BILL'S HOME TECH

Home & Small Business Tech Solutions

An Extended Guide · No. 1331

Powering Your Well Pump with a Transfer Switch

Keeping the water
running for rural homes

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! Read this first — panel work is a licensed electrician's job

A transfer switch connects to your home's electrical panel, and panel work is among the most dangerous jobs in any house. The power inside a panel can injure or kill even with the lights off, and a wiring mistake can start a fire or push deadly voltage back onto the lines outside, where a utility crew may be working. Installing, moving, or changing a transfer switch is a licensed electrician's job — almost always with a permit and an inspection. It is never a do-it-yourself project, and it is never something I do myself. This guide is here to help you understand, choose, and safely use a transfer switch — not to wire one. And please, never try to shortcut all this by backfeeding a generator through a wall or dryer outlet with a double-ended cord; that shortcut kills people, and a transfer switch is the safe, legal way to do the very thing it tempts you to do. A well pump is hardwired 240-volt equipment — connecting it to a generator is strictly a licensed electrician's job, and pump work itself belongs to a well professional.

Keeping the water running when the power stops

If your home runs on a private well, an outage doesn't just mean darkness — it means no water at all. A transfer switch is what lets your generator power the well pump, so you keep water through the storm.

I'm Bill, and out here in Portage County a lot of homes are on wells. Folks on city water sometimes forget that when your own pump loses power, the taps go dry — no drinking, cooking, flushing, or water for the animals. For a well home, backing up the pump is often the single biggest reason to get a transfer switch.

This guide explains why the pump needs a switch (a cord simply won't do), how its big power demand shapes your setup, and how to keep water flowing safely during an outage. The wiring stays with a licensed electrician, and pump repairs with a well pro — my job is helping you understand and plan.

★ On a well? Let's plan your water backup

Tell me about your well setup and I'll help you plan reliable water for the next outage — and line up the right pros. Call or text (330) 200-8042.

Well-pump backup, on one page

If you remember only these, you understand the heart of it.

- ❑ On a well, no power means no water — the pump stops when the grid does.
- ❑ A well pump is hardwired and usually 240-volt, so a cord can't power it — you need a transfer switch or interlock.
- ❑ Well pumps have a big starting surge, so the generator must be sized for it.
- ❑ Undersized power can make the pump strain, overheat, and even damage the motor.
- ❑ The pressure tank stores some water, so the pump doesn't run every minute.
- ❑ Store drinking water and fuel too — the generator is one layer of the plan.

> **✔ Water is the rural priority**
> For most well homes, keeping the pump running is the top reason for a transfer switch. Plan it first.

Why an outage means no water

It catches people off guard, so let's be clear about it.

A private well uses an electric pump to draw water up and push it through your home's plumbing. When the power goes out, that pump stops, and so does your water. You may get a little from the pressure tank at first, but once that's used, the taps run dry — no drinking water, no cooking, no flushing toilets, and nothing for pets or livestock. In a long outage, that quickly becomes the most pressing problem, more than the lights or even the heat.

> **✔ Water rises to the top of the list**
> In a long rural outage, water often matters more than anything. A transfer switch that powers the pump changes the whole experience.

Why a cord won't power your pump

This is the key reason well homes need a transfer switch specifically.

A well pump is hardwired into your electrical system — there's no plug to run an extension cord to. On top of that, most home well pumps are 240-volt, which ordinary cords and outlets don't provide. So the only safe way to power your pump from a generator is through a transfer switch (or an interlock kit), installed by a licensed electrician, fed by a generator that provides 240-volt power. A cord to a fridge is easy; a well pump is a different animal entirely.

> **! Never improvise a pump connection**
> Because the pump is 240-volt and hardwired, there's no safe do-it-yourself shortcut. It must go through proper transfer equipment, wired by a licensed electrician.

The well pump's big starting surge

Pumps are among the hungriest things you'll power, especially at the moment they start.

Like other motors, a well pump needs a large jolt of power to get going — often several times what it uses once it's running. That starting surge is usually the single biggest power demand in a rural home, and it's what your generator has to be able to handle. It's why, on a well, we size the whole system around the pump first, then fit the rest of your list around it. Our sizing guide walks through the idea without any invented numbers.

> **✔ Size around the pump first**
> On a well, the pump's surge is usually the number that sets your generator size. Get that right, and the rest tends to fall into place.

Sizing the generator for your pump

You don't need to guess numbers — your pump and generator tell you what you need to know.

The honest way to size for a pump is to learn its actual demands: read the pump's nameplate, check its paperwork, or ask the well company for its horsepower. Then your electrician confirms a generator with enough 240-volt output and surge capacity to start and run it comfortably, with headroom. I won't state a wattage, because pumps vary — but the method is simple: find your pump's real needs, then match the generator to them.

