

APPENDIX A



TECHNICAL SPECIFICATION FOR 11kV AND 33kV DROPOUT DISCONNECTOR UNITS WITH FUSE LINKS

ENERGY FIJI LIMITED

Revision History & Document Control

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Next Scheduled Revision

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1.0 Introduction

Energy Fiji Limited [EFL] is responsible for generation, transmission and distribution of electricity in Viti Levu, Vanua Levu, Ovalau and Tavuni in Fiji. By the end of 2017, EFL had 182,439 customers. This includes residential, commercial and institutional customers.

EFL is seeking tender bids from reputable manufactures and suppliers for design, manufacture, testing and supply of dropout disconnectors and fuse links for use in EFL's electricity distribution networks.

The items covered under this specification are tabulated below.

No.	Stock Code	Item Description	Voltage Level
1	I04424	11kV 100A Dropout Fuse Type D6/11	11kV
2	I04427	Combination Dropout C/W	11kV
3	I02085	2A HT Expulsion Fuse (Slow)	11kV
4	I02086	5A HT Expulsion Fuse (Slow)	11kV
5	I02087	10A HT Expulsion Fuse (Slow)	11kV
6	I02088	15A HT Expulsion Fuse (Slow)	11kV
7	I02089	20A HT Expulsion Fuse (Slow)	11kV
8	I02090	40A HT Expulsion Fuse (Slow)	11kV
9	I02090A	30A HT Expulsion Fuse (Slow)	11kV
10	I02091	60A HT Expulsion Fuse (Slow)	11kV
11	I02092	100A HT Expulsion Fuse (Slow)	11kV
12	I02099	100A Fuse link (Fast)	11kV
13	I02100	2A HT Expulsion Fuse (Fast)	11kV
14	I02101	3.15A HT Expulsion Fuse (Fast)	11kV
15	I02102	5A HT Expulsion Fuse (Fast)	11kV
16	I02103	8A HT Expulsion Fuse (Fast)	11kV
17	I02104	10A HT Expulsion Fuse (Fast)	11kV
18	I02105	15A HT Expulsion Fuse (Fast)	11kV
19	I02107	20A HT Expulsion Fuse (Fast)	11kV
20	I02108	30A HT Expulsion Fuse (Fast)	11kV
21	I02109	40A HT Expulsion Fuse (Fast)	11kV
22	I02110	60A HT Expulsion Fuse (Fast)	11kV
23	I04438	33kV 300A Dropout Fuse	33kV
24	I02112	2A 33kV Expulsion Fuse (Fast)	33kV
25	I02114	5A 33kV Expulsion Fuse (Fast)	33kV

This Specification covers the general requirements of design, manufacture, testing, supply and delivery of single pole, single insulator, and single venting expulsion dropout disconnector fuse units together with fuse links for use on overhead distribution systems in a totally exposed environment. Dropout disconnector fuse units are primarily used for the protection of distribution transformers and the protection of spur sections of overhead lines from the main backbone line.

Note to Tenderers: This tender document covers specifications for dropout disconnectors and fuse links. It is therefore stated that the items could be both contracted to the same bidder or two (2) different bidders considering the performance, design and testing criteria offered by the bidders upon evaluation by EFL.

2.0 References

2.1 Applicable Standards

The item shall be designed, manufactured and tested in accordance with the latest edition of the Standards specified below and all amendments issued prior to the date of closing of tenders except where varied by this specification.

AS 1033.1	High voltage fuses (for rated voltages exceeding 1000 V) Part 1: Expulsion Type
AS 1154	Insulator and conductor fittings for overhead power lines
AS 1214	Hot-dip galvanized coatings on threaded fasteners (I.S.O. metric coarse thread series)
AS62271.102	High voltage switchgear and controlgear - Part 102: Alternating current disconnectors and earthing switches
AS 1768	Lighting Protection
AS 1824	Insulation co-ordination
AS 1856	Electroplated coatings - silver
AS 2067	Substations and high voltage installations exceeding 1kV a.c.
AS 2650	Common specifications for high voltage switchgear and controlgear standards
AS 2837	Wrought alloy steels - Stainless steel bars and semi-finished products
AS 2947	Insulators - Porcelain and glass for overhead power lines - Voltages greater than 1000 V a.c.
AS 4169	Electroplated coatings - Tin and tin alloys
AS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles.
AS 62271.1	High Voltage switchgear and controlgear - common specifications
IEC 60282-2	High voltage fuses - Part 2: Expulsion fuse
ISO 31000	Risk Management
AS/NZS ISO 9001	Quality management systems -Requirements

Should inconsistencies be identified between standards and/or this specification, the tenderer shall immediately refer such inconsistencies to EFL for resolution.

2.2 Applicable Laws

The Bidder warrants (without limiting any other warranties or conditions implied by law) that all Goods have been produced, sold and delivered to EFL in compliance with all applicable laws (including all workplace health and safety and electrical safety legislations and codes of conduct).

3.0 System Conditions

3.1 Environmental Conditions

The dropout disconnectors and fuse links shall be suitable for installation outdoors and shall be designed to withstand the following service conditions.

Description		Conditions
Atmosphere	:	Saliferous, corrosive and dusty
Ambient Temperature	:	Peak: 40°C 24 Hour Average: 30°C Annual Average: 22°C Minimum: 10°C
Relative Humidity (Average)	:	85%
Rainfall	:	Annual Average: 1900mm
Isokeraunic (Thunder day) level	:	60 thunder days per year
Seismic	:	To a maximum of 7 on the open-ended Richter Scale

Note: Fiji is situated in a region where cyclones are experienced frequently. All plant and equipment shall be designed and constructed to withstand these extreme conditions.

3.2 System Conditions

Nominal Voltage	11kV	33kV
System Highest Voltage	12kV	36kV
System Frequency	50Hz	50Hz
Number of Phases	3	3
System Earthing	Effectively Earthed	Effectively Earthed
Impulse Withstand Voltage (peak)	28kV	70kV
Power Frequency Withstand Voltage	95kV (peak)	200kV (peak)

4.0 Design and Construction

Equipment offered that is found on inspection not to conform to this Specification shall be replaced by the vendor at no cost to Energy Fiji Limited.

4.1 Disconnecter Fuse Unit

4.1.1 Ratings

The disconnector fuse units shall be of Class D6/11 complying with AS 1033.1 and Clause 3.0 of this specification and shall have the following ratings:

Rated Voltage	kV	11	33
Rated Current	A	100	100
Minimum Rated Breaking Current (Symmetrical)	kA	8	4
Insulation Level Minimum (BIL)(Outdoor Service)	kV Peak	95	200
Load Switching Capacity (Minimum)		Magnetizing Current Applicable to 500kVA Transformer	

Table 7.1: LV and HV Cables Used by EFL

4.1.2 Operation

It shall not be possible to close the fuse carrier without the top cap fitted. The disconnector fuse units shall be designed and constructed such that on closing the fuse carrier-fuse link no additional stress shall be applied to the fuse link which could cause it to fail.

To allow for interchangeability of fuse carriers between fuse units from different manufacturers, the distance between contacts shall be strictly in accordance with EFL drawing number A1 01 E39 012 in Appendix 14.3.

Lifting rings of 25 mm nominal internal diameter shall be provided on the bottom end and on the top of the fuse tube to enable the removal and replacement of the fuse tube using a standard operating rod fitted with a hook-link stick. When an expulsion drop-out disconnector fuse is mounted on a pole the fuse carrier shall not hit the pole during opening operation.

The top contact support of the disconnector fuse shall be provided with hooks suitable for attachment of a portable load breaking tool.

4.1.3 Mounting

The angle of inclination of the disconnector fuse carrier shall be sufficient to allow ease of operation with due regard to the safety of the operator. The disconnector shall be capable of being mounted on crossarms. The following instructions are for timber crossarm mounting.

4.1.3.1 Timber Crossarm Mounting

A hole shall be provided in the mounting bracket to allow the disconnector to be fixed to the top of the crossarm by means of a M20 bolt vertically through the crossarm with its center line located 50mm from the face of the crossarm.

A suitable locking arrangement shall be provided to prevent rotation of the disconnector about the mounting bolt when in service.

4.1.4 Contacts

All electrical contact surfaces are to be silver plated in accordance with AS 1856 to ensure that the thickness of plating provides durability of the contact surfaces over a service life of 35 years.

All contacts shall be greased, self-aligning and shall have wiping action to remove oxide or other contamination on the contact surfaces and constructed to eliminate arcing damage to the main contacts. As the hinge and fuse carrier may be subject to operation from an off-center position they shall be of robust construction to align correctly under this condition.

4.1.5 Fuse Carrier

Details of the materials used in the composition of the fuse carrier and the means adopted to make it durable and weatherproof shall be provided.

4.1.6 Insulators

The insulator shall be designed in a single piece in accordance with AS 2947. The preferred color is munsell grey.

