

\$850/rack

PE-stamped seismic calcs in 48 hours

The Equipment Installer's Seismic Prep Kit

Get Your Deferred Submittal Package Off the Critical Path

Fixed-price anchorage calcs. 48-hour turnaround. One email to start.

By Palisade Engineering — Structural Engineers (PE-SE)



INSIDE THIS GUIDE

What You'll Learn

This guide gives you exactly what you need to get your deferred submittal package done fast — without the back-and-forth that typically eats two weeks of your schedule.

1

The 9-Item Checklist: What to Gather Before You Call

Nine items your seismic engineer needs to quote and start work. Have these ready and you'll get a quote in 24 hours — not 2 weeks.

2

The Top 6 Inspection Failures (And How to Avoid Them)

Real rejection causes we see regularly on datacenter projects — including the Risk Category IV mistake that undersizes every anchor in the package.

3

Turnaround, Pricing & Deliverables

What to expect for timeline, what it costs, and what you'll get back — stamped calcs, anchor schedules, ICC-ES references, deferred submittal cover sheet, and field coordination notes.

4

How to Get Started: One Email, One Quote

Send your equipment list and cut sheets. We'll send back a fixed-price quote within 24 hours. \$850/rack for standard server rack anchorage.

Everything in this guide is usable whether you hire PE-SE or not — but at \$850/rack with 48-hour turnaround, we think you'll want to.



MEET YOUR ENGINEERS

A Note from Paul & Joel

**\$850/rack**

PE-stamped seismic calcs in 48 hours

You just got the RFI from the GC: "Where's the deferred submittal package for equipment anchorage?" It's in your contract — you're responsible for it — but you don't have a structural engineer on staff, and the ones you've called either won't return your message or want to bill hourly with no end in sight.

We've been there with hundreds of equipment installers on datacenter builds across the western US. Server racks, UPS systems, generators, CRAC units, battery cabinets — the full range. What we've learned: the engineering itself is rarely the bottleneck. The bottleneck is getting the right information upfront.

That's what this guide solves. Inside you'll find exactly what to gather before you reach out, the inspection failures that hold up schedules, and what to expect on turnaround and deliverables. Everything here is usable whether you hire PE-SE or not — but at \$850 per rack, stamped calcs in 48 hours, no hourly billing, we think you'll want to.

Not sure if you have everything? Send us what you have — we'll tell you what's missing in one reply.

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YOUR CHECKLIST

What to Gather Before You Call Your Seismic Engineer

You don't need a big firm for a 5-rack job — you need the right information in one email. Pull this together before you reach out. Every item you have ready eliminates a round of back-and-forth.

 Equipment cut sheets

Manufacturer data sheets showing weight, dimensions, center-of-gravity height, and base bolt pattern. If the cut sheet doesn't list CG height, get it from the manufacturer rep. We cannot assume it.

 Floor plan or equipment layout sketch

Doesn't need to be a CAD drawing. A marked-up PDF or even a photo of a hand sketch works — we need to see where each piece sits relative to walls, columns, and other equipment.

 Slab thickness and type

Is it slab-on-grade (SOG) or elevated/suspended slab? What's the thickness? This determines anchor capacity. If you don't know, check the structural drawings or ask the GC.

 Project address

The exact site address. We use this to pull site-specific seismic design parameters from the USGS database. Data centers are Risk Category IV, which typically pushes them into SDC D or higher — the address tells us exactly where you land. Want to see your parameters now? Visit pe-se.com/tools/seismic-parameters — our free lookup tool pulls site-specific SDS, SD1, and SDC directly from the USGS database.

 Which code edition applies

ASCE 7-16 or ASCE 7-22? The seismic force equations changed between editions, and the wrong one gets your package kicked back. Not sure? Give us the address and permit jurisdiction — we'll determine it.

 Permit jurisdiction

Which Authority Having Jurisdiction (AHJ) reviews this project? Every jurisdiction has different submittal requirements. Not sure which AHJ applies? Send us the project address and we'll identify it.

 Existing structural drawings

Foundation plans, slab reinforcement details, framing plans. These tell us what the slab can handle and whether we need coordination with the structural engineer of record.

 Manufacturer seismic certification

Does the equipment carry NEBS, OSHPD, or other seismic certification? Certified equipment may have pre-approved anchorage details from the manufacturer, which speeds things up.

 Total number of equipment pieces

A count of everything that needs anchorage calcs. Server racks, UPS units, PDUs, CRAC/CRAH units, generators, battery cabinets, transformers — all of it. This drives pricing and timeline.

QUICK START: Don't have all 9 items? Send your equipment list, project address, and cut sheets — that's enough to get a quote started. We'll tell you what else we need.



AVOID THESE FAILURES

What Causes Failed Inspections

A failed inspection doesn't just mean a red tag. It means schedule holds, potential liquidated damages, and a GC who's not calling you for the next project. These are real rejection causes we see regularly. Every one is avoidable.

1**Wrong anchor type installed.**

Expansion anchors are prohibited for vibrating equipment with motors over 10 hp per IBC. If your equipment has a large motor or compressor, you need adhesive or cast-in-place anchors. If your crew defaults to wedge anchors out of habit, the inspector will flag it.

2**Missing special inspection program.**

In SDC D (most of Nevada and California), post-installed anchors require a special inspection program established at permit application. Missing it means a re-inspection cycle of 2–4 weeks — and your equipment sits idle.

