1. Amendment Record

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>03/02/2020</td>
<td>Paul Relf</td>
<td>Initial Issue</td>
</tr>
</tbody>
</table>

2. Objective

This standards alert covers the introduction of the NOJA 11kV, 22kV & 33kV RC20 Synchrophasor.

3. Introduction

Energy Queensland will be introducing the NOJA 11kV, 22kV & 33kV RC20 Synchrophasor as a part of the ARENA/NOJA Power Synchrophasor Project. The recloser controllers will have time-synchronised phasor (synchrophasor) measurement capability. This synchrophasor data will be used for further research and development into the impact of renewables on the medium voltage distribution network. EQL has committed to install 50 reclosers, to collect and store data generated by the synchrophasor units and to provide input and assistance on a range of other project activities.

The NOJA RC20 Synchrophasor recloser is a part of the trial which will run for 18 months from the date of installation of the reclosers. There will be no other RC20’s available to be ordered other than the 50 units.

The North South will be trialling 11kV, 22kV and 33kV RC20’s while the Southeast will only have the 11kV option.
The NOJA RC20 Synchrophasor is virtually identical to the current NOJA RC10 Recloser unit, except for an additional modem/antenna and some control box/software changes.

<table>
<thead>
<tr>
<th>RC10 (Southeast) Internal</th>
<th>RC20 (Southeast) Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Utilitinet Radio Used</td>
<td>Two modems used, Cybertec and Utilitinet Radio</td>
</tr>
</tbody>
</table>

4. **Supplier**

The new RC20 Synchrophasor is supplied by NOJA. There has been an initial order of 50 units. These 50 units have all been allocated specific sites and will be rolled out accordingly.

5. **Planning Guidelines**

The pole construction includes manually operated isolation switches thereby allowing the site to be considered as an **approved isolation point**.

The recloser is supplied with an external 11kV, 22kV or 33kV /220V voltage transformer to provide auxiliary supply to the control box.
6. Construction/commissioning – what’s different

a) All Areas

- The RC20 controller requires a 6A LV fuse to be installed in the VT when upgrading an existing NOJA RC10 site to RC20 or in the event of a blown fuse. The standard 2A fuse used in the RC10 is not adequate for the RC20 controller and additional modems.

b) Southeast

- Use of an additional Cybertec modem along with the traditional Utilitinet/Mesh Radio. The Cybertec modem is used to receive the synchrophasor data.
- Hence there will be two antennas, one antenna mounted on the control box and the traditional antenna mounted on the pole
- The commissioning instructions are provided to Pole Mounted Plant crews and Work practise documents have been updated to reflect these changes.

c) North/South

- Use of an additional CISCO modem along with the traditional Cybertec modem. The CISCO modem is used to receive the synchrophasor data.
  i. NOTE: during the testing of the CISCO modem it has been noted that the modem gets very hot. Caution must be taken when working with the CISCO modem. Appropriate protective gear (gloves) to be used.
  ii. A risk assessment has been completed by Comms Design team to identify the risk of overheating of the Cisco modem. The outcome of the risk assessment is that only risk is a burn risk while handling the Cisco modem, gloves are to be used for operation of the modem.
- There will be an Input/ Output (I/O) module fitted inside the control box. This I/O module is used to turn off the CISCO modem in case of mains power loss.
- There will be two antennas used, these will be available in the Overhead Construction Manual for reference.

7. Stores Availability and Item Lead time

There are 37 RC20 units delivered to Eagle Farm Distribution Centre and 13 RC20 units delivered to Banyo stores. These units are ready to be picked for projects.

The lead times for delivery of the units will be as per the standard delivery times of RC10.

8. Replacement / spares

The RC20 reclosers are covered under the standard NOJA warranty. It has a 24-month warranty, any failure would need to be reported, effected component returned to NOJA for evaluation. If the fault is covered under warranty, NOJA will repair or replace the controller.
In case of a failure of an RC20, the crew should install an RC10 controller and notify Deepthi Yogiswara about the fault and location and proceed with the standard procedure.

The SCADA point mapping for the RC20 controller units is the same as the RC10 controller units to simplify replacement.

9. Design Guidelines

The switch may only be mounted mid pole.

