



An Extended Guide · No. 1608

Sizing a Standby Generator with Load Management

Letting a smaller unit
run a bigger house

Tech Made Simple — Service Made Personal

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! Read this first — size for safety, not just comfort

Getting the size right is not only about comfort — it is about safety, too. An undersized unit gets overloaded and pushed harder than it should be: it runs hot, it strains, and a motor that can't get the surge it needs can hum, overheat, and be damaged. So take the size seriously and always leave yourself a margin — a little extra room — rather than sizing right to the edge. And one safety rule never changes: any fuel-burning generator gives off carbon monoxide, an invisible, deadly gas, so it runs **OUTDOORS ONLY**, well away from the house (the safety agencies say at least 20 feet), never in a garage or on a porch even with the door open. A battery or power station makes no exhaust and is safe to use indoors. A standby generator is sized and installed by a licensed electrician — and load management is the lever that lets a right-sized unit carry your home without straining, so plan the must-run list carefully and leave the design to the pro.

Letting a smaller unit run a bigger house

A standby generator is the hands-off choice: bolted in place, wired to your home, and starting itself the moment the power fails. This guide is about sizing one — and the clever lever that keeps it from having to be enormous.

I'm Bill. When folks are tired of hauling out a portable in the rain, a standby starts to sound wonderful — and it is. But the first question is always how big, and the honest answer is that a licensed electrician sizes it with a proper calculation. My job is to help you get ready for that and understand your choices.

The big idea in this guide is **load management** — a way of taking turns with your biggest appliances so they don't all run at once. It's what lets a sensibly sized standby serve a whole house without being the largest unit on the market. We'll take it slowly.

★ Let's plan your standby together

I help you build your must-run list, think through what could take turns, and coordinate a trustworthy licensed electrician for the design and install. Call or text me at (330) 200-8042 — free advice, with nothing to sell you.

The whole idea, on one page

If you remember only this page, you understand how a standby is sized and why it needn't be huge.

- ❑ A standby is permanently installed, starts itself automatically, and runs on natural gas or propane.
- ❑ A licensed electrician sizes it with a proper load calculation — this is a professional's design.
- ❑ Load management (load-shedding) briefly drops or staggers big loads so they don't all run at once.
- ❑ That lets a smaller standby serve a bigger home — you don't pay to run everything at the very same instant.
- ❑ The key decision is whole-home (run it all) versus managed / essential circuits (take turns with the big loads).
- ❑ Bill helps plan the must-run list and shed priorities and coordinates the licensed pro — he does not install it.

✓ The one-sentence version

A standby is sized by a licensed electrician, and load management lets a right-sized unit carry your home by having the big appliances take turns instead of all running at once.

What a standby generator is

Before sizing, let's be clear about what makes a standby different from the portable in the garage.

A standby generator sits permanently outside your home, like a central air unit, wired straight into your electrical system. It watches for an outage and starts itself automatically — often within seconds — then shuts down and resets when the power returns. You don't haul it out, pull a cord, or run extension cords in the rain.

It runs on natural gas piped to the house, or on propane from a tank, so there's no gasoline to store or refill. That hands-off, always-ready nature is the whole appeal — and it's why folks who lose power often, or who can't easily manage a portable, lean toward one.

✓ Hands-off is the whole point

The value of a standby isn't just power — it's not having to do anything to get it. For someone who finds a portable hard to manage, that automatic start is worth a great deal.

A licensed electrician sizes it

This is the one guide in the set where the sizing is squarely a professional's job — and that's a good thing.

A standby is wired into your panel and carries real household loads, so a licensed electrician sizes it with a proper load calculation — the NEC has a standard method — and can measure your real draw. That turns your must-run wishes into a correct, code-compliant size, matched to your home and your goal.

That doesn't leave you as a bystander, though. The better prepared you are — a clear must-run list, your nameplates, a sense of what could take turns — the better the design and the fairer the quote. Our guide on when to get a professional load calculation walks through what to expect.

