

EUGENE WATER & ELECTRIC BOARD
500 EAST 4TH AVENUE
EWEB BOARD ROOM
WORK SESSION
FEBRUARY 3, 2009
5:30 P.M.

Commissioners present: Ron Farmer, John Brown, Bob Cassidy, Rich Cunningham, Joann Ernst, Commissioners.

Others Present: Randy Berggren, Debra Smith, Jim Origliosso, Sheila Crawford, Cathy Bloom, Dick Helgeson, Gene Austin, Terry Bequette, Patty Boyle, Eric Hiaasen, Brenda Sirois, Jay Bozievich, Jeannine Parisi, Lance Robertson, Katherine Grey, and Krista Hince of the EWEB staff; Ruth Atcherson, City of Eugene minutes recorder.

President Farmer convened the Work Session of the Eugene Water & Electric Board (EWEB).

INTEGRATED ELECTRIC RESOURCE PLAN (IERP)

Power Resources Director Dick Helgeson, introduced the subject. He explained that this was the kick-off for the next Integrated Energy Resource Plan (IERP) update, planned to occur over the next 18 months. He said the process included involvement of both the Board and a citizen group that the Board would convene. He noted that the last IERP process had occurred five years earlier. He stated that a number of things had changed, including the signing of a new Bonneville Power Administration (BPA) contract and the progress EWEB had made on resource acquisitions.

Eric Hiaasen, Senior Energy Resource Analyst, reviewed the IERP process with power points. He underscored that the purpose of the IERP was to provide policy guidance from the Board and the community to staff that would enable EWEB to make sound acquisition decisions to meet future demand while balancing the tradeoffs and risks between affordability, sustainability, and reliability. He stated that the IERP allowed EWEB to review its strategic direction policies and to engage and educate the community in what was “going on in the energy world.” He listed some of the reasons to update the IERP, which included the new BPA contract which included no load growth and the global financial crisis. He noted, regarding the latter, that EWEB’s finances had improved.

Mr. Hiaasen highlighted the goals for the IERP. Mr. Helgeson added that the principles had been overarching and he thought the Board could consider codifying them with a small amount of tweaking. He saw a high degree of alignment with the utility and community values.

Mr. Hiaasen stated that updating the various forecasts would be a large portion of the upcoming work.

Commissioner Cunningham asked whether the load production could be forecasted at this point. Mr. Hiaasen replied that staff would update the long-term load forecast as part of the IERP process. Mr. Helgeson added that they were in the early part of the year when they were just beginning to pull in the forecasts and were looking at the snow packs.

Commissioner Cunningham asked how the hydro year was looking thus far. Mr. Hiaasen responded that the last he had heard the area was dropping toward 90 percent of an average year.

Mr. Helgeson said they would make a distinction between the near-term weather driven forecast and the long-term forecast, which took into account questions of hydro production but in the context of climate change.

Mr. Hiaasen provided graphs of the annual retail loads with and without Hynix. He explained that he had used Hynix because it had been a large load because they needed to consider uncertainty given that no one knew what would happen in the coming months. He also showed a graph delineating what the loads would have been without EWEB's conservation efforts.

Mr. Hiaasen stated that the load resource losses exceeded the resources that were being added in.

Commissioner Ernst asked how the Carmen-Smith facility would be losing capacity in the relicensing process. General Manager Randy Berggren explained that it was due to additional in-stream flows, in other words a recommitment of some of the water that used to go through the generator back into the streams for fish habitat enhancement.

In response to a question from Vice President Brown, Mr. Hiaasen affirmed that EWEB had gained some capacity when the Leaburg Lake was raised but at this point they were looking forward and the lake raise was in the past.

Mr. Hiaasen related that if Hynix was still in EWEB's loads they would be bumping into the firm energy capability. He noted that firm energy was the energy they expected to get in the driest year on record.

Commissioner Ernst asked how EWEB would lose access to the generation from the Wauna Cogeneration project. Mr. Hiaasen guessed that Wauna had deferred their benefits until after the two utility partners had recovered their investment.

In response to a question from Vice President Brown, Mr. Hiaasen clarified that he had incorporated Hynix in the graph to represent the uncertainty of loads and had estimated that it would have used 25 average mega-Watts (amW). He added that he could not be certain how much energy a solar cell plant would utilize for manufacturing.

