PRELIMINARY ENGINEERING REPORT - PART 2

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As promised in the summer edition of Aquafacts, here is Part 2 of the Preliminary Engineering Reports (PER) refresher. Refer to Bulletin 1780-2, found at www.rd.usda.gov/publications/regulations-guidelines/bulletins/water-and-environmental, issued by Rural Development (RD) in April 2013. Once again, this article does not detail every section, but just highlights the areas that applicants typically need clarification on or areas where we find improvement is needed.

SECTION 4: ALTERNATIVES CONSIDERED

A description of all the alternatives considered is to be included. For the purposes of the PER, the "Do Nothing" alternative is not to be included; the entire purpose of the project is to do something. Note that the "Do Nothing" alternative IS acceptable for the Environmental Report, just not for the PER. Alternative approaches should be considered, including obtaining services from adjacent communities, finding new facilities, sharing services, and optimizing various combinations of approaches. Don't forget to include resource efficient and green alternatives, if applicable. Alternatives that are considered technically infeasible should be described with an explanation of why they are infeasible. Similarly, alternatives that are considered financial infeasible should be described; more on this below.

For each alternative, include the following: description, design criteria, schematic layout map, environmental impacts (as discussed in Part 1 of this article), land requirements, potential construction problems, sustainability consideration, and detailed cost estimates. Sustainability refers to water and energy efficiency, renewable energy, green infrastructure, and operational simplicity, as appropriate. Cost estimates include not only construction, but administrative (legal, land purchase, net interest, audits if required), technical (engineering, survey, geotechnical), and operations and maintenance (O&M). There is an example breakdown of O&M in the Bulletin to help determine these costs.

SECTION 5: SELECTION OF AN ALTERNATIVE

This is the section where most of the PER weaknesses are found. Information from the previous section is analyzed to determine the most effective (technically and economically) solution to the project problem. A life cycle present work analysis is to be completed to compare the technically feasible alternatives. As stated earlier, don't delete an alternative because of assumed costs; over the life of the facilities and the RD loan, an alternative with a higher capital (construction) cost may end up being more economical. I won't go into the details of a life cycle analysis in this article; the analysis is discussed in detail in the Bulletin. The planning period for use in the analysis may be the suggested 20 years, but can be the length of the typical RD loan (38 years) or longer (some analyses for tanks have been over 60 years).

O&M costs, salvage value (if appropriate), and short lived assets are to be included in the analysis. A table showing values and results can be shown rather than each individual calculation. A listing of typical short lived assets (SLAs) is provided in the Bulletin and an example of how to set up a SLA table can be provided by the RD State Engineers.

SECTION 6: PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

This section is where the engineer makes a recommendation of which alternative should be used. Provide a detailed description of the project, expanding the description from Section 4 to include the following, as appropriate: supply, treatment processes, storage, pumping stations, piping layouts, disposal, green/renewable energy measures, permit requirements, estimated schedule, and of course, the engineer's opinion of probable cost. A construction cost should be determined, with contingency separate as a non-construction cost. Administrative, technical, and legal costs should be shown, with a grand total. An annual operating budget is to be provided, including expected income, O&M costs, debt repayments, reserves required, and short lived assets.

At the May New York State Rural Water Technical Conference, a representative from our National Office gave a presentation about RD Apply, an online program through which the application process can be done. This online process is a step-by-step guidance for providing all the information necessary to apply for RD funding, all online without the physical paperwork. The program allows for multiple people to enter information, so the project owner (typically a Town or Village), as well as the engineer, fiscal coordinator, environmental specialist, etc., can enter their own information, as prompted by the program. >>>

The program responds to the input with the next appropriate question, and allows for uploading of documents and input of descriptive language. This program is already in use, with great success in other States around the country. Please contact your appropriate RD Area Office for information or go to www.rd.usda.gov/programs-services/rd-apply for more information and to start the process.

At this time, an add-on program to electronically prepare the PER (ePER) is being developed. We will let you know once it is up and operational, and will notify the public as to training opportunities. This online supplemental program will streamline the process of preparing a PER and will hopefully eliminate the weaknesses we are seeing in some of the PERs.

I would again like to thank State Engineer Marcy Newman for her contributions to this article and I hope this information helps you with future Rural Development projects. You can contact Marcy at (315) 782-7289 ext. 123 or marcy.newman@ny.usda.gov or our other State Engineer John Helgren (315) 477-6427 or john.helgren@ny.usda.gov for assistance. We are always accepting applications, so please contact the appropriate Area Office for information. Your comments and/or questions are always welcome. Please feel free to contact Brenda Smith at (315) 477-6465 or visit our website at http://www.rd.usda.gov/ny. 💧💧💧