

PROJECT: Vermont electric generator database

Vermont Public Service Department

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The Vermont Public Service Department seeks the developer of a web-based database system for the tracking of all electric generators in Vermont.

The PSD currently uses an Excel spreadsheet for the tasks identified here, and we have come up on the limits of the ability of this “flat” data tool. The current tool will be available to the developer during the project, and is available to interested respondents upon request.

The tool will be built using the most recent stable version of Ruby on Rails, and will be hosted (at least to start) on Heroku or a similar system. The PSD expects this be a relatively simple “CRUD” database, with multiple tables but most interaction will be to create, retrieve, update, or delete data.

The generator DB will provide the following functionality:

- Inputs:
 - The most used input will be a form for creating and editing information regarding electric power generators. Most commonly this will be used for small net metered generators (see <http://psb.vermont.gov/sites/psb/files/forms/2014revised219aRegistrationForm.pdf> for the fields collected in the most common circumstance) but it also needs to be able to capture more complex data regarding larger generators. Autocomplete functionality for matching fields to existing database entities (such as installers) will be appreciated.
 - Association of regulatory dockets and permits with generators (there may be more than one docket or permit for a given generator – permits can be amended, for example)
 - Ability to import CSV or other structured data on generators (including populating the database from current data when the tool is ready to use)
- Public outputs:
 - Table/chart of net metering installed/operating, applied-for, and permitted in total and by utility, in terms of capacity (MW) and % of utility peak
 - Charts (and/or easy tabular data for charts) – perhaps using Tableau or D3
 - Information about generators installed or permitted, broken out by the user’s choice of the following characteristics:

- Date permit applied for or installed
- Technology (solar, wind, natural gas, etc)
- Location (town or county)
- Type of contract (net metered, standard offer, power purchase agreement, utility-owned, PURPA)
 - Display of a page for each generator and perhaps for each of several other kinds of data
- Access to edit or delete data will be limited by standard authentication and authorization structure. Some data may require login in order to view.

The database will be structured in an object-oriented fashion, with database tables used to track information about different kinds of related but distinct functional entities. The developer will work with the PSD to define the database structure in a way that reflects the real-world relationships between these entities. A possible list of the kind of entities to be tracked includes:

- The physical generators (capacity, fuel(s), location, whether the plant is operating, etc.)
- Owners of generators
- Permits to operate (called Certificates of Public Good)
- Regulatory dockets
- Landowners where generators are sited
- Electric utilities
- Contracts for power
- Developers or installers of generators

The PSD expects that if this initial database project is successful, additional functionality will be added to the application over time. To that end, the web application code is expected to be well documented and be provided with a test suite that covers the primary functional aspects of the application. Test-driven development is not required.

The PSD expects the development of this application to be undertaken using the principles of agile software development, including multiple iterations with feedback between the developer and the PSD. Wireframing and/or prototyping are expected.

The PSD has a budget of \$15,000 for this work, but expects to use quoted price and any price guarantees (“not to exceed”) into account when selecting a developer. The Department is also interested to receive proposals for only a portion of the project within this budget limit and which may propose a larger total amount for the project as a whole.

The project is expected to be completed within 3 months of the start of the contract, with extensions possible.

Contractors are subject to the standard State of Vermont contracting terms and conditions, which are available at http://bgs.vermont.gov/sites/bgs/files/pdfs/purchasing/Multi-Use%20ATTACHMENT%20C_Contracts_Grants_rev_9-2-2014.pdf. In addition, due to the source of the funding used to support this project, all work for the project must be performed in the United States.

Proposals should be no more than 5 pages in length. While design is important, content is more so. Respondents should provide links to or screenshots of at least 3 completed projects most similar to this one. (Screenshots do not count toward the 4 page limit.)

Proposals should be sent to Asa Hopkins at asa.hopkins@state.vt.us by 4pm Eastern time on February 9, ~~2014~~ 2015.