★ I'll get you ready for the pro

I help you gather your must-run list and nameplates and think through load management before the electrician arrives, then coordinate the install. Call or text me at (330) 200-8042 and we'll prepare together.

Load management: the key sizing lever

Here's the idea that keeps a standby from having to be enormous. It's simple, and it's clever.

Your home has a few big power-hungry appliances — central air, an electric water heater, a dryer, an electric range, a well pump. If they all had to run at the very same instant, you'd need a large generator just for those rare moments. But they don't have to.

Load management — also called load-shedding — briefly drops or staggers those big loads so only some run at a time. The water heater waits a few minutes while the AC runs; the dryer holds off while the range is on. You barely notice, and the generator never has to cover everything at once.

✓ Taking turns beats running everything at once

Load management is really just polite turn-taking among your biggest appliances. Because they rarely all truly need to run together, staggering them costs you little and saves you a lot of generator.

How load management actually works

It's done with real devices the electrician installs, not guesswork — and it happens automatically.

There are two common approaches. Small **load-shedding modules** attach to specific big circuits and pause them when the generator is getting busy. Or a **managing automatic transfer switch** watches the whole system and staggers the big loads on and off intelligently. Either way, it's automatic and quick.

You set the priorities once, with the electrician: which loads are must-runs, and which can gracefully step aside for a few minutes when things get busy. From then on, the system manages the turn-taking so you don't have to think about it.

✓ Set the priorities once, then forget them

The turn-taking is decided up front and handled automatically after that. You're not flipping breakers in the dark — the system quietly keeps your essentials running and lets the rest wait its turn.

Whole-home versus managed essentials

This is the central sizing decision for a standby, and it sets both the unit size and the cost.

Whole-home coverage aims to run everything at once, as if the utility never left — which needs a larger unit sized to your home's full possible draw. **Managed** (or essential-circuit) coverage uses load-shedding to prioritize, so a smaller, less costly unit still keeps the important things running comfortably.

Most homes land happily in the managed middle: nearly the whole-home experience, at a smaller size, because the big loads take turns. Our guide on essentials versus whole-home walks through this scope decision for every kind of backup, not just standby.

✓ **Managed is the sweet spot for most homes**

You rarely need every big appliance running at the identical moment. A managed standby gives you almost all the comfort of whole-home coverage without paying for the largest unit made.

Which big loads take turns

Not everything is a candidate for shedding. The trick is to stagger the big, occasional loads while protecting the essentials.

- **Electric water heater:** heats in bursts and holds heat well, so it can wait a few minutes — an easy one to shed.
- **Central air or heat:** a big surge and a big steady draw; often staggered so it doesn't collide with other big loads.
- **Dryer and electric range:** comfort loads that can usually wait their turn without anyone minding.
- **Well pump:** a must-run for water, but its big 240-volt surge is staggered so it doesn't fire at the same instant as the AC.

The electrician sets these priorities so your essentials — heat, the fridge, water, medical devices — stay up while the truly optional loads politely wait. You decide together what matters most to you.

✓ Essentials stay; comfort loads take turns

The goal is that you never notice the important things going without. The dryer waiting five minutes is invisible; the furnace or the well pump cutting out would not be, so those are protected.

Why a smaller unit can serve a bigger home

Put the pieces together and the payoff is clear: you buy a generator for your realistic peak, not your theoretical one.

Without load management, you'd have to size for the worst-case moment when every big load might run together — a moment that almost never actually happens. With it, you size for what really runs at once, and let the rare collisions sort themselves out by taking turns.

That means a smaller, less expensive, less thirsty unit can serve a home that looks, day to day, fully powered. It's not a compromise so much as a smarter way to spend — matching the machine to how your home actually behaves.

✓ Size for the real peak, not the impossible one

Load management lets you skip paying for a moment that rarely comes. The unit covers your genuine simultaneous load, and turn-taking handles the rest.

