



Wood River Electrical Plan

Planning for the Future

Community Advisory Committee Meeting #3

Wood River Inn
603 N Main Street, Hailey, ID

Thursday, March 22, 2007

Meeting Minutes

Meeting Purpose:

- To review and gather comments on draft goals for the Valley's future electrical system
- To discuss future planning for the Wood River Valley
- To present existing power system conditions in the Wood River Valley
- To develop transmission facility siting criteria
- To begin discussion of alternatives

I. Attendance

Citizen Advisory Committee

- | | |
|----------------|-----------------|
| • Len Harlig | • Rod Kegley |
| • Julie Ingram | • Dave Ziegler |
| • Kurt Nelson | • Tara Hagen |
| • Tom Bergin | • Rob Struthers |
| • Jay Loesche | • Dayna Smith |
| • Ron LeBlanc | • Nick Purdy |
| • Lloyd Betts | • Tom Blanchard |
| • Tom Hellen | • Rick Baird |
| • Nils Ribi | • Chuck Turner |

Idaho Power Staff

- | | |
|-----------------|----------------------|
| • Kent McCarthy | • Lynette Berriochoa |
| • Dan Olmstead | • Mark Patterson |
| • Jim Bell | • Dave Angell |
| • Bryan Hobson | |

KMP Planning

- Mike Pepper, Facilitator
- Lynn Jaynes, Meeting Secretary

II. Welcome and Introductions

- Attendance
- Dan Olmstead, *Community Relations Representative*
- Kent McCarthy, *Project Leader*
- Mike Pepper, *Facilitator*
 - *Meeting purpose, agenda and format*
 - *Review planning steps / Where we are in the process*

III. Review CAC Meeting #2 – February 15, 2007 - Comments, additional questions, etc.

- Comment: The format of the previous meeting’s minutes was adequate; some committee members went onto the web site to review presentations from the last meeting.

IV. Draft Goals - Brief discussion on goals developed from last meeting / Gather comments **

*(**See Revised Goals and Siting Criteria as separate Goals attachment)*

RELIABILITY FACTOR COMMENTS:

- Q: Can reliable power be broken into two components—reliability and quality?
 - A: The transmission system doesn’t have as much bearing on this as the distribution system does. Quality of service is clearly an issue on the Wood River end. The plan can possibly differentiate areas of the valley for quality purposes.
- Q: Irrigation pumps work best with 480 volts but 460 volts is all that Idaho Power requires. Can this be taken into consideration?
 - A: This will be taken into consideration when drafting the final goals.
- Q: Have alternative energy sources been explored in place of transmission lines?
 - A: The Wood River Valley previously had a gas turbine generator located in Hailey at the Wood River Transmission Station. It has since been removed due to many factors such as price of fuel, emissions limitations and fuel supply issues.

EDUCATION COMMENTS:

- Q: There is no current education component for the unique needs of the Wood River Valley. Most of Idaho Power’s education is for reduction of peak loads during the summer; however, the Wood River Valley has peak loads in the winter and there is no current education component for that. Could this be incorporated into the final model?
 - A: This is a component that Idaho Power will address. Idaho Power will also educate the public about the planning process through press releases, etc. Most of the education process about the plan itself will need to come from the members of the committee to their respective colleagues. This will be a key component to the success of the committee plan.

ENVIRONMENT COMMENTS:

- Q: What do we mean by acceptable impact? Could we use the term “minimal” impact, instead of acceptable? It’s unrealistic to think there will be no impact, and any impact is undesirable.
 - A: This group will make the determination on what is “acceptable” to them. Perhaps the wording could be changed to “no or minimal impact”.
- Q: When we say that we want to use existing corridors, don’t we also need to consider whether the existing corridors might not be the best ones to use?
 - A: We could say that we will use the existing corridors where “feasible” or “acceptable”.
- Q: Couldn’t we combine “utilize existing corridors where possible” with “utilize shared utility and transportation corridors whenever feasible”?
 - A: These could be combined into one objective. These points came up in a small group discussion when looking for opportunities to use existing corridors. Not all existing corridors are highway corridors.
- Q: Do we need clarification on “site new corridors that have no or minimal impact on the environment”? Do we need to break down “environment” into social concerns, wildlife concerns, aesthetics, etc.?
 - A: This term was meant to be all inclusive, and can be explained as such.

POLITICAL SUPPORT COMMENTS:

- Q: When we say “integrate WREP recommendations into local land use plans”, does that imply that we will not be in agreement with local land use? Should we include a statement in the final plan that clearly states we are in accordance with existing local ordinances?