> **★ I'll help you find your pump's numbers**
> Not sure of your pump's size? I'll help you read the nameplate or ask the well company, then match a generator to it. Call (330) 200-8042.

Why undersized power can harm the pump

This is a reason to size generously, not just adequately.

If the generator can't deliver enough power for the pump, the pump doesn't just fail to run well — it can hum, strain, and overheat, and over time that can damage the motor. A well pump is expensive and hard to replace (it's often deep in the ground), so it's worth sizing your generator with comfortable headroom rather than cutting it close. Protecting the pump is protecting a big investment.

> **! Too little power is hard on the pump**
> Starving a pump for power can damage its motor. When in doubt, size the generator generously — the pump is far costlier than the extra capacity.

Two kinds of homes, two sets of needs

This is really a tale of two water sources — and it changes how much this guide matters to you.

If you live in town or the suburbs

In town on city water, your water keeps flowing during an outage because the city's system stays pressurized. So pump backup usually isn't a concern for you — though a few in-town homes have wells, sprinkler booster pumps, or sump pumps that still matter.

- On city water, the taps keep working in an outage — no pump to back up.
- If you have a basement, a sump pump may still be worth backing up (see our sump-pump guide).
- An in-town well or irrigation booster pump would follow the same rules as below.
- Your must-run list can focus on heat, food, and light instead.

If you are out in the country on a well

Out on a private well, this guide is essential. Your pump is your water, and backing it up is usually the top reason for a transfer switch. Plan the generator around the pump and keep stored water as a backstop.

- Your well pump is your entire water supply — back it up first.
- Size the generator for the pump's big 240-volt surge, with headroom.
- Keep the pressure tank in mind — it buffers water so the pump cycles, not runs constantly.
- Store several days of drinking water and fuel; the generator is one layer, not the whole plan.

> **★ On a well and want reliable water?**
> I'll help you plan pump backup end to end — sizing, the right pros, and stored-water habits. Call (330) 200-8042.

How the pressure tank helps you

A friendly bit of equipment you already have makes outages easier than you'd think.

Your well system includes a pressure tank that stores some water under pressure, so the pump doesn't have to run every time you open a tap. During an outage on generator power, this means the pump kicks on to refill the tank now and then, rather than running constantly — which is exactly what lets you cycle it with your other loads. It's a natural buffer that makes backing up a well pump more practical than it might sound.

> **✔ The tank buys you flexibility**
> Because the tank stores water, you don't need the pump running all the time — which makes it easy to share your generator's power with the furnace and fridge.

Store drinking water as a backstop

Even with a great generator setup, stored water is wise insurance.

A generator is one layer of your water plan, not the whole thing. Keep a supply of stored drinking water — enough for several days for everyone in the household and any animals — in case the generator has trouble, fuel runs short, or you simply don't want to run the pump at a given moment. It's cheap peace of mind, and it means a hiccup with the generator never leaves you without water to drink.

> **✔ A few days' water, always**
> Store enough drinking water for several days, refreshed periodically. It's the simplest backup to your backup.

Cycling the pump during an outage

Here's how the pump fits into a smooth outage routine.

You don't need to run the well pump's circuit every minute. A common rhythm is to bring the pump on to refill the pressure tank and meet your water needs, then switch attention to other circuits like the furnace and fridge. Because the tank holds water, this cycling works well and keeps your generator from being asked to do too much at once. Our load-management guide covers the general habit; the pump is just the biggest player in it.

> **✔ Fill the tank, then move on**
> Run the pump to top off water and the pressure tank, then give the generator's power to other needs. Repeat as the tank draws down.

Test the pump on generator power

Don't wait for a real outage to discover whether the pump starts on the generator.

When the electrician installs and tests your transfer switch, make sure the well pump is part of the test — that it starts cleanly on generator power and runs without the generator straining. This confirms the sizing is right and the connection works. It's far better to learn of any issue on a calm test day than during a stormy night with the taps already dry.

> **★ Insist the pump gets tested**
> The pump test is the one I most want you to witness. I'm glad to be there for it. Call (330) 200-8042.

Who handles the pump side

The well pump touches two kinds of pros, and neither is me for the hands-on work.

- **A licensed electrician** wires the pump's circuit to the transfer switch and confirms the 240-volt connection.
- **A well or pump company** handles the pump itself — repairs, replacement, and its horsepower and specifications.
- **I help** you plan, understand your pump's needs, size the generator, and coordinate the right pros.
- **You** operate the switch and cycle the pump during an outage.

