop sessions as available	Facilitate 3 workshops with DER SMEs and 2 SMEs from each of the selected occupations with utility and utility association partners to validate, refine, and expand on the draft Function Task Analyses	Recruit workshop participants
	1.6 Gap analysis	Provide feedback on draft and final knowledge gap analysis	Conduct a gap analysis between the existing training materials identified and the learning objectives generated under subtask 1.1	Provide feedback on draft knowledge gap analysis
Task 2: Develop Training Curriculum	2.1 Develop DER & utilities general training module		Generate training and assessment materials for online access, which are capable of being converted to instructor-led classroom environments. <i>“How do utilities plan for increasing DER penetration?”</i>	
	2.2 Develop targeted		Replicating subtask 2.1	

	occupation modules		to focus on “ <i>How do the targeted occupations plan for increasing DER penetration?</i> ”	
	2.3 Project team review full set of training modules	Review full set of training materials	Provide SEPA with full set of training materials	
	2.4 Develop post-training questionnaire and performance metrics		Develop end-of course assessment to evaluate how well the instructional design and delivery facilitated learning and retention	
Task 3: Conduct Pilot Testing	3.1 Conduct 3 training pilots		Lead 3 training pilots for each Targeted Occupation	Participate in pilot trainings
	3.2 Evaluate the course through post-training questionnaires		Conduct post-training questionnaires online, and where feasible, by phone-based follow-ups	Respond to post-training follow-ups
	3.3 Update training modules		Update the content and structure of the training modules as needed	
	3.4 Conduct follow-up with pilot training participants		Conduct a follow-up with all who participated in the pilot trainings (approx. 3 months after completion) to assess knowledge retention	Respond to post-training follow-ups
	3.5 Develop training summary report	Review summary report	Provide SEPA with a summary report containing the course assessment results, course evaluation data, and course follow-up	

			findings, with recommendations for curriculum adjustments and opinions on potential for program growth	
Task 4: Full Program Launch and Sustainability Planning	4.1 Training program pricing assessment		Conduct a market assessment to determine what organizations are conducting similar training and at what cost. Look at the economics of various delivery models for the trainings	
	4.2 Conduct membership query	Administer questionnaire to member utilities	Develop a questionnaire to measure utilities' interest	Administer questionnaire to member utilities
	4.3 Develop marketing materials	Work with Contractor to produce marketing materials needed to support the deployment of a fee-based training model.	Work with SEPA to produce marketing materials needed to support the deployment of a fee-based training model.	
	4.4 Develop final training plan	Incorporate the findings from Subtasks 4.1, 4.2, and Task 3 to develop a plan for growing the training program and making it sustainable.	Incorporate the findings from Subtasks 4.1, 4.2, and Task 3 to develop a plan for growing the training program and making it sustainable.	

TASK 1: Function Task Analysis

The Function Task Analysis identifies the functional elements of an occupation (in this case, Commercial Account Representatives, System Operators and Planners, and Distribution Engineers) and examines how a changing environment (in this case the expansion of DERs)

affects each.

Subtask 1.1: Survey landscape of training materials and clarify participant objectives

The Contractor will collect and compile existing training resources on DER for target occupations. SEPA will review compiled resources and provide feedback to the contractor and also ensure that existing resources on DER fundamentals will be leveraged for this effort.

Subtask 1.2: Administer interviews to ascertain training needs

SEPA will provide contractor with list of target utility/association partners. The Contractor and the Content Specialists will hold a combination of phone interviews and online questionnaires with selected employees from partner utilities and subject matter experts. Data gathered during this phase will inform the early drafts of the function task analyses.

Subtask 1.3: Develop interview guides for targeted occupations

SEPA and the Content Specialists will develop interviews and questionnaires for each targeted occupation. The purpose will be to document how employees currently interact with DER technology on their job, how they anticipate interacting with DER technology in the short-to-midterm, and what types of training they feel would be most beneficial to provide them with necessary knowledge and skills regarding DER technology. Some of the questions will be applicable to both occupations, while some will be customized to each the specific occupation.

Subtask 1.4: Draft function task analysis

Informed by the results of Subtask 1.2, the selected contractor will work with the selected Content Specialists and will take the following steps to generate a draft of the function task analysis for each targeted occupation. The content developed in this process will be used as the basis for curriculum and assessment development.

1. Analyze interview data to identify generalized and specialized work activities performed at the intersection of identified occupation and DER technology
2. Identify the skills one would need to know how to perform DER-related tasks successfully.

