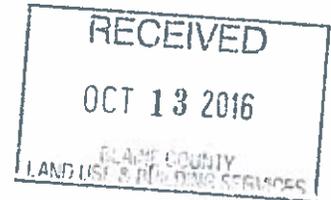


pzcounter

From: Laura Midgley <midgley2215@gmail.com>
Sent: Wednesday, October 12, 2016 7:15 PM
To: pzcounter
Cc: Kiki Tidwell
Subject: For Oct 13 meeting letter to Commissioners RE Power Lines
Attachments: KMccall Analysis of Power Line.doc



October 12, 2016

Dear Commissioners,

This is the second time I am writing to you as a very concerned citizen about the proposed Power Lines that are currently planned to be installed above ground in Mid Valley. I have done even more reading and have an even deeper concern about the proposed project under your review.

IPCo's plan is thoroughly inadequate, as it does not take into consideration the permanent impact on our residents and visitors. Nor does it take into thoughtful consideration the alternatives.

The primary reason the Wood River Valley is a desirable place to live and visit is the pristine beauty. The Sawtooth Scenic Byway is a picturesque corridor that has been successfully protected from prior assaults and must continue to be protected by the Blaine County Planning and Zoning Commission. This plan, a deeply flawed attempt to provide more reliable power, is not a solution to the perceived problem, and instead would create irreparable harm to the entire Wood River Valley, and in particular Mid Valley.

Back up plans for power are wise and responsible. However this plan neither achieves that goal, nor succeeds in protecting the residents from harm. The residents, taxpayers and ratepayers have a right to be consulted on the final solution to this perceived problem.

*"The issue of redundancy is the same now as it was in 1995 when IPCo Regional Manager Dan Olmstead said 'It's up to the **customers** whether they want to live with one line and put up with the minor inconveniences of interruption of service, or do they prefer to build another line they would have to look at forever.' (Idaho Mountain Express, January 1995)"*

The current plan fails on many levels, as made clear by the **KMccall Analysis of Power Line Document** (see attached). This document provides a complete review of the history and proposal and makes very sound critiques, including:

The perceived problem is not as great as laid out by IPCo.

- o "The public needs to be made fully aware that the causes of the Christmas outage had absolutely nothing to do with the existing Hailey to Ketchum line."



- o *"State of the art technology should be a mandate by the IPUC. Instead, antiquated and slow methods of surveillance seem to be the accepted standard that ultimately lead to spending millions of ratepayer dollars to build redundant transmission lines as backups rather than maintaining to the highest standard existing lines as in the attention given to the Hailey to Ketchum 138kV.*
- o See section titled **Distributed Power / The Microgrid / Micropower**

In the end, if a more reliable energy source is needed via new lines, then the mid valley residents should be given the same respect that Ketchum has been given, and the same plan and subsidy to bury lines should be offered.

"The cost of the buried line is incumbent on the community. A LID, suggested by IPCo, would to pay for the buried line at a cost of \$250 per \$100,000 property value."

In conclusion, BCPZC has a responsibility to make decisions based on the interests of the residents, taxpayers and voters. Additionally, our tourist economy depends on a fabulous reputation with visitors, and people of means have many choices of where to recreate and spend their dollars. Most visitors arrive from the south, and all would be greeted by a scarred vista. Is this the impression we want our visitors to have upon arrival and departure? Will they choose to go to other pristine landscapes that have been thoughtfully stewarded instead of one that is scarred with ugly high voltage transmissions lines? We all have to make choices. Let's make smart and informed ones we won't regret later.

I respectfully request that the Blaine County P & Z deny the proposed second transmission line request and explore third party alternatives. If those proposals are not deemed reasonable, then IPCo should insist on a plan that includes burying the lines entirely.

Sincerely,

Laura Midgley

231 Valley Club Drive

Hailey, ID 83333

midgley2215@gmail.com

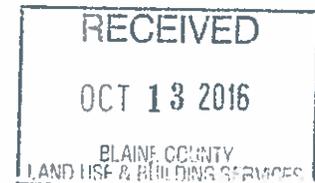
P.S. If this proposal goes through there will be a day when these current lines on Buttercup, which no one likes but everyone has accepted, will be viewed as quaint.

