CITY OF LOMPOC

UTILITIES DEPARTMENT

ELECTRICAL DIVISION

SPECIFICATION NO. ELE-106

15 KV, PAD MOUNTED, THREE PHASE, LOAD BREAK SECTIONLIZING SWITCH WITH LATERAL VACUUM FAULT INTERRUPTER

May 2007

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PART 1.00

INTRODUCTION

1.01 SCOPE

1.01.01 This Specification provides electrical and mechanical requirements for 15 kV padmount loadbreak sectionalizing switch. The switch system will be installed on underground main line feeders of a 12KV distribution system for sectionalizing three-phase, main line, 600 ampere rated feeders and resettable vacuum fault interrupter for both single-phase and three-phase, 200 ampere laterals.

1.01.02 The switch will be installed on a concrete pad OR over a utility vault.

1.01.03 The number of switched ways and vacuums interrupter ways, single-phase and three-phase laterals will be stated in the Bid Proposal and is shown on Exhibit ELE-106.

1.02 REFERENCE

1.02.01 The switch and its components shall conform to the latest revision of the following standards and specifications:

a.	ANSI/IEEE C37.72	Three phase Manually Operated Pad Mounted Load Interrupting Switches
b.	ANSI/IEEE C57.12	Enclosure Integrity for Pad Mounted Equipment
c.	IEC 265	International Standards for Load Interrupting Switches.
d.	ANSI/IEEE 386	Separable Insulated Connectors and Bushings
e.	ASTM D- 2472	Specification for Commercial Type Electrical Grade SF6 Gas
f.	ASTM B-117	Specification for Salt Spray Resistance Tests
g.	ANSI/IEEE C37.60	Requirement for Overhead, Pad Mounted, Dry Vault, and Submersible Automatic Circuit Reclosure and Fault Interrupters

1.03 GENERAL INFORMATION

1.03.01 Definition: Wherever used in this specification the word "City" shall mean the City of Lompoc, and the word "Manufacturer" shall mean the Manufacturer of the material specified in this specification. The word "apparatus" is used herein to include apparatus, equipment, materials, supplies, or whatsoever may be purchased hereunder,

together will all the usual and appropriate fittings, attachments, appurtenances, and appliances.

1.04 RATINGS

1.04.01 The ratings for the integrated pad-mounted gear shall be as designated below:

KV, Nominal 14.4
KV, Maximum Design.....15.5
KV, BIL 95
Amperes, Main Bus Continuous.....600

Three-Pole Loadbreak Switches
- Continuous, Amperes.....600
- Load Dropping, Amperes.....600
- KA, Symmetrical, One Second Rating 25,000
- KA, Asymmetrical, Momentary Rating.....40,000
- KV, One Minute Withstand (Dry) AC.....34
- KV, Fifteen Minute Withstand DC.....53

Vacuum Fault Interrupter
- Maximum, Amperes 200
- Load dropping, Amperes 200
- Interrupting time, Maximum, Cycle 3
- KA, Symmetrical, One Second Rating 12,000
- KA, Asymmetrical, Momentary Rating.....20,000

1.04.02 Certification of Ratings

a. Manufacturer of the pad-mounted gear shall be completely and solely responsible for the performance of the basic switch and vacuum fault interrupter components as well as the complete integrated pad-mounted gear assembly as rated.

b. The manufacturer shall furnish, upon request, certification of ratings of the basic switch components and/or the integrated pad-mounted gear assembly which consist of the switch and vacuum fault interrupter components in combination with the enclosure.

1.05 SWITCH OPERATION

1.05.01 The padmount switch shall be of a design and construction to permit manual switching operations to be made safely and conveniently from front of the switch with a switch handle.

a. Each unit of the switch shall be furnished with a manual handle, to charge the operating mechanism, open and close the load break switch.

b. Switched ways shall have provisions for locking in the open and close positions.

1.05.02 Switching speed shall be independent of handle operating speed and shall be quick make-quick break type in either switching direction. Contacts shall be stable in all positions without use of latches.

1.05.03 The following switch status and identification shall be easily readable on the front panel:

a. Switched ways open or closed

b. Nameplate and pressure/temperature chart plate.

c. SF6 pressure gauge.

1.05.04 The switch contacts shall be able to interrupt the rated current of 600 amps a minimum of 500 times without replenishing the SF6 gas or replacing the SF6 or vacuum interrupters, relieving pressure, or replacing parts of the switch.

