

BROADBAND INITIATIVE FREQUENTLY ASKED QUESTIONS

OPALCO – For 75 years, we’ve delivered electrical services to our membership while always striving to improve reliability and efficiency. We’re currently studying the feasibility of a fiber infrastructure expansion to bring our utility operations into the 21st Century. In addition, this same system could simultaneously meet several community needs, including:

- Access to utility telecommunication tools and improvements such as remote equipment and power quality monitoring and control, and Smart Grid tools (to improve energy efficiency and reliability)
- Improving the communication systems of our local emergency services and first responders, including OPALCO
- Enabling 90% of islanders to access the Internet at a minimum speed of 10 Mbps
- Providing the infrastructure opportunity for cell phone companies to improve and expand their services

Q Why is OPALCO considering this broadband initiative?

A OPALCO began building its high-speed data network in 2001 to support the electric grid. We are continually expanding this network to add capabilities that are necessary to running a 21st Century utility. We also see an opportunity to use this network to better address the critical communication needs of the community. It’s an important need that for-profit companies have not stepped up to meet; if we don’t do it, it’s not going to get done.

Q What level of broadband services would OPALCO provide?

A If the project goes forward, OPALCO would provide a minimum of 10 Megabits per second (Mbps) in download speed (email, streaming video, etc.), plus 3Mbps in upload speed (sending files/documents out) to 90% of the County. While internet speeds vary, most members surveyed reported their typical speeds were 1.5Mbps up and 0.25Mbps down (at best) and these speeds tended to drop significantly during high usage times. In addition, OPALCO’s proposed system will be designed to accommodate future demand and technological advances.

Q When will the broadband service be available?

A We’re still studying the feasibility of this project. Providing robust, expandable and reliable broadband can be complicated and will take some time. If we do make the decision to move forward, we hope to begin providing service in late 2013.

Q What will the broadband service cost?

A It’s too early to say. We’re still working through issues related to how the services will be delivered and priced. We are aiming to provide a faster and more reliable service for a price that would be similar to what members are currently paying for internet service.

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Q Will I be able to purchase this broadband service directly from OPALCO?

A Possibly, but no decision has been made about this yet. We're analyzing a number of ways to meet the needs of our membership and ensure quality services.

Q Will OPALCO become a cell phone service provider?

A No. However, OPALCO's system would provide the infrastructure to allow cell phone companies to expand their services within the islands, should they choose to participate.

Q What will this do for cell phone coverage in the islands?

A We hope that it will result in better cell phone coverage, but ultimately it will depend on the extent to which cell providers participate. They are motivated by the opportunity to make a profit, which is difficult given our small community and challenging geography. Our plan would allow wireless carriers to place antennas at some utility pole locations, where they would have ready access to power and internet connectivity. This would significantly reduce their cost of installing a new location; we're hopeful that the wireless companies would expand their coverage here because the lower cost of installation makes it profitable for them to do so.

Q How will 911 work from my cell phone with this new system?

A No different from today, except that we hope the cell phone carriers will take advantage of the opportunity to use some of our sites. Making 911 calls from a cell phone requires that the cell phone be in an area of coverage by that carrier; hopefully, more area will be covered by the providers. But that will be up to the cell phone companies themselves.

Q Can I use this broadband system for my cell phone data plan instead of using Verizon or AT&T?

A No, data plans from those wireless carriers require that you connect to their system. But we do plan to install wi-fi in many locations in the county, which would give subscribers more connectivity options. We are also investigating new devices (portable hotspots) which might allow connection to this network throughout the islands.

Q Could I use this system to replace my telephone service as well as my DSL service?

A There are voice services that function over the Internet (Voice over Internet Protocol or VoIP). With a high-speed, high-quality internet connection, you could use such a service instead of a traditional telephone service. We have not determined if OPALCO might offer such a service.

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Q What is “Smart Grid?”

A Smart Grid refers to new technologies used over a network to increase energy efficiency, control costs and improve reliability. Examples include member access to their meters via the internet to monitor and control their home energy usage for greater efficiency, and an online outage management system that allows OPALCO to locate, publicize and resolve outages more effectively.

Q Will the Smart Grid technology allow OPALCO to monitor what I do at home or on the internet?

A Smart grid applications only allow OPALCO to monitor total power consumption and patterns of use, and these items are very important from a planning and operations perspective. We care about the privacy of our members and will not compromise it.

Q How will this system help emergency services?

A By providing connection to our network, we’ll allow emergency services to fill in the many gaps in their radio coverage, thus finally providing communications for them throughout the County. Over time, we also expect that our data network will allow them to provide advanced services, such as transmitting detailed medical data directly from the scene to the hospital.

Q What is a “Joint Use Wireless Facility?”

A A facility with a primary purpose to provide wireless communication services in support of necessary public services (e.g., electrical service), or communication facilities for public emergency service providers (such as fire, sheriff or EMS). Joint-use wireless facilities may also be used for high-speed internet (broadband) or cell phone service (including 911), as long as such joint use does not impair the primary mission of the provision of necessary public services.