**Idaho Power Co. Proposed Subtransmission Line :
Hailey - Ketchum**

An Investigative Analysis (May 2010)

by

Kerrin McCall



Introduction

The Wood River Electrical Plan (WREP) completed in December 2007 by Idaho Power Company (IPCo) addresses the current electrical supply system for the Wood River Valley from Timmerman Hill to the SNRA and recommends new infrastructure and routing for the entire system. **Show map from EST presentation, Exhibit 1** The following document only addresses the North Valley component of the WREP which is a 138kV transmission line proposed to be constructed along Highway 75 between the Wood River Transmission Station just north of Hailey and the Ketchum Substation. **Show map when available Exhibit 2.** The proposed line would serve residents and businesses from north of East Fork to the Sawtooth National Recreation Area. The purpose of this analysis is to provide information concerning this project in addition to materials presented by Idaho Power so that the public can make an educated decision about the need for an additional transmission line.

Community Advisory Committee (CAC)

Idaho Power invited 19 members of the Wood River Valley (WRV) community to help layout the WREP. The committee is represented by city and county government officials, a developer, a rancher, the BLM and USFS, a former Blaine County Commissioner and alternate representatives from the Sun



At the time of the application, Dan Olmstead, IPCo district manger in 1995, said that "Laying a power line is typically controversial, but this one is more so because it is not needed to address capacity problems. Olmstead continued " It's up to the customers whether they want to live with one line and put up with the minor inconveniences of interruption of service, or do they prefer to build another line they would have to look at forever." Idaho mountain Express, February 15, 1995.

IPCo performed an extensive study for the feasibility and need for an additional 138kV line which reviewed capacity and reliability requirements for service to the North Valley. The study concluded that the existing line with a 120MW (megawatt) load capacity was capable of handling the maximum buildout for the North Valley. It also stated that the line had "an excellent record of reliability (only 3 unplanned outages in the past 14 years, 1981 - 1995, for a total duration of three minutes)", and that the "Company had taken a number of steps to further improve the line's reliability". (Application for Ammendment Case IPC-E-95-6 June 22, 1995 Page 1) These steps included the following:

1. Structural Assessment- Energy Data Management of Colorado performed a field inspection and structural analysis of the poles, cross-arms, insulators and conductors which confirmed that the line was in good condition and in compliance with the National Electrical Safety Code Standards.
2. Electrical Assessment: - Energy Data Management and Power Engineers of Hailey analyzed the historical performance of the line from 1980- 1994. The line was determined to have an excellent outage history with only two unplanned outages between 1981 and 1995 for a total duration of 3 minutes.
3. Fire Protection: Osmose, Inc coated the transmission poles with Fire-Guard protectant which is designed to protect the poles through 3 fires.

Current Transmission Line Proposal

Visual Impact (current pole height plan not presented here)

To date there are two height scenarios with more information from IPCo in July. **1.** The steel or wood poles of this transmission line could be 60" tall much taller than the distribution poles currently running along the highway or nearly three times the height of a two story home. They would be spaced every 300' meaning there could be 175 -200 poles. There will be several tiers of line including the existing distribution line strung on these poles and a lightning shield on top. **Show photos Exhibit # 2.** The poles could be 55' high with a lightning shield and the entire distribution line buried. Considering that Blaine County recently rejected 40' residential wind turbines in the highway view corridor because residents were opposed for reason of aesthetics, the height of these pole could be an issue.

The transmission line can be buried for the total length or part of the length of the line which would eliminate the visual impact. Burying a 138kV line costs ten times more than an overhead line and the costs are incumbent on the community to pay. When looking at a variety of scenarios in the next section of this document, it becomes clear that burying all or any of the line is expensive.

It should be noted that the existing line, built in 1962, was built out of sight, off the highway corridor, and over three miles of difficult terrain instead of straight from Hailey to Ketchum. IPCo has not been able to give information about the decision many years ago to build the line along this route. Surely there are documents regarding the acquisition of the Right of Way for the 1962 line that would help understand this decision. One can surmise that the community and IPCO did not feel it was appropriate to build it along the highway in the view corridor.