The minimum electrical characteristics of each insulator shall be:

PARTICULARS	UNITS	11kV	33kV
Lightning Impulse Withstand Voltage	kV (Peak)	95	200
Wet Power Frequency Withstand Voltage	kV	28	70
Creepage Distance	mm	230	580

The insulator shall be of adequate mechanical strength to withstand the loads applied during the opening and closing cycles. Details of the design features including the mechanical rating of the insulators and testing undertaken to meet these requirements shall be provided.

4.1.7 Terminal Connections

A terminal connection shall be provided on both the supply and load sides of the disconnector fuse unit and shall provide for a lug connection using a single M10 bolt, and also bolted clamp connection capable of accommodating a conductor range from 5.3 mm to 14.3 mm diameter.

The connection shall be designed so that the conductor can be removed using live-line techniques which do not require a bolt to be held during the untightening process i.e. the bolt is held captive in the terminal fitting to prevent rotation of the bolt at any stage when untightening and shall not become loose once the nut is removed.

The connections shall be designed for use with aluminum, copper, or steel conductors and to minimize the effects of electrolytic corrosion of dissimilar metals.

A bolted clamp shall meet the performance requirements of Section 5 of AS 1154 Part 1. Tunnel and U-Bolt type clamps are not acceptable.

4.1.8 Corrosion Protection

The hinge and latch mechanisms of the unit shall be constructed of corrosion resistant metals and shall include no ferrous parts other than stainless steel.

All current carrying parts shall be of a high electrical conductivity, corrosion resistant metal.

All nuts, bolts and washers other than those associated with the mounting bracket shall be stainless steel in accordance with AS 2837. The bolts and washers shall be grade 316 and to avoid binding, the nuts shall be grade 304 and a suitable lubricant shall be applied to the threads of all stainless steel bolts before tightening. The lubricant shall not contain graphite.

All support brackets and other ferrous parts other than stainless steel shall be galvanized in accordance with AS 4680 and AS 1214.

4.1.9 Vibration

When the fuse link is intact and correctly inserted the carrier shall latch securely when closed and shall not be dislodged from the fuse contacts by vibration or wind pressure. The carrier shall not dislodge from the bottom hinge in the opening operation, or in the open position during wind or vibration conditions.

4.1.10 Bird/ Fauna/Vermin Proofing

The insulator/mounting bracket combination shall be designed in such a manner so as to minimize the risk of flashover due to birds, and other wildlife, without the use of plastic or rubber coverings.

The fuse carrier design shall minimize the possibility of insect nests being formed in the fuse carrier.

4.1.11 Fuse Link Installation

A flipper spring mechanism shall be incorporated into the design of the fuse carrier to assist the fuse link ejection. The fuse link tail shall be held captive such that it does not make contact with the inner walls of the fuse carrier i.e. the flipper spring mechanism shall centrally locate the range of fuse link sizes from the smallest to the largest diameters, within the fuse carrier. Detailed drawings indicating the position of the flipper spring together with the smallest and largest fuse links when installed within the fuse carrier shall be provided.

Fuse link attachment to the fuse carrier trunnion must prevent binding of the fuse link on the thread. Further, the tail section of the fuse carrier trunnion shall be metal only i.e. this section shall NOT be covered by PVC or other material.

The thumb screw or the attachment used to retain the fuse link shall be held captive in the unscrewed position.

4.1.12 Marking

Both the fuse base and the fuse-carrier shall be clearly and durably marked with the year of the manufacture and in accordance with AS 1033.1.

The fuse-carrier shall be marked with a reflective tape to distinguish between the open and closed position at night time.

4.1.13 Earthing Attachment

The bottom hinge section of the dropout disconnecter unit shall be provided with an earth attachment device satisfying the following requirements:

- a) Be capable of supporting the weight of the portable earthing cables (nominally 35kg) and not allow accidental detachment of the portable earths.
- b) Have a 1 second withstand current rating of 6kA (minimum).
- c) Provide a clearance of 500mm ((nominal) from the live parts to the earth attachment point.
- d) Be orientated in-line with the dropout disconnecter so that the device does not interfere with the operation of the unit or reduce the phase to phase clearances.

4.2 Fuse Link

4.2.1 Construction

Fuse links must be suitable for use with fuse carriers when fitted with arc shortening rods. This requires that the button head be screwed onto a threaded portion of the fuse link so that the fuse link can be used on equipment with or without arc shortening rods. The largest fuse link specified shall be capable of freely entering into the fuse carrier.

4.2.2 Material

The fuse link and strain elements shall be of suitable material to achieve the required electrical rating and performance of the link.