Q What are the different “uses” in a “Joint Use Wireless Facility?”

A OPALCO’s electrical grid management system, radio communication facilities for Emergency Services, community broadband service, and infrastructure that will allow for cellular providers to co-locate.

Q How many Joint-use poles will there be and how tall will they be?

A Our preliminary system design uses approximately 100 poles county-wide, the majority being located at the site of existing utility poles. Most of these poles are planned to be 65 feet tall, or about 15 feet taller than typical utility poles we have in place now. To satisfy coverage requirements in our topographically challenged island communities, some will be higher. The tallest pole size we anticipate is 150 feet.

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Q. Where will Joint-use Wireless Facilities will be installed?

A We are developing a system architecture that attempts to utilize locations that OPALCO already has access to, such as county roads and rights of way, and electrical easements. Where that's not sufficient, we'll work with islanders and with the County to determine the most appropriate locations.

Q Can OPALCO build new Joint-use Facilities outside the boundaries of the current electrical easements and public right-of-ways?

A Yes, but in these cases we would have to go through the Provisional/Conditional permit process with the County.

Q Will OPALCO protect the natural beauty of the islands when building this system?

A All of us care about the beauty of San Juan County, and we have always worked to balance those concerns with making sure islanders have access to essential services like electricity. We strike this balance today with electric utility poles. We will continue to work with our members, finding ways to provide important services using a low-impact approach, just as OPALCO has done for 75 years.

Q What will the total cost of this initiative be?

A Initial estimate of the total project cost is estimated at approximately \$30 million.

Q How are you planning to pay for it?

A As a non-profit cooperative, OPALCO would provide services at the cost of service, and would need to cover costs in a way that makes sense for the membership. We're working through the business planning now. If we move forward, we see three potential sources of revenue: 1) an infrastructure fee of approximately \$10 added to the monthly bills of all OPALCO members to offset capital costs, 2) monthly service fees for members who subscribe to the broadband service (similar to what you'd pay for a DSL plan now), 3) co-location lease fees paid by wireless carriers who share the Joint-use infrastructure (poles, power, and internet connection). We know that people care about the total costs, and we will only move forward if we think it makes sense after careful attention to financial and technical due diligence.

Q How will you avoid impacting disadvantaged islanders with the new infrastructure fee?

A We are looking into creating a voluntary broadband assistance program similar to Project PAL, through which participating OPALCO members help with the power bills of members who are struggling financially.

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Q How does this project fit within the OPALCO mission and values?

A OPALCO’s mission is to “serve our Members with safe, reliable, cost effective and environmentally sensitive electric utility services. Our values statement “inspires, guides and determines our conduct in carrying out our mission” and includes the statement “we seek and implement innovative solutions.” Utility services have evolved to include Smart Grid applications and tools as an industry standard - and the telecommunication infrastructure required to implement them. Broadband capability is a by-product of this infrastructure and many electric utilities have begun to make broadband services available to their members. In particular, rural electric co-ops are meeting an unmet need for 21st Century connectivity in the geographically isolated communities they serve. OPALCO’s Board and legal counsel have determined that the potential of providing broadband services does fit within our mission and values.

Q How will OPALCO’s Board of Directors decide whether to go forward with this project?

A Before making a decision, the board will carefully evaluate the technical and business feasibility of the project and consider all input from the community. Their goal is to design a system that would satisfy current community needs and grow as technology evolves. They’re working through that process now, and will vote on whether to move forward once they are satisfied with the feasibility studies and community input process.

Q Will this be put to a vote of the OPALCO membership?

A No. OPALCO’s By-laws empower the Directors, as elected representatives of the membership, to make such decisions. Our Board of Directors takes this responsibility very seriously.

Q Can you provide internet service by running fiber optic lines to each home?

A Fiber to the home is cost prohibitive. Fiber optic cables are the foundation of our network. However, it is extremely expensive to extend fiber optic lines, and it is just not financially feasible to serve the county at large with direct fiber connections at this time.

Q How will this impact our local Internet Service Providers (ISPs)?

A We are actively discussing with local service providers how we might work together as this project moves forward and we know many islanders value the relationship they have with a local ISP. We are working hard to determine how we can best meet these important needs for our community in a way that makes the most financial sense for our membership.

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Q I've been reading about potential health hazards related to wireless technology. How do you know this is safe?

A As a utility coop, safety is a huge priority for everything we do. We believe that the system we are designing does not pose a health risk to our community. Wireless facilities are in place throughout the world and many government agencies (including both the FCC and the FDA), researchers from academia, and nonprofit agencies are actively involved in researching and monitoring potential health-related risks in this area. The World Health Organization has published a fact sheet that might be helpful. <http://www.who.int/mediacentre/factsheets/fs304/en/index.html>
The government of Canada also has a site with a Q&A on these issues that was updated late last year that might be helpful as well. <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html>

Following are other reference sites that might also be useful.

<http://www.fcc.gov/guides/wireless-devices-and-health-concerns>

[http://www.fda.gov/Radiation-](http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm)

[EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm](http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm)