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October 23rd, 2012

MEMORANDUM

TO: Power Committee

FROM: Ken Corum

SUBJECT: Recommendation on possible funding for Ecofys, US, Inc. pilot project under BPA Technology Innovation program, focused on data centers

Action Items DR-2 and DR-3 in the Council's Sixth Power Plan call for the evaluation and demonstration of demand response as a potential source of load- and wind-balancing. The Council has been asked to contribute to a pilot project that pursues these objectives.

Bonneville is sponsoring a proposed pilot project to test data center loads as a source of innovative demand response services, including for power system balancing purposes. Ecofys, US, Inc. and a team composed of Energy Focused Resources, Lawrence Berkeley National Laboratory, and Excipio would perform the work. The project will be largely funded by Bonneville's Technology and Innovation funds and by members of the project team, and will eventually involve about \$1,750,000 of total effort. Staff is proposing support for the project in the amount of \$20,000 in cash and an equivalent value of \$20,000 in consultation and advisory services from Council staff.

In the Power Committee meeting, staff will summarize the objectives of the project and will respond to any questions from the committee. The Power Committee will develop a recommendation for the full Council regarding the proposed co-funding support for the project.

Council Support for BPA/Ecofys Data Center Project

**Power Committee
Coeur d'Alene, ID
November 6, 2012**



BPA Technology Innovation Data Centers

§ BPA TI projects are 50% cost share

§ Ecofys lead

- Lawrence Berkeley National Lab
- Energy Focused Resources
- Excipio

§ Data centers

- Growing load
- Already “smart”
- High potential per site



Work Plan

§ Inventory of data centers

- Size, age, use pattern, services, technologies
- What potential for DR at what cost (4/13)

§ Selection of sites, technologies

§ Installation (10/13)

§ Control strategies, testing, evaluation (3/14)

§ Workshop on results, technology transfer, plans for future (9/14)



Council Contribution, Benefits

§ Contribution

- \$20K cash, ~\$20K analysis and advice

§ Benefits

- Demand response: understanding potential resource for 7th Plan
- Load forecast: understanding of load shapes, existing load levels, potential for growth
- Conservation: understanding makeup of loads, equipment – potential for efficiency improvement

