



City of Tacoma, WA

TACOMA POWER – TRANSMISSION & DISTRIBUTION

REQUEST FOR BIDS

15KV PADMOUNT SWITCHGEAR

SPECIFICATION NO. PT24-0071F



**City of Tacoma
Tacoma Power/Transmission & Distribution**

**REQUEST FOR BIDS PT24-0071F
15kV Padmount Switchgear**

Submittal Deadline: 11:00 a.m., Pacific Time, Tuesday, April 23, 2024

Submittals must be received by the City's Procurement and Payables Division prior to 11:00 a.m. Pacific Time.

For electronic submittals, the City of Tacoma will designate the time of receipt recorded by our email, sendbid@cityoftacoma.org, as the official time of receipt. This clock will be used as the official time of receipt of all parts of electronic bid submittals. For in person submittals, the City of Tacoma will designate the time of receipt recorded by the timestamp located at the lobby security desk, as the official time of receipt. Late submittals will be returned unopened and rejected as non-responsive.

Submittal Delivery: Sealed submittals will be received as follows:

By Email: sendbid@cityoftacoma.org Maximum file size: 35 MB. Multiple emails may be sent for each submittal	In Person: Tacoma Public Utilities Administration Building North, Main Floor, Lobby Security Desk 3628 South 35 th Street Tacoma, WA 98409 Monday – Friday 8:00 am to 4:30 pm
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Bid Opening: Submittals must be received by the City's Procurement and Payables Division prior to 11:00 a.m. Pacific Time. Sealed submittals in response to a RFB will be opened Tuesday's at 11:15 a.m. by a purchasing representative and read aloud during a public bid opening held at the Tacoma Public Utilities Administrative Building North, 3628 S. 35th Street, Tacoma, WA 98409, conference room M-1, located on the main floor. They will also be held virtually Tuesday's at 11:15 a.m. Attend [via this link](#) or call 1 (253) 215 8782. Submittals in response to an RFP, RFQ or RFI will be recorded as received. As soon as possible, after 1:00 PM, on the day of submittal deadline, preliminary results will be posted to www.TacomaPurchasing.org.

Solicitation Documents: An electronic copy of the complete solicitation documents may be viewed and obtained by accessing the City of Tacoma Purchasing website at www.TacomaPurchasing.org.

- [Register for the Bid Holders List](#) to receive notices of addenda, questions and answers and related updates.
- Click here to see a [list of vendors registered for this solicitation](#).

Pre-Proposal Meeting: A pre-proposal meeting will not be held.

Project Scope: The City of Tacoma (City) / Tacoma Public Utilities (TPU) is soliciting bids to establish one or more contracts with qualified vendors to fulfill the City's needs for 15kV Padmount Switches units.

Estimate: \$900,000 for 3-year period

Paid Sick Leave: The City of Tacoma requires all employers to provide paid sick leave in accordance with State of Washington law.

Americans with Disabilities Act (ADA Information): The City of Tacoma, in accordance with Section 504 of the Rehabilitation Act (Section 504) and the Americans with Disabilities Act (ADA), commits to nondiscrimination on the basis of disability, in all of its programs and activities. Specification materials can be made available in an alternate format by emailing the contact listed below in the *Additional Information* section.

Title VI Information:

"The City of Tacoma" in accordance with provisions of Title VI of the Civil Rights Act of 1964, (78 Stat. 252, 42 U.S.C. sections 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises

will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin in consideration of award.

Additional Information: Requests for information regarding the specifications may be obtained by contacting Sara Bird by email to sbird@cityoftacoma.org.

Protest Policy: City of Tacoma protest policy, located at www.tacomapurchasing.org, specifies procedures for protests submitted prior to and after submittal deadline.



Meeting sites are accessible to persons with disabilities. Reasonable accommodations for persons with disabilities can be arranged with 48 hours advance notice by calling 253-502-8468.


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SUBMITTAL CHECK LIST

This checklist identifies items to be included with your submittal. Any submittal received without these required items may be deemed non-responsive and not be considered for award.

Submittals must be received by the City of Tacoma Purchasing Division by the date and time specified in the Request for Bids page.

The following items make up your complete electronic submittal package (include all the items below):	
Signature Page (Appendix B) To be filled in and executed by a duly authorized officer or representative of the bidding entity. If the bidder is a subsidiary or doing business on behalf of another entity, so state, and provide the firm name under which business is hereby transacted.	
Price Proposal Forms (Appendix B) The unit prices bid must be shown in the space provided. Check your computations for omissions and errors.	
Supplemental Information – Section 1.03 of Appendix A <ul style="list-style-type: none">• Product Data Sheets• Manufacturer's Quality Assurance Policy• Documentation for Alternate Materials Section 1.03.3 of Appendix A	
References Sheets - Appendix B See Section 1.01.2 of Appendix A for detailed information on request	

1. MINIMUM REQUIREMENTS

Manufacturers experienced in supply of materials as detailed within this specification over a period of five (5) years or more will be considered responsive. A responsive submittal will demonstrate a record of successful completion of contracts similar in scope and size to that outlined in this specification. The City shall be the sole judge of the Respondent's ability to meet the requirements of this paragraph.

2. STANDARD TERMS AND CONDITIONS

City of Tacoma [Standard Terms and Conditions](#) apply.

3. DESCRIPTION OF WORK

The City of Tacoma (City) / Tacoma Public Utilities (TPU) is soliciting bids to establish one or more contracts with qualified vendors to fulfill the City's needs for 15kV Padmount Switches units. Contract(s) will be awarded to the lowest responsive and responsible bidder(s) based on price, product quality and availability.

4. ANTICIPATED CONTRACT TERM

Contract will be for three (3) years, with two (2) optional one-year (1) renewal periods.

5. CALENDAR OF EVENTS

This is a tentative schedule only and may be altered at the sole discretion of the City.

Contract may be issued after Public Utility Board and/or City Council approval.

The anticipated schedule of events concerning this RFB is as follows:

Question Deadline:	4/3/2024
City response to Questions:	4/10/2024
Submittal Due Date:	4/23/2024
Anticipated Award Date, on or about:	5/3/2024
Public Utility Board/City Council Approval, on or about:	5/22/2024

6. INQUIRIES

6.1 Questions can be submitted to *Sara Bird*, Senior Buyer, via email to sbird@cityoftacoma.org. Subject line to read:
PT24-0071F – 15kV Padmount Switchgear – *VENDOR NAME*

6.2 Questions are due by 3 pm on the date included in the Calendar of Events section.

6.3 Questions marked confidential will not be answered or included.

- 6.4** The City reserves the discretion to group similar questions to provide a single answer or not to respond when the requested information is confidential.
- 6.5** The answers are not typically considered an addendum.
- 6.6** The City will not be responsible for unsuccessful submittal of questions.
- 6.7** Written answers to questions will be posted alongside these specifications at www.tacomapurchasing.org.

7. PRE-BID MEETING

No pre-proposal meeting will be held; however, questions and request for clarifications of the specifications may be submitted as stated in the [inquiries](#) section.

8. DISCLAIMER

The City is not liable for any costs incurred by the Respondent for the preparation of materials, or a proposal submitted in response to this RFB, for conducting any presentations to the City, or any other activities related to responding to this RFB, or to any subsequent requirements of the contract negotiation process.

9. RESPONSIVENESS

Bid submittals must provide ninety (90) days for acceptance by City from the due date for receipt of submittals. All submittals will be reviewed by the City to determine compliance with the requirements and instructions specified in this RFB. The Respondent is specifically notified that failure to comply with any part of this RFB may result in rejection of the submittal as non-responsive. The City reserves the right, in its sole discretion, to waive irregularities deemed immaterial. The City also reserves the right to not award a contract or to issue subsequent RFB's

10. AWARD

Awardee shall be required to comply with 2 CFR part 25 and obtain a unique entity identifier and/or be registered in the federal System for Award Management as appropriate.

Award will be made to the lowest responsive, responsible bidder. All bidders shall provide unit or lump sum pricing for each line item. Each line item will be added up for a subtotal price. The subtotal price will be compared amongst each bidder, including any payment discount terms offered twenty (20) days or more. The City may also take into consideration all other criteria for determining award, including evaluation factors set forth in Municipal Code Section 1.06.262.

All other elements or factors, whether or not specifically provided for in this specification, which would affect the final cost to and the benefits to be derived by the City will be considered in determining the award of the contract. The final award decision will be based on the best interests of the City.

The City reserves the right to let the contract to the lowest responsible bidder whose bid will be the most advantageous to the City, price and any other factors considered. In evaluating the proposals, the City may also consider any or all of the following:

1. Compliance with specification.
2. Proposal prices, listed separately if requested, as well as a lump sum total
3. Time of completion/delivery.
4. Warranty terms.
5. Bidder's responsibility based on, but not limited to:
 - a) Ability, capacity, organization, technical qualifications, and skill to perform the contract or provide the services required.
 - b) References, judgment, experience, efficiency, and stability.
 - c) Whether the contract can be performed within the time specified.
 - d) Quality of performance of previous contracts or services

11. DELIVERY

11.1 See Section 1.10 of Appendix A for specific delivery information

Each vendor will be required to submit a delivery timeline they can commit to. Purchase order delivery dates will reflect this timeline. In the event a purchase order deliver date is not met, the City reserves the right to purchase these products elsewhere if they are in a time constraint. If constant late deliveries occur, the City may terminate the contract.

11.2 Hours of operation shall be Monday through Friday, 9:00 a.m. to 3:30 p.m., excluding legal holidays, as referred to in the Standard Terms and Conditions or as otherwise approved by the City.

12. INSPECTION

All goods are subject to final inspection and acceptance by the City. If any inspection fails, the vendor shall be required to make arrangements to exchange the goods at their own expense and replace it in a timely manner acceptable to the City.

Material failing to meet the requirements of this contract will be held at Vendor's risk and may be returned to Vendor. If so returned, the cost of transportation, unpacking, inspection, repackaging, reshipping, or other like expenses are the responsibility of the Vendor.

13. APPROVED ITEM EQUIVALENT

A specific manufacturer for almost all line items has been listed in the Technical Specifications because this is the current manufacturer accepted. For those line items, which do not list a specific manufacturer, bidders shall provide the technical specifications for the manufacturer they are offering. The City may request, after the bid due date, a sample of that product for review and approval by the City. The City reserves all rights to be the sole judge as to whether any other manufacturer can meet or exceed the current specifications they use. Unless an item is indicated "No Substitute", approved equivalents shall be submitted by the date listed in the Request for Bids

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Template Revised: 07/23/2023

Calendar of Events section. Equivalents will be approved by Addendum to the solicitation.

14. COMPLIANCE WITH SPECIFICATIONS

All products shall be new and unused. Any product that does not comply with any part of these technical specifications shall be rejected and the vendor shall, at its own expense, including shipping, replace the item.

15. MATERIALS AND WORKMANSHIP

The successful bidder shall be required to furnish all materials necessary to perform contractual requirements. Materials and workmanship for this contract shall conform to all codes, regulations and requirements for such specifications contained herein and the normal uses for which intended. Material shall be manufactured in accordance with the best commercial practices and standards for this type of goods. All literature and products must be packaged and labeled to sell in the United States.

16. ENVIRONMENTALLY PREFERABLE PROCUREMENT

In accordance with the [City's Sustainable Procurement Policy](#) and [Climate Action Plan](#), it is the policy of the City of Tacoma to encourage the use of products or services that help to minimize the environmental and human health impacts of City Operations. Respondents are encouraged to incorporate environmentally preferable products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, products, manufacturing, packaging, distribution reuse, operation, maintenance or disposal of the product or service.

The City of Tacoma encourages the use of sustainability practices and desires any awarded contractor(s) to assist in efforts to address such factors when feasible for:

- Durability, reusability, or refillable
- Pollutant releases, especially persistent bioaccumulative toxins (PBTs), low volatile organic compounds (VOCs), and air quality and stormwater impacts
- Toxicity of products used
- Greenhouse gas emissions, including transportation of products and services, and embodied carbon
- Recycled content
- Energy and water resource efficiency

APPENDIX A

Special Provision – Section 1

Technical Specifications – Section 2

SECTION 1 – SPECIAL PROVISIONS

1.01 - SCOPE OF BID

1.01.1 - DEFINITIONS

For the purposes of this specification, the following definitions shall apply:

Term	Definition
RESPONDENT	A potential Supplier offering a submittal to supply equipment in accordance with these Specifications
SPECIFICATION	This document, detailing the scope of supply
SUPPLIER	The Respondent(s) awarded a contract pursuant to these Specifications
SUBVENDOR	Any Supplier of parts, materials, and/or services to the vendor under these Specifications
EQUIPMENT/ MATERIAL	A fully functional piece of equipment/material supplied and tested in accordance with these Specifications
MANUFACTURER	The original manufacturer of the equipment/material
ENGINEER	The project engineer and/or contract administrator
CITY	The City of Tacoma, Tacoma Power
DELIVERY TIME	The length of time starting at the date of Supplier receipt of a purchase order, purchase order release, or Notice to Proceed and ending at the time that the item(s) are received at Tacoma Power

1.01.2 - REFERENCES

Each Respondent shall complete the “References Data Sheet” as required in the proposal section. A minimum of five (5) U.S. utility references over the past five (5) years is required.

1.01.2A.1 - CHANGE OF OWNERSHIP

References are intended to be for material/equipment currently supplied under the proposed manufacturer’s name. References for material/equipment that has been previously supplied under a different Company’s name shall be clearly noted on the reference list.

1.01.2A.2 - DEFINITION OF REFERENCED UTILITIES

The bidder shall list as references, only those utilities that have purchased material/equipment as the bidder proposes to offer to the City, on this proposal.

1.01.2B - RESPONDENTS ORIGINATING FROM OUTSIDE THE UNITED STATES

Respondents that originate bids from outside the legal jurisdiction of the United States of America will be subject to the City of Tacoma’s Legal Department opinion as to the viability of possible litigation pursuant to a supply contract resulting from this Specification. If it is the opinion of the City of Tacoma’s Legal Department that any possible litigation would be beyond reasonable cost and/or enforcement the bid may be excluded from evaluation.

1.01.2C - MANUFACTURER REPRESENTATION

The Supplier shall have available to Tacoma Power a representative or agent who will provide field and technical support. The agent shall be authorized to coordinate returns and repairs as well as provide support for any matter pertaining to non-compliance with the terms of the Specification.

1.01.3 - SUB-VENDORS

The Respondent shall list, on the "Proposal – Sub-Vendor" Data Sheet, all sub-vendors it intends to use to fulfill requirements in any part of this Specification. Included in the listing shall be the sub-vendor's name, address, and telephone number; contact name; and description of work they will perform. It shall be the responsibility of the awarded Supplier to police, enforce, and ensure that all work performed by any sub-vendor shall be in accordance with this Specification.

1.02 – RESPONDENT'S PROPOSAL

1.02.1 - RESPONDENT'S RESPONSIBILITIES FOR TERMS AND CONDITIONS

Failure to complete and supply all of the requested information on the proposal forms, shall in no way relieve the Respondent of the responsibility of supplying all of the necessary items and/or complying with all of the terms and conditions in this document.

1.02.2 – SUBMITTAL CLARIFICATION

Respondents may be asked to clarify their submittal. This action shall not be construed as negotiations or any indication of intentions to award. If called upon, the Respondent must respond to such requests within two business days, or the timeframe set forth by the City in its request for clarification. A Respondent's failure to respond to such a request may result in rejection of its submittal. (See City of Tacoma Standard Terms and Conditions 1.19.)

1.02.3 - COST OF COMPLIANCE

Submitted prices shall include costs of submittal preparation, servicing of the account, all contractual requirements during Contract period such as transportation, permits, insurance costs, bonds, labor, wages, materials, tools, components, equipment, and appurtenances necessary to complete the work, which shall conform to the best practice known to the trade in design, quality, material, and workmanship and be subject to these Specifications in full.

1.02.4 - ALTERNATE BIDS

All bids including alternates shall include an original Signature Page. Each bid package submitted must be returned with the Respondent's proposal completed as directed, including all data requested.

1.02.4A - ALTERNATE BID PROPOSALS

Alternate bid proposals must be submitted as a separate bid package and identified as "**ALTERNATE**" in RED.

1.02.4B - ALTERNATE MATERIALS

Alternate manufacturers to those listed as approved in Technical Provisions Section 2.02.2 will be considered. If the Respondent elects to bid alternative equipment, complete data must be submitted with the bid. The data shall demonstrate that the alternative item is of a quality equal to or better than that

specified and has the required characteristics for the intended use. Failure to submit such data will render the bid **non-responsive**.

1.02.4C – ALTERNATE EVALUATION

Upon request, the Respondent shall furnish to the City, within five (5) working days, additional information relating to such alternative items as the City may require. The City shall be the sole judge as to the equality and suitability of a proposed alternate. The decision of the City as to what items are equal shall be final and conclusive per City of Tacoma Standard Terms and Conditions section 1.20.

1.03 – SUPPLEMENTAL INFORMATION

The information requested in the following section shall be included with the Respondent's submittal and will be referenced during evaluation process (Refer to Special Provisions Section 1.04).

1.03.1 - PRODUCT DATA SHEETS

All Respondents shall include **with** their submittal manufacturer product data sheets (cut sheets) for each material to be supplied. Manufacturer data furnished **must be sufficient in detail and clarity** to enable making a complete and positive check with compliance of the Technical Provisions of this Specification.

1.03.2 - MANUFACTURER'S QUALITY ASSURANCE POLICY

All Respondents shall include **with** their submittal one (1) copy of the manufacturer's internal "Quality Assurance" policy for the materials to be supplied. The documentation shall include third party certification of ISO 9000 series qualifications if it has been achieved. The policy documents shall include examples of inspection processes and quality control measures utilized to insure supply of a reliable product.

1.03.3 – DOCUMENTATION FOR ALTERNATE MATERIALS

The following additional data is required to be included with alternate bid submittals which propose materials from a manufacturer **other** than those listed in Section 2.02.2 "Approved Models".

1.03.3A - ASSEMBLY AND OPERATION MANUAL

A submittal for an alternate model is to include one (1) copy of the operating, maintenance, and installation instruction manuals for each of piece of equipment offered in the proposal. This includes detailed assembly instructions, operating and maintenance instructions and performance specifications.

The documentation shall verify physical and electrical test data as specified in Section 2. The information submitted will be utilized as part of the bid evaluation process.

1.04 - EVALUATION

Respondents are to provide unit or lump sum pricing for each line item, which will be summed for a subtotal price. Subtotals will be compared amongst each Respondent, including any offered payment discount terms of 20 days or more.

1.04.1 - EVALUATION CRITERIA

In evaluating the proposals, the City will consider any or all of the following:

- Compliance with Specifications
- Proposal prices, listed separately if requested, as well as a lump-sum total
- Time of completion/delivery
- Ability to meet identified minimum order requirements
- Offered warranty provisions that exceed the City's minimum provisions (refer to Section 1.11.3).
- Respondent's responsibility based on, but not limited to:
 - Ability, capacity, organization, technical qualifications, and skill to perform the contract or provide the services required.
 - References, judgment, experience, efficiency, and stability.
 - Sufficiency of financial resources.
 - Quality of performance of previous contracts or services with utilities within the United States.

1.04.1A - OTHER ELEMENTS

The City may also take into consideration other criteria for determining award. Other elements or factors, whether or not specifically provided for in this Specification, which would affect the final cost to and the benefits to be derived by the City, may be considered in determining the award of the contract. The final award decision will be based on the best interests of the City (refer to City of Tacoma Standard Terms and Conditions Section 1.20).

1.05 - CONTRACT

1.05.1 - EXPANSION CLAUSE

Any resultant contract from this RFB may be further expanded in writing to include other related services or products normally offered by the Contractor, as long as the price of such additional services or products have a profit margin equal to or less than that in place at the time of original submittal. Such additions and prices will be established in writing. New items not meeting these criteria will not be added to the contract. Contractor profit margins are not to increase as a result of contract additions.

Any new products or services accepted by the City may be added to this contract and/or substituted for discontinued products or services. New products and services shall meet or exceed all Specifications of original award.

1.05.2 - REASONABLE AMENDMENT CLAUSE

In the sole discretion of the City of Tacoma, the City may, without invalidating this Contract, or any part of this Contract, may make reasonable changes to the terms and conditions within the general scope of the Agreement, when such changes are in the best interest of the City.

Any adjustment to the terms of the Contract shall be documented by way of a written amendment to include a signature from both contracting parties. If any such amendment increases or decreases the Supplier's cost of performance of any part of the Contract, an adjustment shall be made, and the Contract modified accordingly. Modifications to the Contract which will produce a higher profit margin for the Supplier than that established by the original contract pricing will not be allowed.

1.06 - SAFETY AND STANDARDS

The Items supplied shall meet appropriate ANSI, OSHA, WISHA, and all federal, state, and local standards for its intended use. Refer to Technical Provisions Section 2.02 for specific industry standards that apply to the Specifications of this bid.

1.07 – PRICING AND PURCHASE ORDERS

1.07.1 - PRICES QUOTED

Per City of Tacoma Standard Terms and Conditions Section 1.16, the prices quoted on the Proposal - Pricing Sheet shall remain open for acceptance by the City for a minimum of 90 days from the submittal deadline. Submittals are to offer unit prices calculated at the elevated metal value listed on the Proposal Pricing Sheet. Upon award of a contract the prices will be adjusted to reflect the average value of COMEX Copper from the prior month. Subsequently the prices will be adjusted semi-annually per section 1.07.4. This process of price adjustment will remain consistent through any contract extension periods.

1.07.2 - FREIGHT ALLOWANCES

The Respondent shall provide prices including delivery F.O.B. Destination, freight prepaid and allowed as noted on the bid proposal sheet.

1.07.3 - QUANTITIES AND PURCHASE ORDERS

The quantities listed on the Proposal Pricing Sheets are an estimate only using historical data gathered from the previous six (6) years. Delivery will be according to purchase order on an as-needed basis throughout the period of the contract. The City reserves the right to increase or decrease quantities under this contract and pay according to the unit prices quoted in the proposal (refer to City of Tacoma Standard Terms and Conditions Section 1.35). The purchase order will be delivered to the Supplier by email.

1.07.3 A - WORKING DAYS

Working days are weekly Monday through Friday. City observed holidays as listed in City of Tacoma Standard Terms and Conditions Section 1.24 are not included.

1.07.4 – SEMI-ANNUAL PRICING ADJUSTMENT

On a semi-annual basis, according to the schedule listed below, the unit prices of the items bid will be adjusted reflecting the percentage change of Series ID PCU335313335313 – Switchgear & Switchboard Apparatus of the Producer Price Index as published by the Bureau of Labor Statistics of the U.S. Department of Labor. Refer to Appendix A for historical index data.

1.07.4 A – DATES OF PRICE ADJUSTMENT

Unit prices will be adjusted on or about the dates listed below contingent upon the publication of the Producer Price Index. Price adjustments are subject to City of Tacoma approval prior to implementation.

- December 15, 2024
- June 15, 2025
- December 15, 2025
- June 15, 2026
- December 15, 2026
- June 15, 2027

1.07.4B - APPLICATION

Purchase orders will reflect the semi-annual pricing in effect within the period of the purchase order creation, not at the time of shipment.

1.09 - PACKING AND SHIPPING

The Supplier shall be responsible for industry standard packing that conforms to the requirements of the carrier's tariffs and the ICC regulations.

1.09.1 - LABELING

The material/equipment must be clearly marked as to lot number, destination, address, and purchase order number.

Each pallet and/or box shall be labeled with:

- Item
- Quantity
- City of Tacoma purchase order number

1.09.2 - SHIPPING REQUIREMENTS

Pad-mounted switchgear shall be shipped in such a fashion that it will arrive at the City without transit-associated damage. All material/equipment shall be fully assembled. A complete packing list must be included.

1.09.2A - BALANCED LIFT

Crates shall be designed and constructed for movement by forklift or pallet jack lifting equipment. When the lifting equipment is placed at the center and perpendicular to the long axis of the crate a balanced lift of the crate and its contents shall be accomplished.

1.09.2B - CRATE CONSTRUCTION

1.09.2B.1 - OUTDOOR STORAGE

All crates shall be suitable for extended outdoor storage.

1.09.2B.2 - SHIPPING

All crates shall be constructed of sufficient strength so that they will withstand long distance shipping without damage to contents.

DO NOT STACK CRATES DURING SHIPPING

1.09.2B.3 - GROUND CLEARANCE

The minimum vertical clearance for lifting forks shall be as indicated in the following table:

Minimum Clearance for Forks (in inches)
4" with at least 2 runners

1.09.2B.4 - PROTRUSIONS

No portion of the switchgear assembly or ancillary component shall protrude beyond the confines of the crate.

1.09.2C - COMPONENTS IN CRATE

All vendor supplied components required for each switchgear installation shall be shipped with the associated switch.

1.09.2C.1 - SECURING COMPONENTS

All individual components within the crate shall be secured to the crate or the switchgear assembly.

1.09.2C.2 - WEATHERPROOFING

All components susceptible to weather damage shall be protected by plastic wrap or City approved alternatives.

1.09.2C.3 - UNPROTECTED CARDBOARD

Unprotected cardboard cartons or boxes will not be accepted.

1.09.2D - SHIPPING DAMAGE

The Supplier shall be responsible for the repair or replacement of units that are damaged during loading or transport.

1.09.2E - SUBCONTRACTOR (SHIPPING COMPANY)

Tacoma Power reserves the right to request and require a change in shipping company utilized by the Supplier based upon history of damaged goods delivered to Tacoma Power and/or evidence of unsafe work practices by the shipping company.

1.09.3 - SHIPPING NOTICE

The shipper shall notify the Tacoma Power Warehouse a minimum of **24** hours prior to arriving at delivery destination. This notice may be sent **via phone or email** and is required to convey final delivery information and ensure sufficient staff available to unload cargo.

Tacoma Power Warehouse	
Contact	Keith Wawrin
Phone Number	(253) 502-8760
Email Address	kwawrin@cityoftacoma.org

1.10 - DELIVERY

1.10.1 - DELIVERY TIME

The completed items shall be delivered between 9:00 a.m. and 3:30 p.m. Monday through Friday excluding City observed holidays as listed in City of Tacoma Standard Terms and Conditions Section 1.24.

1.10.2 - DELIVERY LOCATION

Deliver completed items F.O.B. as directed by the purchase order release to either:

Tacoma Power Warehouse 3628 South 35th Street (rear) Tacoma, Washington 98409 Attention: TPU Light Stores - South End	or	Tacoma Power South Service Center 3002 224 th St. E Spanaway, WA 98387
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1.10.2A – ALTERNATE DELIVERY LOCATION

The City retains the option to have the merchandise delivered to an alternate facility or on-site within a 35-mile radius of the Tacoma Power Warehouse. Notification of any change will be on the purchase order release.

1.11 - INSPECTION & WARRANTY

All goods are subject to final inspection and acceptance by the Engineer and/or Tacoma Power Warehouse employees.

1.11.2 - FACTORY INSPECTION

The Engineer/Contract manager shall be permitted to witness the manufacture of items supplied per this contract and to perform a "quality audit" of the facility.

1.11.2A - QUALITY ASSURANCE AUDITS

The City or its representative may audit the quality assurance program at any time prior to and during the Contract period or its extensions.

1.11.2B - QUALITY ASSURANCE DOCUMENTATION

The manufacturer shall provide, when requested, access to and copies of quality assurance documents such as material certificates, inspection and test results obtained in the course of quality assurance, control charts, and other quality documents compiled during the work.

1.11.2C - FACTORY ASSISTANCE DURING INSPECTION

The manufacturer shall have engineering, manufacturing, quality control, and operational factory personnel available who speak technical and conversational English without the need of an interpreter.

1.11.3 - WARRANTY

Unless a longer period is specified, the Supplier and/or manufacturer of the supplies, materials and/or equipment furnished pursuant to this Contract agrees to correct any defect or failure of the supplies, materials and/or equipment which occurs within ***eighteen (18) months*** from the date of commencement of use, however, said warranty period shall not extend beyond ***twenty-four (24) months*** after date of receipt by the City.

When the Supplier is not the manufacturer of the item of equipment, Supplier agrees to be responsible for this warranty and Supplier is not relieved by a manufacturer's warranty.

1.11.3A - WARRANTY PERIOD EXTENSION

The Contract warranty period shall be suspended from the time a significant defect is first documented by the City until the material is repaired or replaced by Supplier and accepted by the City. In addition, in the event less than ninety (90) days remain on the warranty period (after recalculating), the warranty period shall be extended to allow for at least ninety (90) days from the date the work or equipment is repaired or replaced and accepted by the City.

1.11.3B - WARRANTY WORK

All materials requiring warranty work will be returned to the manufacturer at its expense or the manufacturer may replace the defective materials. All replaced materials will be held for pick up (no more than) 30 days after the arrival of

replacement materials. Tacoma Power at its discretion will dispose of any materials not picked up within 30 days.

1.11.3C - RETURN TIME FRAME

All warranty repair work on returned material/equipment shall be accomplished within the specified lead-time for delivery listed in the Respondent's submittal. Warranty repair time will be calculated from the time the material/equipment defect or failure is reported to the Supplier.

1.12 - INVOICES & PAYMENT

All items called for in these Specifications, including, but not limited to, the necessary drawings and test results, must be supplied to the City before the final invoice can be processed.

1.12.1 - INVOICES

Invoices shall be emailed to:
(Per Section 1.39.2 of the Standard
Terms and Conditions)

accountspayable@cityoftacoma.org

1.12.2 - PAYMENT

Upon certification by the Engineer and/or appropriate warehouse personnel that the items have been received in accordance with the Specifications and are in satisfactory condition, a 100 percent payment will be made in accordance with section 1.43 & 1.44 of the Standard Terms & Conditions. Payment methods include:

- Electronic Funds Transfer (EFT) by Automated Clearing House (ACH).
- Check or other cash equivalent.
- The City may consider cash discounts when evaluating submittals. See 1.20.2. of the Standard Terms and Conditions.

1.12.2A - UNSATISFACTORY PERFORMANCE

In the case of unsatisfactory performance, the payment shall be made after the Supplier has made the necessary repairs and/or modifications and satisfactory performance is obtained, or the unit is replaced.

**These Technical Specifications have been prepared
by a licensed Professional Engineer registered in the State of Washington.**

Date: _____

SECTION 2 - TECHNICAL PROVISIONS

2.01 – SCOPE

The pad-mounted switchgear units described in this specification are intended for use on a 7200/12470Y volt, three-phase, four-wire, 60-hertz, multi-grounded neutral system, or a 7,980/13,800Y volt, three-phase, three wire, 60-hertz, single point grounded system.

2.01.1 - SERVICE ENVIRONMENT

The west side of the State of Washington has an environment that leads to a significant number of days in which condensation occurs within standard pad-mount switchgear. As a result, past designs of pad-mount switchgear have failed as a result of insulator tracking propagated by the build-up of moisture and contaminants. The design of the switchgear in this specification encourages air movement and increased insulation in the roof, which is intended to mitigate the conditions under which condensation can occur.

2.02 – GENERAL DESCRIPTION

The switchgear units to be furnished under these specifications shall be as designated in the following section or found to be equal by the City per Section 1.02.4B – “Alternate Bids”. The switchgear units are to be factory assembled and tested. The switchgear units shall comply with the applicable portions of the latest ANSI, IEEE, and NEMA standards, most notably IEEE Standard C37.74 & Western Underground Guide 2.13

This specification includes 2 styles of switchgear:

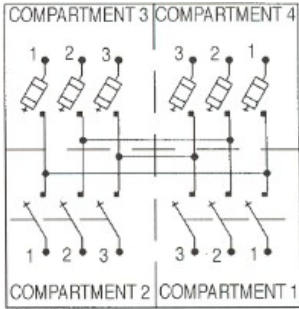
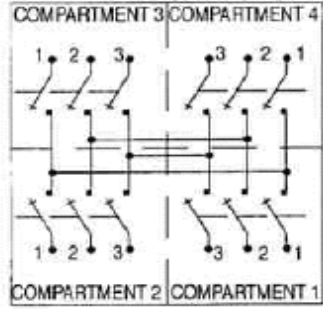
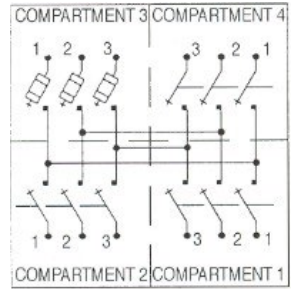
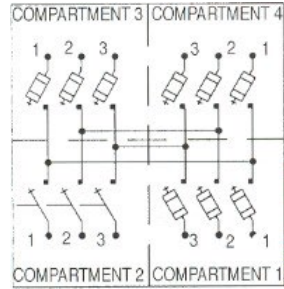
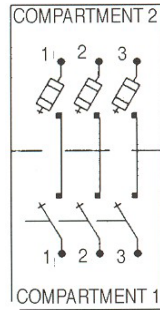
Style	Brief Description	Intended Use
Mixed	600 Amp Gang Operated compartments will be of Live-front design 200 Amp Fused compartments will be single pole Dead-front design	<ul style="list-style-type: none">• New construction,• Maintenance replacement
Live Front	600 Amp Gang Operated compartments will be of Live-front design 200 Amp Fused compartments will be single pole Live-front design	<ul style="list-style-type: none">• Emergency Replacement

2.02.1 – OPERATING RATINGS

The minimum ratings for the switchgear assembly shall be as follows:

Operating Characteristic	Switched Ways	Protected / Fused Ways	
Voltage, nominal	14.4 kV	14.4 kV	
Voltage, maximum design	17.0 kV	17.0 kV	
Voltage, BIL	95 kV	95 kV	
Operating Configuration	Live Front	Dead Front	Live Front
Maximum continuous current rating for disconnect switches and buses	600 amps	200 amps	200 amps
Load dropping	600 amps	200 amps	200 amps
Two-time duty cycle – fault closing RMS asymmetrical	22,400 amps	14,000 amps	14,000 amps
Three-phase symmetrical rating at nominal voltage	350 MVA		

2.02.2 – APPROVED MODEL NUMBERS & STANDARD CONFIGURATIONS

Configuration #9				Configuration #10			
Item	Style	MID#	Approved Model	Item	Style	MID	Approved Model
1	Mixed	60901	FPC #PLD/II-9-44222-TAC-D	6	Live-Front	40481	FPC #PSI/II-10-44400-TAC-B
5	Live-Front	35019	FPC #PSI/II-9-44222-TAC-B				
							
Configuration #11				Configuration #12			
Item	Style	MID#	Approved Model	Item	Style	MID#	Approved Model
2	Mixed	60902	FPC #PLD/II-11-44312-TAC-D	3	Mixed	60903	FPC #PLD/II-12-44132-TAC-D
7	Live-Front	20963	FPC #PSI/II-11-44312-TAC-B				
							
Configuration #5 w/ Kirk-Key Interlock							
Item	Style	MID#	Approved Model				
4	Mixed	60900	FPC #PLD/II 5-42112-TAC-D				
							

2.03 - STRUCTURAL COMPONENTS

The following are the requirements for the structural components listed in this specification:

2.03.1 – GENERAL

2.03.1A – CABINET DESCRIPTION

The pad-mounted switchgear shall consist of outdoor-style, free-standing, self-supporting, sheet steel enclosures shaped, formed, and welded into a unitized enclosure. Styles 9 thru 12 It shall be designed to be placed over an access opening as shown in “Appendix B” – Standard Vault Supporting Switchgear.

2.03.1A.1 – ENCLOSURE DIMENSIONS

The following are the dimensions for the units to be supplied per this specification:

Configuration	Bid Line Item #	Style	MID	Width	Depth	Height
9	1	Mixed	60901	64" to 75"	52" to 70"	44"-51"
	5	Live-Front	35019	67"	58-1/2" – 60-3/4"	44"-51"
10	6	Live-Front	40481	64" to 75"	52" to 70"	44"-51"
11	2	Mixed	60902	64" to 75"	52" to 70"	44"-51"
	7	Live-Front	20963	67"	58-1/2" – 60-3/4"	44"-51"
12	3	Mixed	60903	64" to 75"	52" to 70"	44"-51"
5	4	Mixed	60900	41"	52" to 70"	44"-51"

2.03.1 B – STEEL GAUGE

The entire enclosure including the doors and interior walls shall be a minimum of 11-gauge steel or designed to provide the same degree of rigidity.

2.03.1 C – ACCESS TO INTERNAL COMPONENTS

2.03.1C.1 – 15KV 600AMP GANG SWITCH COMPARTMENT

The design of the enclosure, bus work, and support insulators shall be such that all support insulators shall be completely visible without switch and/or fuse disassembly, in order to facilitate inspection and cleaning.