- A: This committee's recommendation has to agree with local land use planning. However, this committee may, depending on final recommendations, request changes to the current local land use plan.
- Q: Would it be helpful or appropriate for this committee, or a sub-committee thereof, to remain intact through the hearing process to lend support to the final plan?
 - A: This would be a key element in the success of the plan.

COST EFFECTIVENESS COMMENTS:

- Q: People are naturally going to want to have the power lines buried, so how is this going to be paid for?
 - A: Through our planning process, we will work through what the company pays for and what users pay for. In the future we will discuss where the discrepancy funds will come from, whether public funding, private funding or some combination thereof.
- Q: Will a cost grid be prepared for evaluation of these goals?
 - A: Yes, high level costs have been estimated for various scenarios and will be presented at the April meeting. It is assumed that these costs can be used as part of the alternatives evaluation. Cost is also included as part of the committees goals. .
- Q: Since not everyone will prioritize the goals the same way, how will the final goals be weighted and ranked?
 - A: These will not be weighted and ranked by Idaho Power because of the differences of priorities, which would incur an endless debate. Approximately the top three alternatives reached will be presented.

V. **How Idaho Power plans for the Wood River Valley (Dave)**

- Comment: The committee wants IP to understand that there are several "unique" situations in the WR valley when evaluating peak loads, such as considering the fact that 70% of the homes are vacant 90% of the time, one home has two elevators, and the area has distinctive differences from other areas serviced by the company. Idaho Power stated that because of the way the load is tracked and projected, these unique qualities are captured and projected forward. The calculated load per person takes into account these vacancy rates as well as the size of load per household and the home size.
- Q: Does IP have eminent domain powers to obtain corridor rights-of-way?
 - A: Yes, but this is a last resort option and obviously the least popular option.
- Comment: There will be individuals who will oppose any growth at all in the valley. Others will be supportive of better reliability but won't want the delivery to hinder their personal lifestyles.
- Q: What would happen to the power plan if a large industry were to come into the area?
 - A: This is referred to as a "spot load". A facility that produces or manufactures a product could increase the demand by 20-50 MW but a service industry would have minimal impact. A large spot load would require a review/update of the plan.
- Q: What about Rocky Mountain Hardware, for example?
 - A: This type of industry would require a 10-20 KW supply.
- Q: What business currently consumes the most energy?
 - A: Sun Valley Company. Bald Mountain has a 14-15 MW range. If a large industry came to the area then the plan would have to be reviewed / updated to accommodate something unforeseen of this nature.
- Comment: Don't forget agriculture, which uses a lot of electricity / horsepower in the summer months.

- Q: What about other types of businesses coming into the community? So far we've discussed mostly residential growth but there are efforts to bring additional businesses and college opportunities to the area that would create more balance in the impact of skiing on the economy.
 - A: Normal business growth is taken into account, including home office expansion.

- Q: Will the plan include West Magic, which is a bedroom community to the WR valley, and has power limitations?
 - A: IP has taken into account that there will be growth south of Timmerman, which may include West Magic, but this plan will be primarily for the area north of Timmerman. Also, although the plan is primarily for the Wood River Valley, it will consider needs of Lincoln County as facility improvements are made to address Wood River Valley needs. However, it may include the West Magic area.

- Q: What do the colors on the Land Ownership map represent?
 - A: The green areas are Forest Service land; brown areas are BLM; blue designates state-owned land and white is private land.

- Q: Should the "Base Population and Load" slide on the PowerPoint presentation reference peak "winter" load instead of "summer" load?
 - A: Yes. The WR area peaks in the winter and the slide is in error.

- Q: How is the population base derived?
 - A: The population data is based on the current census.

- Q: Would this valley be better assessed based on square footage or number of hookups or some other criteria to allow for the unique "part-time" occupancy of the valley?
 - A: The population census assessments are better understood by the business community and have proven to be the most accurate. Additionally, the large electrical load in the Wood River Valley compared to the relatively small population accounts for the building anomalies in the Wood River Valley when projecting future electrical load.

- Q: Are the projected population numbers too low when considering that some areas of the valley are growing faster than others?
 - A: IP looks at the valley as a whole. Census Bureau estimates have been used for Blaine County, which portrays a 1.9% projected annual growth rate.

- Q: Is there a more accurate way to project power needs and growth rate by square footage of buildings, instead of basing projections on population numbers?
 - A: IP uses the kilowatt per person standard, as this has historically proven to be the most accurate. IP will consider other parameters to address growth rate. The plan is also frequently reviewed to accommodate special circumstances or unexpected growth.

- Q: Does the 2% growth rate reflect growth in kilowatt usage?
 - A: Yes.