In addition to the transmission line a "control house" would be built at the Ketchum substation. Normally a control house contains relays, batteries and

The cost of this line in 2013 dollars depending on route, overhead and underground segments, and distribution line treatment, will be approximately \$23 million. The cost of new overhead infrastructure would be paid for by ratepayers statewide. In 2007, when the WREP was completed, the cost per mile overhead was \$300,000 and the buried cost was \$3,000,000. Any part of the line that is buried is ten times the cost of an overhead line less the cost of the overhead per mile. For example in 2010 dollars: one mile of overhead line costs \$400,000 and one mile of buried line is \$4,000,000 less \$400,000 or \$3,600,000 per mile. The cost of the buried line is incumbent on the community. A LID, suggested by IPCo, would to pay for the buried line at a cost of \$250 per \$100,000 property value

Permits, Process, Timelines (current timelines not included)

A conditional use permit will need to be issued from Blaine County, the cities of Ketchum, and Sun Valley if IPCo crosses their jurisdiction with the new line. A building permit is required for the "control building" needed at the Ketchum Substation. Prior to these applications IPCo will conduct public involvement for several months throughout the valley. If this involvement is only in the form of open house presentations, there is very little opportunity for open group discussion and dialogue which gives the public the chance to hear, participate in and document these discussions. As of August 15, 2010, there is no specific timeline for this public education as engineering and cost analysis need to be completed before conversations with the city and county officials, stakeholders and the rest of the public. Public hearings will be scheduled for sometime in the fall. Formal public hearings with the Idaho Public Utilities Commission (IPUC) and IPCo officials present a great opportunity to present testimony that is meaningful and will require a formal response from IPCo.

The Christmas Power Outage and How It Relates to the Proposed Line

(which could have been avoided with state of the art monitoring) and when the load was transferred to the King line that line failed because of faulty splicing (a maintenance issue which should have been attended to before problems occurred) and the subsequent failure of 6 aluminum conductors held within the splicing. A question to ask is "What has IPCo done to the Midpoint and King Lines since the 2007 WREP to manage this issue? Contrary to some reports, the Christmas outage was not a perfect storm because the problem was identified years ago and was not attended to. Even now, after the Christmas outage, IPCo still prioritizes building a redundant line from Hailey to Ketchum, where minimal outages have occurred, an intensive maintenance schedule exists and reliability is excellent, before addressing a poorly maintained and faulty system to the south.

The WREP Implementation Plan p. 16 states "The recommendations of the CAC cover infrastructure improvements to the Idaho Power system that will deliver sufficient power at the Wood River Valley's buildout. Not all facilities are needed in the near term and will be phased in as the Valley's load increases." The first improvement in the five year plan is to " Build second 138,000-volt transmission line between the Wood River Transmission Station in Hailey and the Ketchum Substation. This is the top priority project." After that, in the 5 year plan comes the configuration of new 138kV lines to improve the Midpoint system south of Hailey, including a new substation south of Timmerman Hill. The questions raised here are: 1. If IPCo is attempting to provide sufficient (adequate, enough) power, then why are they prioritizing a redundant H - K line when the existing line is reliable with sufficient capacity for North Valley buildout yet dependent upon an inadequate southern system? 2. What are the criteria for sufficient power?

Before the Christmas outage IPCo knew the Midpoint line was inadequate so why did they not have the most effective technology to quickly locate the point of failure? Cameras and remote monitoring should be standard. Icing

lines feeding the reliable existing North Valley line and a proposed new North Valley line will not give this community reliable power.

IPCo Mandates and Criteria for Reliable Power

Need - Redundancy

Redundancy and capacity are the two components that determine the need for reliability offered by an additional transmission line. A redundant line serves to maximize dependability by being available to carry its total load plus the total load of the line it is backing up the load when the line it is backing up has an outage caused by weather, operator error (i.e. IPCo's mistake), range fires, maintenance or equipment failure. Redundancy as defined in the WREP is "Two separate lines that can handle extreme peak loads alone without rotational outages." (This statement seems to verify that if "rotational outages" had been used by IPCo during the Christmas 2009 problems or any other scenario where there is not a redundant line, the need for a redundant line would not be necessary. Put another way, rotational outages when properly used are an alternative to a redundant line. As used in engineering, redundancy means *"the inclusion of extra components that are not strictly necessary to functioning, in case of failure of other components."* Simply put, a redundant line is a backup line. Its connotation is "unnecessary".