2.03.1C.2 – 15KV 200AMP FUSED CABLE COMPARTMENT

Dead-Front	The design of the compartment shall be consistent with dead-front operation. Access shall be limited by a self-closing door, aka: shutter barrier, of GPO-3 insulating material, rated for the voltage. The shutter barrier shall be connected with a non-conducting adjustable linkage to the fuse door.
Live-Front	The design of the compartment shall be consistent with Live-front operation. Each pole shall include an approved load interrupter that includes provisions for a S&C Loadbuster Tool.

2.03.2 – BUS SUPPORT INSULATORS

2.03.2 A – BUS SUPPORTING INSULATOR ORIENTATION

Insulators may support the bus; however self-supporting bus is preferred. The bus shall not be suspended from insulators mounted on the roof. To minimize insulator flashover due to moisture, no insulators shall be located above the main bus.

2.03.3 – ROOF

2.03.3 A – INTERIOR SURFACE

The interior surface of the roof shall be provided with an undercoating of insulating compound to prevent condensation between 6 and 8 mills

2.03.3 B – STRENGTH

The roof shall be capable of supporting a distributed weight of 300 pounds without causing any permanent deformation.

2.03.3 C – DRAINAGE

The roof design shall be such that water is not permitted to collect and/or stand on its surface. A minimum of a 3-degree slope is required.

2.03.4 – VENTILATION

Enclosures shall be designed to permit free-flow ventilation from bottom to top, in order to minimize condensation due to convection caused by heating. The minimum air flow required shall be 145 square inches. All openings shall meet the requirements of Section 2.04.1.

2.03.4 A – VENTS

Each switch position compartment shall have louvered vents located in two groupings. One vent grouping shall be in the top 1/3, and another in the bottom 1/3 of the compartment. The minimum venting area per compartment shall be 4-½ square inches.

2.03.4 A.1 – CONFIGURATION #5 (ITEM 4 - MID 60900) - VENTS

Vents shall be provided on both sides of each compartment in order to facilitate air movement within the switchgear. The resulting design shall incorporate 4-½ square inches of venting on each side of each compartment.

2.03.4 B – VENT BAFFLES

All louvers, door openings, and roof openings shall have baffles or mechanical-maze construction, around all sides, to permit free air movement without sacrificing enclosure security. They shall meet Western Underground Guide 2.13.

2.03.5 – DOORS

2.03.5 A - TYPE

The doors shall be of a bulkhead type design.

2.03.5 B – ACCESS

Open doors shall provide unrestricted access to the interior of the switchgear for operation.

2.03.5 C – WIND GUST LOCKS

Provisions shall be included to restrain the doors from motion once the doors are in the fully open position.

2.03.5C.1 – DAMAGE RESISTANT

These provisions shall not be damaged or damage the cabinet upon inadvertent attempts to close or open the doors with the locks still in an engaged position.

2.03.5C.2 – CAPTIVE HARDWARE

One end of these provisions shall be captive, to the cabinet, so that the entire assembly resists accidental removal from their mountings.

2.03.5 D – INTERIOR SIGNAGE

2.03.5D.1 – RATING DATA

The following is the minimum information that shall be posted in a conspicuous location on the inside of each switch compartment door:

- Name of manufacturer
- Maximum rated voltage
- Rated BIL
- Rated maximum continuous current on main bus
- Rated asymmetrical short circuit current
- Three-phase symmetrical short circuit MVA rating
- Switchgear weight

2.03.5 D.2 - DANGER

The manufacturer will apply code approved “DANGER” labels to the inside surfaces of all doors. Labels shall meet the requirements of ANSI Z535 and be free of wrinkles and air bubbles. See “Appendix C” for Tacoma Power approved graphics and text.

*Do not apply any “DANGER” or “WARNING” labels on the exterior of the unit.

2.03.6 – FRONT BARRIERS

2.03.6 A – BARRIER DESCRIPTION

Dual-purpose front barriers shall be furnished for each **Live-front** switch and fuse position and provide complete coverage of the opening. The barriers shall be of clear plastic material with the same or better insulating characteristics as GPO-3 fiberglass material and will resist clouding over time.

2.03.6 B – SLIDE-IN POSITION

Dual-purpose front barriers shall be designed to slide in between the open Live-front switch and/or live-front fuse contacts to preclude inadvertent contact with live parts upon opening of switches and/or fuses.

2.03.6 C – HOT STICK OPERATION

The front barriers on all positions shall be hot-stick operable. Each barrier shall be equipped with two (2) non-conductive lifting provisions, one at the bottom and one on the top 1/3rd of the barrier, to allow easy and convenient lifting and installation of the barrier to the slide-in position with a single convenient motion.

2.03.6 D – BARRIER CLEARANCE TO DOORS

The design shall be such that the doors can be closed and locked over the switch with any required isolating blades in the open position and the dual-purpose barriers in the slide-in position.

2.03.6 E – LABELS

The manufacturer will apply code approved “DANGER” labels on each front barrier of each switch and fuse position, in such a location that it is easily viewed. Labels shall meet the requirements of ANSI Z535 and be free of wrinkles and air bubbles. See “Appendix C” for Tacoma Power approved graphics and text.

2.03.7 – INTERPHASE AND END BARRIERS

2.03.7 A – BARRIER DESCRIPTION

Interphase and end barriers shall be furnished for each live-front switch and each live-front fuse position.

2.03.7 B - BARRIER CONSTRUCTION

The barriers shall be of GPO-3 fiberglass material.

2.03.7 C – LOCATION

Barriers are required between adjacent phases and between the cabinet walls and adjacent phases of each fuse and switch compartment.

2.03.7 D – FRONT BARRIER SUPPORT

Interphase and end barriers shall be equipped with provisions to support the dual-purpose front barriers when they are in the slide-in position.

2.03.7 E – REMOVABILITY

All Interphase barriers shall be readily removable.

2.03.8 – REAR BARRIERS

A rear barrier shall be furnished in each compartment.

2.03.8 A - BARRIER CONSTRUCTION

The barriers shall be of GPO-3 fiberglass material. Steel barriers shall be acceptable, provided sufficient clearances can be maintained.

2.03.8 B – LOCATION

Barriers are required between each switch or fuse position and the switch or fuse position immediately behind it.

2.03.9 – SWITCH OPERATING HANDLE POCKET

Switch operating handles shall be located in recessed pockets with doors that have partial shields over padlocks, thus partly concealing them to make them as unobtrusive as possible.

2.03.10 – SCHEMATIC DIAGRAMS

A schematic diagram showing the circuit configuration shall be provided on the inside of each set of double doors and on the inside cover of each switch operating handle pocket.

2.04 - ENCLOSURE INTEGRITY AND COATING

The following are the requirements for the enclosure integrity and coating listed in this specification:

2.04.1 – STANDARDS

The switchgear shall meet all requirements of the latest revision of ANSI C57.12.28 for the integrity of the enclosure and applicable Western Underground standards for pad-mounted equipment.

2.04.2 – DOOR-LATCHING SCHEME

The switchgear shall meet all requirements of ANSI Standard C57.12.28-1999 for the integrity and security of the enclosure.

2.04.2A – LATCH INACCESSIBILITY

The locking system shall incorporate a two-lock system using a Pentahead bolt and standard padlock as the locking devices. The Pentahead bolt shall be captive within a recessed blind hole. The padlock cannot be applied until the Pentahead bolt has been completely recessed. With the padlock installed, the Pentahead bolt cannot be removed.

2.04.2 B – CONFIGURATION #5 (ITEM 4) – KEY INTERLOCKS

Key interlocks shall be included on bid line item #4 to prevent opening of the fuse-compartment doors unless all 600 AMP switches are locked open.

2.04.2 C – RESISTANCE TO DAMAGE

The latching system shall withstand a 50-foot/pound torque without damage when opening the doors.

2.04.3 – CABINET FINISH

2.04.3 A – FINISH DESCRIPTION

The switchgear shall have the manufacturer's premium corrosion-resistant finish both outside and inside, including all steel supporting members. The finish shall meet or exceed the functional specifications ANSI Standard C57.12.28 for coatings.

2.04.3 B – COLOR

Switchgear and terminal compartments shall be painted Munsell 7GY-3.29/1.5 (Pad-mount Green).

2.04.4 – BOTTOM FLANGE CORROSION RESISTANCE

2.04.4 A – BOTTOM GASKET

A closed-cell gasket, or other approved method of corrosion resistance, shall be provided on the bottom flange of the cabinet to isolate the cabinet from the foundation and to protect the cabinet's finish.

2.04.4 B – CORROSION RESISTANT COATING

The Respondent may offer either of the following options to resist abrasions that would lead to enclosure corrosion of the lower 3 inches of the switchgear:

- a heavy coating of plastic, rubberized, or coal-tar compound
- 3 inches or more of stainless steel.

2.05 – 600 AMP GROUP-OPERATED SWITCHES

The following are the requirements for the group-operated switches listed in this specification:

2.05.1 – DESCRIPTION

The device should be consistent with Live-Front switching devices for electrical utility rated air-insulated pad-mount switchgear. The interrupter switch shall be dry-type, three-pole, externally group operable through an operating handle external to the enclosure.

2.05.2 – 600 AMP INTERRUPTING SWITCH

2.05.2A – INTERRUPTER OPERATION

The group-operated interrupter switch shall be actuated through a non-defeatable quick-make, quick-break mechanism to assure high-speed closing and opening independent of the speed of the manual-operating handle.

2.05.2B – INTERRUPTING MEDIUM

The interrupter switch shall utilize air as the arc-extinguishing medium.

2.05.2C – VISIBLE BREAK

The interrupter switch shall provide a readily obvious visible open break to the line workers.

2.05.2D – OVER TRAVEL STOP

The manual-operating handle shall include an over travel stop feature to prevent the operator from overpowering the mechanism and possibly breaking parts in the drive train.

2.05.2E – CLEARANCE FROM DRIVE TRAIN TO TERMINATORS

The interrupter switch mechanism shall be so designed as to preclude push rods or drive train parts from interfering with convenient access to the terminators.

2.05.2F – FAULT DUTY OF DRIVE MECHANISM

The mechanism shall be designed to meet the specified fault closing duty cycle rating of the integrated assembly.

2.05.3 – OPERATING HANDLE

An operating handle shall be provided for the interrupter switch. It shall be captured and contained in the operating switch pocket with access available through an external pocket door, as previously described.

2.05.4 – CABLE TERMINATION PROVISIONS

The switch terminals shall be capable of accommodating two cables per phase with a minimum of 16 inches between the center of the lowest hole of the terminal and the base of the switchgear.

2.05.4A – TERMINATION BUS ON FUSED POSITIONS

The cable termination bus shall be supplied in the horizontal orientation.

2.05.5 – VIEWING WINDOW

In combination with the dual-purpose, slide-in barriers, each three-pole, group-operated, interrupter switch compartment shall include a window panel located above the dual-purpose barriers to permit visual checking of the interrupter switch position after opening the main doors.

2.05.6 – LABELING

The following is the minimum information that shall be posted in a conspicuous location on the inside of the door covering the associated switch position:

1. Name of switch manufacturer
2. Switch type
3. Maximum rated voltage
4. Rated BIL
5. Rated maximum continuous current
6. Rated load-break current
7. Rated momentary current
8. Rated fault closing current
9. Rated fault closing times

2.06 – 200 AMP PROTECTED / FUSED WAYS

The following are the requirements for the protected / fused ways listed in this specification:

2.06.1 – DEAD-FRONT – MIXED STYLE

2.06.1 A – DESCRIPTION

The device should be consistent with Dead-Front switching devices for electrical utility rated air-insulated pad-mount switchgear.

2.06.1 B – FUSE DOOR

Each phase position shall have its own door hinged on the bottom that includes the fuse mounting apparatus on the inside and a 200 Amp bushing well on the outside of the door near the top.

2.06.1B.1 – FUSE MOUNTING

On the inside of the door a fuse mounting position shall be designed to use S&C Electric Company's SML-20 fuses & associated fuse end fittings. It shall be the Disconnect 45° opening style.

2.06.1B.1.A – FUSE ORIENTATION

The fuse mounting apparatus shall be oriented in such a manner as when the door is opened that the fuse assembly can be removed with the use of an insulated switch stick. The exhaust of the fuse should be oriented toward the switch cabinet.

2.06.1 B.1.B – BUS CONNECTION

The Fuse mounting shall be designed that it would become energized by the switch bus only upon the final motion to close the door. It shall also be designed to break voltage (15kV, 95kV BIL) upon initial opening of the door and minimize any risk of arc-flash to the worker prior to the closing of the shutter barrier as described in 4.03.1C.2.

2.06.1 B.1.C – FUSE END FITTINGS – TO BE INCLUDED

S&C Electric Company's SML 20 end fittings, or approved alternate, including silencers are **REQUIRED** to be provided for each fused position in original shipping boxes.

- Alternates must be approved by Tacoma Power Engineer prior to supply with switch.

2.06.1 B.2 – 200 AMP BUSHING WELL

The 200 Amp bushing well (equivalent to Cooper Power #2638372C02R) shall be per ANSI/IEEE Standard 386 designed to accept removable 200 Amp load-break bushings (equivalent to Cooper Power #LBI215) that integrate with 200 Amp load-break elbow connectors.

- The conductive path throughout the bushing well shall be copper.
- The bushing well shall include a removable copper stud.

2.06.1 B.3 – 200 AMP BUSHING MECHANISM

Each bushing well shall include a 200 Amp load-break bushing (equivalent to Cooper Power #LBI215) that includes a yellow indicating ring and meet the requirements of ANSI/IEEE Standard 386. The bushing shall include the OEM shipping cap.

2.06.1 B.4 – LATCHING MECHANISM

The fuse door shall include a latching mechanism that includes an interlock guard designed to prevent opening of the fuse door while the cable is parked on the bushing.

Another mechanism shall be included that secures the door down to the cabinet when it is open so as to facilitate the replacement of the fuse.

2.06.1 B.5 – FUSE CONDITION VIEWING WINDOWS

Two windows shall be included in the door placed at a level to show the fuse ratings & operating indicator for SML-20 fuses while the door was closed. The “glass” shall be mar & shock resistant.

2.06.1 C – PARKING STAND

A parking stand designed to accommodate both a 200 Amp single parking stand and feed thru parking stand shall be included immediately to the right of the fuse door at the same level as the 200 Amp bushing well on the fixed face of the compartment wall.

2.06.2 – LIVE-FRONT – LIVE-FRONT STYLE

2.06.2 A – DESCRIPTION

The device should be consistent with Live-Front fused-switching devices for electrical utility rated air-insulated pad-mount switchgear.

2.06.2 B – LOAD-BREAK PROVISIONS

All power fuse mountings are to have a built-in load-break device in the contact assembly to provide switching capability using a standard hot stick with stationary prong and without the necessity of opening upstream devices.

2.06.2 C – FUSE MOUNTING TYPE

Each fuse mounting position shall be designed to use S&C Electric Company's SMU-20 fuses & associated fuse end fittings.

2.06.2 D – FUSE END FITTINGS

S&C Electric Company's SML 20 end fittings including silencers are **REQUIRED** to be provided for each fused position. Alternates must be approved by Tacoma Power Engineer prior to supply with switch.

2.06.2 E – REQUIRED TOOLS

One S&C Electric Company “Grappler” fuse handling tool or Light Division approved equal shall be supplied in the door of each fused compartment of each switchgear unit. **REQUIRED**

2.06.3 – LABELING

The following is the minimum information that shall be posted in a conspicuous location on the inside of the door covering the associated fuse position:

- | | |
|---------------------------------------|---|
| 1. Name of fuse mounting manufacturer | 1. Rated continuous current |
| 2. Fuse holder type | 2. Rated load break current |
| 3. Maximum rated voltage | 3. Rated short circuit interrupting current |
| 4. Rated BIL | |

2.06.4 – VENTING

The semi-enclosed bus & fuse compartment shall include venting as specified in 4.03.4.

2.07 - BUSES

The following are the requirements for the bus listed in this specification:

2.07.1 – BUS MATERIAL

Buses shall be made of copper or copper alloy bar. Flexible braid or cable shall not be allowed.

2.07.2 – CONNECTIONS

All bolted electrical connections shall utilize silicon bronze or series 300 stainless steel hardware that is compatible with the bus material and will not contribute to corrosion.

2.07.3 – ORIENTATION

All bus shall be constructed so that the phase orientation is **A-B-C, C-B-A** or **1-2-3, 3-2-1** when standing in front of the switchgear and looking at the nearest switch or fuse compartment.

2.07.3A – PHASE IDENTIFICATION

Phase identification labels (A, B, C or 1, 2, 3) shall be installed above each termination position, corresponding to the appropriate phase.

2.07.4 – ROUNDED CORNERS

All bus shall be finished with smoothly rounded corners to minimize the risk of corona within the cabinet. Care shall be taken to minimize sharp protrusions on all energized surfaces.

2.08 - GROUNDING

The following are the requirements for the grounding provisions listed in this specification:

2.08.1 – CABINET GROUNDING

At a minimum, ground pads shall be located in opposite corners for grounding switchgear.

2.08.2 – SWITCH AND FUSE GROUNDING

2.08.2A – LOCATION

2.08.2A.1 - 600 AMP SWITCH POSITIONS

Each 600 Amp switch position shall have grounding studs/bars, attached to the terminating bus, suitable for standard ASTM 855 grounding clamps provided at each terminal.

2.08.2A.2 – 200 AMP FUSED POSITIONS

2.08.2A.2A – DEAD-FRONT

Grounding of 200 Amp positions will be accomplished through the use of temporary feed-thru bushings installed on the Parking Stand of 4.06.3 and the use of underground URD grounding cables that include grounding elbows, cable, and connectors meeting ASTM 855 connected to the compartment grounding bus.

2.08.2A.2B – LIVE-FRONT

Each switch and fuse position shall have grounding studs provided at each terminal.

2.08.2B – VISIBLE GROUNDING PROVISIONS

Permanent ground rods/bars of at least 10" in length and/or continuous bus, minimum of #2 Cu Hard-drawn, shall be available in each switch and fuse compartment to readily permit visible grounding of the incoming and/or outgoing cables after the switch or fuse has been opened.

2.08.2C – RATINGS

All switch and fuse grounding provisions shall have a short circuit rating equal to that of the switchgear.

2.09 - NAMEPLATES

The following are the requirements for the nameplates listed in this specification:

2.09.1 – PLACEMENT

A stainless steel, aluminum, or City approved non-ferrous nameplate shall be provided, in a conspicuous exterior location, on both the switch side and fuse side, of each unit of switchgear.