Mr. Helgeson added that he understood that the intensity of energy usage for a photovoltaic (PV) manufacturing plant was less than that of a silicon chip plant. He said future large loads, load growth in general, near-term impacts of the economic downturn, potential electrification of commuter vehicles and mass transit were all things they would look at “and put boundaries around” in putting together the load forecast. He remarked that they were trying to “bracket” some of the uncertainty.

Mr. Berggren remarked that one significant nuance in the BPA post-2011 contract was that the mechanism for determining eligibility for the “cheap power” was predicated on the high-water mark methodology as the beginning point, which was between October 1, 2009, and September 30, 2010. He said loads were disappearing and this was presenting an issue for the whole region.

Mr. Helgeson concurred. He remarked that the worst thing that could happen to EWEB was for the utility to lose a bunch of load in the next year and then to have to adapt to a reduced load while adding the load brought in by the new basketball arena and other things that could come into play. He stated that the value of a BPA Tier 1 mW as compared against the market going forward over the next 20-year contract was between \$5 and \$10 million net present value. He said they were estimating that EWEB’s entitlement was in the range of 465 mW.

President Farmer observed that halfway through the 20-year planning window EWEB would be short a resource and the utility would have to “deal with it.”

Mr. Hiaasen underscored the importance of not waiting until they had load/resource balance to acquire something. He said utilities traditionally kept reserve margins and surpluses in order to be protected from unexpected events.

In response to a question from Commissioner Ernst, Mr. Hiaasen stated that drilling had not begun at the Raft River Geothermal Project at this point and so the generation capacity was not yet known. He said Raft River had been caught in the credit crisis and was having difficulty borrowing the money to begin drilling.

Mr. Hiaasen discussed power prices. He said for resource planning purposes they concerned themselves with forward prices, which came out of commodity markets. He explained that forecast prices were prepared by someone who might or might not be an expert who put together a guess or analysis of where they thought prices could go. He noted that he had prepared price forecasts for EWEB since he had started working there. He underscored that the difference lay in that forward prices were drawn from what a commodity would cost on the current market. He said the reason they used forecast prices was to provide a common benchmark against which all of the potential resources would be judged.

Mr. Hiaasen explained that the resource alternatives they looked at fell into three categories: central generation resources which were comprised mostly of combined cycle such as gas-fired combined cycle and wind farms, distributed resources which were comprised of cogeneration

facilities such as the one located at the International Paper mill and solar photovoltaic (PV) power, and the demand-side resources which represented conservation and the Automated Meter Infrastructure (AMI) technologies for meeting loads. He said the cheapest was the gas-powered combined cycle and the next cheapest was wind, if one was in Montana. He added that the transmission costs to get power generated in Montana to Oregon were huge. This made this option less attractive. He stated that energy efficiency was the lowest cost resource available.

Commissioner Cunningham asked where the proposed biomass facility at Seneca would fall. Mr. Hiaasen replied that he had not done the background work on that project because it was early in its process. He noted that there was some “confidentiality going on.”

Commissioner Cunningham asked what the average cost for a kilowatt hour (kWh) would be. Mr. Helgeson replied that wholesale costs when taking all of the resources melded together were \$30 not including transmission costs. He said transmission added \$2 or \$3 per kWh.

Commissioner Cunningham asked if the cost figure was more or less for residential. Mr. Helgeson replied that all customers paid a similar cost for the power supply component but the delivery charges varied. Fiscal Services Supervisor Patty Boyle added that the cost was in the eight cent range per kWh for residential customers.

President Farmer observed that if one looked at the chart, the cheapest form of acquisition cost \$80 per kWh. He said anything the Board decided to pursue in accordance with directives from the IERP process would raise rates, with the exception of conservation.

Mr. Helgeson said if EWEB made smart investments that were cost effective and at or below market prices, it was possible to “lay those resources off of market” for a period of time and that would allow them to become relatively less expensive and, thus, not as “big of a hit” to the portfolio. He acknowledged that there were inherent risks in that as no one knew what the market would do.

Continuing, Mr. Helgeson explained that the Regional Power Council had been formed under the Power Act and served as the entity that engaged in high level resource planning for the region as a whole and provided guidance to the BPA in regard to what its resource priorities should be. He said the council had placed a heavy emphasis on conservation and renewables. He noted that they updated their plan every five years, just as EWEB did.

Commissioner Ernst asked if this was the council that had arisen from “the nuclear investment problem” of the 1980s. Mr. Helgeson replied that part of the motivation of the Power Act had been related to it. He thought the council had been written into the act to assure that the federal hydroelectric system was used wisely and efficiently on a regional basis. He related that the act also sought to ensure that conservation and renewable resources were given an appropriate role in “what had previously been a pro-nuclear environment.”

