



THREE-PHASE TRANSFORMER SUPPLY FAQ'S

Given the current extended lead time of about 58 weeks for new three-phase pad mounted transformers, Colorado Springs Utilities has developed alternative options that reduce the lead time. Customers may elect to utilize an alternative option to achieve an accelerated delivery schedule. The same customer installation requirements as outlined in Chapter 10 of the Electric Line Extension and Service Standards will apply if a customer elects to utilize alternative options.

What actions has Colorado Springs Utilities taken?

- Pre-ordering the most common types/sizes of three-phase pad mounted transformers, before fees are paid, or designs approved, including orders for 2023 stock.
- Evaluating our specifications to enable us to incorporate additional manufacturers for alternative sources of supply.
- Modified field standards temporarily to allow the use of alternative options.
- Purchasing refurbished transformers.

What can I do to minimize the delay?

It is important that construction requests are submitted as soon as possible so that we can accurately plan for the needs of our community. However, please avoid providing incomplete load data, as this may cause further delays due to incorrect sizing/type.

Who can I ask questions about my specific project(s)?

For projects that require a transformer design, customers can contact their Utilities Field Engineering representative. After the transformer design is complete, customers can contact the Utilities Technical Service Supervisor.

Who will be paying for the additional cost?

Due to the increased cost of these options, customers will be required to pay the difference in cost from the standard transformer installation to the alternative option through a time and material (T&M) contract if they elect to use alternative options.

Why isn't Colorado Springs Utilities paying for the additional cost?

As a municipally owned utility, our rates and fees are set only high enough to cover the cost to provide service. As the cost to provide service is volatile due to transformer supply chain shortages, we must pass the changes directly on to our customers who are requesting this material/ equipment, with no profits to be made.

Do I have to choose to move forward with this additional cost?

In lieu of paying the additional cost, customers may elect to wait until the standard transformers are available. However, expected delivery dates of our standard transformers fluctuate and we cannot guarantee a delivery date.

What are the alternative options?

The options below are in order of preference for the safety and reliability of our entire system.

Option #1: Refurbished Transformer Procurement

Though using refurbished transformers is not ideal and typically not allowed, the supply chain constraints have led us to temporarily use them as a resource. Colorado Springs Utilities has begun purchasing refurbished three-phase transformers. As it is unlikely that a refurbished transformer would meet all our standards, each refurbished transformer is evaluated and tested to determine if the transformer is acceptable. This process and the procurement of the transformers will take some time and will have varied costs. The lead time for refurbished transformers is typically between 20 and 28 weeks. Once a refurbished transformer is received, inspected, and approved for use, it will be offered to the customer that is next in line in the queue. Customers may elect to continue waiting for a standard transformer at no additional cost. It is important to remember that even refurbished transformers are in limited supply.

Option #2: New Transformer from Alternate Supplier

We have found a new supplier that we have begun purchasing new transformers with a 20-week lead time. This is an alternate supplier and much more expensive than the standard transformer from our usual suppliers. Once a new transformer from this alternate supplier is received, it will be offered to the customer that is next in line in the queue. Customers may elect to continue waiting for a standard transformer at no additional cost. The cost for the new transformer from an alternate supplier is listed below.

208 Volt Alternative Supplier	
Size	Price
75 kVA	\$23,770.00
150 kVA	\$32,158.00 (-)
300 kVA	\$47,763.00
500 kVA	\$52,831.00

Option #3: Customer-sourced Transformer

Customers that submitted an Electric Load Data Form for a project prior to June 17, 2022, may elect to search for a transformer for their specific projects using our Transformer Standards as a guideline. If the customer locates a transformer that meets our minimum standards, they can contact their Utilities Field Engineering representative to apply to use this option. Once application has been made for staff to evaluate a transformer for a specific project, it cannot be allocated to a different project. The customer is required to pay the cost for staff to evaluate the customer-sourced transformer against our minimum standards through a T&M contract. The analysis cost will be estimated on the time we anticipate the review will take and will be reconciled to the actual cost after the review is complete. If the transformer is approved, the customer will be required to pay the difference in cost from the standard transformer installation

to the purchased transformer through a T&M contract. We will purchase the transformer for the customer's identified project once the customer has paid the T&M contract.