1.06 VACUUM FAULT INTERRUPTER OPERATION

1.06.01 The resettable vacuum fault interrupter, when required, shall be a vacuum switch that can be operated both manually and by an electronic controller.

1.06.02 The vacuum interrupter shall consist of vacuum bottles and a spring assisted operating mechanism. Manual operation shall be quick make-quick break using stored energy spring-loaded operator.

1.06.03 The vacuum bottle for the vacuum interrupter shall be mounted horizontally with the movable contact shaft at the top. The moveable contact shaft shall include large viewing windows, for each phase, to provide a clear view of vacuum switch position, allowing the operator to easily confirm the position of the load interrupter switches and disconnect of fault interrupters. The 600 Amp switches shall provide true visible break.

1.06.04 The vacuum Interrupter operating mechanism shall consist of a support assembly, linkage, spring latch mechanism and solenoid utilized for electronic tripping.

1.06.05 The mechanical linkage assembly shall provide trip free operation which will allow the vacuum interrupter to operate independent of the position of the operating handle if closing into a faulted or heavily loaded phase or circuit.

1.06.06 Vacuum Fault Interrupter shall be capable of interruption or reset of both single phase and/or three-phase load. The operation of the VFI, three phase, three (3) single phase and/or field selectable option of operation will be specified in the Request for Bid for each individual switch.

1.07 CONTROLLER

1.07.01 A microprocessor-controlled assembly shall be provided to sense load and fault currents on each phase of the vacuum fault interrupter. The controller shall include a vacuum fluorescent display, legible without the need for a heater.

1.07.02 The control device shall be powered from the current transformers mounted in the switch tank. No external power source shall be required. A 9-volt lithium battery shall be included to allow the operation of the display and the keypad; in the event the switch is de-energized.

1.07.03 Manual electronic tripping shall be provided via an individual phase trip button included as part of the controller. Minimum trip selection shall be accomplished with keypad operation inside the electronic enclosure. The keypad shall allow setting of preprogrammed Time-Current Characteristic (TCC) curve, TCC rating, ground fault trip, adjustable phase ground fault time delay. Controller shall be desired parameters and retrieve status of current values per phase.

1.07.04 Controller shall have the capability to store preprogrammed Time-Current Characteristic (TCC) curves that can be changed in the field.

1.07.05 In addition, Status contact for remote SCADA indication shall be provided for the selector switch inside the electronic enclosure.

1.07.04 RS 232 port shall be provided for communication with external devices, in the event a pre-programmed setting or event reading is required using a personal computer.

1.08 CONSTRUCTION

1.08.01 The pad-mounted gear shall be in accordance with the one-line schematic diagram Exhibit ELE-106 and shall conform to the following Specification.

1.08.02 The pad-mounted gear shall consist of switch contacts, Vacuum Fault Interrupters and cable entrance bushing wells, all contained in a single sealed self-supporting tank. All parts with all necessary accessory components shall be completely factory-assembled and operationally checked.

a. All switch components and entrances shall be assembled in a totally welded ¼" mild steel tank.

b. Switch construction shall be dead front and front access style.

c. The switch enclosure shall be mounted independent of the switch tank allowing removal for ease of cable installation or future replacement, as required.

d. The enclosure shall be 12-gauge mild steel and manufactured to ANSI C37.72 and ANSI C57.12.28 Standards.

e. The switch tank shall be of unitized monocoque (not structural frame, and bolted sheet) construction to maximize strength, minimize weight, and inhibit corrosion.

f. All structural joints shall be welded and external seams shall be ground flush and smooth.

g. Electrical entrances shall be internally connected by copper wire ropes and copper bus, capable of handling momentary and continuous current duty.

h. The switch shall contain no electrically floating metallic parts of components. The tank shall be designed and tested to withstand 15 PSIG internal pressure and a vacuum pressure test of 28 inches of mercury with no leakage.

i. Mounting provisions for three-phase fault circuit indicators and a window to view each indicator mounted in their respective switch shall be provided.

j. All switch hardware shall be bronze or 300 series stainless steel.

k. The switch shall use SF6 gas as the insulating medium and vacuum for fault interrupting medium.

l. The switch is to be manually operated with provision for future motor operated, on the City's underground distribution system.

m. To prevent corrosion, the exterior of the switch shall be coated with manufacturers recommended corrosion resistant finish.

n. The enclosure shall be provided with lifting provisions and painted with Munsell 7.0GY 3.29/1.5 green.

o. The switch enclosure maximum dimension shall be 74” W x 54” D x 48” H. A minimum of 20 inches is required between the bushing and all accessories installed on the door for cable termination.