> **★ I'll coordinate the right people**
> Between the electrician and the well company, I'll help you get the right pro for each part. Call or text (330) 200-8042.

Water-wise habits during an outage

A little conservation stretches your water and eases the pump's workload.

- ❑ Fill some containers and pots when an outage starts, while you have pressure.
- ❑ Flush toilets only as needed, and keep a bucket of water handy for manual flushing.
- ❑ Take short, spare showers, and reuse water where sensible (like for the garden).
- ❑ Group water tasks so the pump runs efficiently when it's on.
- ❑ Keep animals' water topped up whenever the pump is running.

> **✔ Small habits, big stretch**
> A few simple conservation habits make your water — and your fuel — go a lot further through a long outage.

Cold weather and the well

In an Ohio winter, water backup and freeze protection go hand in hand.

The storms that knock out power are often winter storms, and keeping water flowing helps prevent pipes from sitting still and freezing. Keep the generator dry and its exhaust clear of drifting snow, and make sure any pump house or exposed plumbing has whatever freeze protection your well professional recommends. Reliable pump power plus sensible freeze protection keeps a rural home livable through the worst weather.

> **✔ Keep water moving in the cold**
> Running water and a warm-enough home help prevent frozen pipes. Backup power for the pump and furnace work together in winter.

The whole water picture

It helps to remember everything water touches in your home, so nothing gets overlooked.

Water isn't only drinking and cooking. It's flushing toilets, washing hands and dishes, bathing, and — for many rural families — water for livestock, gardens, and pets. When you plan pump backup, picture a few days without power and everything that water does. That full picture is what makes reliable pump power feel less like a luxury and more like the essential it is.

> **★ Let's map your real water needs**
> Tell me about your household and any animals, and I'll help you plan water backup that covers all of it. (330) 200-8042.

Common well-pump backup mistakes

A few slip-ups trip up well homes. Here's how to avoid them.

- **Trying to cord-feed the pump** — impossible and unsafe; it needs a switch and 240-volt power.
- **Undersizing the generator** for the pump's surge, straining both the generator and the pump.
- **Skipping stored water** and relying on the generator alone.
- **Not testing the pump** on the generator before an outage.
- **Forgetting freeze protection** for the pump and plumbing in winter.

> **! The two costly ones**
> Undersizing the generator and skipping the pump test are the mistakes that can leave you without water — or with a damaged pump — at the worst time.

Common Questions

The questions I hear most about backing up a well pump.

Q: Can I just run an extension cord to my well pump?

No — a well pump is hardwired and usually 240-volt, which cords can't provide. It must be powered through a transfer switch or interlock, wired by a licensed electrician.

Q: What size generator do I need for my well pump?

It depends on your pump. Read its nameplate or ask your well company for its horsepower, then match a 240-volt generator with enough surge and headroom. Our sizing guide explains the method.

Q: Will the pump run constantly during an outage?

No — your pressure tank stores water, so the pump cycles on to refill it now and then. That lets you share generator power with other circuits.

Q: Do I still need to store water if I have a generator?

Yes — keep several days of drinking water as a backstop, in case of fuel or generator trouble. The generator is one layer of the plan, not the whole thing.

> **★ More well questions?**
> Call or text (330) 200-8042 — water backup is one of my favorite things to help rural folks plan.

How I help with well-pump backup

This is bread-and-butter help for the rural families I serve.

I'll help you find your pump's real power needs, size a generator to start and run it safely, plan how you'll cycle it during an outage, and set up sensible stored-water habits. I'll coordinate a licensed electrician for the wiring and a well company if the pump itself needs attention. The result is simple: water you can count on when the power's out.

> **★ Reliable water, planned together**
> Call or text (330) 200-8042 and we'll make sure your taps keep running through the next storm.

One vital safety reminder

Running the pump means running the generator — so the biggest generator danger still applies.

! 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. Powering a well pump changes nothing about where the generator sits — outdoors only, far from the house, exhaust pointed away, every time.

The short version to carry with you

If the details blur, hold onto these.

- ❑ On a well, no power means no water — backing up the pump is usually the top priority.
- ❑ A well pump needs a transfer switch and 240-volt power — never a cord.
- ❑ Size the generator for the pump's big surge, with headroom, to protect the motor.
- ❑ Store drinking water and fuel too; test the pump on the generator before you need it.

> **✔ Keep this guide handy**
> For a well home, this is one of the most important guides in the set. Keep it with your home papers.