- Q: With new ski operations in the planning stages, will the 2% growth rate projection accommodate snowmaking and business growth on a large scale?
 - A: IP also forms small-area plans within the overall plan to incorporate localized growth. The substation plans are broken down to accommodate specific area requirements.

- Q: Can IP provide meter trends comparing Ketchum to Hailey usage, for instance, and residential versus business meter trends?
 - A: IP can email a spreadsheet to CM that will break this out. – *Need clarification at the next meeting on whether this is to go to one committee member or if all would like to receive a copy.*

- Q: What are the current substation plans?
 - A: IP currently has five substations to service the valley and has plans to add one more in the south end of the valley.
- Q: If an 80 MW substation is built, will it require twice the physical space as a 40 MW substation?
 - A: Yes, pretty close to double the space.

VI. Parameters for various transmission lines (Mark)

- Q: How much does length affect a transmission line's power carrying capability (in MWs)?
 - A: The power drops off significantly due to line length, depending on the structures used. Existing lines have a little different capacity than newer lines. The numbers in the presentation represent capacities in new lines. This discussion is productive when talking about which existing structures to use or how many existing structures to use, etc., and how to optimize existing structures. Existing lines cannot manage 320 MW, which is the projected Wood River Valley load at buildout.
- Q: Are the rating capacities different in underground lines versus overhead lines?
 - A: They are different but the numbers in the slide presentations apply to both.
- Q: Might it be necessary to replace the current infrastructure to upgrade it?
 - A: Yes.
- Q: Will we have the opportunity to discuss how much to improve the existing structures and how much to incorporate new structures?
 - A: Yes, this will be addressed in the alternatives development phase of the committee meetings.
- Q: The 2% growth rate figure was used to project growth for how many years?
 - A: IP used this percentage to project growth rates out 100 years. This projects a population of 100,000; however, that figure was scaled back to 70,000 based on limitations due land use zoning. Somewhere around 2070 the population should max out the growth of the valley.
- Q: Does IP already have structures in place to handle the 80 MW capacity required from Ketchum?
 - A: There is one transmission line serving Ketchum. There are two transformers in Ketchum, with about 70 MW capacity. The substation should not have to be physically expanded but the transmission lines should be expanded to accommodate the projected needed 80 MW capacity.

11:45 a.m. Lunch – catered on-site by Full Moon Catering

VII. Existing Wood River Valley electrical system (Bryan)

- Includes description of “tools” for committee use in developing future system alternatives
- Q: Is a natural gas (or other energy) generating plant considered for the valley at all?
 - A: IP is growing and new natural gas turbine generating plants are planned within the company but not currently planned for this valley. The key factor in determining natural gas generation is that the price of natural gas is very volatile. The price of gas has increased 500% in the last eight years, and IP cannot control natural gas costs. The 2006 Integrated Resource Plan includes a new 160 MW gas-fired combustion turbine generator (outside the Wood River Valley) to be completed in 2008. Combustion turbine generating plants are efficient at low elevations. The elevation in the WR valley makes the efficiency of a combustion turbine drop by approximately 20%. The former emergency power plant in the WR valley was a gas and oil generating plant producing 50 MW. This was used to stabilize the system and was used for peak loads. The facility was disbanded when the contract came up for renewal. Customers were unhappy with the noise when the turbines were started up, disliked the additional trucking activity required to provide fuel for the generator, and the elevation constraint significantly reduced efficiency.

- Q: Why is the Moonstone substation outside the plan?
 - A: It currently serves mainly the Fairfield area and will not significantly impact the decisions made by the committee.

- Q: Do the Moonstone projections reflect agricultural usage in summer?
 - A: Yes, they do.

- Q: Do the substation wattages reflect average usage or peak loads?
 - A: These numbers reflect peak usage.

- Q: Given the 2% growth rate, can the percentage of available maximum capacity on transmission lines be maxed out?
 - A: Yes, they can; however, this assumes that all lines are up and running at all times, so this needs to be factored in.

- Q: Does the 10-year outage history reflect actual outages for transmission lines?
 - A: Yes. These reflect outages for particular transmission lines but not necessarily for distribution lines.

- Q: Why did the lower section of the line built in 1962 need more maintenance than the upper section?
 - A: This was due to line length. Line length is directly proportional to maintenance requirements.

- Q: Is the normal voltage operating range based on a national standard?
 - A: Yes. The voltages delivered to customers have a rating, and we use a plus-or-minus five percent rating.