Your must-run list drives the whole plan

Before the electrician can size anything, someone has to decide what truly must stay on. That someone is you — and I can help.

A good must-run list sorts your loads into what must stay on (heat, fridge, water, medical, some lights), what you'd like if there's room (the dryer, a second AC), and what can wait. That sorting is exactly what tells the electrician what to protect and what to let take turns.

Our guide on making your what-must-stay-on list walks through building it, and it's the natural first step toward a standby. The clearer your list, the better your shed priorities — and the better your quote.

★ Building the list is where I shine

This is the part I love: sitting down with you to figure out what matters most and what can wait. Call or text me at (330) 200-8042 and we'll build your must-run list before the electrician ever arrives.

Two kinds of homes, two sets of needs

A standby looks a little different in town than in the country — above all in its fuel and in whether a well pump is one of the managed loads.

If you live in town or the suburbs

In town or the suburbs, a standby usually runs on natural gas piped to the house, so there's no tank to fill. Load management staggers the central air, water heater, and appliances so a sensible unit covers the home.

- Natural gas means no fuel to store — the unit runs as long as the gas supply holds.
- City water keeps flowing, so there's no well pump in the mix — the AC is often the biggest managed load.
- A managed standby gives near whole-home comfort without the largest unit, by staggering the big appliances.
- Load-shedding modules or a managing transfer switch handle the turns automatically.

If you are out in the country on a well

Out in the country, a standby usually runs on propane from a tank, so you plan the tank size and fuel. And the well pump joins the list of managed loads — its big 240-volt surge is staggered so it never collides with the furnace or the AC.

- Propane means planning a tank and keeping it filled — rural outages run longer, so size the fuel for days.
- The well pump is a must-run for water, but its big 240-volt surge is staggered rather than allowed to fire alongside the AC.
- An automatic standby is especially welcome where outages are long and frequent and hauling a portable is hard.
- Our guides on sizing for a well pump and on a well-and-septic property cover the rural loads in depth.

★ Town gas or country propane, I'll help you plan

The fuel and the well pump are the big rural differences. Tell me your situation at (330) 200-8042 and I'll help you plan the must-run list and shed priorities, then coordinate the licensed electrician for the design.

The two-number rule still applies

Load management is clever, but it doesn't repeal the basic law of sizing — the standby still has to start your motors.

Even with turn-taking, when a motor's turn comes it still needs its starting surge — that brief, much bigger jolt a compressor or pump asks for to get going. Load management makes sure only one big motor starts at a time; it doesn't shrink any single motor's jolt. Our running-watts-versus-starting guide explains the two-number idea in full.

So the electrician sizes the unit to carry your managed steady load and to deliver the biggest single surge on top — usually the central AC or the well pump. Staggering keeps those surges from stacking; it doesn't make them disappear.

✓ Turn-taking spaces the surges out

The beauty of load management is that your biggest jolts happen one at a time instead of together. The unit still must cover the largest single one — but never all of them at once.

Fuel: natural gas or propane

A standby's fuel shapes both how long it can run and what you have to plan for.

Natural gas, where it's available, is piped to the house, so the unit can run as long as the supply holds, with nothing to store. Propane comes from a tank you own or lease, so you plan the tank size and keep it filled — a bigger tank means more days of running before a refill.

Rural homes are usually on propane, so fuel planning matters more there, especially since country outages tend to run longer. Our guide on sizing for how long — runtime and fuel — covers planning a reserve for the outages you actually get.

! Gas work belongs to the licensed pro

Connecting a standby to natural gas or propane, and placing it at a safe distance from the house, is licensed work done to code — not a do-it-yourself job. A properly installed standby vents its exhaust safely outdoors, which is exactly why the pro handles the placement and the gas line.

The automatic transfer switch

The piece that makes a standby automatic — and often the piece that does the load management — is the transfer switch.