9.1 Ergon Compatible Units and Construction Codes


9.2 Energex Compatible Units (CU’s)

The Compatible Unit (CU) for the RC20 Synchrophasor (which includes the recloser, VT, and sundry materials) is 11SYN/NOJAFF.

10. Update to Manuals

10.1 Ergon Overhead Construction Manual Updates

Ergon OHCM “Assembly” Page 305 have been created for the RC20 Synchrophasor.

Ergon OHCM “Switches” Drawings 1175 Sh4, 1952 Sh1, 1952 Sh2,1952 Sh3 and 1952 Sh5 have been updated to include the RC20 Synchrophasor.

10.2 Energex Overhead Construction Manual Updates

Energex OHCM Pages 7-205 and 7-206 have been updated to include the RC20 Synchrophasor.

The latest versions of Overhead Construction Manuals available via the Asset Standards intranet site or via the RED/Process Zone document system for internal staff.

The current manuals are available to external service providers via the internet. The Manuals are uncontrolled documents when printed.
11. Further Information
For further information, please contact:

**Overhead Construction Manuals**
- Paul Relf, 07 3664 4797, email: Paul.Relf@energyq.com.au
- Craig Avenell, 07 4931 2782, email: Craig.Avenell@energyq.com.au

**Communications Contact**
  - Southeast –
    - Scott Istria, 07 3664 8156, email: scott.istria@energyq.com.au
  - North/South –
    - Luke Arnold, 07 4932 7137, email: luke.arnold@energyq.com.au

**SCADA Contact**
- Peter Poulos, 07 3664 4426, email: peter.poulos@energyq.com.au

**Protection Contact**
- Brenton O’Sullivan, 07 4789 5814, email: Brenton.O’Sullivan@energyq.com.au

**All General Enquiries** –
- Deepthi Yogiswara, 07 3664 5203, email: Deepthi.yogiswara@energyq.com.au
CU LIST - 1REC/NOJA

| SET145-1 | ISOLATOR SWITCH | 3 | 3 | 3 |
| SET254-1 | EDO FUSE SWITCH | 2 | 2 | 2 |
| SET151-1 | X-ARM TO POLE | 1 | 1 | 1 |
| SET155-2 | POST TO X-ARM | 3 | 3 | 3 |
| SET257-2 | RECLOSER TO POLE | 1 | 1 | 1 |
| SET271-3A | ARRESTER TO TANK | 6 |  |  |
| SET274-1 | VT TO POLE | 1 | 1 | 1 |
| SET260-1 | C/BOX BKT TO POLE | 1 | 1 | 1 |
| SET274-2 | ANTENNA TO XARM | 1 | 1 | 1 |
| SET52-1 | BRACE TO POLE | 1 | 1 | 1 |
| 08368 | (Tape) | AR | AR | AR |
| 14693 | (Arrester PG clamps) | 6 |  |  |
| 21958 | Recloser, VT, CONTROL BOX | 1 |  |  |
| 23606 | Recloser FF, VT, CONTROL BOX | 1 |  |  |
| 2469773 | Synchrophaser, VT, CONTROL BOX | 1 |  |  |
| Mains PG CONNECTORS | AR | AR | AR |
| 20279 | CCT 1200m1q | 15m | 6m | 6m |
| 17799 | Polymeric Side Tie | 3 | 3 | 3 |
| 11067 | xarm 3m 100x100mm | 1 | 1 | 1 |
| 13401 | EDO Fuses 3A-"K" | 2 | 2 | 2 |

NOTES
1. Maintain minimum separation of 150mm between earthing cables and any other equipment cables.
2. Ensure wildlife proofing insulated hoods supplied with recloser and VT I installed over all bushings and surge arresters.
3. 1REC/NOJAFF comes fully fitted with surge arresters and leads from factory.
4. Refer OCM sect 7 page 606,607 for equipment earthing detail.
5. For older style tunnel connections use torque wrench with 8mm allen key & 30N-m for HV connections to switch.
6. VT secondary cable supplied with VT. Cover the entire length of the secondary cable with 25mm conduit from VT and terminating at the control box.
7. Stock code for replacement VT secondary
   - RC10 - 2A HRC fuse is SC 19537.
   - RC20 - 6A HRC fuse is SC 2471797.
9. In areas where CCT maims exist, strip small section of CCT near top xarm on each phase to allow for phasing out.
10. Control Box to be mounted for access from footpath side of pole or as determined on site in difficult terrain.
11. Construction limited to 400A. Switch rated at 800A
12. 11SYN/NOJAFF (RC20 Controller) has a second antenna attached to the control box bracket. The replacement stockcode for the second antenna is SC6703
OVERHEAD CONSTRUCTION MANUAL
POLE MOUNTED PLANT
11REC/NOJA, 11REC/NOJAFF
11kV 400A REMOTE CONTROLLED
RECLOSER CONSTRUCTION - NOJA