1.08.03 Finish

a. Full coverage at joints and blind areas shall be achieved by processing enclosures independently of components such as doors and roofs before assembly into the unitized structures.

b. All exterior seams shall be filled and sanded smooth for neat appearance.

c. After pre treatment, protective coatings shall be applied that shall help resist corrosion and protect the steel enclosure. To establish the capability of the finishing system to resist corrosion and protect the enclosure, representative test specimens shall satisfactorily pass the following tests:

    a. 1,500 hours of exposure to salt-spray testing per ASTM B 117 with:

        I. Underfilm corrosion not to extend more than 1/32" from the scribe as evaluated per ASTM D 1645, Procedure A, Method 2 (scraping); and

        II. Loss of adhesion from bare metal not to extend more than 1/8" from the scribe.

    b. 1,000 hours of humidity testing per ASTM D 4585 using the Cleveland Condensing Type Humidity Cabinet with no blistering as evaluated per ASTM D714.

c. 500 hours of accelerated weathering testing per ASTM G 53 using lamp UVB-313 with no chalking as evaluated per ASTM D 659, and no more than 10% reduction of paint gloss as evaluated per ASTM D 523.

d. Crosshatch adhesion testing per ASTM D 3359 Method B with no loss of finish.

e. 160-inch-pound impact adhesion testing per ASTM D2794 with no paint chipping or cracking.

f. Oil resistance testing consisting of a 72-hour immersion bath in mineral oil with no shift in color, no streaking, no blistering, and no loss of hardness.

g. 3000 cycles of abrasion testing per ASTM 4060 with no penetration to the substrate.

d. Certified test abstracts substantiating such capabilities shall be furnished upon request.

e. After the finishing system has been properly applied and cured, welds along the enclosure bottom flange shall be coated with a wax-based anti corrosion moisture barrier to give these areas added corrosion resistance.

f. A resilient closed-cell material, such as a PVC gasket, shall be applied to the entire underside of the enclosure bottom flange to protect the finish on this surface from scratching during handling and installation. This material shall isolate the bottom flange from the alkalinity of a concrete foundation to help protect against corrosive attack.

After the enclosure is completely assembled and the components (switches, fuses, bus, etc.) reinstalled, the finish shall be inspected for scuffs and scratches. Blemishes shall be touched up by hand to restore the protective integrity of the finish.

1.08.04 Bushings

a. Switch electrical entrances shall be 600 Ampere apparatus bushing for the switch ways and 200 Amperes deep bushing wells for the VFI way(s). Bushings shall be rated as follows:

1.	System voltage	15.5kV
2.	Basic Insulation Level	95kV
3.	Continuous current, Switch	600 A RMS
4.	Continuous current, VFI	200 A RMS

5.	Eight Hour Overload current	900 A RMS
6.	Momentary 3 second current	10 kA symmetrical
7.	Momentary 10 cycle current	25 kA asymmetrical

a. The bushings shall be mounted on the front of the switch tank. The bushing stainless steel flange shall be welded directly to the switch tank.

b. All bushing flange shall be x-rayed to insure there are no voids that could result in leaks over the life of the switch.

c. Bushings shall be equipped with protective shipping caps.

d. One parking stand bracket shall be provided for each bushing. The bracket shall be sized to hold Elastimold 600 Amp parking stand for switches and 200 Amp for fault interrupters.

e. Bushing and Bushing wells shall be installed with minimum 5 inch radial spacing.

1.08.05 Switch Accessories

The switch shall be equipped with the following accessories:

a. SF6 pressure gauge (Grade B, 0-15 psi).

b. Viewing windows for visibly verifying switch contact position of all switched ways.

c. Stainless steel name plate per Section 1.09 of this specification.

d. Stainless steel information plate showing gas pressure versus temperature.

e. Provision for low-pressure switch Form C, for remote indication. The pressure gauge switch will be Custom Control Sensor Model No. 611 GZE 8101.

f. Provision for future addition of motor-operators for local, remote or SCADA operation.

