

He Said, She Said

by REX and LAVONNE EWING

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One day you hear the call. It doesn't come in the lilting melodies of a meadowlark's song, or the intense adrenaline rush of a coyote's howl. It's subtle, like the wind soughing through distant trees, but more persistent. Much more. It sinks into your bones, and settles there. It colors your daydreams and provides the chorus for your nocturnal fantasies.

It's the back country calling, telling you it's time.

The call is beyond rational thought, and it gives not a whit for practicalities. It's primal. The low, unwavering tones pass effortlessly through all the walls of caution you've erected around your desires, to prevent you from doing the exact thing you are now contemplating.

Then, despite the utter uncertainty that lurks just ahead, you wake up one morning and realize your priorities have drastically changed. Capturing your attention from atop that stack of "things I need most in life" is a log home, deep in the woods. It's a promise you made years ago; an unpaid debt you owe to no one but yourself, and the person with whom you share your fondest dreams.

And suddenly you realize the time has come to square up the books.

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LaVonne and I squared up the books in grand fashion. No point wasting our time slowly

testing the water on the beach, we concluded, when what we wanted was on the other side of an ocean.

Husbands should be careful of what they promise. Rex always said he'd build me a log home, but it's not easy to make those big lifestyle changes. After lots of subliminal messages and not-so-subtle nudges, Rex mentally separated himself from the family farm and business and at last, we were headed for the land he'd owned since the '80s. Renewable energy was finally getting affordable, and cell phones would work well in our piece of the Rockies. The Internet was the only questionable part of the home-office equation back in 1999, but the puzzle pieces were falling into place, as much as they ever do.

Only a complete fool would welsh on a promise to a headstrong woman. So, in May of 1999, we said goodbye to a lush, sub-irrigated horse pasture; a verdant hayfield, and the billion or so mosquitoes we fought with over property rights; a comfortable 2,500 square-foot home; a 50-gallon-per-minute well; and a favorable proximity to practically everything we could ever want. Everything, that is, except the feeling of waking up in the bosom of nature, high above the incessant din of life on the dusty plains of eastern Colorado.

From that point on, all of our electrical power would have to come from sunlight (and

later, wind) by way of all the peculiar components currently in piles of boxes. We would live for two years in a frame cabin at the end of a forested trail, and build our log home 800 feet to the west on an adjoining piece of property.

Many people research such things to the nth degree, but Rex and I are of the same mindset...if something feels really right then we'll find a way to make it happen. Our hearts were in the mountains, so we put everything we couldn't part with into a large storage unit and moved to a 500 square foot cabin without running water or electricity, or much of a road, for that matter. Add in two large dogs and a psychotic cat, and you can about imagine what an adjustment it was. Heating water on a Coleman gas camp stove to wash dishes by kerosene light was a far cry from flipping a switch on a dishwasher, but I must admit it was a simple and romantic time. I have very fond memories of those early months.

Especially fond memories, I'm sure, of bathing in a chilly June breeze under a solar shower hung from the railing of the cabin's deck. This led directly to our first task of adding on an extra room, with an indoor shower—complete with running hot water—plus sufficient space for water barrels and battery storage, and wall space to mount our very first solar (photovoltaic) system's sensitive electronic equipment. It was then time to learn about electricity.

Up to that point in my life, my experience with electricity had been confined to a few foolhardy attempts to provide electrical power to a dozen or so stock-tank heaters, without electrocuting the horses that relied on the tanks for water. Happily, no animals were fried or even zapped during this phase of my education.

Now, however, I was responsible for more than just channeling electricity from point A to point B; I had the added chore of taking raw sunlight and guiding it through a complex series

of transformations before it ever got to point A, much less point B.

Before we moved, Rex was too occupied with the relocating decades of 'stuff' to learn about alternative energy. Being the organized half of the pair, I did the research with the help of Home Power magazine and various dealers. The terminology was a foreign language but I plunged ahead and ordered the main components—inverter, charge controller, solar panels, wind turbine—and a few odds and ends. I still remember Rex's incredulous expression when it was delivered. I just smiled and told him not to worry.

Oh, I wasn't worried. Exasperated, perplexed and occasionally despondent, but never worried. I read all the instruction manuals forward and backwards, and finally got everything to work as it should. Then I had plenty of time to ponder both the simplicity of the basic concepts, and the nuances of their application. We quickly learned to appreciate the power of solar energy and the sophistication of the energy-conditioning components. But we had also been lulled into a false sense of security, since the small appliances at the cabin were virtually incapable of using up more power than we were generating with the system.