In response to a question from Commissioner Ernst, Mr. Hiaasen explained that a single-cycle gas turbine was much like a jet engine one would see on a jumbo jet: gas went in, combusted, and turned a rotor connected by a shaft to a generator that produced electricity. He stated that a combined cycle used between one and three of these types of turbines and then the exhaust was collected and sent to a heat recovery boiler which then turned a conventional steam turbine. He said by recovering the heat from the exhaust, more efficiency was gained from the use of natural gas.

Mr. Hiaasen stated that part of the process would be to provide low and high forecasts for power prices, technology costs, for EWEB's loads, and for what the hydroelectric generation might be. He thought they could even make forecasts for wind, though there was a certain amount of variation from year to year. He said they would consider possible futures, such as a world with carbon cap and trade or without it. He underscored that they were looking for robust strategies, which did not mean the one with the lowest cost for medium case assumptions. Rather, it was the strategy that looked "pretty good" and with no apparent disasters under all scenarios.

In response to a question from Commissioner Cassidy, Mr. Helgeson affirmed that the Carmen-Smith generation facility was only used during peak loads. Mr. Berggren explained that it was constrained by flow to only four hours of use. Mr. Helgeson added, in response to a follow-up question from Commissioner Cassidy, that as loads grew the capacity and peaking needs would also grow such that EWEB would have to look at other capacity resources of some sort.

In response to another question from Commissioner Cassidy, Mr. Hiaasen said part of the IERP process would be to consider how much capacity was needed and what potential sources were available for attaining that.

Commissioner Cassidy understood that the key problem EWEB was facing was being able to meet its peak load. Mr. Helgeson responded that it would be a key problem as time went on. He said EWEB would see an increased need for a resource that could balance out the vagaries of wind power given the amount of wind that was being brought into the system. He stated that these would all be things that would be reviewed in the planning process in order to make the determination for when EWEB would need to buy power and how much power it should buy.

Mr. Hiaasen discussed system modeling and how it worked. He said it would tell them what the total costs and total emissions would be. He related that they would then use it to "test" alternative portfolios, different resources as well as the existing resources. He provided a review of past IERP plans, from 1992 going forward.

Commissioner Cunningham commented that it would have been interesting to engage in this type of planning in the 1970s. Mr. Helgeson noted that the utilities had tried to build five nuclear plants during the mid-1970s.

Mr. Hiaasen said EWEB's Community and Local Government Outreach Coordinator Jeannine Parisi had put together a draft proposal for the community engagement that considered

multiple levels of such engagement and that would be responsive to the information they would convey to or receive from the community. He noted that community engagement would be based on the American Public Power Association (APPA) model. He said the target for Board adoption was June, 2010.

President Farmer was interested in receiving some feedback regarding process. He asked what had worked well in the 2004 process and what had not and what lessons they had learned from it. Mr. Helgeson responded that staff would be equally interested in President Farmer's experience.

Mr. Berggren observed that the policy directives could have bearing on the future of the utility. He recalled that in the 1990s plan there was a strong sense that EWEB should diversify away from BPA power. He said they had pulled 100 average megawatts (amW) from BPA and had signed on for five fixed contracts with investor-owned utilities (IOUs). He related that EWEB had saved approximately \$30 million over five years. He recalled that EWEB had started its next IERP process and it had taken longer than anticipated; during this time the contracts had expired, California deregulated power, and Enron had manipulated the power costs. He stated that EWEB had not had its load covered and the prices increased from \$30 to \$3,000 on certain days, which impacted EWEB greatly. He stressed the importance of remembering that collectively over a period of 10 to 15 years the policy direction would become very significant.

Mr. Hiaasen noted that the 2004 IERP had anticipated that EWEB would lose some of its BPA entitlement. He said they had made a conscious decision to buy resources ahead of 2011 so that EWEB was not looking for the power at the same time as other utilities would be out on the market for it.

Commissioner Ernst looked forward to hearing the public input on the topic. She hoped that the public would want a very aggressive conservation program. She averred that putting solar water heaters in the number of homes that the Seneca cogen project was predicted to have the capacity to provide power for would save an equal amount of energy. She also wanted to see more PV being brought forward.

SPRING BOULEVARD WATER UPGRADE PROJECT

President Farmer noted that he and Commissioners Cassidy and Brown had made a presentation on this topic the previous week.

