



An Extended Guide · No. 1307

Backing Up Your Well Pump

Keeping the water on
when the power's off

Tech Made Simple — Service Made Personal

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! Read this first — carbon monoxide is still the real danger

A standby generator runs on an engine, and engine exhaust contains carbon monoxide — an invisible, odorless gas that can kill. Your installer sets the unit outdoors and spaces it away from windows, doors, and vents to meet the maker's instructions and local code, which is a big part of what keeps you safe. Your job is to keep it that way: never let anyone box it in, build a structure around it, or let snow, leaves, or drifts pile up against it, and never move it closer to the house. Put battery-backup carbon-monoxide alarms on every floor and outside the bedrooms, and test them — the safety agencies urge this for every home. If an alarm sounds, or anyone feels dizzy, sick, or sleepy, get everyone into fresh air first and ask questions later. Out on a well the unit may run long and hard to keep your water flowing — sometimes for days through a winter storm — so keeping snow, ice, and drifts clear of its air and exhaust the whole time it works matters even more than usual.

Let's keep the water running, hands-free

For a home on a well, a power outage isn't just dark — it's dry. No electricity means no pump, and no pump means no water at all. A whole-home standby generator is the way to keep that water flowing automatically, without you lifting a finger.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio, where plenty of the homes I visit are out on their own well. For those families the well pump is almost always the first thing on their mind when we talk backup power — and rightly so. It's the load that changes everything.

This guide stays in one lane: your well and your water. We'll cover why the pump matters so much, why it's usually the load that decides your generator's size, and how an automatic standby keeps the taps running even when you're asleep or away. The step-by-step sizing math lives in our sizing guide; here we focus on the well.

★ Bring me your pump's details

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 — no guessing. 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 understand why the well pump sits at the heart of a rural standby.

- ❑ On a well, no power means no water at all — not low pressure, none.
- ❑ A whole-home standby starts the pump automatically, so water keeps flowing even overnight or while you're away.
- ❑ Most home wells use a 240-volt submersible pump with a big starting surge — often the single largest load in the house.
- ❑ That surge usually decides how big your standby needs to be, so it drives the whole sizing conversation.
- ❑ Get the pump's real numbers from its nameplate or your well company — never guess, and never take an invented wattage as fact.
- ❑ Keep some stored drinking water as a backstop, and on propane, plan tank refills for a long outage.

✓ The one-sentence version

Size the standby around the well pump's starting surge, let it start the pump for you automatically, and keep a little stored water just in case.

When the power stops, so does the water

In town, an outage is an inconvenience. Out on a well, it reaches into nearly everything — because your water itself runs on electricity.

City water is pushed to the tap by the 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 folks expect the first time it happens — no water for drinking or cooking, no flushing once the tank runs down, none for animals or livestock, and none for basic cleaning. It's a genuinely different kind of outage than a home on city water ever faces.

★ This is why the pump comes first

When I talk backup power with a rural family, the well pump is where we start, not where we end up. Everything else on the must-run list gets planned around keeping the water on. Call (330) 200-8042.

Why an automatic standby suits a well so well

Of all the homes that benefit from a standby, a well-water home may benefit most — and it comes down to one word: automatic.

A standby starts itself the moment the power drops and switches your home — pump included — onto its own power within seconds. You don't have to be home, awake, or able-bodied. The water simply keeps running, whether the outage hits at 3 a.m. or while you're away for the week.

That's a real leap from wheeling out a portable and wiring it in by hand. For water — something you need many times a day, every day — hands-off and always-on is worth a great deal. Our standby-versus-portable guide weighs the two fairly if you're still deciding.

✓ Water is a many-times-a-day need

You can put off charging a phone; you can't put off drinking, cooking, or flushing for long. That constant need is what makes automatic water backup feel less like a luxury and more like peace of mind.

What's actually down in your well

Understanding the pump itself makes the rest of this guide click into place.

A submersible motor, out of sight

Most home wells use a submersible pump — 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 on its own dedicated circuit, straight from your electrical panel. There's no plug and no outlet — it's built into the house like your water heater or central air. That's exactly why backing it up runs through the panel and a transfer switch, which is licensed work.

✓ 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 for sizing a rural standby: a well pump asks for a much bigger jolt of power to start than it needs once it's running.

Like any motor, the 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 moment — several times the pump's steady running power — before it settles down to its ordinary draw.