1.09 NAMEPLATE

1.09.01 The following information shall be clearly shown on engraved stainless steel equipment name plate visible from the top of the equipment when installed.

a. Manufacturer's name and address
b. Manufacturer's catalog number and serial number
c. Date of manufacture
d. Continuous ampere rating
e. Loadbreak ampere rating

f. Momentary and make and latch ampere rating
g. Voltage rating
h. BIL rating
i. SF-6 Capacity
j. Total weight
k. Tank Material Type
l. Three Line Diagram

1.09.02 An engraved stainless steel bushing nameplate shall be welded next to each bushing, showing bushing designation.

1.10 TESTS

1.10.01 Manufacturer shall perform production tests required by ANSI/IEEE C37.72 to check the quality and uniformity of the workmanship and materials used in the manufacture of switches. The switch shall meet the requirements of the following ANSI production tests:

a. Circuit Resistance Test

b. 60 HZ Withstand Test

c. Leak Test

d. Operating Assurance Test

1.10.02 The manufacturer shall perform a gas leakage test on each switch with a Helium Mass Spectrometer or Electron Capture Sensor. The gas leak rate shall not exceed 10^{-7}CC/second.

1.11 TRAINING

1.11.01 Switch Manufacturer shall include adequate on-site training of personnel as part of their proposal. The training shall be scheduled within 30 days of acceptance of the switches and performed as follows: On site training to be performed at the City of Lompoc facilities to train the City of Lompoc personnel who perform all the setting and testing of the switches. The training will be a one-time training per each order.

1.12 SWITCH CONFIGURATION

1.12.01 Switchgear configurations are included in Specification Exhibit ELE-106.

1.13 ATTACHMENTS

1.13.01 Specification Exhibit ELE-106

SPECIFICATION NO. ELE-106

15 KV, PAD MOUNTED, THREE PHASE, LOADBREAK SECTIONALIZING SWITCH WITH LATERAL VACUUM FAULT INTERRUPTER

PART 2.00
CONTRACT CONDITIONS

2.01 CHANGES IN SPECIFICATIONS

2.01.01 No changes shall be made in this Specification or referenced City Specifications unless authorized by the City. Should any conflict prevail between this Specification (or referenced City Specifications) and the Manufacturer's Proposal, this Specification (or referenced City Specifications) shall prevail. The City shall have the right to make reasonable changes at any time to the aforesaid specifications including drawings, which are a part thereof or made a part thereof by reason of the changes. Should such changes increase or decrease the amount due or in the time required for performance, an equitable adjustment will be made.

2.02 COMPLIANCE WITH CODES AND STATUTES

2.02.01 The Manufacturer's apparatus shall comply with the applicable requirements of all statutes, ordinances, codes and standards or legally constituted authorities having jurisdiction. The Manufacturer shall obtain certificates or compliance where required.

2.03 WORKMANSHIP AND MATERIAL

2.03.01 The intent of this Specification is to secure for the City apparatus of first-class workmanship in all respects. All components shall be manufactured, fabricated, assembled and finished with workmanship of the highest quality throughout and in accordance with the best-recognized correct practice.

2.03.02 All materials shall be new, of first-class quality and suitable for the conditions specified.

2.03.03 Unless specified elsewhere in this Specification:

a. All materials used in the manufacture of the apparatus shall conform to the latest standard of the American Society for Testing Materials.

b. All electrical design, materials, tests and construction shall conform to the latest applicable standards of the American National Standards Institute, the Institute of Electrical and Electronics Engineers, Inc. and the National Electrical Manufacturers Association, unless specifically excepted by this Specification. In case of conflicting requirements of these standards, they shall apply in the sequence that they are here listed.

2.03.04 If the Manufacturer has any reason for deviating from the above standards, he shall state in his "Bid" exactly the nature of the change and his reasons for making the change. The City will review the changes for acceptance or rejection of the switch.

2.03.05 The finished product shall be complete in all respects and shall fully conform to the description thereof set forth in this Specification and in the covering Purchase Order.

2.04 INSTALLATION

2.04.01 Said apparatus will be installed by and at the expense of the City unless otherwise specified in the "Bid Request".

