BILL'S HOME TECH

Home & Small Business Tech Solutions

An Extended Guide · No. 1228

Backing Up Your Well Pump

Keeping the water on when the power's off

Tech Made Simple — Service Made Personal

BillsHomeTech.com · (330) 200-8042 · Atwater, Ohio

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! Read this first — carbon monoxide is the real danger

A running generator's exhaust contains carbon monoxide — an invisible, odorless gas that can kill in minutes. Never run a generator indoors, in a garage, in a shed, or on a porch, not even with the door open and a fan going. Run it outside only, well away from the house — the safety agencies say at least 20 feet — with the exhaust pointed away from every window, door, and vent. Put battery-backup carbon-monoxide alarms on each floor and outside the bedrooms. If an alarm sounds, or anyone feels dizzy, sick, or sleepy, get everyone into fresh air first and ask questions later. Out here that matters even more — when the power stops, the well pump stops with it, so the safety picture now includes your water supply too, not just electricity.

Let's keep the water running, safely

For a home on a well, a power outage isn't just dark and quiet — it's dry. No pump, no water, for drinking, cooking, flushing, or the animals. This guide is about backing up the one appliance that changes everything out here.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio — plenty of the homes I visit are out on their own well, and the well pump is almost always the first thing on their mind when we talk generators. It's a bigger, more particular job than powering a fridge, and it deserves its own careful guide.

The short version: a well pump is a serious motor that needs serious, well-planned power — and it needs a proper electrical hookup, not a cord. We'll walk through exactly why, and how to get it right the first time.

★ Bring me your pump's information

If you can find your pump's nameplate, or you know who drilled or services your well, that's the fastest path to a real answer. Call or text me at (330) 200-8042 and we'll figure out what you're working with.

The whole guide, on one page

If you remember only these things, you're most of the way to a safe, working setup.

- ❑ No power means no water at all on a well — not low pressure, none.
- ❑ Most home well pumps run on 240 volts and need a big starting surge to get going, often around three times their running power.
- ❑ You cannot run a well pump on ordinary extension cords — it needs a transfer switch or interlock, installed by a licensed electrician.
- ❑ Get the pump's real numbers from its nameplate or your well company — never guess.
- ❑ Size the generator with generous headroom around that surge, not right to the edge.
- ❑ Keep a few days of stored drinking water on hand anyway, as backup to the backup.

! Don't wait for an outage to find out

The worst time to learn your generator can't start the pump is during the outage itself. Size and test this setup ahead of time, on a calm afternoon.

When the power stops, so does the water

In town, a power outage is an inconvenience. Out on a well, it touches nearly everything — because the water itself runs on electricity.

City water is pushed to your tap by a utility, whether your own power is on or not. A private well has no such backup built in — the pump that lifts water out of the ground and into your house runs on your home's electricity, full stop. When that stops, so does every tap, every toilet refill, and every hose in the yard.

That reaches further than people expect the first time it happens: no water for drinking or cooking, no flushing once the tank runs dry, no water for animals or livestock, and no water for basic cleaning. It's a genuinely different kind of outage than a home on city water experiences.

> **★ This is why the well pump comes first**
> When I talk sizing with a rural customer, the well pump is usually where we start, not where we end up. Everything else on the must-run list gets planned around it.

What's actually down in your well

Understanding the pump itself makes the rest of this guide make a lot more sense.

A submersible motor, out of sight

Most home well pumps are submersible — the whole motor sits down inside the well, often well below the water line, pushing water up through a pipe to a pressure tank in your house. You never see it, which is part of why it's easy to forget it's an electrical appliance at all.

240 volts, wired in — not a plug

That motor is almost always wired for 240 volts, run on its own dedicated circuit straight from your home's electrical panel. There's no plug to find and no outlet to check — it's built into the house the same way your water heater or central air might be.

> **✔ If you're not sure what you have**
> Look at your pressure tank, usually in the basement, a utility room, or a small well house, or ask whoever drilled or services your well. They'll know the pump's details without you having to guess.