An automatic transfer switch sits between the utility and your panel. When it senses an outage, it disconnects from the utility, starts the generator, and connects your home to it — then reverses when the power returns. That automatic hand-off is what lets the whole thing work without you lifting a finger.

A managing transfer switch does double duty, handling the turn-taking among big loads as well. Our guide on how your transfer switch's circuit count shapes sizing covers the switch side in more detail, including how the choice of circuits sets what can run at once.

✓ The switch is the brain of the setup

More than the generator itself, the transfer switch is what makes a standby feel effortless — sensing the outage, starting the unit, and managing the loads, all on its own.

This is a licensed pro's job

A standby is the most involved install in this whole category, and it's firmly professional work — which is reassuring, not discouraging.

Designing the size, wiring the transfer switch, connecting the gas or propane, and pulling the permit are all the licensed electrician's and gas pro's work, done to code and inspected. I'm a tech helper, not an electrician — so I don't install standby units. What I do is help you prepare and coordinate a trustworthy pro.

That division suits everyone: you get honest, unhurried help building your plan from someone with no unit to sell, and a licensed professional does the code work safely. It's the best of both.

! Never attempt the gas or panel work yourself

Standby wiring and gas connections are dangerous to attempt without a license — risking fire, carbon monoxide, and electrocution, and voiding inspections and warranties. This work is for a licensed pro, always. I'll help you find and coordinate one.

Common standby-sizing mistakes

A few avoidable slip-ups account for most standby regret. Now you'll spot them coming.

- **Oversizing to run everything at once**, paying for a huge unit when load management would let a smaller one serve just as well.
- **Skipping the must-run list**, so the shed priorities are guesses and the size is off.
- **Forgetting the well pump's surge**, so the biggest single jolt isn't properly covered.
- **Not planning propane fuel**, so a long rural outage outlasts the tank.
- **Treating it as a do-it-yourself project**, when the design, wiring, and gas work all need a licensed pro.

✓ Preparation prevents most of these

Nearly every one of these traces back to going in unprepared. A clear must-run list and honest shed priorities — the parts I help with — head them off before the electrician even quotes the job.

Questions worth asking the electrician

When you sit down with a licensed pro, these questions keep the conversation honest and useful.

Q: Can load management let me use a smaller unit?

Very often, yes. Ask how staggering the big loads — AC, water heater, dryer, range, well pump — could bring the size and cost down while still covering your essentials.

Q: Are we sizing for whole-home or managed essentials?

Be clear which you're paying for. Whole-home runs everything at once and costs more; managed uses turn-taking for near the same comfort at a smaller size.

Q: How will my well pump's surge be handled?

On a rural home this is key. Ask how the pump's big 240-volt jolt is staggered so it doesn't collide with the AC, and that the unit covers it as the biggest single surge.

Q: What fuel, and how long will it run?

Natural gas runs as long as the supply holds; propane depends on your tank. Ask how many days of your typical outage the plan really covers, and size the tank accordingly.

✓ There's no silly question

If any of this feels over your head, that's exactly what I'm for — call or text me at (330) 200-8042 and I'll help you make sense of the pro's answers.

Getting ready for the load calculation

The better prepared you arrive, the better the design and the fairer the quote. Here's what helps.

- **Your must-run list**, sorted into must-have, would-like, and can-wait, so shed priorities are easy to set.
- **Nameplate photos** of your big loads — the AC, water heater, well pump, furnace — so the pro has real numbers.
- **A sense of your outages**: how often, how long, what season, so the fuel and size fit your reality.
- **Your goal in plain words**: never notice an outage, cover most of the house, or just the essentials.

Our guide on when to get a professional load calculation explains what the electrician does with all this — the NEC method and a clamp-meter measurement — so nothing about the visit surprises you.

★ I'll help you gather all of it

Pulling this together is exactly what a visit is for. I'll help you build the list, photograph the nameplates, and frame your goal, then coordinate the licensed electrician. Call or text me at (330) 200-8042.