The issue of redundancy is the same now as it was in 1995 when IPCo Regional Manager Dan Olmstead said "It's up to the customers whether they want to live with one line and put up with the minor inconveniences of interruption of service, or do they prefer to build another line they would have to look at forever." (Idaho Mountain Express, January 1995) It is suggested that all the same studies, enhanced maintenance and emergency action plans continue to be carried out on the existing line today as were enacted in 1995 to ascertain and assure the line's reliability.

From these figures and the data on maintenance and outages, it can be said that the line continues to have an excellent record of reliability. Considering the existing line's record and its access for repairs, the delivery of future electrical supply can be considered as reliable as it has been in the past. That is if the south lines that feed the Hailey to Ketchum line are well maintained and given priority upgrading. It will serve the community well to review the reasons why a proposed line was turned down in 1995

Regardless of the line's record of reliability, there is a perceived need for a redundant line within segments of the community, specifically the business sector, the City of Sun Valley and (SVCo). There is the fear that another 24 hour outage is possible, even though ***the Christmas outage did not occur as a result of the failure of the Hailey to Ketchum line, but as the result of the failure of the two south lines feeding the H-K line.*** However, in conjunction with the Castle Rock Fire and the sustained, severity of the economic downturn, the Christmas outage was another blow to retailers. The perception that redundancy is a secure solution to future outages is real to many, yet, as proven by the two failed south lines which caused the 2009 Christmas outage, the most secure solution to prolonged outages is excellent maintenance and state of the art surveillance on the existing 138kV line serving Ketchum. From the perspective of the business community, although the risk of transmission failure is very small, the potential risk to the economy is large. SVCo has the largest stake in an electrical outages and the Christmas outage was proof of their concern. Although the company received a stack of letters expressing gratitude for the manner in which the SVCo took care of their guests during the outage, there is a deserved fear that another outage could happen with far worse results, including not only the company's reputation but extensive and expensive damage to pipes and infrastructure.

even though IPCo stresses that there is plenty of electrical capacity for North Valley buildout. The existing Hailey to Ketchum 138kV line has a 120-130MW capacity in winter when the demand is the highest (Application for Amendment to Certificate, p.4 June 2, 1995). Powerlines are capable of carrying more electricity in colder conditions. The historic winter peak line loading was New Year's Eve 2007 with 64MW or 53.5% of capacity. Data provided by Idaho Power show that in the following two years peak line loading dropped : Christmas Eve 2008 at 61MW and New Year's Eve 2009 at 60MW. The Wood River Valley, especially the North Valley, has its peak load in winter unlike the most of the rest of the state which has a summer peak load due to air conditioning and agriculture.

In 1995 IPCo stated in its Application for an Amendment to Certificate that IPCo's "current projections of electric demand in the Ketchum - Sun Valley area indicate that the existing 138kV transmission line has sufficient capacity to meet the area's electric needs for the foreseeable future". IPCo projected that the winter peak load in 2005-2006 at 73MW. That is 9MW more than the 2007 peak of 64MW, and only 8.5MW higher than 1994-1995. The point being that electric use is actually far less than projected. This and other extensive calculations, available upon request, substantiate IPCo's 1995 report and IPCo Manager Delivery Systems, Dave Angell, who stresses that the proposed line is "not a capacity issue. It is continuity and business driven." The proposed line is not needed to provide additional capacity is and IPCo should make that very clear to the media and in all its public presentations. Unfortunately, IPCo presentations are currently misleading in that they do not distinguish between the North Valley, and the rest of the Wood River Valley, the South Valley, which will require more capacity and where IPCo has made their calculations. An example of this is from a presentation made to Ketchum Community Development Energy Solutions team:

Future: Capacity and Reliability (Explanation available upon request)

- Existing system can serve 15-20 years of growth
- Load growth will make existing reliability problems worse

existing Hailey to Ketchum line as indicated again by Idaho Power in Appendix B - Page 1 of the WREP. This means that the North Valley (north of East Fork) will need to grow by 11,900 people just to reach a load of 99.5MW and then by another 6,200 people on the existing line to reach capacity of 120MW. That is an additional 18,100 people in the North Valley (north of East Fork) bringing the total population to 27,800. Of course the numbers are variable and some people use more electricity than others with larger homes in the North Valley and greater wealth demanding more use. Nonetheless the numbers needed to reach capacity are impressive. IPCo certainly needs to publicly clarify this issue so that residents understand that that there is no need for additional capacity.

Considering the current density and the limited land for construction due to BLM and Forest Service public lands as well as the Hillside Building Ordinance, the high cost of land, and an economy that can no longer be sustained by construction as it has been for many years, it seems unlikely that the pressure of population could ever demand 120MW in the North Valley, unless the current population more than doubles its electrical demand, which is highly unlikely. The trend is just the opposite as energy efficiency, demandside management and energy conservation become more important due to diminishing fossil fuels and increased renewable energy capacity. The current problems with the BP Gulf oil blow out and the shut down of coal-fired plants should help drive home the need for re-emphasis on all sustainable activities and reduced dependency on fossil fuels.

Although the electrical supply must assure capacity for the highest use - Christmas and New Year's Eve - these are only two days during a two week holiday period when the demand is so high. The average winter peak load for winters 2007 -2010 is as follows:

07 - 08	47 MW	39.2% capacity
08 - 09	46MW	38.4% capacity
09 - 10	45MW	37.5% capacity

Need in Relation to Electrical Generation, Energy Efficiency, Smart Grid

According to the company's Integrated Resource Plan (IRP), IPCo does not currently have enough electrical generation capacity, is importing out of state electricity and peak hour planning graphs indicate the very real possibility of rolling blackouts in the coming years. Section 8. Planning and Portfolio Selection, Peak Hour Planning, Figure 8.4 illustrates considerable peak hour deficits reaching in excess of 500MW by 2012 and continuing to grow through the remainder of the 20 year planning period. It would, therefore, make sense for IPCo to be investing more heavily in power generation than building new transmission lines that will not have adequate electrons to carry.

Throughout the WREP Idaho Power suggests that there are alternatives that could displace the need for new utility infrastructure by lowering peak demand which exists briefly during the important to the economy Christmas holidays. Average peak demand, however, is significantly lower than the winter peak. (In reiteration of previous statements in this report, the proposed Hailey to Ketchum powerline is not needed for additional capacity. However, for the purpose of education about responsible awareness of energy use as a community goal, and in relation to climate change and increased energy security, the following material is applicable.) One way to effect peak demand is with Demand-side Management (DMS) or actions that influence the quantity or patterns of energy use consumed by end users, such as actions targeting reduction of peak demand. Peak demand management does not necessarily reduce total energy consumption but could be expected to reduce the need for investments in new infrastructure. Idaho Power estimates that DMS along with improved building standards, energy efficiency technology advancements and customer involvement will reduce new electrical load. Various programs underway are listed in Appendix C - PP. 3 & 4 of the WREP. These programs enacted en force would address the concerns of the Wood River Valley North as well as IPCO shareholders who

and geothermal generation in the southern part of the state. Although Idaho Power says in its Integrated Resource Plan (IRP) that the company is aggressively pursuing renewable energy, its current portfolio does not reflect that position.