You don't have to do this alone

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

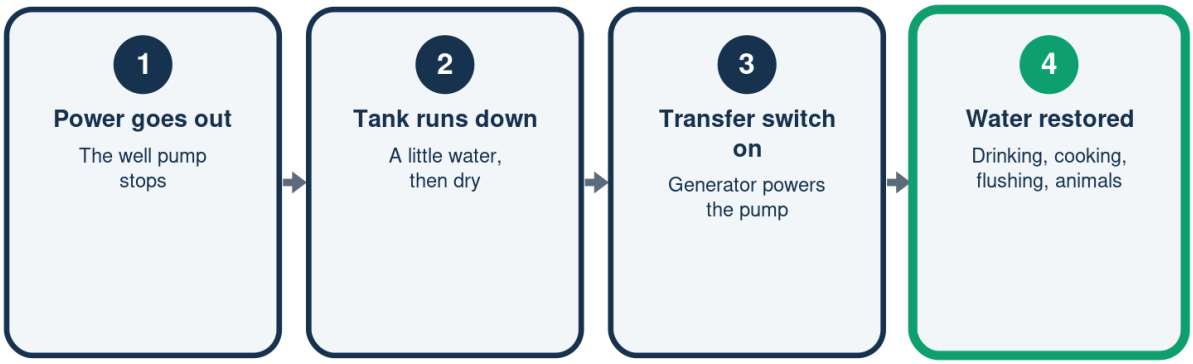
I hope this guide made backing up your well pump with a transfer switch feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

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

Why a Well Home Needs Pump Backup

No power means no water -- unless you plan



The pump is hardwired 240V -- only a switch (not a cord) powers it.

Why a Cord Won't Work

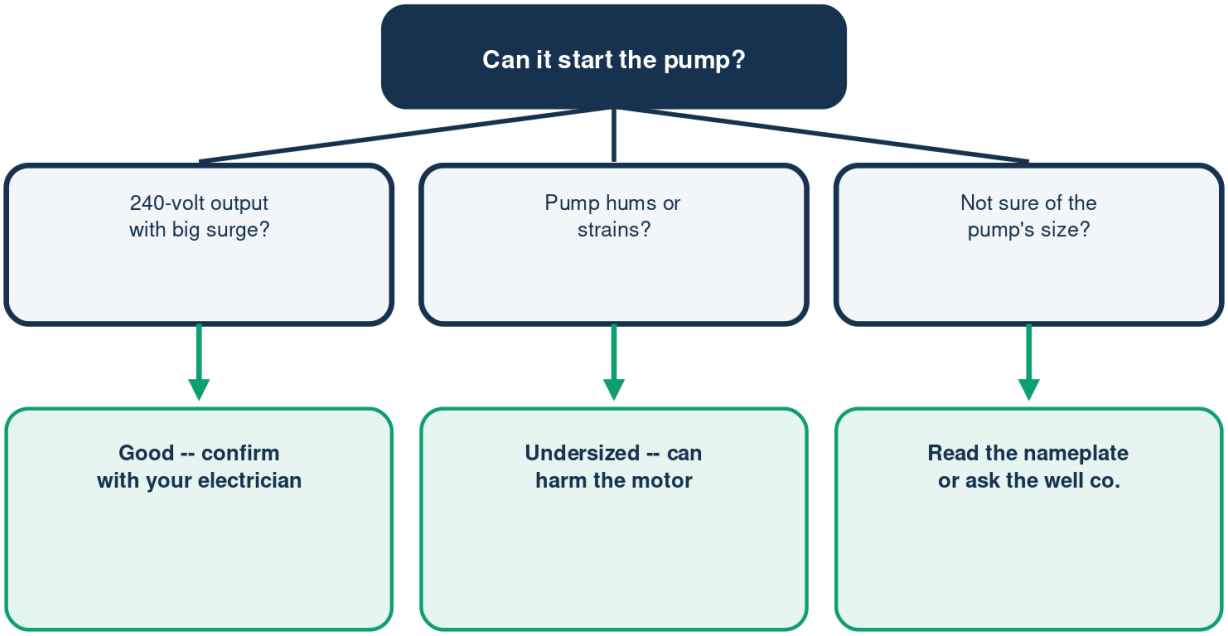
A well pump is a different animal

	A well pump	A plug-in fridge
Connection	Hardwired	Has a plug
Power	Usually 240 volts	Standard 120 volts
Needs	A transfer switch	A cord can work
Surge	Very large	Modest

Only proper transfer equipment can safely power a 240V pump.

Is Your Generator Right for the Pump?

Sizing to protect a costly pump



Undersized power can damage a costly pump -- size with headroom.

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

Your Rural Water Plan

Layers that keep water flowing

The generator is one layer -- stored water backs up your backup.

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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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