Earthing (not included in 11REC/NOJA, 11REC/NOJAFF)
HVE2 : CMEN SYSTEM (see page 607)
HVE1 : SEPERATE EARTH SYSTEM (see page 606)

This drawing must not be reproduced in part or whole without written permission from ENERGEX
### ABS / GAS / VACUUM SWITCHES - CONSTRUCTION CODE

**SW 22/3/ABST/CL1**

**SWITCH CODE**
- ABST = Air break switch pole top mounted
- ABSM = Air break switch mid pole mounted
- ABSLT = Air break switch with Load break pole top mounted
- ABSLBM = Air break switch with Load break mid pole mounted
- LBGT1 = Load break gas switch pole top mounted NGK-S NU series
- LBGM1 = Load break gas switch mid pole mounted NGK-S NU series
- RLBM = Remote Load break gas switch mid pole mounted Schneider RL series ADVC controller
- LBGT2 = Load break gas switch pole top mounted ILJIN GA-Series
- LBGM2 = Load break gas switch mid pole mounted ILJIN GA-Series
- ILBGM2 = Load break gas switch mid pole mounted ILJIN GA-Series (Existing intermediate pole)
- RLBM1S = Remote load break switch mid pole mounted Noja OSM series with RC10 controller, spur
- RLBM1R = Remote load break switch mid pole mounted Noja OSM-Series with RC10 controller, ring fed
- RLBM2S = Remote load break switch mid pole mounted Noja OSM series with RC10 controller, spur, under supply (NULEC REPLACEMENT)
- RLB20S = Remote load break switch mid pole mounted Noja OSM series with RC20 controller, spur

**EXAMPLES:**
- SW22/3/ABST/CL1 = Switch, 22kV, 3 phase, Air break switch top mounted, Lug Bi-metal 35mm²

**SWITCH**
- Voltage
  - 11 = 11kV
  - 22 = 22kV
  - 33 = 33kV

**No. OF PHASES**
- 3 = Three phase

**MAINS CONNECTION**
- PG3 = Connector, Al./Steel - Cu.
  - 35-300mm² / 35-240mm²
- PG4 = Connector, Cu.-Cu.
  - 16-150mm² / 16-150mm²
- CL1 = Lug Bi-metal 35mm²
- CL2 = Lug Bi-metal 50mm²
- CL3 = Lug Bi-metal 95mm²
- CL4 = Lug Bi-metal 120mm²
- CL5 = Lug Bi-metal 240mm²

