

Attachment 5.3.2

GridAmerica – Financing experience on Similar Projects

Table 5.3-1: Financing experience on Similar Projects

New England East West Solution (includes the Interstate Reliability Project (IRP), Rhode Island Reliability Project (RIRP), and Advanced NEEWS Projects)	
i. Location	Massachusetts, Rhode Island, Connecticut
ii. Project type and size	National Grid collaborated with Eversource Energy to construct a three-state transmission suite of projects that involved, among other things, the relocation, siting, and construction of new overhead 115 kV and 345 kV and reconductoring of existing transmission lines in Massachusetts, Rhode Island and Connecticut for a total transmission line length of 160 miles.
iii. Date of construction and permanent financing	2008 – 2015
iv. Form of debt and equity financing	National Grid financed and constructed the Massachusetts portion of the suite of NEEWS projects using \$100 million of internal money pool financing in accordance with National Grid's corporate capital structure
v. Current status	Operating
Merrimack Valley/North Shore Upgrade Area Project	
i. Location	Northeastern Massachusetts
ii. Project type and size	The project included the construction of a new 345/115 kV gas-insulated substation at Wakefield, MA, a new 345/115 kV substation in West Amesbury MA, building of a new 115 kV line (K-163), as well as reconductoring of multiple 115 kV lines and upgrades at other area substations in Northeastern MA.
iii. Date of construction and permanent financing	2008 – 2013
iv. Form of debt and equity financing	\$174 million capital projects Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	Operating
Auburn Street Area Projects	
i. Location	Whitman, Massachusetts and surrounding area
ii. Project type and size	The projects included a complete rebuild of the 115 kV and 345 kV yards and addition of 345/115 kV transformation at Auburn Street substation, as well as significant 115 kV substation work to other area substations.
iii. Date of construction and permanent financing	2010 – 2013
iv. Form of debt and equity financing	\$98 million capital projects Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	Operating
Bloomington to Vernon Hill	
i. Location	Worcester, Massachusetts
ii. Project type and size	New 115 kV cable
iii. Date of construction and permanent financing	2011 – 2012
iv. Form of debt and equity financing	\$34 million Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	Operating

Hampden County Reliability Project (HCRP)	
i. Location	Hampden County, Massachusetts
ii. Project type and size	Design and construction of a new 10-mile 115 kV R-170 transmission line from Palmer, MA to Hampden, MA, and a new substation in West Hampden.
iii. Date of construction and permanent financing	2015 – 2016
iv. Form of debt and equity financing	\$32.25 million Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	Operating
Greater Boston and Southern New Hampshire Solution	
i. Location	Southern New Hampshire to Greater Boston
ii. Project type and size	A suite of projects, including: 1) Merrimack Valley Reliability Project (MVRP): 24.5 miles of new overhead 345-kilovolt (kV) line in existing transmission rights-of-way in the towns of Tewksbury, Andover, and Dracut, MA, and Pelham, Hudson, Windham, and Londonderry, NH. The project is being constructed collaboratively with Eversource Energy, which is building the 18-mile portion of the line in NH; National Grid is constructing 6.5 miles in MA. 2) Woburn to Wakefield Line: 8.5 miles of new 345-kV underground cable in the towns of Woburn, Winchester, Stoneham, and Wakefield, MA; and 3) Mystic to Woburn Line: 8 miles of new 115-kV underground cable in the towns of Woburn, Winchester, Medford, Somerville, Boston (Charlestown), and Everett, MA.
iii. Date of construction and permanent financing	2016 – 2019
iv. Form of debt and equity financing	National Grid's portion of the 345 kV construction project is estimated at \$87 million. The entire suite of projects is projected to cost \$190 million. Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	In the permitting and construction phase. Expected to be in service in 2018.
Salem Cable Rebuild	
i. Location	Salem, Massachusetts
ii. Project type and size	National Grid is in the process of rebuilding the two 115 kV cables, each approximately 1.7 miles in length, in the City of Salem, Massachusetts. The project involves engineering, siting and constructing a complex cable system in the historic downtown section of the city.
iii. Date of construction and permanent financing	2016 – 2017
iv. Form of debt and equity financing	Estimated cost of \$63 million Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	In the construction phase.
Sandy Pond Controls Rebuild	
i. Location	Between Quebec and Massachusetts
ii. Project type and size	National Grid owns and operates a high voltage direct current (HVDC) transmission line rated at +/- 450 kV that is a key section of an interconnector between New England and Canada. National Grid operates the New England portion of the interconnection known as Phase 2 between New England and Canada. Phase 2 includes HVDC transmission lines from

	La Grande Station, James Bay, Quebec to Des Cantons and from Monroe, NH to Sandy Pond Station in MA, and three converter terminals (Radisson, Nicolet, and Sandy Pond), which were placed in service in the early 1990s. Sandy Pond is a +/- 2,000 MW +/- 450 kV DC bipolar converter terminal. This interconnection system from Quebec to Sandy Pond station in Massachusetts is the only large-scale multi-terminal HVDC system in the world today.
iii. Date of construction and permanent financing	2015 – 2016
iv. Form of debt and equity financing	\$23 million Cash call to equity owners for capital contributions.
v. Current status	Operating
Sea2Shore	
i. Location	Block Island, RI to Narragansett, RI
ii. Project type and size	A 20-mile undersea transmission cable connecting the first off-shore wind farm in the US to Block Island, Rhode Island and connecting into the National Grid's transmission network in Narragansett Rhode Island.
iii. Date of construction and permanent financing	2016 – 2016
iv. Form of debt and equity financing	Estimated cost of \$117 million Project has been financed in accordance with the approved capital structure within the regulatory framework of the associated entity.
v. Current status	Operating

Additionally, Citizens Energy has successfully developed and financed \$300 million of large-scale energy projects in high-voltage transmission and solar generation, including the following:

- **Transmission:** In 2012, Citizens invested \$100 million in the \$1.9 billion Sunrise Powerlink in Southern California, developed in partnership with San Diego Gas & Electric. Citizens owns 50% of the line's capacity in Imperial County (through its wholly-owned subsidiary Citizens Sunrise Transmission), and successfully financed its ownership share with 100% debt provided from John Hancock, New York Life, and Delaware Investments.
- **Solar:** From 2013-2017, Citizens has financed ~\$200 million of solar generation (86 megawatts) it has developed, built, and currently owns and operates in Massachusetts and Georgia. Across all 29 projects, Citizens financed:
 - \$69 million of tax equity from US Bank and Trust
 - \$108 million of debt from CIT, Union Bank & Trust, Eastern Bank, and Boston Private Bank
 - \$22 million of sponsor equity, funded internally from Citizens Energy