The big surge a well pump needs to start

This is the single most important idea in this whole guide: a well pump asks for a much bigger jolt of power to start than it needs once it's running.

Like any motor, a well pump has to overcome real resistance the instant it starts — pushing against the weight and pressure of standing water. That takes a serious shove for a second or two, often around three times the pump's steady running power, before it settles down to its ordinary running draw.

Undersized power doesn't just fail quietly. Ask a pump for a surge your generator can't deliver and the motor may hum, strain, heat up, or refuse to start — and repeated attempts can damage the motor itself over time. This is exactly the kind of surge our sizing guide teaches you to plan around, just with a notably large number attached to it out here.

> **! This is not the place to guess low**
> Of every appliance on a rural must-run list, the well pump is the one most worth sizing generously for. An undersized generator and a straining pump motor is a bad combination for both machines.

Why you can't just run a cord to it

A well pump's 240-volt, hardwired circuit rules out the simplest connection method — cords — from the start.

Outdoor extension cords are built to feed things you can unplug and plug back in: a lamp, a fridge, a window unit. A well pump has no plug to reach; it's spliced into a dedicated circuit at your panel. There is no safe way to connect a cord to it directly.

The safe path is a transfer switch or interlock kit, installed at your panel by a licensed electrician, paired with a generator that has a 240-volt outlet and enough surge headroom to start the pump. We cover choosing between a transfer switch and an interlock, and why a so-called 'suicide cord' is never the answer, in our guide on connecting a generator — that part is worth reading in full.

> **! Never try to bypass this yourself**
> Do not attempt to power a well pump with a cord, an adapter, or by backfeeding through an outlet. Beyond being unsafe and against code, it risks the pump motor, the generator, and anyone working on the lines outside. This is licensed-electrician territory, every time.

Getting real numbers — the nameplate or the well company

Every pump has real, specific numbers. Finding them beats guessing every time, and it's easier than you'd think.

Look for a small metal tag on the pump's control box or on the pressure tank setup, or in any paperwork from when the well was drilled or the pump was last replaced. It should list the pump's horsepower, and possibly its voltage and running amps.

No luck finding a tag? Call the company that drilled or services your well and ask for the pump's horsepower — they'll usually have it on file from the last visit. A licensed electrician can also identify it when they come to install your hookup.

> **★ I don't guess, and neither should you**
> I'll never hand you a made-up number for your pump. Bring me whatever you find — a nameplate photo, a horsepower figure, or just the well company's name — and I'll help you translate it into the right generator size, honestly. Call (330) 200-8042.

Before the next outage — a well-pump checklist

Work through this list once, calmly, and the next outage becomes a lot less stressful.

- ❑ I know my pump's horsepower, from its nameplate or the well company.
- ❑ My generator has a 240-volt outlet and comfortable surge headroom for the pump.
- ❑ A licensed electrician has installed a transfer switch or interlock at my panel.
- ❑ I've tested the whole setup — generator, hookup, and pump — before an actual outage.
- ❑ I keep a few days of stored drinking water on hand regardless.
- ❑ I know roughly how long my fuel supply will last, and have a plan to extend it.

> **★ Missing a few boxes? That's normal**
> Most folks start this list with two or three boxes checked, not all six. Call or text me at (330) 200-8042 and we'll work through the rest, one piece at a time.

Sizing with generous headroom

Once you have the pump's real horsepower, sizing follows the same method as any other generator — just with the pump's surge carrying real weight.

Add up the running watts of everything else you'll want on at the same time — lights, the fridge, maybe the furnace blower — then add the pump's own running draw, then add its starting surge on top, and finish with a generous cushion. Our sizing guide walks through this exact method step by step, including how to read a nameplate and why you only add the single biggest surge, not every motor's surge together.