**FILE:** 5 07 11753  Dwg 1175  Sh 3  F
RECELOUSER SWITCHES - CONSTRUCTION CODE

SW 22/3/ACR2/PG3

SWITCH VOLTAGE No. OF PHASES SWITCH CODE MAINS CONNECTION
SW 11 = 11kV S = S.W.E.R. OCR1 = Oil circuit recloser 5A coil 2A2B sequence PG3 = Connector, Al/steel-Cu 35 - 300mm² / 35 - 240mm²
12 = 12.7kV 1 = Single phase OCR2 = Oil circuit recloser 5A coil 1A3B sequence PG4 = Connector, Cu.-Cu. 16 - 150mm² / 16 - 150mm²
19 = 19.1kV 3 = Three phase OCR3 = Oil circuit recloser 10A coil 2A2B sequence LL1 = Live line clamp / Al. mains (5 - 19mm)
22 = 22kV
33 = 33kV OCR4 = Oil circuit recloser 10A coil 2A2C sequence
OCR5 = Oil circuit recloser 10A coil 1A3B sequence
OCR6 = Oil circuit recloser 10A coil 1A3C sequence
OCR7 = Oil circuit recloser 15A coil 2A2B sequence
OCR8 = Oil circuit recloser 15A coil 2A2C sequence
OCR9 = Oil circuit recloser 15A coil 1A3B sequence
OCR10 = Oil circuit recloser 15A coil 1A3C sequence
OCR11 = Oil circuit recloser 25A coil 1A3B sequence
OCR12 = Oil circuit recloser 25A coil 1A3C sequence
ACRTNE = Auto. circuit recloser with V.T. For Non-effectively earthed areas (Nulec N series 3 phase)
ACR2 = Auto. circuit recloser with VT (Schneider N series 3 Phase & W series SWER) with ADVC controller spur
ACR2NE = Auto. circuit recloser with VT For Non-effectively earthed areas (Schneider N series 3 phase) spur
ACR2S = Auto circuit recloser with VT (NOJA OSM-Series, 3 phase with RC20 controller) spur
ACR2N = Auto circuit recloser with VT (Schneider N series 3 phase) for non-effectively earthed areas ring fed
ACR4S = Auto circuit recloser with VT (NOJA OSM-Series, 3 phase with RC10 controller) spur
ACR4NE = Auto circuit recloser with VT (NOJA OSM-Series, 3 phase with RC10 controller) spur, under supply (NULEC REPLACEMENT)
ACR5S = Auto circuit recloser with VT (NOJA OSM-Series, 3 phase with RC10 controller) ring fed
NRLS = NOJA OSM series recloser with RC10 controller set up as a remote LBS, spur
NRLBR = NOJA OSM series recloser with RC10 controller set up as a remote LBS, ring fed
ACR20S = Auto circuit recloser with VT (NOJA OSM-Series, 3 phase with RC20 controller) spur

EXAMPLES:- SW22/3/ACR2/PG3 = Switch, 22kV, 3 phase, Auto. Circuit recloser with VT (Schneider N series), P.G. connection, Al mains.
### MATERIAL - BY-PASS CONSTRUCTION (SHEET 5)

<table>
<thead>
<tr>
<th>ASSY</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>142-1</td>
<td>EDO Fuse Switch (100A) 11/22kV to undrilled x-arm (100)</td>
<td></td>
</tr>
<tr>
<td>142-2</td>
<td>EDO Fuse Switch (100A) 11/22kV to undrilled x-arm (125)</td>
<td>3</td>
</tr>
<tr>
<td>142-3</td>
<td>EDO Fuse Switch (100A) SWER/33kV to undrilled x-arm (100)</td>
<td></td>
</tr>
<tr>
<td>142-4</td>
<td>EDO Fuse Switch (100A) SWER/33kV to undrilled x-arm (125)</td>
<td></td>
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</table>

### MATERIAL - ACR / SECT / LBS (Sheet 5.)

<table>
<thead>
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<tbody>
<tr>
<td>281-3</td>
<td>ACR / Sect / LBS 11kV 3 phase (including lead connection)</td>
<td>1</td>
</tr>
<tr>
<td>281-6</td>
<td>ACR / Sect / LBS 22kV 3 phase</td>
<td></td>
</tr>
<tr>
<td>281-9</td>
<td>ACR / Sect / LBS 33kV 3 phase</td>
<td></td>
</tr>
<tr>
<td>305-3</td>
<td>ACR 11kV 3 phase Synchrophasor</td>
<td></td>
</tr>
<tr>
<td>305-6</td>
<td>ACR 22kV 3 phase Synchrophasor</td>
<td></td>
</tr>
<tr>
<td>305-9</td>
<td>ACR 33kV 3 phase Synchrophasor</td>
<td></td>
</tr>
</tbody>
</table>