Common Questions

The standby and load-management questions I hear most, answered plainly.

Q: Does a standby have to power my whole house?

No — and often it shouldn't. Load management lets a smaller unit cover your home by staggering big loads. Whole-home coverage is an option, but managed essentials suit most homes for less.

Q: How does load management let a smaller unit work?

By making the big appliances take turns instead of all running at once. Since they rarely truly need to run together, staggering them lets a smaller generator handle your real peak.

Q: Do I still need to worry about starting watts?

Yes. Each motor still needs its starting surge when its turn comes. Load management spaces the surges out so they don't stack, but the unit must still cover the biggest single one.

Q: Can you install a standby for me?

No — I'm a tech helper, not a licensed electrician, and standby design, wiring, and gas work are licensed jobs. I help you plan the must-run list and shed priorities and coordinate a trustworthy pro.

Q: Natural gas or propane — does it matter for sizing?

Both can run a standby. Natural gas needs no tank; propane means planning tank size and refills, which matters most for long rural outages. The electrician factors your fuel into the plan.

★ Still weighing a standby?

Send me your must-run list and a sense of your outages at (330) 200-8042, and we'll figure out whether a managed standby fits — and get you ready for the pro, at your pace.

A quick self-check at your kitchen table

You can pressure-test your standby thinking in about a minute with these questions.

- ☐ I know my goal: never notice an outage, cover most of the house, or just essentials.
- ☐ I have a must-run list sorted into must-have, would-like, and can-wait.
- ☐ I know which big loads could take turns — water heater, AC, dryer, range, well pump.
- ☐ I understand the standby is sized and installed by a licensed electrician.
- ☐ I've thought about fuel — natural gas, or a propane tank sized for a long outage.
- ☐ I know Bill helps me prepare and coordinate, but does not install it.

✓ If any answer is 'not sure', that's fine

That's exactly what a friendly phone call is for. Reach me at (330) 200-8042 and we'll fill in the blanks together.

Bringing it all together

A standby gives you automatic, hands-off backup — and load management is what keeps it sensibly sized instead of enormous.

Decide your goal, build your must-run list, and let a licensed electrician size the unit with a proper calculation. Load management staggers the big loads so a smaller standby serves a bigger home, while still starting your biggest motor when its turn comes. You plan; the pro designs and installs.

From here, our guide on essentials versus whole-home helps you set your goal, our transfer-switch guide covers the switch that runs it all, and our guide on when to get a professional load calculation prepares you for the electrician.

★ Let's plan your hands-off backup

If you'd rather talk it through than puzzle it out on paper, that's exactly what I'm here for. Call or text me at (330) 200-8042 and we'll build your plan and line up the licensed pro — free, with nothing to sell you.

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 sizing a standby generator with load management 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

Whole-Home vs. Load-Managed

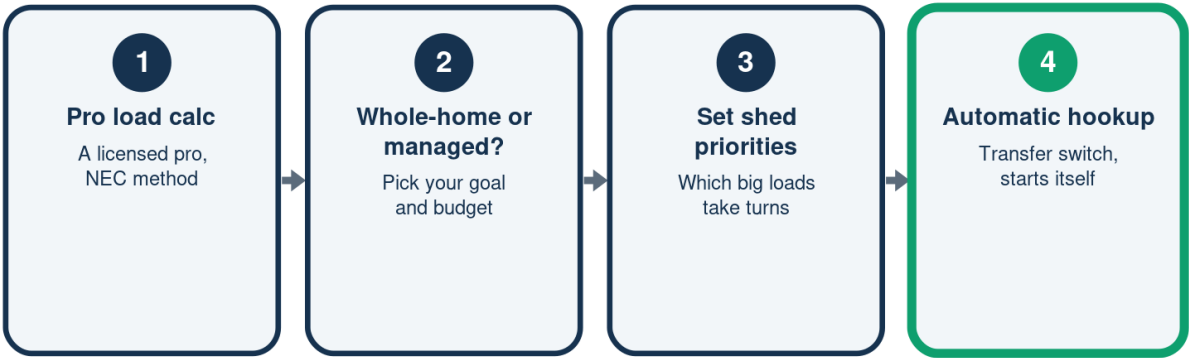
How load management changes the size you need

	Whole-home	Load-managed
Unit size	Larger	Smaller
Big loads	All at once	Staggered
What runs	Everything	Priorities first
Cost to install	More	Often less

Load management lets a smaller standby serve a bigger home.