Because the pump's surge is so often the largest number on a rural must-run list, it usually decides the size class you're shopping in more than anything else does. Get comfortable with that number before you start comparing generators.

> **✔ A generous cushion here is worth it**
> Sizing right to the edge is a bad idea anywhere, but especially here — a pump that struggles to start over and over is hard on the motor you rely on for every drop of water in the house.

Two kinds of homes, two sets of needs

This guide is written for a well, but it's worth being clear about who needs it and who doesn't.

If you live in town or the suburbs

Most homes in town, and plenty in the suburbs, are on city water. If that's you, an outage doesn't touch your water supply at all, and this particular concern simply doesn't apply — your generator planning can focus on the fridge, lights, and comfort instead.

- If you're not sure whether you're on city water or a private well, check a water bill or ask a neighbor — it's worth confirming.
- Some suburban and exurban lots, especially older or larger ones, do have a private well even with city-like surroundings.
- If you're on city water, our guide on choosing a generator and our sizing guide are the better starting points.
- No pump means no oversized 240-volt surge to plan around, which usually means a smaller, quieter generator does the job.

If you are out in the country on a well

Out on a well, the pump changes everything about the plan — and rural outages tend to run longer than in-town ones, which raises the stakes further.

- The well pump's starting surge is very likely the single biggest number on your whole must-run list.
- A transfer switch or interlock, installed by a licensed electrician, is the only safe way to feed it.
- Longer outages reward a bigger, well-tended fuel plan and propane's long shelf life — see our fuel-storage guide.
- Stored drinking water, a stocked pantry, and a plan for animals or livestock round out a rural outage plan the pump alone can't cover.

> **★ Rural, and not sure where to start?**
> This is exactly the setup I help rural families plan most often. Tell me about your well, your pump, and your home, and we'll build the whole plan together. Call (330) 200-8042.

Stored water — backup to the backup

Even the best generator setup deserves a second layer underneath it. Water storage is that layer.

Fuel can run low, a part can fail, a storm can outlast your plan — a generator is a wonderful tool, but it's not a guarantee. Keeping stored drinking water on hand means a hiccup in the generator plan doesn't turn into a genuine emergency.

A common rule of thumb in emergency-preparedness guidance is to store roughly a gallon of water per person, per day, for at least a few days, covering drinking and basic cooking. Store it in clean, sealed containers, out of direct sunlight, and rotate it occasionally so it stays fresh.

> **✔ Don't forget the animals**
> If you keep livestock, pets, or a garden that depends on well water, factor their needs into both your generator sizing and your stored-water plan — it's easy to plan for people and forget the rest of the household.

The pressure tank is already giving you a cushion

Here's some good news hiding in your basement: your pump almost certainly doesn't run constantly, even on a normal day.

A pressure tank stores a reserve of water under pressure, which is why your pump cycles on for a bit, then rests, rather than running every second a tap is open. That same cushion works in your favor during an outage — you don't need to run the generator and pump nonstop to have water available.

That's part of what makes taking turns between the pump and other loads realistic, which is exactly the next page's topic.

> **✔ A full tank is a small head start**
> If you see an outage coming, letting the pressure tank fill fully beforehand gives you a bit more water in reserve before you even start the generator.

Taking turns — pump, fridge, furnace

You don't have to run the pump and everything else at the exact same moment, and that can make a real difference to the generator you need.

Because the pressure tank holds a reserve, you can run the generator with the pump as a priority for a while — filling the tank and taking care of laundry or dishes — then switch attention to the fridge or the furnace blower for a stretch, rather than demanding all of it at once around the clock.

This kind of cycling is especially useful if your generator is sized for comfortable everyday use rather than the largest possible rural setup. It takes a little more attention, but it stretches a mid-sized machine further.

> **✔ Turn off what you're not using**
> Before switching your attention to the pump, it's worth turning off or unplugging anything you don't need running that moment — it keeps the generator's total load light and steady rather than juggling everything simultaneously.