### MATERIAL - VT EDO'S & LEADS

<table>
<thead>
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<th>DESCRIPTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>89-31</td>
<td>Fuse link 11/22/33kV 3/10A class K</td>
<td>2</td>
</tr>
<tr>
<td>140-6</td>
<td>Cable, insulated hard drawn Cu. 35mm²</td>
<td>3</td>
</tr>
<tr>
<td>141-14</td>
<td>Lug Compression Cu. 35mm² M12</td>
<td>4</td>
</tr>
<tr>
<td>142-1</td>
<td>EDO fuse switch (100A) 11/22kV to undrilled x-arm (100)</td>
<td>2</td>
</tr>
<tr>
<td>142-3</td>
<td>EDO fuse switch (100A) 33kV to undrilled x-arm (100)</td>
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</tr>
<tr>
<td>ASSY</td>
<td>DESCRIPTION</td>
<td>QTY</td>
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<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>12-1</td>
<td>Cartridge Fuse Link 2A HRC (10G)</td>
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</tr>
<tr>
<td>12-12</td>
<td>Cartridge Fuse Link 6A HRC (10G)</td>
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</tr>
<tr>
<td>25-12</td>
<td>Crossarm undrilled 2700 x 100 x 100</td>
<td>1</td>
</tr>
<tr>
<td>27-13</td>
<td>Conduit PVC flexible 20mm</td>
<td>10m</td>
</tr>
<tr>
<td>27-25</td>
<td>Terminator conduit PVC flexible 20mm</td>
<td>3</td>
</tr>
<tr>
<td>27-46</td>
<td>Saddle zinc plated 25mm</td>
<td>40</td>
</tr>
<tr>
<td>29-10</td>
<td>Crossarm undrilled single (100) 11/22/33kV to wood pole</td>
<td>1</td>
</tr>
<tr>
<td>33-10</td>
<td>Brace single to undrilled x-arm (100) and wood pole</td>
<td>1</td>
</tr>
<tr>
<td>40-3</td>
<td>Pin insulator 22/33kV to 100 undrilled crossarm</td>
<td>6</td>
</tr>
<tr>
<td>46-6</td>
<td>Insulator vice top 11/22/33kV (bridging)</td>
<td>6</td>
</tr>
<tr>
<td>64-1</td>
<td>Guard wildlife to wood pole</td>
<td>1</td>
</tr>
<tr>
<td>140-18</td>
<td>Cable, insulated annealed Cu. 120mm² (dropper leads)</td>
<td>18</td>
</tr>
<tr>
<td>140-30</td>
<td>Cable, insulated 2 core &amp; earth Cu 2.5mm²</td>
<td>10m</td>
</tr>
<tr>
<td>141-1</td>
<td>Lug, compression Cu. 2.5mm² M6</td>
<td>2</td>
</tr>
<tr>
<td>141-22</td>
<td>Lug, compression Cu. 120mm² M12</td>
<td>12</td>
</tr>
<tr>
<td>159-1</td>
<td>VT secondary fuse box to wood pole</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTES:**

1. All metalwork that passes through or into wood shall be greased for the entire length that may come into contact with the wood.
2. For wood pole attachments and foundations refer to Construction Practices.
3. VT used to supply switch only. (Not for supplying consumers).
4. Designer to nominate bypass fuse element size refer CONSTRUCTION PRACTICES dwg. 1695.
5. 240V from pole mounted LV fuse must be terminated into control cubical.
6. Earthing bridge required between ACR / SECT / LBS tank and VT mounting plate.
7. Designer to determine pole length by clearances required.
8. The following stock code numbers apply if the arrestors are to be replaced:
   - 11kV - 0701082
   - 22kV - 0701112
   - 33kV - 2403490
9. Mount control cubicle on footpath side in urban areas.
10. For RC20 controller drill the bracket to suit.
    Cold galvanize all exposed metal on bracket.
11. 6A LV HRC fuse required for RC20 controller.
12. Fuse mounted in the VT requires upgrading to 6A when upgrading RC10 to RC20 controller.
Install HV Strain Crossarm on Supply Side

Also install earthing stirrup on bypass fuses

For bypass fuse element refer CONSTRUCTION PRACTICES dwg. 1695.

EDO's and Links Refer drg 1585 CONSTRUCTION PRACTICES

For link and bridging crossarm drilling details, refer sheet 6

**Note:**

- Assy Selection 142-1 to 4
- Assy 54-10
- Assy 25-26
- Assy 29-10
- Assy Selection 139-10 or 14
- Assy 46-6
- Assy 33-10
- Assy 140-18
- Assy 141-22

Assy Selection 140-6 and 141-14

Assy Selection 142-1 or 3 and 89-31

Assemblies:
- 281-3, 6 or 9
- 305-3, 6 or 9

(RRefer Detail 'A') includes VT

HV Surge Arrester Bridging

ACR / Sect / LBS lead

LV ABC lead

LV Open Wire lead

Tie, cable Nylon Black

L/A lead

ACR / Sect / LBS lead

Refer Detail 'A'

H.V. SURGE ARRESTER BRIDGING

(Included in Assembly 281) * Denotes minimum clearance Phase to Phase
BRIDGING X-ARM DRILLING DETAIL
(2700x100x100)

LINK X-ARM DRILLING DETAIL
(2700x100x100)

Locate control cubicle on pole to suit safe access by vehicle for maintenance.

For RC20 controller use 6A LV fuses
Assy 12-12 & 13

Assy Selection
159-1 and
12-1 or 12 and
27-25 and
140-30 and
141-1

Assy 64-1
Assy 27-13
Assy 27-46
(500 Intervals)

ACR / Sect / LBS

LV ABC

LV Open Wire

700 min. to bottom
of HV arrester

From G.L.
3500 Min.

Cables
From G.L.
2900

2700 min.

Refer note 10 Sh 2

OVERHEAD DISTRIBUTION
SWITCHES
11/22/33kV 3 PHASE POLE MOUNTED SPUR ACR / SECT / LBS
WITH V.T. (NOJA) CONTROL CUBICLE & X-ARM DRILLING

Ergon Energy Corporation Ltd
ABN 50 087 646 062

FILE: 5 07 1952 6
Dwg 1952 Sh 6
### MATERIAL

<table>
<thead>
<tr>
<th>I.I. No.</th>
<th>QTY</th>
<th>Description</th>
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<td>2469773</td>
<td>1</td>
<td>M12 x 40</td>
</tr>
<tr>
<td>1727678</td>
<td></td>
<td>Washer Rd. S/S M12</td>
</tr>
<tr>
<td>1779112</td>
<td></td>
<td>Washer Sp. S/S M12</td>
</tr>
<tr>
<td>1779139</td>
<td></td>
<td>Washer, Rd. M20</td>
</tr>
<tr>
<td>1777577</td>
<td></td>
<td>Bolt &amp; Nut S/S M16</td>
</tr>
<tr>
<td>1779127</td>
<td></td>
<td>Washer, M12</td>
</tr>
<tr>
<td>1703271</td>
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<td>Washer, Sq. M20</td>
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<tr>
<td>1703883</td>
<td></td>
<td>Coachscrew, M16 x 130</td>
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<td>2400648</td>
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<td>Washer, M20</td>
</tr>
<tr>
<td>1704642</td>
<td></td>
<td>Washer, Sq. M20</td>
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<tr>
<td>1749263</td>
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<td>Bolt &amp; Nut M16 x 130</td>
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<td>177569</td>
<td>4</td>
<td>Washer, Rd. M16</td>
</tr>
<tr>
<td>1777577</td>
<td>4</td>
<td>Bolt &amp; Nut S/S M16</td>
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<tr>
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<td>Washer, M12</td>
</tr>
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<td>1780535</td>
<td>2</td>
<td>Washer, Sp. S/S M12</td>
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<td>2</td>
<td>Washer, Sp. M20</td>
</tr>
<tr>
<td>1780594</td>
<td>2</td>
<td>Washer, Rd. S/S M12</td>
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<td>1727678</td>
<td>6</td>
<td>Washer Rd. S/S M12</td>
</tr>
<tr>
<td>0105120</td>
<td>1</td>
<td>Hinged Bracket</td>
</tr>
</tbody>
</table>

**Locate control cubicle in highest mounting bracket holes.**

### ASSEMBLY 305-3
- **11kV 3 PHASE ACR / SECTIONALISER / LBS (NOJA RC20 OSM-SERIES)**

### ASSEMBLY 305-6
- **22kV 3 PHASE ACR / SECTIONALISER / LBS (NOJA RC20 OSM-SERIES)**

### ASSEMBLY 305-9
- **33kV 3 PHASE ACR / SECTIONALISER / LBS (NOJA RC20 OSM-SERIES)**

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**OVERHEAD DISTRIBUTION ASSEMBLIES**

11/22/33kV 3 PHASE SYNCHROPHASOR RC20 POLE MTD
ACR / SECT / LBS (NOJA OSM-SERIES) WITH VT & WIRED

**FILE:** 5 01 2062 1  **Page:** 305

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**Ergon Energy Corporation Ltd**

ABN 50 087 646 062