Community and Local Government Outreach Coordinator Jeannine Parisi stated that they would review the problem they were trying to resolve with the project and the public engagement process that had been used.

Senior Water Engineer Jay Bozievich explained that water systems had four key components: a source that was usually treated, a way to pump it, a distribution system connected to the customer, and some kind of storage usually 100 feet higher than the highest customer in order to provide water

pressure. He said 85 percent of EWEB customers were on the base level, 100 feet below both of the two major gravity storage reservoirs. He related that the Spring Boulevard system was not part of this and approximately 200 customers were fed from a pressure producing pump station and were missing a reservoir that was 100 feet higher than them. Because of this pumps ran 24 hours per day.

Mr. Bozievich stated that the service standards they were trying to meet included maintaining 20 pounds per square inch (PSI) in the system at all times, per state law. He noted that EWEB had a standard of 30 PSI in order to avoid a situation in which the water could drop below 20 PSI, which would cause EWEB to have to flush its system and potentially issue a boiled water notice to customers. He said 30 PSI kept groundwater out of the system and kept people's hot water heaters from backing up into it. He related that having at least one day of emergency supply available without electrical power was also a standard EWEB adhered to. He said at present this neighborhood would lose water service if the power went down. He stated that EWEB was required to meet the fire standard, which set the minimum fire flow for residential areas at a level that could maintain a flow of 1,000 gallons per minute (GPM) for two hours. He said the other reliability standards EWEB had set was that no more than 30 customers should be out of service because of a malfunction. He explained that in this case, if the pump station went down there would be 200 customers without service.

Mr. Bozievich reported that staff had conducted an information campaign with the neighbors that had resulted in an effort to curtail watering during peak hours and had kept usage below 700 gpm. He said this allowed the pump station to maintain the fire standard. He commended the neighbors for allowing EWEB the time to think through the process and solve the problem. He showed examples of an at-grade reservoir and an elevated storage tank. He considered them to be the "obvious solution" to the problem. He said the third option would be to upgrade the pump stations in order to meet the standards, including an on-site generator to ensure that the station would continue to run in the event of a power outage.

Continuing, Mr. Bozievich stated that EWEB owned the piece of property that the reservoir was originally planned to built on in the master plan, but there was "quite a separation" between that property and the residences to be served and it was entirely made up of Ridgeline park property. He related that staff recognized that the typical solution to this would create a public impact and this was why they had embarked on the public process.

Ms. Parisi explained that this was the first project that EWEB had planned to use the APPA guideline for public process from beginning to end. She called the project a "fairly complex decision" and based on this staff had requested that the Board establish a task team to work on the water issue. She related that they had begun in July with two public outreach sessions to let the neighbors know about reliability and fire protection and to solicit participation to work on the task group. She felt fortunate to have found a broad group of representation and committed people who were willing to work with staff for six months to come up with a solution. She noted that they also

had support from city parks staff and fire department staff. She stated that the goal for the team was to use the research provided and to deliberate as a group to identify the preferred solution, fully understanding the issues and impacts and wrangling with competing interests and values.

In response to a question from President Farmer, Ms. Parisi stated that three members of the group lived in the affected neighborhood.

Ms. Parisi related that they had stressed to the group that there would not be an easy solution. She said they had engaged in a “dot process” to figure out what the most viable solutions would be. She outlined the options, noting that the dot exercise had narrowed the choices from 25 to 5. She stated that the above-ground reservoir concept had been rejected. She explained that a buried reservoir would require a fully bored pipeline of up to 1,000 feet to Spring Boulevard. She noted that the group had wanted to maintain one non-reservoir option. She related that a subcommittee had convened to look at ways to meet the standards without a reservoir. She said originally they had looked at setting up a number of fire storage tanks, but this did not meet the fire protection standards. She reported that the concept the group ended up suggesting was a “mini-reservoir,” a 250,000 tank that would provide the 120,000 gallons for fire storage plus enough equalization pressure. She said this allowed them to reduce the footprint.

Ms. Parisi stated that staff then began drawing up schematics and at that point the concept of a linear tank along Mt. Baldy Lane had been dropped. She said one new idea suggested building a reservoir on the Hidden Meadows property, which was privately owned. She related that all of the options would require a boring pit for the directional borer, which had become a significant issue for EWEB to address.

