

CRC Infrastructure Sub-Committee

- Electronically (.pdf preferred) to: cr calabama.templateresponse.com.

I. What – Project Information/Basic Facts Project Scope

ELECTRIC UTILITY PROJECTS TO INCREASE DISASTER RESILIENCY

1. Acquire global positioning system (GPS) coordinates on all facilities subject to wind and tidal surge damage. All data will be imported into geographic information systems (GIS) mapping. This will facilitate location and repair of underground electrical facilities that are typically covered by sand following hurricane tidal surges. This will mitigate duration of power outages after major storms. Cost estimate is \$600,000.
2. Clear and/or trim additional power line right-of-way to mitigate line damage and improve power line resiliency following hurricanes. Cost estimate \$4,000,000.
3. Obtaining right-of-way easements to allow wider trimming of right of way to mitigate damage from trees and limbs. Cost estimate \$2,000,000
4. Building reinforced concrete protective barrier walls around three sides of equipment that is subject to storm surges (three phase pad-mounted transformers, pad-mounted switch gear, and sectionalizing cabinets). This will shield equipment from the damaging effects of storm surge and associated debris. Cost estimated \$1,500,000.
5. Immobilize Pad-mounted Equipment in areas subject to tidal surges. This project would require replacing existing equipment foundations with more substantial foundations on below grade piers and securing the equipment to the pads. Cost estimate \$400,000
6. Elevate equipment by installing raised pads or pouring concrete pads and splicing cables to allow for equipment such as: three phase pad-mounted transformers, pad-mounted switch gear, single phase pad-mounted transformers, and sectionalizing cabinets to be raised to better withstand expected storm surge or flood levels which will aid in coastal resiliency. Cost Estimate \$2,500,000

7. Converting overhead power lines to underground. This work would consist of installing underground concrete encased conduit and cable systems and pad mount equipment in selected areas. It would also require the removal of the overhead poles and cable. Cost estimate \$30,000,000

8. Rebuild overhead power lines to higher wind load standards than currently required. The project would include those overhead electric distribution lines most susceptible to storm damage. Rebuilding them to withstand much higher wind loading than current standards requires using concrete, steel or a larger class wooden poles. It is anticipated this project would include electrical facilities in close proximity (within 10 miles) of the Gulf of Mexico. This line hardening will increase resiliency especially in the southern most areas of Baldwin County. Cost estimate \$25,000,000

9. Build an additional High Voltage Transmission Line across Bon Secour Bay to the Shellbank substation. This project will add redundancy to the high voltage electrical transmission system serving the Cities of Gulf Shores and Orange Beach. Cost estimate \$20,000,000

10. Project duration or schedule by phase and status of any work in progress. Conceptual and Feasibility Planning, Engineering, Construction Five years

11. Estimated Cost (plus or minus 30%) \$86,000,000.00

12. Indicate level of confidence in accuracy of these estimates within the +/- 30% range

II. Why - Project Description relative to Impact and Criteria

1. Identify what need, threat or opportunity that this project, study, or recommendation will address See I, 1-12

2. How does this project or recommendation address and impact the recommended evaluation criteria:
 - 2.1.1. Coastal Recovery: Hardening electrical utility infrastructure will minimize initial damage caused by high winds and tidal surges associated with hurricanes. Minimizing initial damage will allow electric service to be restored faster. Rebuilding and recovery of the economy following almost any type disaster depends deeply on availability of electric service.

 - 2.1.2. Resiliency Same as above

 - 2.1.3. Transformational ??

2.1.4. Regionalism _____ Concept can be applied regionally if other electric utility providers are willing to take on the task.

2.1.5. Economic Diversification: This Utility Infrastructure Hardening proposal lends it's self very well to diversification. When commerce and industry look at locating in a coastal environment they will be seeing an electric utility capable of withstanding all but the most severe hurricanes with minimal coastal area damage and having the ability to restore service sooner following the most severe storms.

3. Project Economics _____ See I, 1-9

4. Identify Direct Project benefits to Coastal Alabama, including avoided costs, consequence of "No Build" alternative. _____ N/A

4.1. Impact on employment, job training and development, both short term and permanent _____ Short term (4 to 5 years) construction process requiring outside contractor workforce to complete. There is an ample internal work force to oversee the projects completion.

4.2. Oil spill mitigation outside of claims process _____

5. Identify Indirect benefits and costs

5.1. Collateral Benefits to the objectives of Healthy Environment, Healthy Economy and Healthy Society (subjective responses allowed) "The sooner the lights come on following a disaster the better off everyone is"

5.2. Collateral Costs or impacts to the objectives of Healthy Environment, Healthy Economy and Healthy Society (subjective responses allowed) No detrimental effects

5.3. Connectivity and Linkage to other projects or initiatives: Does this project complement or compete with other projects? What other projects would be precluded if this project is funded? _____ N/A

III. Who/How - General Information

1. Name and contact information for Entity, Collaboration or Person submitting project or recommendation nomination. Ernest "Bucky" Jakins, CEO Baldwin EMC, PO Box 220, Summerdale, AL 36580 Office 252-989-0122. Email bemcmgr@baldwinemc.com

1.1. Entities and communities sharing a common threat or need are encouraged to collaborate for a joint/combined project submittal to raise the profile of the issue and solution to be addressed. Also please indicate the level of community support or resistance and hurdles to collaboration.

2. Identify Sponsoring Entity for oversight and accountability if different from above.

2.1. Existing or to be created? _____

2.1.1. If to be created, what parties or interests must be involved and what level of effort is required to do so? _____

2.2. Describe governance, organizational capacity, availability of skills, experience of sponsoring entity to implement the Project BEMC has all experience, skills, and organizational capacity to accomplish this recommendation. We have been doing this for over 70 years in Baldwin County.

2.3. Project complexity: Hurdles and barriers to project implementation, completion and sustainability. Identify regulatory issues. None

3. Identify any known or anticipated administrative, regulatory, or legislative action that would be required at either the local, state, or federal governmental level. None

4. Requested funding from Coastal Recovery Fund (CRF) Total estimated Project(s) cost

5. Identified potential funding sources other than the CRF FEMA Mitigation funds may be available

5.1. Leverage or multiplier on CRF investment: matching funds, public or private ?

5.2. Public Private Opportunities, user fees, Federal funds, private foundation grants, bonding capacity, etc. ?

6. Forecast of ongoing maintenance or operating costs and source of funding if not self sustaining (SELF SUSTAINING)