Subtask 1.5 Utility professional roundtables

The selected contractor will coordinate designated Content Specialists and the Instructional Designer to facilitate 3 workshops with DER Subject Matter Experts (SMEs) and two SMEs from each of the selected occupations with utility and utility association partners. These workshops will serve to validate, refine, and expand on the draft Function Task Analyses developed in Subtask 1.3 in order to generate, for each function:

1. Prime domains and sub-tasks

2. Knowledge and skills required
3. Weighting and assigning criticality to each task

During and immediately following the workshops, the contractor will analyze the outcomes and define, for each function, terminal learning objectives, enabling learning objectives, and appropriate assessment instruments. The contractor will work with its designated Content Specialists, and the Instructional Designer to gather feedback from participating SMEs on these elements, and these products will then guide the remainder of the curriculum development process to yield the most relevant, on-the-job, results-driven training content.

Subtask 1.6: Gap analysis

The Contractor and its team will conduct a gap analysis between the existing training materials identified and the learning objectives generated under SubTask 1.1, to ensure that new content generated under this project doesn't reinvent the wheel. Curriculum developed will be carefully prioritized to meet the unique needs of utility personnel who interact with DER technology.

TASK 2: Develop Training Curriculum

The training curriculum will most likely be divided into two types of training modules: a DER and utility module that is applicable to all utility professionals; and training modules applicable specifically to the Targeted Occupations. Initial thoughts are that each module will be designed with the capability of being applied to an in-person course structure.

Subtask 2.1: Develop DER & utilities general training module

During this phase of the project, training and assessment materials will be generated for online access which should be also capable of being converted to instructor-led, synchronous classroom training environments against the identified terminal and enabling learning objectives. Instructional materials will include: lesson plans and instructor notes, presentation materials, student worksheets and reference materials, assessment questions and assessment activities to confirm knowledge transfer of core learning objectives. The topic focus of this module will be '*How do utilities plan for increasing DER penetration?*'

Subtask 2.2: Develop targeted occupation modules

This task replicates the work in Subtask 2.1. These modules will focus on answering the topic question '*How do the Targeted Occupations plan for increasing DER penetration?*' The lead Contractor, the Content Specialists, and the Instructional Designers will lead the efforts in this subtask and the previous.

Subtask 2.3: Project Team review full set of training modules

The contractor will provide SEPA with the full set of training materials and will conduct a thorough review to ensure that they are comprehensive.

Subtask 2.4: Develop post-training questionnaire and performance metrics

In addition to in-course assessment tools, an end-of course assessment will be created to evaluate how well the instructional design and delivery facilitated learning and retention. If possible, classroom-based, technology-enhanced assessment tools will be implemented for ease of data analysis. End-of-course evaluation tools will also be generated to enable all participants - students, instructors, course observers, and other project stakeholders - to provide structured and open-ended feedback on the training. The data from the assessments and pilot course evaluations will be analyzed and critical feedback incorporated into the final round of curriculum updates and delivery prior to the full launch of the training initiative.

TASK 3: Conduct Pilot Trainings

By piloting the training curriculum with utility partners, we will be able to vet and revise the curriculum as needed, ensuring that the final product is effective in improving DER proficiency and reducing soft costs. .

Subtask 3.1: Conduct 3 training pilots

The lead Contractor and the Content Specialists will lead 3 training pilots for each Targeted Occupation. The pilot trainings will be conducted with a select set of utility partners. The pilots will serve a dual purpose of testing out the instructional methods and resources, as well as transferring the knowledge to the participants. The Instructional Designer will attend the trainings to observe their effectiveness.

Subtask 3.2: Evaluate the course through post-training questionnaires

The Instructional Designers will conduct post-training questionnaires online and, where feasible, by phone-based follow-ups with pilot participants from the pilot utilities to: 1) assess retention of the course's learning objectives 2) record how many of the skills taught that trainees were able to utilize on the job 3) assess if, in retrospect, the trainees thought it was a valuable training experience 4) to request and receive suggestions on what future training should include to be of maximum value and impact on trainee's job performance. This feedback will be analyzed to determine if additional changes should be made to the curriculum, supplementary workshop materials, and/or delivery methods prior to full program launch. The lead contractor and the Instructional Designer will conduct similar online follow-ups with participants once the full program has launched.

Subtask 3.3: Update training modules

Based on the findings of Subtask 3.2, the Contractor, the Content Specialists, and the Instructional Designer will update the content and structure of the training modules as needed. The Instructional Designer will review the updated modules to ensure that they fulfill the training needs

Subtask 3.4: Conduct follow-up with pilot training participants

The Instructional Designer will conduct a follow-up with all who participated in the pilot

trainings. This follow-up will occur approximately three (3) months after the trainings. The purpose of the follow-up is to assess knowledge retention of program content, and provide a light refresher to the trainees.

Subtask 3.5: Develop training summary report

The Contractor and Instructional Designer will provide SEPA with a summary report containing the course assessment results, course evaluation data, and course follow-up findings, with recommendations for curriculum adjustments and their expert opinion on the potential for program growth. This report will focus on the sustainability and growth of the training programs and lessons learned from the development and implementation processes over the initial project period, with a broader goal of further strengthening the capacity of the partnering organizations to develop the highest quality training content in response to future needs assessments.