Because that surge is so large, the well pump is usually the single biggest load in a rural home, and starting it reliably is what a standby has to be sized to do. I won't put a wattage on your pump — that comes from its real numbers — but know that this surge is the number that tends to decide everything.

! 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 straining to start a pump is hard on both machines — which is why the load calculation matters.

Getting real numbers, never a guess

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

Look for a small metal tag on the pump's control box or the pressure-tank setup, or in any paperwork from when the well was drilled or the pump last replaced. It should list the pump's horsepower, and maybe its voltage and running amps — the details your installer feeds into the load calculation.

No tag to be found? Call the company that drilled or services your well and ask for the pump's horsepower; they usually have it on file. A licensed electrician can also identify it when they come to plan your standby's hookup.

★ I don't hand out made-up numbers

I'll never give you an invented wattage for your pump, and you shouldn't accept one from anyone else either. Bring me a nameplate photo, a horsepower figure, or just your well company's name, and we'll turn it into an honest plan. Call (330) 200-8042.

Sizing the standby around the pump

Once you know the pump's real numbers, sizing follows the same method as any standby — just with the pump's surge carrying real weight.

You can size a standby to run the whole house or a generous set of essentials, but on a well the pump's starting surge tends to set the floor either way. Our sizing guide walks the full method step by step — adding up what runs at once, then the single biggest surge on top, with headroom to spare. I'll keep this page to why the pump looms so large.

There's good news, too: technology can help a smaller unit handle a big pump. A soft-start device eases the pump's starting surge, and load-management controls can juggle big loads so they don't all pull at once. Our load-management guide covers those options; your installer decides what fits.

✓ Let the load calculation lead

Sizing a rural standby is a job for a proper load calculation by your installer, not a chart or a hunch — especially with a well pump in the mix. Our sizing guide shows you what goes into it.

Your pressure tank gives you a cushion

Here's some reassurance hiding in your basement: your pump doesn't run every second, even on a normal day.

A pressure tank stores a reserve of water under pressure, which is why your pump switches on for a bit, then rests, rather than running the whole time a tap is open. That same cushion works in your favor in an outage — the standby and pump don't have to run nonstop for you to have water on demand.

It also means the pump takes turns with everything else the standby is carrying, cycling on when the tank needs refilling and off again in between. That gentler rhythm is part of what makes a well pump manageable for a sensibly sized standby.

✓ A full tank is a small head start

If you can see an outage coming, letting the pressure tank fill fully beforehand gives you a bit of water in reserve before the generator even picks up the load.

Two kinds of homes, two sets of needs

This guide is written for a well, so let's be clear from the start about who truly needs it — and who can happily skip it.

If you live in town or the suburbs

Most homes in town, and many in the suburbs, are on city water. If that's you, an outage doesn't touch your water supply at all, and this particular worry simply doesn't apply — your standby planning can center on food, warmth, and comfort instead.

- Not sure whether you're on city water or a well? Check a water bill or ask a neighbor — it's worth confirming.
- Some older or larger suburban lots do have a private well even in city-like surroundings.
- On city water, our standby basics and sizing guides are the better starting points for you.
- No well pump means no oversized 240-volt surge to plan around, which often means a smaller, quieter standby will do.

If you are out in the country on a well

Out on a well, the pump changes everything — and rural outages tend to run longer than in-town ones, which raises the stakes further. This is the home this guide is really for.

- The well pump's starting surge is very likely the single biggest number on your whole must-run list.
- An automatic standby keeps water flowing without anyone home to run it — the heart of the rural case for one.
- Longer outages reward a well-tended fuel plan and propane's long shelf life — see our natural-gas-versus-propane guide.
- Stored drinking water, a stocked pantry, and a plan for animals round out what the pump alone can't cover.

★ Rural, and not sure where to start?

Planning backup power around a well is one of the things I help rural families with most. Tell me about your well, your pump, and your home, and we'll build the plan together. Call (330) 200-8042.

Stored water — a backstop to the backup

Even the best standby setup deserves a second layer beneath it, and stored water is that layer.

A standby is wonderfully reliable, but nothing is a guarantee — a fuel supply can run low, a part can fail, a storm can outlast the plan. Keeping some drinking water on hand means a rare hiccup never turns into a genuine emergency.