2.05 INSPECTION, TESTS, AND EXPEDITING

2.05.01 The City shall be allowed access to the Manufacturer's shops and also to those of the Manufacturer's suppliers to inspect the apparatus and workmanship, to witness tests, and to obtain other desired information. Inspectors representing the City shall be given every facility to inspect the work during all stages of manufacture, testing, and shipment.

2.05.02 Inspection of the apparatus may be at the Manufacturer's shops and/or those of his suppliers, or upon receipt at destination at the option of the City. Inspection by the City at the aforesaid shops will not be made except on special request by the City. The waiving of inspection thereof shall in no way relieve the Manufacturer of the responsibility of furnishing apparatus according to this Specification.

2.05.03 The Manufacturer shall inform the City of the progress of the work and shall give the City ample advance notice of the appropriate times for inspections and/or tests. Specified tests will be approved or rejected and may be supervised by the City.

2.05.04 When specific inspections and/or tests are required, the work on the apparatus involved shall not proceed beyond that point until the City has made or waived such inspections and tests.

2.05.05 If performance test are to be made in the field, they are to be made at times and under conditions to be mutually agreed upon by the City and the Manufacturer.

2.05.06 Certified copies of all performance tests shall be furnished to the City.

2.05.07 The Manufacturer shall furnish to the City, if so requested and at no additional cost, shop and mill reports when specified.

2.05.08 The costs of all tests made in the shops are to be borne by the Manufacturer.

2.06 ACCEPTANCE

2.06.01 The City shall not be deemed to have accepted the apparatus until it has made sufficient tests to enable it to determine that the apparatus meets all of the requirements of said Specifications. Such tests shall be made within six (6) months from the date the apparatus is completely installed ready for use. The conditions of any tests shall be mutually agreed upon and the Manufacturer shall be notified of and may be represented at all tests that may be made. If inspection and/or tests show the apparatus or any part thereof not to be represented and/or contracted for, the City may refuse to accept it, but the Manufacturer shall have a reasonable time within which to correct the apparatus at his own expense.

2.07 WARRANTY

2.07.01 Manufacturer warrants that the apparatus and all parts thereof to be delivered hereunder shall be new, merchantable and fit for the purposes specified herein, of the kind and quality described herein, and shall perform in the manner specified herein. Manufacturer further warrants that at the time of delivery the apparatus and all parts thereof shall be free of defects in design, workmanship and materials. Manufacturer further warrants that City shall acquire good and clear title to the apparatus free and clear of all encumbrances. If any failure to comply with any of these warranties appears within seven (7) years from the date of delivery to City, City shall promptly notify Manufacturer thereof and Manufacturer shall, within thirty (30) days of receipt of City's notice, at its sole cost and expense, supply a non-defective replacement to City, including payment of any applicable freight and/or delivery charges. In the event that a replacement is required pursuant to the terms hereof, the term of these warranties shall be extended to a date seven (7) years from the date of delivery to City of the original apparatus.

2.08 PATENTS

2.08.01 The Manufacturer shall, at his expense, defend all suits or proceedings instituted against the City, its officers, agents, or employees, based on any claim that the apparatus, or any part thereof constitutes an infringement of any patent of the United States, and will pay any and all awards of damages assessed against the City, its officers, agents, or employees, in any suit or proceedings, and will indemnify and save harmless the City against any losses, expenses (other than expenses of the City's own Law Department) and/or damages resulting from any such claim, suit, or proceedings, or incurred in obedience to a decree resulting from such claim, suit or proceedings or pursuant to a compromise thereof approved by the Manufacturer, provided that the City, promptly upon service of process upon it, give to the Manufacturer notice in writing or by electronic communication, of the institution of such suit, or proceedings, and permit the Manufacturer, through counsel chosen by it and satisfactory to the City, to defend the same, and give the Manufacturer all needed information, assistance, and authority to enable the Manufacturer so to do. If, in any such suit, a temporary restraining order, or preliminary injunction, be granted, the Manufacturer shall make every reasonable effort, by giving a satisfactory bond, or otherwise, to secure the suspension of such restraining order or temporary injunction. If, on final hearing in any such suit, the apparatus, or any part thereof, be held to constitute an infringement, and its use by permanently enjoined,

the Manufacturer shall at once make every reasonable effort by giving a satisfactory bond, or otherwise, to secure the suspension of such restraining order or temporary injunction. If, on final hearing in any such suit, the apparatus, or any part thereof, be held to constitute an infringement, and its use be permanently enjoined, the Manufacturer shall at once make every reasonable effort to secure for the City a license authorizing the continued use of the apparatus, or of such part. If the Manufacturer be unable to secure such license within a reasonable time, he shall, at his own expense, either replace the apparatus with a non-infringing apparatus, or modify it so that it becomes non-infringing. If unable to do either of the above things, the Manufacturer shall remove the apparatus and refund the money paid therefor in addition to indemnifying and saving harmless the City, as aforesaid.