TASK 4: Full Program Launch and Sustainability Planning

In the final task of this work, the Project Team will conduct market research and provide recommendations for how these trainings can continue.

Subtask 4.1: Training program pricing assessment

In order to identify a proper price point, the Contractor and the Content Specialists will first conduct a market assessment to determine what organizations are conducting similar training and at what cost they are offered to participants. This assessment will also look at the economics of various delivery models for the trainings, analyzing the value of holding trainings online.

Subtask 4.2: Conduct membership query

As part of the market research into the practicality of a fee-based model, the Contractor will develop a questionnaire to measure utilities' interest. The questionnaire will be administered to the utilities on the Project Team.

Subtask 4.3: Develop marketing materials

The Contractor will work with SEPA to produce the marketing materials needed to support the deployment of a fee-based training model. The primary effort will be placed on website development. The website should explain the trainings and delivery options, as well as allow interested parties to schedule trainings. Supporting marketing materials will be developed as needed.

Subtask 4.4: Develop final training plan

SEPA, the Content Specialists, and the Instructional Designer will incorporate the findings from Subtask 4.1 and 4.2, as well as those from Task 3, to develop a plan for growing the training program and making it sustainable. At minimum, this plan will include the program's

delivery method and structure, the targeted audience, and the facilitators of an ongoing training program. In addition, this plan will examine the utility in developing an accreditation program tied to the program.

Criteria for Selection

The winning bidder(s), if any, will be selected solely by the judgement of SEPA. SEPA reserves the right to make one or multiple awards, or no award. Key criteria for selection will include:

- Qualifications of Key Personnel - bidders may submit as single entity or as a team. Proposals will be rated based on the qualifications of the individuals identified to complete the scope of work as well as by the aggregate capability of the personnel identified to meet the needs of this nationally-focused scope. Demonstration of appropriate credentials and positive reputation within the utility sector (the target audience) will be a critical factor for consideration.
 - Approach to Completion of Scope of Work - SEPA will review the bidder's project plan and evaluate for both the achievability of the proposed approach as well as how comprehensive and responsive the approach is deemed to be by SEPA staff.
 - Cost and Timeline - SEPA will evaluate the overall cost of each bidder's proposed scope of work as well as the estimated hours required to complete the work. Hourly rates and indirect costs will also be evaluated. SEPA reserves the right to negotiate on any proposed costs and estimated hours proposed by the bidder. Additionally, SEPA will evaluate each bidder's proposed timeline based on perceived achievability and alignment with SEPA's internal goals. Any cost saving alternative proposals to scope as outlined by SEPA in this document will also be considered.
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Format and Proposal Timeline

All bids will receive an initial review to ensure that they meet all minimum requirements and are responsive. All responsive bids will be evaluated by the proposal team to select the winning bidder and an alternate. Negotiations with the winning bidder are expected to result in a contract award within four weeks of receipt of a notice of selection for negotiation.

Proposed Project Launch Timeline

The desired timeline for completing the proposal and award process is illustrated below.

SEPA reserves the right to amend this schedule as necessary.



Format

Each proposal should be submitted in PDF format with one inch margins. Text size should not be less than 10 point font. Any attachments should be individually labeled and identified in the table of contents.

Each proposal should include the following items:

- Cover Page - with title “FUSED Proposal,” name of firm or project lead organization if joint proposal, and contact information including: email, company address, phone number and web address
- Table of Contents - should include all proposal components as well as any attachments or appendices
- Bidder Qualifications - each member of team being assigned to this proposed scope of work should include a one-page maximum description of qualifications
- Proposed Work Plan - detailed description of approach to completing the tasks as described by SEPA in this solicitation including description of approach, key personnel assigned to each task and hours required
- Proposed Project Timeline - timeline should include each task broken down on a visual timeline using project management software such as Smart Sheet or similar. Timeline should include each task, start date, finish date and total time required
- Cost Proposal - this component should include a cost breakdown by task, including hourly rates for each staff assigned, estimated hours for each task. Cost saving alternatives to the description of scope as provided by SEPA are encouraged and will be evaluated as a criteria for selection of bidder.

- Letters of Recommendation - each bidder should include at least two letters of recommendation related to their capability to successfully complete the proposed work. Each letter should be no more than one page in length and supplied by an actual current or previous client for which a similar or related scope of services was completed.
- Work Samples/Supporting Materials - each bidder may include work samples and/or supporting materials as long as those materials do not exceed 10 printed pages. Any supporting documentation greater than 10 pages will be disregarded by bid reviewers.

Proposal Submission Deadline

Bid proposals may be submitted electronically to: Jenny Senff (jsenff@sepapower.org) and must be received by June 30, 2017 by 4:00 PM ET.