Emergency-preparedness folks suggest keeping several days' worth of drinking water on hand for each person in the household, for drinking and basic cooking. Store it in clean, sealed containers out of direct sunlight, and rotate it now and then so it stays fresh.

✓ Don't forget the animals

If you keep livestock, pets, or a garden that leans on well water, work their needs into both your sizing and your stored-water plan. It's easy to plan for people and forget the rest of the homestead.

Fuel for a long rural outage

Being at the end of the line often means rural outages run longer — so your standby's fuel plan deserves a thought.

Out in the country there's frequently no natural-gas main, so a standby usually runs on propane from a tank on your property. Propane stores for years without going bad, which suits a machine that mostly waits between longer, less frequent outages — but the tank holds a finite amount, so tank size and a refill plan matter for a multi-day storm.

If you do have natural gas, it usually keeps flowing on its own during an outage, with nothing to refill. Which fuel fits your place, and how the pro confirms your supply can feed the unit, is the subject of our natural-gas-versus-propane guide.

✓ Top off before the season, not during the storm

On propane, the time to arrange a refill is before winter and before a big storm — not when the roads are bad and everyone's calling at once. A topped-up tank is cheap insurance for your water.

Leave the 240-volt work to licensed pros

Everything about backing up a hardwired, 240-volt well pump runs through your electrical panel and a transfer switch — and that is licensed work, every time.

A transfer switch has to be installed correctly so the standby's power and the utility's can never meet — the electrical code, NEC 702.5, requires exactly that, which protects your pump, your wiring, and any utility crew on the lines. A licensed electrician does this, with a permit and inspection, and I coordinate that pro for you.

There are no safe shortcuts here. Never let anyone try to power a well pump by backfeeding an outlet or bypassing the panel to save time or money — the risks to the pump, the generator, and people outside are serious and simply not worth it.

! Keep it clear while it runs long

In a winter storm your standby may run for days keeping the water on. Keep snow, ice, and drifts clear of its air intake and exhaust the whole time, and keep tested carbon-monoxide alarms indoors. A hard-working engine still needs to breathe.

Other water-related loads to consider

The well pump rarely travels alone on a rural must-run list. A few common companions are worth planning for too.

- **A sump pump**, if your basement or crawlspace needs one — often a smaller motor, but its own line on the list. Our sump-pump guide covers it.
- **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 than the pump and often has to wait its turn, or stay off the must-run list.
- **The pressure tank's own controls**, which use very little power but are part of the same water system.

✓ Read each nameplate on its own

Don't assume a sump pump or softener is small just because it feels 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.

Animals, gardens, and the homestead

Out in the country, water isn't just for the house — and it's easy to plan for people and forget everyone and everything else that drinks.

Livestock, horses, chickens, and pets all need water every day, and some need a good deal of it. A greenhouse, a garden, or a barn on the same well adds to the picture. When you think about keeping the water on, count the whole homestead, not just the kitchen tap.

This matters in two places: it may nudge your standby a size larger so the pump can keep up with real demand, and it makes stored water and a sensible fuel plan all the more worthwhile. None of it changes the pump's surge, but it changes how much you'll lean on your water over a long outage.

★ Tell me about your whole place

When we plan, I like to hear about the animals, the outbuildings, and the garden, not just the house. It's the rural details that make a plan actually fit your life. Call (330) 200-8042.

A few well-pump myths, cleared up

Some common beliefs about backing up a well pump can lead you astray. Let's set them straight.

- **'A little generator will start my well pump.'** Usually not — the pump's big 240-volt starting surge means it's typically the load that sets the size, and a standby has to be sized for it.
- **'I can look up my pump's wattage online.'** Better to read the nameplate or ask your well company. A number from a chart may not match your actual pump.
- **'The standby has to run nonstop to give me water.'** No — your pressure tank stores a reserve, so the pump cycles on and off as needed, just like on a normal day.
- **'With a standby I don't need stored water.'** A standby is a strong layer, not a guarantee. A few days of stored drinking water is cheap insurance behind it.

✓ When a claim sounds too easy, ask

If someone promises a bargain generator will surely run your well, gently ask how they know your pump's surge. An honest answer starts with your pump's real numbers.

A rural readiness checklist

Work through this once, calmly, and the next outage becomes far less stressful for your water.