2.09.2 – REQUIRED INFORMATION

- Manufacturer's name
- Manufacturer's Catalog Number
- Manufacturer's Serial Number
- Month and year of manufacture

APPENDIX B

Signature Page

Price Proposal Forms

Reference Forms

SIGNATURE PAGE

CITY OF TACOMA TACOMA POWER/TRANSMISSION & DISTRIBUTION

All submittals must be in ink or typewritten, executed by a duly authorized officer or representative of the bidding/proposing entity, and received and time stamped as directed in the **Request for Bids page near the beginning of the specification**. If the bidder/proposer is a subsidiary or doing business on behalf of another entity, so state, and provide the firm name under which business is hereby transacted.

REQUEST FOR BIDS SPECIFICATION NO. PT24-0071F 15kV Padmount Switchgear

The undersigned bidder/proposer hereby agrees to execute the proposed contract and furnish all materials, labor, tools, equipment and all other facilities and services in accordance with these specifications.

The bidder/proposer agrees, by submitting a bid/proposal under these specifications, that in the event any litigation should arise concerning the submission of bids/proposals or the award of contract under this specification, Request for Bids, Request for Proposals or Request for Qualifications, the venue of such action or litigation shall be in the Superior Court of the State of Washington, in and for the County of Pierce.

Non-Collusion Declaration

The undersigned bidder/proposer hereby certifies under penalty of perjury that this bid/proposal is genuine and not a sham or collusive bid/proposal, or made in the interests or on behalf of any person or entity not herein named; and that said bidder/proposer has not directly or indirectly induced or solicited any contractor or supplier on the above work to put in a sham bid/proposal or any person or entity to refrain from submitting a bid/proposal; and that said bidder/proposer has not, in any manner, sought by collusion to secure to itself an advantage over any other contractor(s) or person(s).

Bidder/Proposer's Registered Name

Signature of Person Authorized to Enter Date
into Contracts for Bidder/Proposer

Address

Printed Name and Title

City, State, Zip

(Area Code) Telephone Number / Fax Number

Authorized Signatory E-Mail Address

State Business License Number
in WA, also known as UBI (Unified Business Identifier) Number

E.I.No. / Federal Social Security Number Used on Quarterly
Federal Tax Return, U.S. Treasury Dept. Form 941

State Contractor's License Number
(See Ch. 18.27, R.C.W.)

E-Mail Address for Communications

Addendum acknowledgement #1_____ #2_____ #3_____ #4_____ #5_____

THIS PAGE MUST BE SIGNED AND RETURNED WITH SUBMITTAL.

PROPOSAL - PRICING SHEET

600 AMP LIVE-FRONT, 200 AMP DEAD FRONT (MIXED)							
Item No.	Description (Refer to Section 4 for technical details)	Tacoma Power MID#	Estimated 3 Year Quantity (each)	Minimum Release Qty	Lead Time for Delivery (weeks)	Unit Price	Total Bid Price (Unit Price x 3-year qty)
1	Switch, 15kV, 9 configuration	60901	15	1		\$	\$
2	Switch, 15kV, 11 configuration	60902	5	1		\$	\$
3	Switch, 15kV, 12 configuration	60903	1	1		\$	\$
4	Switch, 15kV, 5 configuration with keyed interlock	60900	3	1		\$	\$
600 AMP LIVE-FRONT, 200 AMP LIVE FRONT (LIVE-FRONT)							
5	Switch, 15kV, 9 configuration	35019	8	1		\$	\$
6	Switch, 15kV, 10 configuration	40481	1	1		\$	\$
7	Switch, 15kV, 11 configuration	20963	1	1		\$	\$
Sub Total for Proposal							\$
Sales Tax @ 10.3%, Location Tax Collected: Tacoma, WA							\$
Total for All Items with Tax							\$

NOTES:

- Actual quantities will be specified by Purchase Order per Special Provisions Section 1.07.3 of Appendix A.
- Price adjustments will be made per Special Provisions Section 1.07.4 - Semi-Annual Pricing Adjustment.
- Refer to Technical Provisions Section 2.02.2 for a list of approved manufacturer part numbers. Alternate materials will be considered per Special Provision Section 1.02.4B.

PROPOSAL - PHYSICAL CHARACTERISTICS

600 AMP LIVE-FRONT, 200 AMP DEAD FRONT (MIXED)							
Item No.	Description	Tacoma Power MID#	Weight of Switch (lbs)	Width (in)*	Depth (in)*	Height (in)*	Mfg. Catalog Number
1	Switch, 15kV, 9 configuration	60901					
2	Switch, 15kV, 11 configuration	60902					
3	Switch, 15kV, 12 configuration	60903					
4	Switch, 15kV, 5 configuration with keyed interlock	60900					
600 AMP LIVE-FRONT, 200 AMP LIVE FRONT (LIVE-FRONT)							
5	Switch, 15kV, 9 configuration	35019					
6	Switch, 15kV, 10 configuration	40481					
7	Switch, 15kV, 11 configuration	20963					

*Refer to Section 2.03.1A.1 of the Technical Provisions in Appendix A for minimum/maximum size requirements.

PROPOSAL - ELECTRICAL PERFORMANCE SHEET

600 Amp Load-break Switch Positions	Continuous Current Rating	Amps
	Current Interrupting Rating	Amps
	Momentary Current rating	Amps
	Fault Close Rating	Amps
	One-second Current Rating	Amps
	# of Operations of interrupting full load current	
	# of Mechanical Operations	
	One minute wet withstand test voltage	Volts
	One minute dry withstand test voltage	Volts
200Amp Protected / Fused Way Position Ratings	Continuous current rating	Amps
	Symmetrical interrupting rating	Amps
	Asymmetrical interrupting rating	Amps
	One minute wet withstand test voltage	Volts
	One minute dry withstand test voltage	Volts
	Number of fault interruptions at 15-20% of maximum interrupting rating	
	Number of fault interruptions at 45-55% of maximum interrupting rating	
	Number of fault interruptions at 90-100% of maximum interrupting rating	

List the Fuse Mounting Attachments to be included with switches per Section 2.06.1B.1 & 2.06.2C per Appendix A.

Manufacturer	Catalog number

PROPOSAL - VENDOR QUALIFICATION

- State the number of years the manufacturer has been producing products of a similar scope to those outlined in this Specification. See Minimum Requirements (Item# 1) for minimum qualifications allowed.

Years

- Does the manufacturer have in place a quality assurance program that conforms to ISO 9001, ISO 9002, ANSI/ASQC Q91, ANSI/ASQC Q92 or equivalent?

YES	
NO	

List the standard used :

- If the manufacturer has a quality assurance program that conforms to one of the above standards, is it third party certified?

YES	
NO	

- Can your firm provide "Manufacturer Representation" as described in section 3.01.3C of this Specification?

YES	
NO	

Name of Representative :

- Do all items submitted per this Specification meet and/or exceed the requirements of the Technical Provisions (Section 2) in Appendix A?

YES	
NO	

Identify below any factors that do not meet the requirements of the Technical Provisions Section 2 (Appendix A) of this Specification. The City cannot legally accept a substantial deviation from the Specification. Bids/Proposals containing any substantial deviation will be rejected as non-responsive. If you state exception "IS NOT" taken to this Specification but include statements or attach materials deviating from the standards established by the Specification, it is agreed that you will perform according to the highest standard indicated. Alternate offers shall be submitted as a separate bid and identified per section 1.02.4A in Appendix A.

PROPOSAL - VENDOR INQUIRY

- **Does your firm accept payment by EFT/ACH? ____Y ____N**
(Electronic Funds Transfer (EFT) by Automated Clearing House (ACH))
- **Does your firm accept payment by credit card (Visa)? ____Y ____N**
NOTE: The City of Tacoma will not accept price changes or pay additional fees when a credit card is used.
- **Prompt Payment discount offered ____%, ____ days.**
Only discounts offered of 20 days or more will be considered for bid evaluation purposes.
- **Is your firm a minority/woman owned firm certified with the Washington State Office of Minority and Women's Business Enterprise?**
____YES ____NO
- **Is your firm partnering with a minority/woman owned firm certified with the Washington State Office of Minority and Women's Business Enterprise?**
____YES ____NO

PROPOSAL - REFERENCES DATA SHEET

(AS DESCRIBED IN SECTION 1.01.2)

Five (5) Utility references are the absolute minimum allowed

UTILITY NAME AND ADDRESS	YEAR PRODUCT SOLD	CONTACT NAME	TELEPHONE NUMBER

SUB-VENDOR DATA SHEET

(AS DESCRIBED IN SECTION 1.01.3)

SUB-VENDOR NAME AND ADDRESS	CONTACT NAME	TELEPHONE NUMBER	DESCRIPTION OF WORK PROVIDED

APPENDIX C

PPI Information

Standard Vault Pad-Mounted Switchgear Configurations

Vault Cover Pad-Mounted Switchgear Configurations

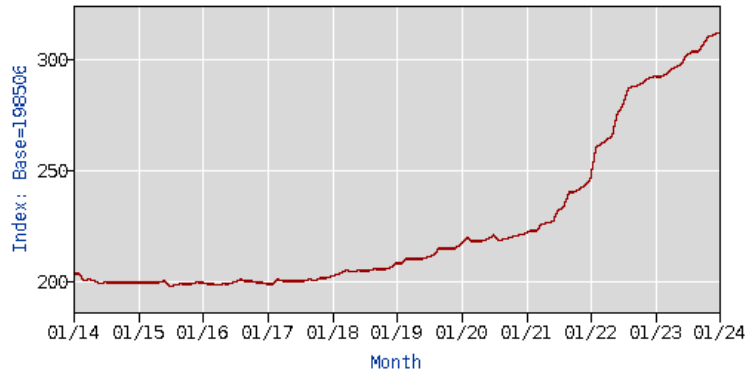
Tacoma Power Danger Label

PRODUCER PRICE INDEX SERIES PCU335313335313 – SWITCHGEAR & SWITCHBOARD APPARATUS MANUFACTURING

Data extracted on: March 11, 2024 (1:47:34 PM)