2.09 RIGHT TO USE WORK REQUIRING CORRECTION

2.09.01 If, after the apparatus has been installed it is discovered that it or part thereof may require correction as herein elsewhere provided, the City shall nevertheless have the right to use such apparatus until such time as it is convenient to the City that such apparatus be removed from service for correction, unless such use is considered a safety hazard.

2.10 SHIPMENT, PACKING, AND PIECE MARKING

2.10.01 The apparatus shall be shipped in assembled units insofar as is consistent with good shipping practice.

2.10.02 The apparatus shall be carefully packed for shipment and delivered FOB to the City of Lompoc, at the location stated in the "Bid Request". Machined and other unpainted surfaces shall be fully protected from impact and weather damage. All openings into the apparatus shall be carefully plugged or covered so as to be fully protected against weather damage.

2.10.03 When items must be disassembled for shipment they shall be match-marked. All units and their containers shall be piece-marked and shall show the Purchase Order Number.

2.10.04 The Manufacturer shall notify the City at least three days in advance as to when the apparatus is to be received at its destination.

2.11 TITLE

2.11.01 The title to the apparatus herein specified shall pass at the actual point of delivery at the time such apparatus shall be delivered by the Manufacturer to the City.

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15 KV, PAD MOUNTED, THREE PHASE, LOADBREAK SECTIONALIZING SWITCH WITH LATERAL VACUUM FAULT INTERRUPTER
PART 3.00
PROPOSAL AND DRAWINGS REQUIRMENTS

3.01 QUALIFICATION OF MANUFACTURERS

3.01.01 Quotations will be accepted from the following approved manufacturers. All other manufacturers are required to submit their specification and their product compliance with this specification to Purchasing Department 30 days prior to bid opening date. Other manufactures, if awarded a purchase order, are required to perform ANSI tests on one switch to be furnished. The tests must demonstrate 100% compliance with the requirements of ANSI C37.72. The cost of tests and certified test reports shall be borne by the manufacturer and be made a part of the quoted price.

3.01.02 Approved manufacturers:

a. G&W Electric Co.

3.02 TEST REPORTS

3.02.01 The certified test report of switches shall be provided within 20 days of switch shipment to:

City of Lompoc
Electric Division
100 Civic Center Plaza
Lompoc, CA 93436

3.03 DATA REQUIRED WITH PROPOSAL

3.03.01 Each bidder shall furnish a switch drawing and descriptive bulletin as part of their proposal. The drawing shall indicate overall dimensions, switch electrical ratings, total weight, SF6 gas weight, and relative location of bushings, operating handles and parking stands. The descriptive bulletin shall describe basic switch construction, type of insulation and interrupting medium, switch operating mechanism, contact system, manufacturing and quality control procedures employed, electrical and mechanical ratings, sealing systems, ambient temperature range, corrosion resistance, mechanical endurance, mechanical life expectancy, SF6 gas normal operating pressure range, maximum design pressure for tank and fittings, and production switch tests used at the factory. The manufacturer's standard design constructed in accordance with applicable ANSI Standards is required. The outline drawing required in bid proposal, shall include enclosure, cable opening and pad dimensions required for preparation of the construction standard.

3.03.02 Each bidder shall furnish as part of his proposal the following information for both the switch and vacuum fault interrupters:

Maximum Design Voltage, V
Withstand Impulse Voltage- KV
AC Withstand Voltage, 60 Hertz, 1 minute, KV
DC Withstand Voltage, 15 minutes, KV
Continuous and Interrupting Current Rating
Momentary and Fault Close (Asymmetrical Current)
One Second Current (Symmetrical Current)
Interrupting Time, Maximum, Cycle

The manufacturer shall submit the above-required data with the bid proposal. If any information is not furnished the bid(s) may be considered non-responsive.