Longer rural outages call for a longer fuel plan

Being at the end of the line, literally, often means rural outages run longer than in-town ones. Your fuel plan should reflect that.

Whatever fuel your generator runs on, think in days, not hours, when you're planning for a rural outage. Propane's long shelf life makes it especially well suited to a generator that mostly waits between longer, less frequent outages — our fuel-types and fuel-storage guides go deeper on choosing and storing fuel safely.

Store fuel in approved containers, away from the house and any flame or pilot light, and rotate or stabilize it so it's ready when you actually need it — not gummed up from sitting untouched for a year.

> **! Keep stored fuel well away from the house**
> This applies just as much on a rural property as anywhere else — store fuel in proper containers, detached from the house, garage, and any ignition source, and never refuel a hot or running generator.

Other water-related things that might be on your list

The well pump usually isn't traveling alone on a rural must-run list. A few common neighbors are worth planning for too.

- **A sump pump,** if your basement or crawlspace needs one — often a smaller motor, but still worth its own line on your worksheet.
- **A water softener or treatment system,** which may need a modest amount of power to keep cycling correctly.
- **An electric water heater,** which draws considerably more power than the pump and often has to wait its turn, or be left off the must-run list entirely.
- **A pressure tank's own controls,** which use very little power but are part of the same system.

> **✔ Read each nameplate on its own**
> Don't assume a sump pump or water softener is small just because it seems minor day to day — read its nameplate the same careful way you read the well pump's, and let our sizing guide help you add it all up.

Leave the panel to a licensed electrician

Everything about connecting a generator to a hardwired well pump runs through your home's electrical panel — and that's not a do-it-yourself job.

A transfer switch or interlock kit has to be installed correctly to keep your generator's power fully separated from the utility's lines, protect the pump motor, and meet code. That takes a licensed electrician, plus usually a permit and inspection.

I'm not a licensed electrician myself, and I don't do panel work — what I do is help you get ready for that visit: sizing the generator, understanding your pump, and making sure you're asking the electrician the right questions. Then I coordinate a trustworthy local electrician for the wiring itself.

> **! No shortcuts at the panel**
> Never attempt to backfeed the house through an outlet, and never let anyone talk you into a shortcut at the panel to save time or money. The risks — to the pump, the generator, and anyone working on the lines outside — are serious and not worth it.

Common well-pump mistakes

A handful of avoidable slip-ups account for most well-pump backup regret. Now you'll know them in advance.

- **Guessing at the pump's horsepower** instead of checking the nameplate or asking the well company.
- **Sizing to the running watts only,** and forgetting the pump's large starting surge.
- **Assuming a small, quiet generator will cover it** — most don't have the 240-volt outlet or surge headroom a well pump needs.
- **Trying to connect with cords** instead of a proper transfer switch or interlock.
- **Never testing the setup** until the day of an actual outage, when there's no room for surprises.
- **Skipping stored water,** and leaning on the generator as the only layer of the plan.

> **! The pump is not the place to cut corners**
> Water is too important out here to leave to guesswork. If you take one thing from this page, let it be: get real numbers, and have the hookup done by a licensed electrician.

Testing your setup before you need it

The single best thing you can do after everything is installed is to try it — on a calm, ordinary day, with no storm bearing down.

Start the generator, engage the transfer switch or interlock as instructed, and let the pump run through a full cycle. Listen for smooth, confident starting rather than humming or straining, and check that water flows normally at a faucet.

This is also part of exercising your generator, which is worth doing periodically anyway — running it under some real load keeps the engine healthy and the fuel from sitting stale, and it means the first time the pump ever runs on generator power isn't during an actual emergency.

> **★ I'm glad to be there for the first test**
> If you'd like company for that first test run, or just reassurance that everything's working the way it should, call or text me at (330) 200-8042 and we'll walk through it together.

Questions to ask your well company or electrician

These are the questions that get you a real, usable answer instead of a shrug.