The truth is, it was quite impossible to use electricity when I was peeling logs and working on the house every day, next to my sweet-but-relentless-log-builder husband. I should've known I was going to get deeply involved when he bought me a tool belt for Christmas. On the other hand, the purple leather gloves he offered to me by the dozen were a nice touch of diplomacy.

Of course, LaVonne didn't know how big of a project building a house really was, and I was not of a mind to tell her. What came as a surprise to both of us was how massive the house would turn out to be. Two-dimensional scale drawings just didn't do it justice. To read on a blueprint that it's 32 feet from the peak of

the roof to the ground is nothing like coming to the realization that the only way you can *reach* that peak is to stand the biggest, heaviest ladder you've ever laid eyes on in the bed of a pickup, and then hope nothing rolls, slides, or shifts.

Once we completed the log shell of the house and saw how huge our new home would be, we also realized just how much space we'd have to heat, using a propane-fired, in-floor hydronic heating system that required several electrically-driven zone pumps. Suddenly the photovoltaic system that had performed so admirably at the cabin didn't seem all that big.

Ah yes, the energy needed to run a house with a radiant floor heating system was the big unknown in our equation, but I had no doubt that solar and wind energy would handle the job. It had to; we were not about to get power lines strung up nearly 2 miles of road.

The energy it would take to pump water from a 540-foot well was our other concern, but we use so little water that it's never been a problem. It's not like we were planning to plant a lawn in the drought stricken Rocky Mountains.

Which is good, because it's hard to find a kid to mow your grass up here.

By the fall of 2000 the house was far enough along that we were able to move the PV system from the cabin to the house, and install a much smaller system at the cabin. We also erected a 50-foot lattice tower and installed a 1000-watt wind turbine on top of it.

It wasn't that we *needed* the power, exactly. The house wasn't even wired yet, and since LaVonne fired the electrician, it wouldn't be until I—with a resumé hardly improved from my stock-tank heater days—learned a new trade. But it did allow us to run power tools without having to climb down two flights of ladders to start a noisy generator every time we wanted to cut a board, and for that, alone, it was worth the trouble. In spades.

I hated asking my already-overworked husband to wire the house, but, considering that he's now the author of two books on solar and wind systems, he really can't complain. If I can learn how to peel logs and be a 'chink chick'—as another log-builder wife, Linda Kingsley, so named us—then Rex can add electrical wiring to his talents. Besides, we were so close to moving in I just knew he'd get it figured out.

Though I didn't share LaVonne's confidence in my abilities, I did finally finish the house wiring—to code, no less. Then, in the late spring of 2001, the *real* education began when we moved into our new log home. Throughout the summer and early fall our 660-watt solar array was adequate, as was our bank of 16 golf-cart-style solar batteries. But by the time cold weather set in and the heating system began taking ever-bigger bites out of our limited supply of kilowatts hours, it became apparent the system would need a few enhancements.

We added four 120-watt Kyocera solar modules and four more batteries, for a total array rating of 1,140 watts and a battery bank capacity of 1,100 amp hours at 24 volts, equal to over 25 kilowatt hours of stored power. Along with the wind turbine (and a few refinements), this is the system that has supplied over 99 percent of our power for the last three years.

I was just so happy to be done peeling, chinking, hammering, texturing, painting, and staining that I didn't care how much electricity we had. I was ready to move in.

In every relationship, one person is the 'regulator' and the other is the 'consumer'. Since I'm in charge of all the big appliances (clothes washer, dishwasher, iron, Crockpot...to name a few) not to mention the office equipment, the roles were clearly defined. I figured my Energy Czar would stay on top of everything. And he did, though at first, he was such a stickler.

Stickler? I prefer to think that I wisely tempered my enthusiasm with a dash of caution.

That's because I didn't know what it was like—what it was *really* like—to live in a modern house (as opposed to a primitive cabin) completely at the mercy of the sun and wind. Happily, I can say that it proved to be easier than either of us ever imagined.

On a typical day we'll get up with sun—or when the land sharks begin circling the bed, whichever comes first. The most travel-worthy between us at that early hour...

...this is usually me...

...tramps down two flights of stairs to let the dogs into the yard. It is tacitly understood that the person on dog detail is expected to deliver a report upon returning to the loft. The report consists of: the temperature, indoors and out, and the degree of charge of the batteries, which is easily ascertained by a quick peek at the Trimeter meter in the stairwell. A glance out the east window at the wind turbine provides a sense of wind power, while the windows on the remaining three sides offer crucial information regarding the day's probability of uninterrupted sunlight.