Distributed Power / The Microgrid / Micropower

Distributed energy resources – what is being called the “microgrid” – are consumer-driven, small-scale power generation technologies (typically in the range of 3 to 10,000 kW) located close to where electricity is used (e.g., a home or business) to provide an alternative to or an enhancement of the traditional electric power system. Generating power on site, rather than centrally, eliminates the cost, complexity, interdependencies, and inefficiencies associated with centralized transmission and distribution. As of four years ago, micropower was a third of the world’s new electricity and one sixth of the world’s total. Companies like GE and IBM are talking about up to half of American homes generating their own electricity, renewably, within a decade and the evidence is growing that geographically distributed renewables could deliver a 100% green energy future faster and cheaper than big power projects alone. In his book, *Small is Profitable*”, Amory Lovins writes “Distributed generation means a redundant, resilient, secure infrastructure – that’s why military bases and hospitals have their own power plants. Micropower can be more reliable because 98% of blackouts originate in the grid.” In the case of the Christmas outage, that is exactly what happened. If Sun Valley Company, homes and businesses had had solar PV installation on roof tops, the degree of electrical outage resulting from the failure of transmission lines outside the North Valley would have been substantially mitigated. That is not to say that distributed power is a solution for energy reliability for an entire community, because energy self-reliance is a matter of both choice and sufficient finances to purchase the energy systems. It is most certainly one of the solutions. However, the **Smart Grid**, mentioned earlier in this report, is a technology ICo is implementing which can be a real and very imminent solution for reliability.

owned and operated. Money spent on local energy stays in the community creating a ripple effect in the economy.

IPCo states in the WREP that "The number of sunny days that the Wood River Valley sees every year would seem to indicate that it would be an ideal location for photovoltaic use." The report goes on to say that on a large scale, however, solar energy sites would suffer from electrical transmission required to deliver energy to the end users and limited space for an solar farm. It safe to say that sub-transmission lines (138kV) would not be necessary to carry the load especially for a solar farm with an output of 20 – 50 MW which could be served from IPCo's 12.5 and/or 34.5MW distributions systems. A solar farm could offer locally generated electrical availability and it could also provide a back up system for temporary outages. Distribution lines which have smaller capacity could disperse the load on a rotational basis during a North Valley outage.

A recent poll (March 2010) indicates that 75% of Americans approve of solar installations on public lands that are not set aside for parks and nature preserves. The Solar Energy Industries Association commissioned the poll from the Gotham Research Group. What these results indicate is that Americans see the necessity for developing domestic clean energy resources, and believe that solar farms on large tracts of uninhabited, sunny land make good business sense. With an abundance of public lands in the Wood River Valley it makes sense to use some of this land to provide electricity with one or more solar farms. Projects which are developed in the North Valley could use existing and future distribution lines to send their excess power directly into the North Valley system and could serve much of its electrical demand as backup electrical generating facilities. Sun Valley Co. could build a solar system out Trail Creek on Forest Service land. The City of Ketchum could provide land near its water storage tank just north of town. Rooftop solar farms could be constructed. Ohio Gulch with all the surrounding BLM land and proximity to the existing transmission line is another possibility. If 405

More than 50% of our electricity in the Wood River Valley is currently sourced from coal which is climate disruptive and imported from other states. Building another power line from Hailey to Ketchum might insure us with a redundant line and it would also assure continued supply of electricity from coal. A renewed interest in nuclear energy could be a future source for our electrical power, electricity that the public would pay for twice -- in taxes to pay for federal loan guarantees necessary for the development of a nuclear plant and in the rate consumers pay IPCo. There are alternatives. Our community has an opportunity to explore abundant natural resources - wind, solar, geothermal and biomass to provide a sustainable and secure means of producing renewable energy and energy security. Money spent on local energy stays in the community tax base as can be seen from Minnesota to Denmark to Germany. Communities and countries developing renewable energy and manufacturing parts for the energy technology of the future are seeing the seeds of strength in their economy in a time of profound economic uncertainty. In the preparation of this study the following question has been asked: "What if we don't develop the technology of the future?" A response is that we have already crossed the threshold of certainly the biggest pivotal moment in technological history. Not only is sheer human ingenuity being challenged to create the new technology, but simultaneously our very survival is dependent upon it. So, logically, if we don't succeed, it really won't make any difference if we have built another power line or not. Our commitment as a community involves making every effort to create not only a sustainable, but a responsible energy future. To this end, the Dynamic Energy Systems Institute and the Environmental Resource Center have merged to create a strategic vision for a community-wide energy transformation.