3.04 DRAWINGS AND INSTRUCTION MANUAL

3.04.01 Record drawings and instruction manual must be provided and must include nameplate drawings, controller schematic diagram, and the switch outline drawing(s). Record drawings shall be mailed with the certified test report to the above address for the Standards and Material Group. Switch manufacturer record drawings shall be provided for each type of switch furnished.

3.04.02 The switch Manufacturer shall provide one instruction manual inside the switch enclosure for each switch furnished.

3.05 DRAWINGS FOR APPROVAL

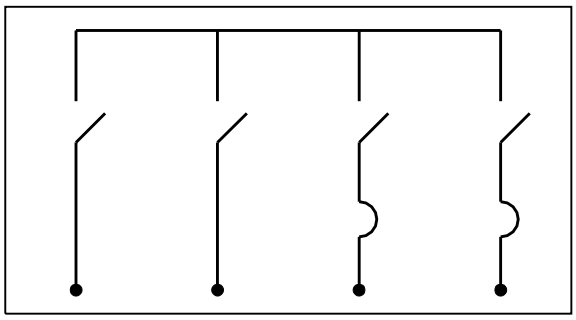
3.05.01 Within thirty 30 calendar days after the award of order, the Manufacturer shall furnish for review by the City, two full sets of outline, nameplate, controller schematics and wiring diagrams, and any other drawings as required.

3.05.02 Each set shall include a copy of the transmittal letter, a drawing list by the manufacturer's drawing number and titles of all drawings which the Manufacturer intends to be reviewed by the City.

3.05.03 Within twenty working days after their receipt, the City will return to the Manufacturer, one set of the drawings furnished for review. Comments, if any, will be in writing. The review or waiver of review of drawings shall in no way relieve the Manufacturer of his obligation to furnish apparatus in conformance with this specification.

FIG. NO.	STOCK NO.	DESCRIPTION	MANUFACTURER	CATALOG NO.
1	000-0000	4W SWITCH 2LB2FI		
2	000-0000	4W SWITCH 3LB1FI		
3	000-0000	4W SWITCH 4LB		

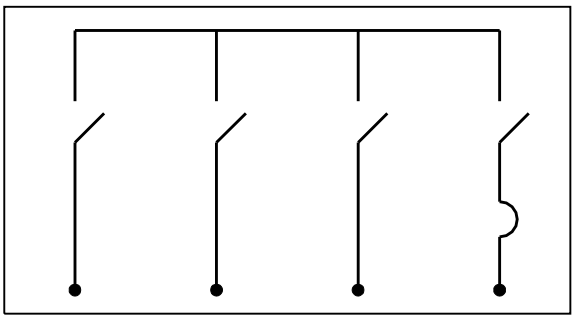
FIGURE 1



2 LOAD BREAK SWITCH 600 AMP

2 FAULT INTERRUPTER 200 AMP

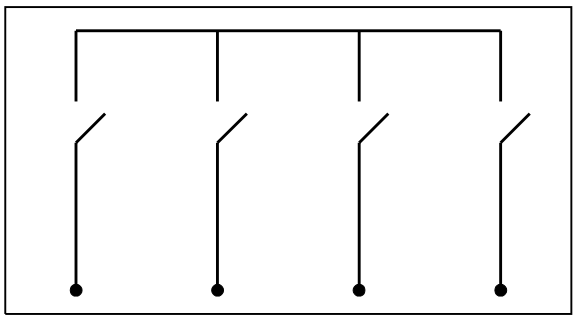
FIGURE 2



3 LOAD BREAK SWITCH 600 AMP

1 FAULT INTERRUPTER 200 AMP

FIGURE 3



4 LOAD BREAK SWITCH 600 AMP

CITY OF LOMPOC

ELECTRIC UTILITY DIVISION

CONSTRUCTION STANDARD

ONE LINE DIAGRAM PAD MOUNTED, LOAD BREAK SECTIONALIZING WITH OR WITHOUT LATERAL VACUUM FAULT INDERRUPTER

29-MAR-2007	ALAN ERLAND			0	29-MAR-2007	EXHIBIT: ELE-106
DATE DRAWN	DRAWN BY	ASSIST. ELEC. UTIL. MGR.	ELEC. UTIL. MGR.	REVISION	REV. DATE	

DGNSPEC$$$$$$$$$$$$$$
DATE PRINTED $$$$DATE$$$