- ☐ I know my pump's horsepower, from its nameplate or the well company.
- ☐ My standby has been sized around the pump's surge by a load calculation.
- ☐ A licensed electrician has installed the transfer switch, with a permit.
- ☐ I've seen the system start the pump once, so I know it works.
- ☐ I keep several days of stored drinking water on hand regardless.
- ☐ On propane, I know roughly how long my tank lasts and have a refill plan.

★ Missing a few checks? That's normal

Most folks start this list with two or three boxes ticked, not all six. Call or text me at (330) 200-8042 and we'll work through the rest, one calm step at a time.

What about a portable for the well?

A standby isn't the only way to power a well pump, and I want to be fair about that.

A portable generator can start a well pump too, through an electrician-installed transfer switch or interlock and a machine with enough surge to do it. It costs far less up front, and for a home with rare, short outages and someone always around, it can be a sensible choice.

The catch is that a portable only helps when you're home and able to wheel it out, start it, and keep it fueled — which, for a need as constant as water, is a real limitation. That trade-off between price and hands-off reliability is exactly what our standby-versus-portable guide lays out in full.

✓ Weigh it honestly for your life

If you're home most of the time and your outages are brief, a portable on a proper hookup may serve you well. If water has to keep flowing whether you're there or not, that's the standby's strong suit.

Where I fit in

Backing up a well is one of the more involved parts of generator planning, and it's where a patient helper really earns their keep.

- **What I help with:** tracking down your pump's real numbers, building your rural must-run list, and making sense of quotes and sizing so nothing is a guess.
- **What I coordinate:** a licensed electrician for the transfer switch and 240-volt work, and a licensed gas pro for propane — the parts that need a pro.
- **What I never do:** the panel wiring, the transfer switch, or the gas work myself. I'm your guide and second set of eyes, not your electrician.

★ Let's plan your water together

Getting a well family's water squared away is exactly the kind of project I love. Call or text me at (330) 200-8042 and we'll make sure the taps keep running.

Questions to ask your well company or installer

These questions get you real, usable answers 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 — and your installer needs it for the load calculation.

Q: Will the standby be sized to start the pump reliably?

Ask your installer to confirm the sizing accounts for the pump's starting surge specifically, with headroom — not just its running draw. Our sizing guide explains why that matters.

Q: Could a soft-start or load management help here?

Sometimes — easing the pump's surge or juggling big loads can let a smaller unit do the job. Ask whether it fits your setup; our load-management guide covers the options.

Q: Do I need a permit for the transfer-switch work?

In most areas, yes, for panel work like a transfer switch — your electrician can confirm what's required locally, and our permits guide walks through it.

✓ Write the answers down

Keep these answers with your home papers, next to your generator's manual. Future-you, mid-outage, will be glad you did.

Common Questions

The well-pump questions I hear most from rural families, answered plainly.

Q: Will a standby really keep my water running in an outage?

Yes — sized to start your well pump, a standby switches on automatically and keeps the pump running, so water keeps flowing even overnight or while you're away. That automatic, hands-off water is the whole point for a well home.

Q: How big a standby do I need for my well?

Big enough to start the pump's surge plus whatever else runs at once, with headroom — which is why the pump usually decides the size. It takes a load calculation from your installer, not a guess. Our sizing guide shows what goes into it.

Q: How do I find my pump's numbers without digging through paperwork?

Call the company that drilled or services your well — they typically have your pump's horsepower on file even if you can't find a nameplate.

Q: Do I still need stored water if I have a standby?

Yes, as a backstop. A standby is a strong layer, but fuel can run low or a part can fail, so keeping several days of drinking water on hand is cheap insurance behind it.

Q: Can I run the well pump on a small, quiet unit?

Usually not on its own — a well pump's 240-volt surge is more than most small units can start. A soft-start or load management can sometimes help; your installer's load calculation will tell you what's realistic.

★ Still working out your well setup?

This is one of the more involved parts of standby 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.