We then plug these critical variables into a complex unwritten mental formula...

...he makes a wild guess...

...to determine the day's wattage allotments, beginning with the coffee maker, and ending with the dishwasher. On most days the answer is, "anything goes," but not always.

I have names for days, such as Dishwasher Day, Laundry Day, or the opposite...a Zero Energy Day. Some days I can do three loads of laundry; other times I wait four or five days to do a load. You can't have a set schedule when you're living with the wind and sun, and you certainly don't do such chores at night.

Since we both work from home—a most agreeable arrangement—there are certain

mandatory loads. These include: a pair of computers, three printers, a scanner, satellite modem, and a central stereo system (call it sanity control), all of which are on for seven to ten hours per day, come rain or shine, wind or calm.

The upside to this daily power drain is that there is usually someone around to feed the woodstove during the winter. This saves energy that would've gone to the circulation heat pumps, and keeps the propane delivery guy from sliding off the two parallel tracks we call a road, in the dead of January.

After a few days of windless gloom—a rare occurrence in Colorado—the generator is called into service. If we allow it to run for the hour or so it takes to do a load of laundry, or run the dishwasher, it usually gives the batteries enough charge to carry us through the day.

Rex knows how I dislike noise, especially a generator, so I'm very careful to not run down the batteries *too* far. Our front-loading clothes washer is great for saving electricity and using little water, and the Peerless gas range uses no electricity, which is a refreshing departure from off-the-shelf gas ranges.

Admittedly, there is some work involved to living off the grid. Keeping the solar array more or less aligned with the sun involves a monthly ritual requiring two willing subjects a pair of pipe wrenches. We first determine the optimum array angle by placing an angle-finder on a board tracing the south-facing deck railing's shadow at high noon, then adjust our homemade turnbuckles until the array is perpendicular to the sun's rays.

Most people we know don't bother adjusting their arrays. That's because they don't have cool turnbuckles on the array frame, like those that Rex made. Or because their roof-mounted arrays are not adjustable.

I'll check the water in the batteries every two or three months, but rarely add water more than twice a year. They haven't complained yet. Some authorities will tell you to make sure the connections are tight, and I will, just as soon as someone explains how they could get loose, in the first place. Just the same, I'll look for corrosion on the terminals; haven't yet found any yet.

The batteries have stayed healthy because of the "yin-yang" effect. Simply put, it's my duty to make sure the batteries never get fully charged, and it's Rex's job to make sure they get as close to 100 percent every day. The result of this balanced opposition of forces is a battery bank that is worked, but rarely subjected to extremes.

Then, of course, there is weather-induced maintenance. When it snows it's a simple matter to sweep the snow off the array. But ice storms? They're a different breed of cat. The ice clings to the array like dog hair to velvet, and you just have to wait for the sun to come back out and melt it off. And when ice fouls the blades of the wind turbine and throw it out of balance, all I can do is engage the brake and wait until it melts. This is exasperating when the wind is blowing and there's power to be had.

He doesn't always wait. I've seen him sneak out of the house and climb the icy wind tower in ice storms to clean the blades. But I suppose it's good that he does it furtively, since I'd really rather not watch. That's a mighty tall tower.

Is it worth the trouble to live at Nature's tempo? It's no trouble at all; at least not compared to the four- and five-day blackouts other folks have to endure during heavy spring

snowstorms or winter ice storms. Or the ungainly power poles that stick out of the ground like warts on an otherwise finely chiseled nose. Or the monthly groaning episode that ensues the day the electric bill arrives. Grid power? No, thanks. Don't need it, don't want it. Even if it was free.

We are so much more aware of the seasons and the sun and the wind now that we must rely on Mother Nature. Needing what nature provides without being able to control it may be frustrating for some, but I find it a refreshingly humbling experience. For the first time in my life, I feel part of this world...part of life and everything that goes with it. We don't flip a switch without thinking about where the energy is coming from, water conservation is always on our minds, and we no longer complain about the wind (well...hardly ever). The sunny blue sky is never so beautiful as it is after a 3-day blizzard.

People always ask us what we'd do differently, if we would do it all over again. I always smile and say, "We'd have done it a lot sooner."

One day you'll here the call, then you'll see: It's a matter of independence.

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