- Q: Your range for acceptable normal operating voltage affects the efficiency of the equipment powered by that source. Do you consider that acceptable?
 - A: Yes. It is not economically acceptable to decrease the operating range.

- Comment: When the delivered voltage is decreased, this increases heat, which influences the effectiveness of systems (such as pumps), which work better at higher voltages, but are negatively impacted by excessive heat.
 - A: Our decisions are a balancing act between feasibility versus acceptable quality.

- Q: Is there any industry regulation on voltage fluctuation ranges?
 - A: Yes, the industry standard (which is recognized by the Idaho Public Utilities Commission) is plus or minus 5 %.

- Q: What are the transmission line ratings?
 - A: There are two ratings, a thermal rating and a practical rating. The thermal rating is the maximum power the wire can handle. The practical rating is the maximum power the line can deliver at the end point based on voltage (which decreases as the line's length increases)

- Q: Is IP considering backup operations?
 - A: Yes, backup operations are being considered.

- Q: If there are power outages now on the north end of the valley, what is the existing backup and what are its capabilities?
 - A: Sun Valley Company has enough backup generation so the lifts can drop people off, for instance, and security can be maintained. Additionally, the hospital has some backup generation for critical systems.

- Q: What would happen if power was lost from the Hailey (Wood River) substation to East Fork?

- A: The Ketchum substation only serves to the south end of Ketchum. The hospital is supplied by the Elkhorn substation. In the case of a “brown-out”, this would be East Fork northward.
- Q: Last fall we had a blackout due to the fire west of Midpoint Station. The blackout went from East Fork southward but some in the Picabo area still had power; why was that?
 - A: Situations like this depend on where the damage occurred and where the breakers are. The middle of an area could be served temporarily until the source of the problem was identified.
- Q: If the main line goes down, what is the percentage of outage or power failure?
 - A: This depends on the length of the outage. If a lengthy outage is experienced, then rotating “black outs” will be the result, keeping emergency services operating.
- Q: Is there a priority rating for what facilities lose power first if a main line goes down?
 - A: There is. Healthcare facilities and security facilities take priority in maintaining power supply.
- Q: Does IP have the ability to “pick and choose” within area which facilities or residences lose power?
 - A: To some extent, yes. However, there are automatic systems in place currently that shut down power systematically.
- Q: Don’t some emergency facilities, like hospitals, have backup generators?
 - A: Many do; however, IP does everything possible to keep emergency services running. Backup generators for hospitals and other care facilities are not always well maintained and do not cover all care-giving services, so these facilities remain a priority.
- Q: (Pepper’s question / clarification – is it correct to say that all distribution systems have the ability to temporarily exceed rated capacity by 10%?
 - A: Most distribution equipment has the ability to temporarily exceed capacity by 10%, so there is some room in the numbers to cover a little fluctuation - temporarily. The amount of time the equipment can withstand this overload depends on the magnitude of the overload.
- Q: Should the committee base their decisions on the numbers in existing conditions, without considering the permanent availability of the temporary additional 10% capacity?
 - A: Yes, these numbers equate to what the output will be at the end of the line.
- Q: Why can’t we keep boosting the substation transformer voltage?
 - A: We’re talking about transformers that can step it up or down by plus-or-minus 2-5%. We can boost the voltage but the limitation is that these are mechanical devices that automatically regulate the drops and peaks. This can only accommodate a 10% change.
- Q: Can we get another regulator device that will allow for more fluctuation?
 - A: We use standard equipment for the industry and it would not be feasible or practical to vary from that. IP wants to stay with the equipment that is standard for the industry. There is also an operating limit, and voltage can be increased too much or dropped too low, which can be dangerous in either case.
- Q: Is the technology developed to create greater boosts with larger fluctuation ranges even if it is not yet available?
 - A: It probably can be developed but operationally it is not practical. IP can research newer technology that might increase fluctuation ranges if needed.
 - Comment: When it comes time for the committee members to explain the options to the general public, it might be helpful to have this information.
- Q: Can power be back-fed from the weak line to the strong line, or vice versa, in the case of an outage?
 - A: It can be done with sophisticated upgrades to the system.