Option #4: Customer-requested Transformer Relocation

A customer with multiple construction projects underway, may request to have a permanent transformer moved from one of their sites ("Site A") to another site ("Site B") to align with their construction schedules. This option shall be available under the following conditions:

- 1) The transformer requested to be moved shall be of a kVA rating equal to or larger than required for Site B. Transformers with a kVA rating less than what is required for Site B will not be permitted.
 - a. For all requests, the secondary service voltage shall be the same at Site A and Site B.
 - b. If the kVA of the transformer to be moved is equal to the requirement for Site B, it will remain at Site B and a new transformer will be installed at Site A.
 - c. If the kVA of the transformer to be moved is larger than the requirement for Site B, once the new, correctly sized transformer arrives, the larger unit will be reinstalled at Site A. We will not install a new transformer at Site A, even if a transformer equivalent in size to the larger unit is available first.
- 2) Transformer can only be transferred between properties controlled by the same customer.
- 3) All transformer relocations will be paid for by the requestor on a time and material basis. In the event that a larger transformer is moved, the costs for both the relocation to Site B and the return to Site A will be paid by the requestor prior to the initial move.
 - a. The requestor shall be responsible for coordinating an outage for Utilities to remove and install the correctly sized transformer at Site B.
 - b. All time and material contracts shall be reviewed by the City Attorney's Office – Utilities Division prior to execution.
- 4) All transformer relocations will be subject to crew availability and schedules.

Temporary transformers are not eligible for a customer requested relocation. When no longer needed at a site, temporary transformers are returned to Colorado Springs Utilities' inventory. We will allocate the transformer to the next location in the temporary transformer request backlog.

Option #5: Colorado Springs Utilities Modified Standard

The modified option has presented technical challenges for some projects and may have limited applicability. Though this option is still available, it is the least option preferred. An alternative option for three-phase transformers is available for 208V or 480V, grounded-wye services up to 500kVA. There are no alternative options to the standard pad-mounted unit for transformers larger than 500kVA. Due to the increased cost of this option, customers will be required to pay the difference in cost from the standard transformer installation to the alternative option through a time and material (T&M) contract if they elect to use this option. Please note that cots have increased from the last version of this FAQ. Orders for the material and equipment required for the alternate option will be placed once a customer has paid the T&M contract. Current lead-time for this equipment is 30 weeks.

45-150 kVA:

Three single-phase modified OH transformers in (3) 4x4 vaults. The transformer installation will be protected by a type 301 pad mounted fused switch, located on the customer's property. This

option requires a 4'4"x14' space to install the (3) 4x4 vaults for the transformers and the switch. This alternative will only accommodate one (1) copper secondary cable per phase; customer shall not be permitted to install parallel cable runs per phase and shall size cable accordingly, not to exceed the secondary bushing sizes.

Three-Phase kVA Size:	Secondary Voltage:	Maximum Wire Size:
45	120/240	4/0 AWG
75	120/240	350 kcmil
150	120/240	350 kcmil
45	240/480	4/0 AWG
75	240/480	4/0 AWG
150	240/480	350 kcmil

300-500 kVA:

Three single-phase modified OH transformers in a steel pad mounted cabinet. The transformer installation will be protected by a type 301 pad mounted fused switch, located on the customer's property. This option requires an 8'x9' space to accommodate the larger unit plus additional space for the switch. Up to eight (8) secondary wires per phase will be allowed. The current estimated cost is listed below.

208 Volt Options	
Size	Price
45 kVA	\$24,747.82
75 kVA	\$25,270.33
150 kVA	\$26,076.98
300 kVA	\$31,448.25
500 kVA	\$51,701.11

480 Volt Options	
Size	Price
75 kVA	\$25,160.58
150 kVA	\$25,978.21
300 kVA	\$36,772.85
500 kVA	\$40,290.85