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

Power's Out: Well vs. City Water

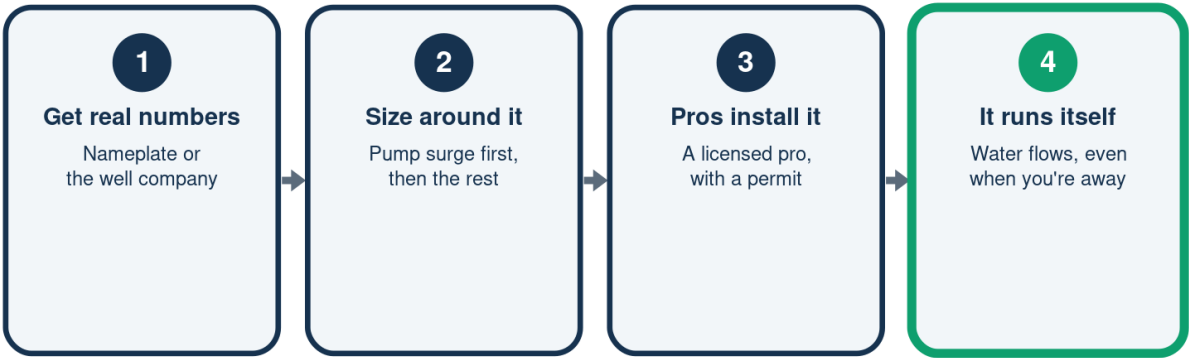
Why an outage hits a well home harder

	On a well	On city water
Your water	Stops — no pump	Keeps flowing
The stakes	Drink, cook, flush	Comfort, food
Backup need	Automatic water	Optional extra
Deciding load	The well pump	Usually none

On a well, no power means no water — which is why the pump comes first.

Backing Up Your Well, Step by Step

The calm way to plan it, before an outage



Do these in order and the taps keep running — hands-free.

A Well Pump: Running vs. Starting

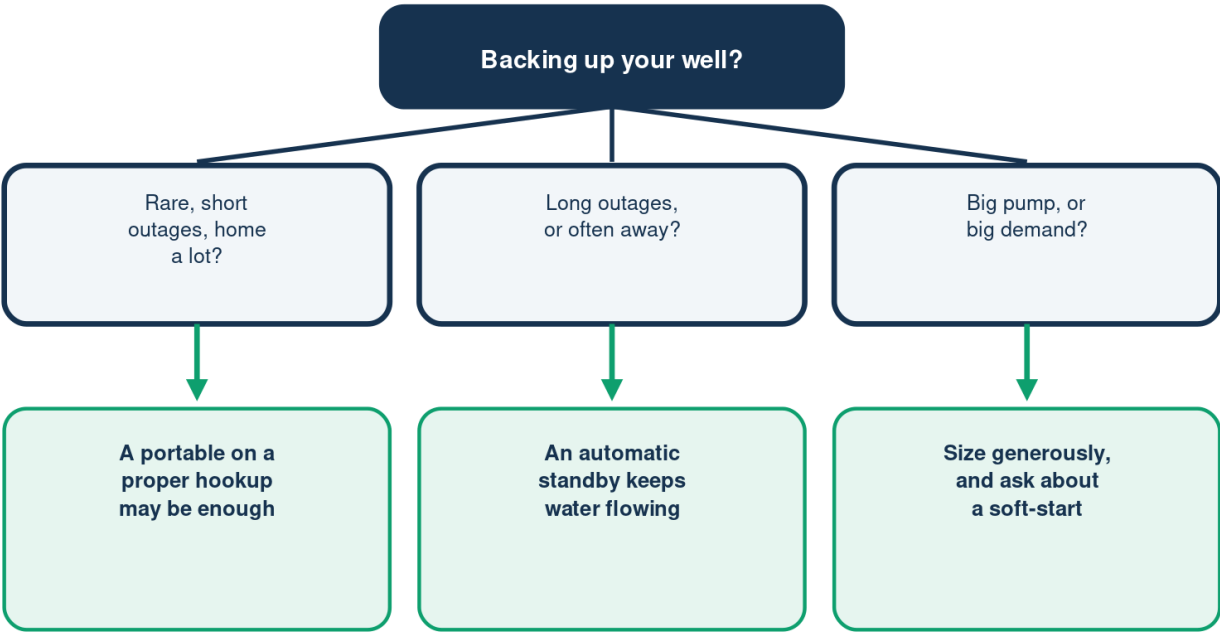
The brief surge is what your standby must handle

	Running	Starting
Power draw	Its steady draw	Several times more
How long	Ongoing	A brief moment
Matters for	Fuel use	Sizing the unit
The lesson	Not the problem	Size for this

Size the standby for the starting surge, with headroom to spare.

How Should You Back Up the Well?

Let your outages and your habits point the way



Get the pump's real numbers first — a load calc, not a guess, sets the size.

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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