Mr. Bozievich stated that in order to save the trees between Spring Boulevard and whatever reservoir would be built, EWEB would have to dig a pit to put the boring machine in and this would have to be done off the street, because of existing utilities in the street. He noted that one of the benefits of the boring pit would be that one of the sites for it could be turned into trailhead parking after the project was completed, though this would require some tree removal.

Commissioner Cassidy asked if staff had studied the composition of the ground that they would bore through. Mr. Bozievich replied that boring contractors had looked at it. He said a major portion of the ground was rock and there was not a lot of topsoil. He noted that it was preferable to have all rock or all topsoil.

Commissioner Cunningham asked if it would be more cost effective to bury the pipe. Mr. Bozievich responded that burying the pipe was purely an esthetic issue and did not affect life expectancy of the infrastructure. He noted that it would be more expensive to bury the tank.

Mr. Bozievich explained that the non-reservoir solution would require a second pump station to be built. He said there were several lots in the area that were vacant and for sale at present.

Ms. Parisi said staff had returned to the group in January to let the task team know that their preferred option, the Hidden Meadows property, was not available because they did not have a willing seller. She related that the group also decided not to pursue building a reservoir in the parks, based on information provided to them from the parks division. She stated that the group ended up with two viable options: building a second pump station or building a reservoir on the existing EWEB property. She said they had gone back out to area residents and stakeholders and had held a public input session, which had been attended by three community members. She indicated that staff planned another outreach session on February 18 which they were advertising heavily in an attempt to increase attendance.

Commissioner Ernst commended staff for doing a good job and conducting due diligence. She noted that she was leaning toward building a buried reservoir.

Vice President Brown echoed the commendation. He advised staff to check the area for Covenants, Conditions & Restrictions (CC&Rs) and potential land use issues involved in both options. Mr. Bozievich responded that EWEB would have to go through building permit processes for either option. He said the reservoir option fell outside the Urban Growth Boundary (UGB) and this meant the permitting process would be through Lane County. He predicted that they would have to go through an exception process to be able to build on the site and this would include some public process. He noted that the neighborhood the pump station would be located in did have a set of CC&Rs on it that did not say specifically that pump stations were allowable. He said there was a variance process for it and the subdivision involved was still majority controlled by the developer. He stated that there were legal steps involved in either option.

Vice President Brown asked if the road that served the EWEB site was public or private. Mr. Bozievich replied that it was a private road that EWEB had an easement for. He said when the subdivision had gone through; staff had worked with the developer to relocate the easement to follow their roadway.

Vice President Brown asked what the capacity of the fuel storage would be for the pump station and how often the generators would need to be fired up for maintenance purposes. Mr. Bozievich replied that approximately 400 gallons of diesel fuel would be needed to run the generators for 24 hours, which would require roughly a four by four by four tanks. He said generally they would test run the generator once per month. He related that testing the fuel to ensure it was staying fresh would be another cost to consider, as were changing out the fuel filters and other maintenance measures.

In response to a follow-up question from Vice President Brown, Mr. Bozievich stated that the generator would be in an enclosed building and would be secure.

Vice President Brown complimented staff on the process they had undertaken.

President Farmer noted that the public presentation of the issues had been more comprehensive than the one that had been presented to the Board. He suggested that staff work to ensure that the two Commissioners who were not present had a good understanding of the options. He said after the presentation from the previous night, he had come away thinking that the environmental issues between the two options were not going to be critical. He observed that the area where the reservoir would be built was currently like a cow pasture. He thought that once the reservoir was built it would be possible to restore the habitat so that it was more along the lines of the oak savannah restoration work the city was engaging in. He averred that if they opted to build a pump station, EWEB would not have the opportunity to do this environmental work. He underscored that the issue boiled down to safety, reliability, and cost. He said no one on the Board would be willing to compromise safety and reliability.

Ms. Parisi stated that staff planned to review the options in detail at the March 5 Board meeting.

President Farmer still felt like they had not had enough public process because not that many people had participated. He hoped it would be possible to gain more public input. He recalled the abundant public input they had received regarding the Quail Run work and McKenzie Valley issues around the boat landing. Ms. Parisi responded that she had also been disappointed by the lack of participation.

President Farmer related that when people had testified at the meeting held upriver regarding the boat landing it seemed that half of the people were for the work and half were against it, but when EWEB had conducted a survey it indicated that 80 percent of the area residents did not care what happened.

Commissioner Cassidy asked that personal attention be paid to the immediate neighbors. He felt that they would not think of the things they might find troublesome if they were not informed.

President Farmer adjourned the Work Session at 7:13 p.m.

Assistant Secretary

President