PPI Industry Data

Series Id: PCU335313335313
Series Title: PPI industry data for Switchgear and switchboard apparatus mfg, not seasonally adjusted
Industry: Switchgear and switchboard apparatus mfg
Product: Switchgear and switchboard apparatus mfg
Base Date: 198506



Download: [XLS](#) [xlsx](#)

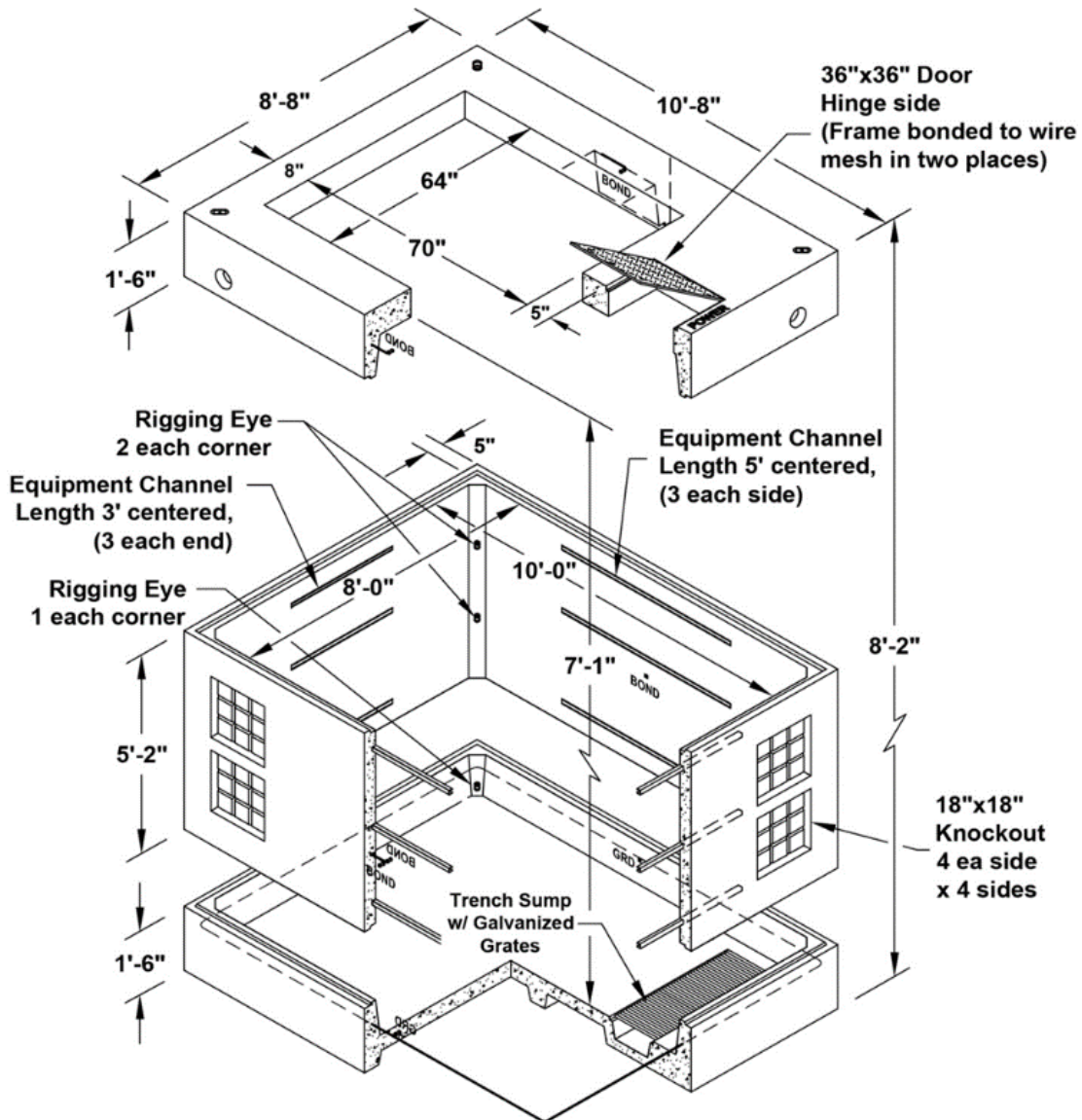
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	203.5	203.7	200.1	200.7	200.0	199.1	199.9	199.4	199.4	199.5	199.5	199.5
2015	199.5	199.9	199.9	199.9	199.9	200.1	198.0	198.4	199.2	198.7	198.9	199.5
2016	199.9	198.7	198.9	198.5	199.2	199.1	199.8	201.0	200.3	200.6	199.4	199.6
2017	198.9	199.0	200.7	200.5	200.3	200.4	200.3	200.3	201.2	200.4	201.4	201.7
2018	202.5	203.0	204.5	204.7	204.4	204.8	205.1	205.1	205.9	205.3	205.6	206.2
2019	208.2	208.2	210.1	210.1	210.2	210.3	211.1	212.1	214.7	214.8	214.8	214.8
2020	217.2	219.6	218.4	218.4	218.4	218.9	220.6	218.4	218.8	219.3	220.4	221.1
2021	221.5	222.9	223.0	225.4	226.2	227.1	231.543	233.567	239.981	240.407	241.329	243.468
2022	245.192	259.861	261.389	263.099	265.093	274.339	278.180	286.466	287.291	288.057	289.627	291.176
2023	291.764	292.058	292.638	294.956	295.637	297.963	301.004	302.695	303.187	305.577(P)	309.728(P)	310.443(P)
2024	311.946(P)											

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

STANDARD VAULT SUPPORTING “MIXED” PAD-MOUNTED SWITCHGEAR CONFIGURATIONS 9, 11 & 12

The diagram below is the standard mounting vault utilized for new construction and maintenance replacements of pad-mounted switchgear styles 9, 11 & 12 (bid line items 1-3). This drawing is included to show the dimensional limitations that are required to be addressed.

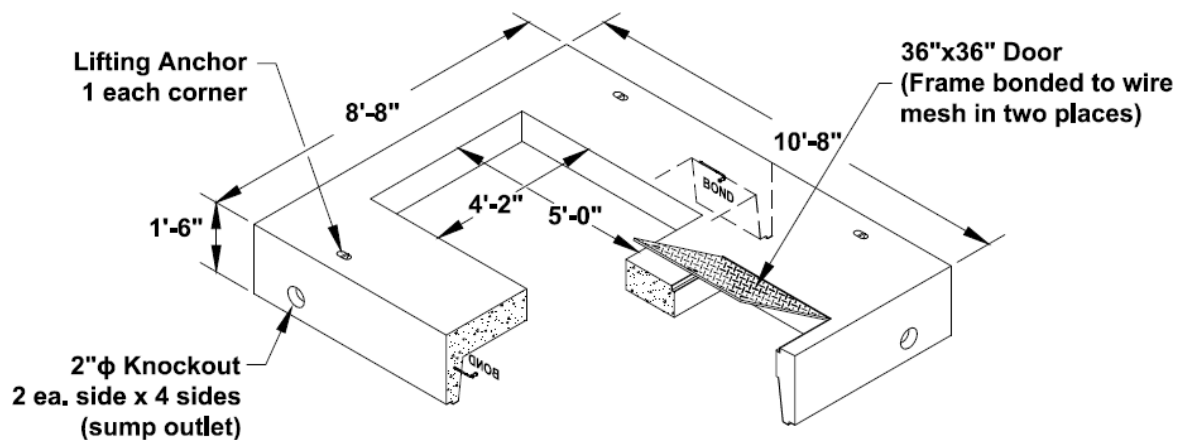
810 Vault



VAULT COVER SUPPORTING "LIVE-FRONT" PAD-MOUNTED SWITCHGEAR CONFIGURATIONS 9, 10 & 11

The diagram below is the mounting vault cover utilized for emergency replacement purposes of pad-mounted switchgear styles 9, 10 & 11 (bid line items 5-7). This drawing is included to show the dimensional limitations that are required to be addressed.

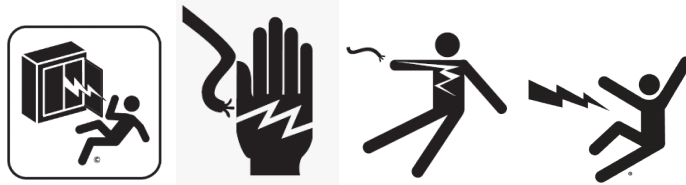
810 Vault Cover



TACOMA POWER DANGER LABEL

APPROVED SYMBOLS ON DANGER LABEL

The following symbols are approved for use on DANGER labels applied to Tacoma Power switchgear. All other DANGER symbols are not allowed.



APPROVED TEXT ON DANGER LABEL

The following text is approved for use on DANGER labels applied to Tacoma Power switchgear.

Keep Out!

Hazardous voltage inside.
Will shock, burn or
cause death.