Framework for Energy Innovation Working Group
Distribution Needs Case
Breakout Exercise for Meeting #5
September 15, 2021

Purpose

One of the tasks established by the OEB for the FEI Working Group (FEIWG) is to develop a number of high-value, non-utility-owned DER uses cases as alternatives to traditional solutions to meet distribution system needs. This exercise is intended to facilitate development of use case proposals.

Overview

FEIWG members will be divided into sub-groups. Each sub-group will include a DER developer and a utility representative. Each sub-group will be assigned for consideration a particular distribution system planning parameter (a Distribution Needs Case, or DNC). A five-step template has been developed and each sub-group is asked to use this template to identify and articulate a “best fit” DER option to satisfy the DNC (a DER Use Case). At the end of the exercise, each group will present and explain their proposed DER Use Case to the larger FEIWG.

Templates are provided below to guide the sub-group’s work and facilitate comparability when each sub-group presents to the larger FEIWG. Please use the templates provided. Each sub-group should designate a member to present and explain their proposed DER Use Case to the larger FEIWG.

Distribution Needs (i.e. Services to be Provided, Problems to be Solved)	
Capacity	☐
Reliability	☐
Power Quality	☐
Resilience	☐

Distribution Needs Case

Needs Case	Traditional Utility Solution	Service Characteristics

Step 1: **<u>Consider service characteristics and technology options.</u>** *~10 minutes.*

Part A: Based on your group's Distributed Need Case (DNC), evaluate potential technologies that could meet the required service characteristics. Add the service characteristics of the DNC in the first column. Under Technology Options, list potential technologies. For each technology option, indicate with an *X* if that option has capability to address the service characteristics. Further evaluation is covered in subsequent steps.

DNC Service Characteristics	**Technology Options**									
	Technology Option 1									

Part B: Choose a few options from your list in Part A (no more than 5) that you believe best fit the service characteristics for the Distribution Need Case. Your group will use these options in next steps.

Step 2: **Screen/assess technology options.** *~10 minutes*

In column 1, note the options (technologies or portfolio of technologies) from Step 1. For each option, assess the technology options using evaluation criteria below. Indicate your rating by converting to **bold text.**

Technology option ***(From Step 1)***	**Maturity**	**Market Size/ Availability**	**Scalability**	**Dispatchable**	**Degree of Control**	**Controlling Party**	**Cost**
	Young: Potentially high risk to failure Stable: Medium Risk Mature: Low Risk	Low Medium High	Low Medium High	Yes No	Low Medium High	Utility Customer Third-Party Other	Low Medium High
	Young Stable Mature	Low Medium High	Low Medium High	Yes No	Low Medium High	Utility Customer Third-Party Other	Low Medium High
	Young Stable Mature	Low Medium High	Low Medium High	Yes No	Low Medium High	Utility Customer Third-Party Other	Low Medium High
	Young Stable Mature	Low Medium High	Low Medium High	Yes No	Low Medium High	Utility Customer Third-Party Other	Low Medium High
	Young Stable Mature	Low Medium High	Low Medium High	Yes No	Low Medium High	Utility Customer Third-Party Other	Low Medium High

Step 3: **<u>Discuss and prioritize technology options</u>**. *~15 minutes*
From the chart in step 2, discuss merits, trade-offs, benefits, or other issues. Prioritize 2-3 technologies for further discussion. Capture this discussion below.

Step 4: **<u>Analyze/Evaluate technology deployment.</u>** *~15 minutes.*

Using the 2-3 technologies (or combinations of technologies) you chose to prioritize, use the following chart to describe characteristics of your options.

Technology	**Expected Life**	**Location (e.g., behind the meter, in front of meter)**	**Permitting and/or siting concerns**	**Installation/ development timeline**
Technology option 1	*10 years*	*Customer sited, behind the meter*	*Requires local oversite*	*12-24 months*

Step 5: **Evaluate technology options to choose the "best fit."** *~10 minutes*
For your prioritized technology options, summarize some key benefits and limitations in meeting this Distribution Needs Case. With this in mind, choose the best fit option(s). You will be asked to present your options to all groups.