3**Calcs based on the wrong SDC.**

The #1 plan review rejection. If your calcs say SDC B/C but the site is SDC D, the entire package gets kicked back — complete redo, new turnaround, potential LD exposure. We use real USGS coordinates, no shortcuts. You can check your own site's Seismic Design Category for free at pe-se.com/tools/seismic-parameters — most data centers are Risk Category IV, which means SDC D or higher in the western US.

4**No equipment schedule in the submittal.**

Plan reviewers need a table listing every piece of equipment with weight, SDC, Importance Factor (Ip), and design force (Fp). A narrative calc without a summary schedule gets rejected or RFI'd.

5**Rod hangers over 12" used as seismic supports.**

Threaded rod hangers longer than 12 inches don't qualify as seismic bracing alone. They need lateral bracing — transverse and longitudinal. Long rods with no sway bracing = failed inspection.

6**Calcs that don't account for Risk Category IV.**

Data centers use $I_p = 1.5$, not 1.0 — a 50% increase in seismic design forces. If your engineer used $I_p = 1.0$, every anchor is undersized. Your datacenter isn't a strip mall — the calcs need to reflect that. Not sure what Risk Category applies to your facility? Most data centers qualify as Risk Category IV (mission critical). Check your site's seismic parameters at pe-se.com/tools/seismic-parameters.



IBC RISK CATEGORIES

Which Risk Category Applies to Your Building?

The IBC assigns every building a Risk Category (I through IV) based on the consequences of failure. This determines the Importance Factor (I_E) used in seismic design — higher categories mean higher design forces. Getting this wrong undersizes every anchor in your package.



Low Risk

Agricultural facilities, minor storage buildings, temporary structures

I_E
1.0



Normal

MOST COMMON

Offices, retail, residential, warehouses, most standard-occupancy buildings

I_E
1.0



Substantial Hazard

Assembly occupancy >300, schools, jails, power stations

I_E
1.25



Essential Facilities

CRITICAL DC

Hospitals, fire/police stations, critical data centers, emergency shelters

I_E
1.5

PE-SE defaults to Risk Category IV ($I_E = 1.5$) for all data center anchorage. Your datacenter isn't a strip mall — the calcs need to reflect that.

Not sure what Seismic Design Category applies to your site?

Use our free lookup tool — enter the project address and get your site-specific SDS, SD1, and SDC pulled straight from the USGS database. pe-se.com/tools/seismic-parameters



TURNAROUND & DELIVERABLES

How Fast Can You Get Stamped Calcs?

Turnaround depends on two things: complexity and completeness of information.







SCOPE	TURNAROUND	PRICE
Standard server racks (uniform weight, common frames)	48–72 hours	\$850/rack
Complex equipment (large UPS, generators, CRAC/CRAH)	3–5 business days	\$1,500–\$2,000/unit
Full facility package (10+ pieces, mixed equipment)	~2 weeks	Starting at \$25,000
Rush service	24-hr (racks) / 48-hr (complex)	Racks: \$1,500 / Complex: +75%

The pattern is simple: complete info = fast turnaround. Incomplete info = back-and-forth that adds days or weeks.

PRE-PROCUREMENT REVIEW — \$750 flat. Not ready to commit? Send us your equipment list and site info — we'll flag anchorage issues before equipment ships. \$750 credited toward your project if you proceed.

REPEAT & VOLUME CLIENTS Receive priority scheduling and custom rates — contact us to discuss your project pipeline.

What You'll Get Back

 <p>PE-stamped seismic anchorage calculations Per ASCE 7-22 Chapter 13, specific to your project site and equipment.</p>	 <p>Anchor schedule Exact products — manufacturer, model number, embedment depth, and torque values. No guesswork for your install crew.</p>	 <p>ICC-ES evaluation report references For every specified anchor product, so the plan reviewer can verify code compliance without asking for more docs.</p>
 <p>Site-specific seismic parameters Pulled from USGS for the exact project address. Not generic, not conservative-by-default — accurate.</p>	 <p>Coordination notes for field installation Edge distances, spacing, concrete conditions, and anything your crew needs to install it right the first time.</p>	 <p>Deferred submittal cover sheet Formatted for direct GC submittal — attach it to the front of the package, no reformatting needed.</p>



NEXT STEPS

Your GC Needs That Deferred Submittal. Let's Get It Done.

1 Email us your equipment list & cut sheets

info@pe-se.com — one email with the items from the checklist.

2 Get a fixed-price quote within 24 hours

No hourly billing, no scope creep. You'll know the exact cost before we start.

3 Receive stamped calcs in 48 hours

Ready for GC submittal and plan review. Complete deferred submittal package.

Our packages include site-specific USGS parameters, ICC-ES evaluation report references, and a complete equipment schedule — the three items plan reviewers check first. We give you the engineering package built for approval; your crew's installation quality handles the rest.

GC submittal deadline less than a week away? Call us directly — (775) 323-6633.

Licensed in: CA, NV, UT (active) | TX, VA, AZ, OR, WA (pending)



Scan to book a free
15-minute consultation

Three ways to reach us:

Phone: (775) 323-6633

Email: info@pe-se.com

Book: Scan the QR code or visit pe-se.com to schedule a 15-min call

Reply: If you received this PDF by email, reply directly — it comes straight to us

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Disclaimer: This guide provides general information about seismic anchorage preparation for datacenter projects. It is not project-specific engineering advice. Actual design requirements depend on site conditions, applicable building codes, and the requirements of the Authority Having Jurisdiction. Always consult a licensed engineer for project-specific anchorage design.

Need stamped calcs fast? Get a fixed-price quote in 24 hours.



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