Q: What's the horsepower of my well pump?
This is the number that starts everything else — your well company should have it on file, or can check on a service visit.

Q: Will a transfer switch or interlock protect my pump as well as the utility lines?
Yes, when installed correctly — ask your electrician to confirm the setup accounts for the pump's starting surge specifically.

Q: Do I need a permit for this work?
In most areas, yes, for panel work like a transfer switch or interlock — your electrician can confirm what's required locally.

Q: How long can my pressure tank supply water without the pump running?
It varies by tank size and household use — ask your well company for a rough sense so you know how long you can go between pump cycles.

> **✔ Write the answers down**
> Keep these answers with your other home papers, alongside your generator's manual. Future-you, mid-outage, will be glad you did.

Common Questions

The well-pump questions I hear most often, answered plainly.

Q: Can I run my well pump on a small, quiet inverter generator?
Almost never — most small inverter units don't have a 240-volt outlet or the surge headroom a well pump needs. This is usually a job for a larger generator.

Q: Is there any safe way to use cords instead of a transfer switch?
No. A well pump is hardwired at 240 volts with no plug to reach, so a transfer switch or interlock installed by a licensed electrician is the only safe path.

Q: How do I find out my pump's horsepower without digging through paperwork?
Call the company that drilled or services your well — they typically have your pump's details on file even if you can't find a nameplate.

Q: What if my generator can start the pump but it seems to struggle?
Stop and don't force repeated attempts — that can strain the motor. It's usually a sign to re-check your sizing, ideally with a little more headroom.

> **★ Still working out your well setup?**
> This is one of the more involved parts of generator planning, and I genuinely enjoy walking rural families through it. Call or text me at (330) 200-8042 and let's get your water taken care of.

Bringing it all together

A well pump asks more of a generator setup than almost anything else on a rural property — real numbers, real surge headroom, and a proper electrician-installed hookup.

Get the pump's horsepower from its nameplate or your well company, size around its surge with our sizing guide's method and a generous cushion, and have a licensed electrician fit a transfer switch or interlock — covered in full in our guide on connecting a generator. Test the whole thing before you need it, and keep stored water on hand regardless.

None of this requires guessing at a number or cutting a corner. It requires a little homework up front, and then a setup you can trust the next time the power goes out.

> **★ Let's plan your water, together**
> Backing up a well pump is exactly the kind of project I love helping rural families with. Call or text me at (330) 200-8042, and let's make sure the water keeps flowing.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made backing up your well pump feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat $99, and for the parts that don't need me on-site I can often help right on your screen for $49. Every visit comes with a 30-day, come-back-free guarantee. I don't do the licensed electrical or gas work myself — for that I'll help you line up a trustworthy local pro.

> **★ Bill's Home Tech — real help, close to home**
> Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

Powering a Well Pump: What It Takes

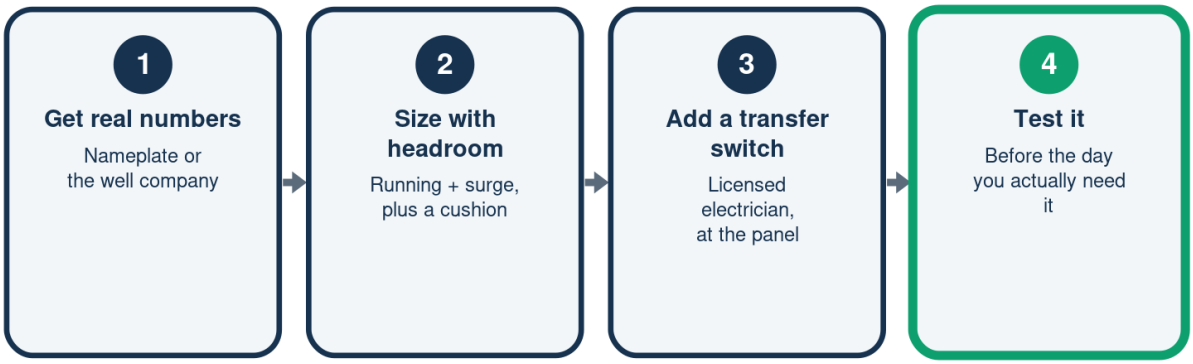
Four things a portable generator setup needs to have