Planning a Standby

You plan; the licensed pro designs and installs



A standby is a licensed electrician's design and install.

Which Big Loads Take Turns

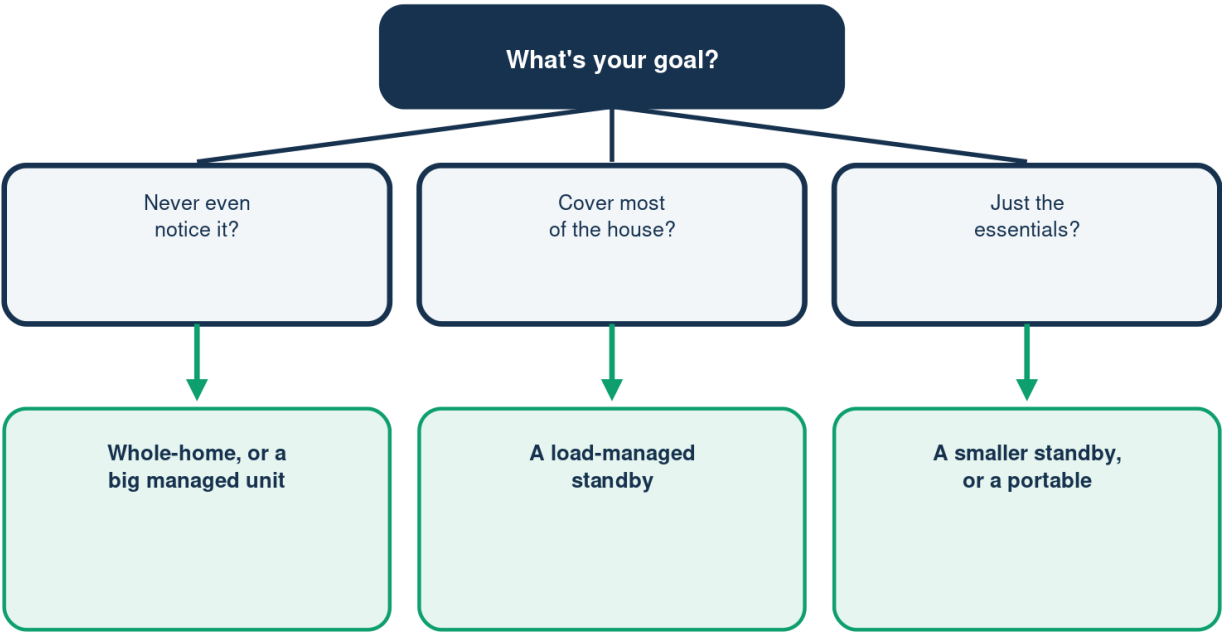
The electrician sets what steps aside first

	Why it can wait	In a shed plan
Water heater	Heats in bursts	Sheds easily
Central AC	Big surge	Staggered on
Dryer, range	Not urgent	Sheds first
Well pump	Water = must	Kept, staggered

Essentials keep running while comfort loads politely wait their turn.

What's Your Goal?

Your goal sets how big the standby should be



A licensed electrician's load calculation sets the right size -- this is a professional's design.
Illustration - a schematic, not to scale. Your setup may differ.



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— Bill

Prefer help without a visit?

Bill can screen-share and fix many things remotely — a flat \$49, free for Support Plan members.



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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