- Q: Could additional distribution circuits be built from Ketchum northward as an emergency issue if lines go down for longer periods of time?
 - A: Yes. For instance, St. Luke's Hospital is normally served from the Elkhorn substation but it is also set up to be temporarily powered from the Hailey (Wood River) substation through distribution lines.
- Q: Can distribution lines be added to the existing pole structures?
 - A: This can be done on some structures but not others, unless the lines are rebuilt.
- Q: If an event disables the Midpoint substation or reduces it to 50% capacity, are equipment or plans available to get the WR valley up and running again, and if so, in what timeframe?
 - A: It depends on the type of damage. It could be weeks if the damage is 50%. If the damage only required replacing a transformer, the system could be operational again in a few days to a week.
- Q: Will the Timmerman substation free up capacity from the Moonstone substation to go west?
 - A: Yes.
- Q: What level of reliability are we looking for? Is 25% reliability acceptable as opposed to a whole second set of distribution lines?
 - A: This will be determined by the committee and will be discussed at a future meeting.
- Q: Has the potential for the airport relocation been considered in the capacity for the Timmerman Substation?
 - A: Yes.

VIII. Sub Station and Transmission Facility Siting Criteria – facilitated group discussion**

*(**See Siting Criteria, as part of separate Goals attachment)*

DISCUSSION:

WHAT KINDS OF THINGS ARE IMPORTANT TO YOU IN TERMS OF LOCATION OF FACILITIES?

- Comment: The BLM would like to use existing corridors as much as possible (those already established for fiber optics, gas lines, power lines, etc.) or designate future multi-use corridors.
- Citizens in Bellevue do not want to create another corridor, would rather use existing poles and want minimal visual impact.
- Q: Aren't we talking about the impact for just Ketchum northward? Will Bellevue be affected?
 - A: This will affect Bellevue. IP wants a 320 MW solution to meet the valley's needs at buildout.
- Q: So are we to assume that we will be getting the 320 MW solution one way or another and WREP is to decide how to make it more comfortable or palatable to the community?
 - A: IP wants the best method to meet the demand of a 320 MW solution and for the group to decide whether they want redundancy or not. This will involve details about location, appearance and redundant service.
- Q: How wide would the corridor have to be if a redundant line was placed in the existing corridor?
 - A: It would double the corridor parameters. IP can use existing poles for two lines but this does not meet reliability issues because the same storm could knock out both lines.
- Comment: Sun Valley citizens feel strongly about redundancy and site selection. Sun Valley is going to pay for a portion of underground lines for visibility sake. Sun Valley wants no new overhead lines, either distribution or transmission.
- Comment: Everyone in the valley would prefer underground lines; however, cost is a significant factor.

- Comment: Using existing corridors will not answer the redundancy issue if lines are above ground. One possibility is to put one line overhead and one line underground. Options considered for this plan could include increase the capacity of the lines.
- Comment: The discussion might be facilitated if the plan were broken into two geographical sections, the “south” end of the valley (south of Wood River substation) and the north end of the valley (north of the Wood River substation). Perhaps there are different acceptable standards (politically, socially, and economically) in each geographical unit.

SITING PRIORITIES:

- Use existing corridors as much as possible
- Designate multiuse corridors
- Minimal visual impact
- No new overhead lines in Sun Valley, Ketchum and Elkhorn (distribution lines or transmission lines)
- Include the use of transportation and utility corridors
- Hailey – prefer underground/above-ground lines if used in the same corridor
- Do not put redundant line in existing 138 KV corridor, either overhead or underground lines
- Consider upgrades to existing equipment

Wood River Station North

- Concerns are redundancy and capacity issues
- Don’t put redundant line in existing 138 KV corridor, either over ground or underground without new technology
- Preserve scenic corridor rule, and 150 ft. setback from an overhead line to a residence (based on an old EMF information, which could be readdressed)
- Maintain hillside ordinances (according to county comprehensive plan policy)
- Only underground lines in Ketchum, Sun Valley and Elkhorn (and from WR substation north? Part way? Need further discussion because this involves different political entities)

Wood River Station South

- Concerns are capacity issues—the possibility exists that we may not have to (and don’t want to) increase pole size through Bellevue
- Improve structures to meet Lincoln County growth (Lincoln County is not opposed to overhead lines)
- Maintain scenic corridors
- No environmental impact on fragile wildlife habitat and wetlands
- Use existing corridors or improved technology in the corridors when possible
- Overhead lines are okay
- Maintain current pole sizes through Bellevue

NOTE: The WREP would like IP to provide some graphic simulations of what the different structures would look like in different areas of the valley.

X. Next Steps and Wrap up

- CAC Homework – *using the “tools” provided by Bryan such as transmission lines, substations, etc., with reference to the committee’s established goals and new siting criteria, begin thinking about how you would like to layout the system to meet the Valley’s energy demand*
- Future meeting dates – April 26, May 24 and June 28
- Next CAC meeting – April 26, 2007 – 10:00 a.m. – Wood River Inn; Hailey
 - Develop alternatives / compare to goals and siting criteria

<http://www.idahopower.com/newsroom/projnews/wrep.htm>