Order Specification for Vertical-Break Switches

1.00 Switch

1.01 Number of switches required ______

1.02 Switches shall be aluminum (type VIPA) _____, copper (type VIPC) ______

1.03 Mounting orientation shall be horizontal upright _____, vertical _____, under-hung_____, or phase over phase ______, other ______

1.04 Insulator orientation shall be parallel _____, slant “Vee” _____, full “Vee” _____

1.05 Nominal Voltage _____ kV (Specify 15, 23, 34.5, 46, 69, 115, 138, 161, 230 or 345)

1.06 BIL Rating _____ kV (Specify 110, 150, 200, 250, 350, 550, 650, 750, 900, 1050 or 1300)

1.07 Continuous Current Rating _____ Amps (Specify 600, 1200, 2000 or 3000)

1.08 Momentary Current Rating _____ kA (Specify 40, 61 or 100)

1.09 Individual switch pole units shall be factory pre-assembled (live parts on insulators) _____, dis-assembled (live parts on switch bases) ______

2.00 Arcing Horns

2.01 Switches shall be _____, shall not be _____ furnished with wipe-type horns (standard equipment)

2.02 Switches shall be _____, shall not be _____ furnished with high-speed whips (optional equipment at additional cost)

2.03 Arcing horns to be capable of breaking _____ amperes of charging current

3.00 Interrupters

3.01 Switches shall be _____, shall not be _____ furnished with vacuum interrupters

3.02 Interrupting requirements include line dropping _____, load dropping _____, loop splitting (breaking parallel) ______

3.03 Expected maximum recovery voltage rating _____ kV of load interrupter devices

4.00 Insulators

4.01 Switches shall be _____, shall not be _____ furnished with insulators

4.02 Insulators shall be porcelain _____, polymer _____

4.03 Insulators shall be standard strength _____, high strength _____, resistive glazing_____, extra leakage distance______
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4.04  BIL Rating _____ kV *(Specify 110, 150, 200, 250, 350, 550, 650, 750, 900, 1050 or 1300)*

4.05  Technical Reference Number ______

5.00  **Switch Bases (Substation Applications)**

5.01  Mounting (hole) pattern for switch bases available _____ *(yes or no)*

5.02  Required dimension from truss surface to top of terminal pad _____ to properly coordinate height of switch and base with bus

5.03  Special switch base fabrication requirements _____ *(yes or no)*; fabrication details available _____ *(yes or no)*

6.00  **Mounting Structure (Substation Applications)**

6.01  Switch bases to be mounted on lattice truss _____, tubular truss _____, steel beam truss _____, wood beam truss _____, other _____ *(specify)*

6.02  Required phase spacing _____

6.03  Are there adjacent columns or structures, which extend vertically above the mounting truss? _____ *(yes or no)*. Distance from nearest switch base to adjacent column _____

6.04  Switch base mounting height above grade _____

6.05  Structure drawing available _____ *(yes or no)*; substation layout or plan drawing available _____ *(yes or no)*; sketch of general arrangement available _____ *(yes or no)*

6.06  Mechanical or electrical clearance issues _____ *(yes or no)*

7.00  **Pole Structure (Line Applications)**

7.01  Mounting structure will be wood pole_____, steel pole _____, concrete pole _____, laminated wood pole _____, lattice tower _____, other __________ *(specify)*

7.02  Structure to be single pole _____, two pole _____, three pole _____, four pole H-frame_____, or other __________ *(specify)* mounting configuration

7.03  Will the pole extend vertically above the truss or wood cross arms _____ *(yes or no)*?

7.04  Will there be a shield wire _____ *(yes or no)*?

7.05  Switch to be mounted on wood cross arms _____, metal truss _____, other ____*(specify)*

7.06  If metal truss, it will be supplied by customer _____, SEECO _____

7.07  If wood cross arms, centerline spacing of the beams is ____*(specify)*
Order Specification for Vertical-Break Switches

7.08 Required phase spacing _____, vertical distance grade to truss or cross-arm _____, vertical distance grade to top of pole _____

7.09 Structure drawing available _____ (yes or no); guy ing plan available _____ (yes or no); sketch of general arrangement available _____ (yes or no)

8.00 Line Tensions and Angles (Line Applications)

8.01 Conductor type, size, and tensions:
   Line 1: type ____, size ____, maximum tension ____ lbs
   Line 2: type ____, size ____, maximum tension ____ lbs
   Line 3: type ____, size ____, maximum tension ____ lbs

8.02 Angular pull-off:
   Line 1: horizontal angle ____ degrees, vertical angle ____ degrees
   Line 2: horizontal angle ____ degrees, vertical angle ____ degrees
   Line 3: horizontal angle ____ degrees, vertical angle ____ degrees

8.03 Lines will dead-end to switch bases _____, truss/cross-arms _____, pole structure _____

9.00 Operating Environment

9.01 Proposed geographical location of switch is ____________________

9.02 Geographical location of switch is considered NESC light _____, medium _____, heavy _____

9.03 Altitude of switch will be _____ feet above sea level

9.04 Seasonal temperature extremes will vary from _____ degrees F to _____ degrees F

9.05 Switches will be _____, will not be _____ subject to heavy airborne particulate

9.06 Switches will be _____, will not be _____ subject to a salt-laden environment

10.00 Optional Features

10.01 Motor operators shall be _____, shall not be _____ furnished; if motor operators are to be furnished, please complete separate order specification for motor operators

10.02 Worm gear mechanisms shall be _____, shall not be _____ furnished; number of mechanisms required _____ and required gear ratio _____ (Specify 20:1, 30:1, or 40:1)

10.03 Operator grounding platforms shall be _____, shall not be _____ furnished; if yes, please specify the required quantity _____

10.04 fiberglass or porcelain insulating member in control column shall be _____, shall not be _____ furnished
Order Specification for Vertical-Break Switches

10.05 Auxiliary switches shall be _____, shall not be _____ furnished; number of switches required _____ and required contacts (form "c") per switch _____

10.06 Ground switches shall be _____, shall not be _____ furnished; if ground switches are to be furnished, please complete separate order specification for ground switches

10.07 Interlocks shall be _____, shall not be _____ furnished; interlocks to be key _____, mechanical _____, electrical _____; please specify the required quantity _____

10.08 Tin-plated terminal pads shall be _____, shall not be _____ furnished

10.09 Terminal connectors shall be _____, shall not be _____ furnished