	What it needs	Why
240-volt power	Not a standard outlet	A dedicated circuit
A big starting surge	Motor starts hard	Often ~3x running
A transfer switch	Safe, code-legal link	Electrician-installed
Generous headroom	Room for the surge	Plus everything else

Get the pump's real horsepower first -- everything else follows from that.

Backing Up Your Well, Step by Step

The calm way to plan it, before an outage



Do these in order and the day of the outage holds no surprises.

Cords vs. a Transfer Switch, for a Well Pump

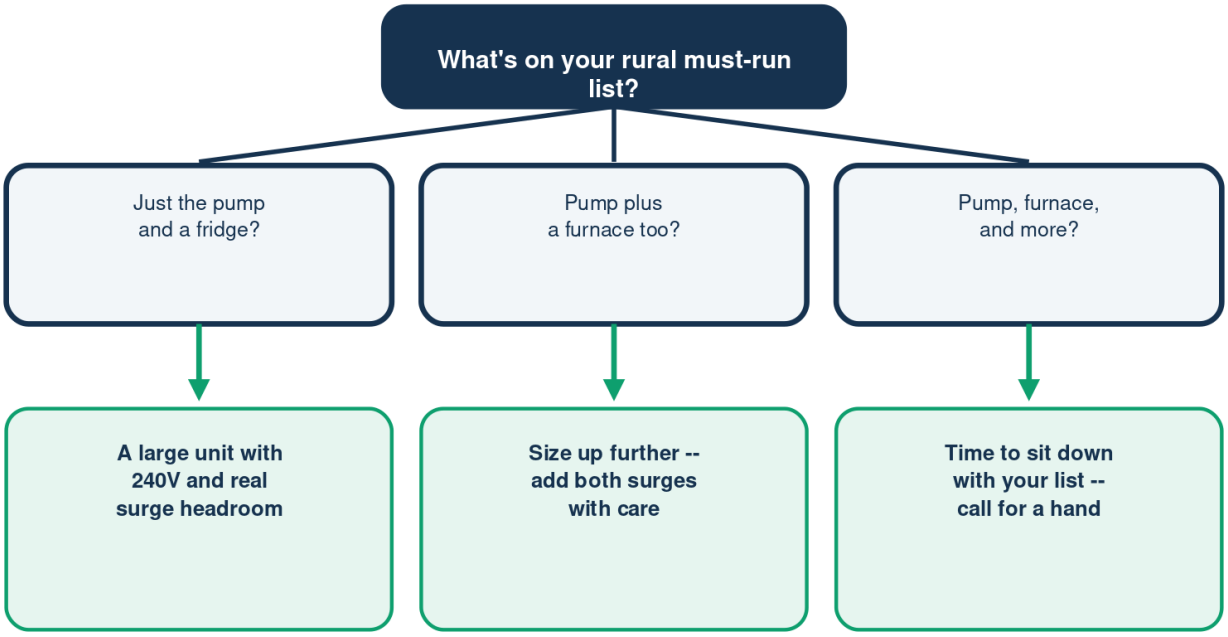
Only one of these is ever the right answer

	Works for a pump?	Why
Outdoor extension cord	No	Pump is 240V, hardwired
Transfer switch / interlock	Yes	Electrician-installed link
'Suicide cord' / backfeed	Never	Illegal and deadly

A transfer switch or interlock is the only safe way to feed a well pump.

How Big a Generator Does Your Well Need?

Let your rural must-run list point the way



On a well, size around the pump's surge first -- everything else adds on top.

Illustration - a schematic, not to scale. Your setup may differ.

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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

— Bill

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