The flexible tail shall incorporate appropriate measures to minimize deterioration from corona near the base of the carrier. Where an anti-corrosive grease is used, the type of grease is to be advised.

4.2.3 Electrical Characteristics

The electrical characteristics of fuse links supplied against this specification shall conform to the relevant Time-Current characteristics detailed in Appendix A of AS 1033.1 for either speed class K (fast) or speed class T (slow).

Time/Current characteristic curves shall be provided in Microsoft Excel spreadsheet format with the offer for each of the fuse links which fully detail pre-arcing current versus pre-arcing time and tolerances. Average pre- arcing time and arcing time shall also be stated thereon.

Each fuse link shall be capable of withstanding a continuous static tensile load of 8.0 kg and a dynamic tensile load (equivalent to the instantaneous load applied to the fuse link during the closing operation of the fuse carrier) of 12.0 kg without mechanical deformation or change in electrical characteristics.

Bidders shall also provide power dissipation at rated current and resistance at rated current.

4.2.4 Marking

The manufacturer's identity, fuse link class and current rating shall be permanently marked on each fuse-link.

5.0 Quality Assurance

The manufacture shall submit evidence that the design and manufacture of the dropout disconnectors and fuse links are in accordance with AS/NZS ISO 9001 and shall include the Capability Statement associated with the Quality System Certification.

6.0 Performance and Testing

6.1 Type Tests

As a minimum, the following tests shall be conducted on each item supplied according to the relevant standards:

No.	Description of Test	Test Method Reference
1	Dielectric tests, including lightning impulse withstand tests and power frequency voltage withstand tests	IEC 60282.2 Clause 8.4 or AS 1033.1 Clause 5.4
2	Temperature rise test	IEC 60282.2 Clause 8.5 or AS 1033.1 Clause 5.5
3	Breaking test	IEC 60282.2 Clause 8.6 or AS 1033.1 Clause 5.6
4	Test for time/current characteristics	IEC 60282.2 Clause 8.7 or AS 1033.1 Clause 5.7
5	Radio interference voltage test	AS 1033.1 Clause 5.8
6	Mechanical tests	IEC 60282.2 Clause 8.8
7	Verification of spark production, Class A	AS 1033.1 Clause 3.1.4
8	Load current switching test	AS 1033.1 Clause 3.2

6.2 Routine Tests

Routine tests as required in the relevant standards, must be carried out as a normal requirement of the contract. No additional charge must be levied for such tests or for the production or presentation of documentation related to routine tests.

The following routine tests must be conducted on each item supplied to EFL according to the relevant standards:

No.	Description of Test	Test Method Reference
1	Dielectric tests, including lightning impulse withstand tests and power frequency voltage withstand tests	IEC 60282.2 Clause 8.4 or AS 1033.1 Clause 5.4
2	Dimensional test	Based on design criteria
3	Design and visual checks	AS 62271.1 Clause 7.5

6.3 Fuse Carrier Dropout Performance

Suppliers shall comment on the release performance of the fuse carrier on operation of the fuse link under all fault conditions including low level faults. Details of any special features adopted to ensure the correct operation of the fuse carriers shall be submitted.

7.0 Packaging and Marking

7.1 General

Individual cartons shall contain one disconnecter fuse unit and accessories. The cartons must be sufficiently sturdy to allow storage by stacking on a pallet.

Each fuse link shall be separately packaged and in a manner such that the flexible tail is not folded or kinked so as to cause corona problems during service.

7.2 Marking

7.2.1 Disconnecter Fuse Unit

The following information shall be legibly and indelibly marked on BOTH sides of the carton:

- a) Manufacturer's name and catalogue number
- b) Rated Voltage and Current
- c) EFL Tender Number
- d) Description of contents and gross mass
- e) Handling or lifting instructions where applicable

7.2.2 Fuse Link

The following information shall be legibly and indelibly marked on the carton and visible on the individual package:

- a) Manufacturer's name and catalogue number
- b) Rated Voltage and Current
- c) Speed Class
- d) Batch Number (Carton Only)
- e) Precautions in handling (Link Only)

7.3 Storage

The equipment shall be capable of being stored without deterioration within the temperature range of 10°C to 40°C for no less than 24 months.

8.0 Technical Information to be supplied

The following information shall be supplied with the offer:

- a) Catalogue describing the items and indicating the model number
- b) Constructional features and material used for components
- c) Complete dimensional drawing including AutoCAD drawing
- d) Quality assurance certificate as per the applicable standards stated in section 4
- e) Duly completed schedule of guaranteed technical particulars
- f) Manufacturing experience and list of purchasers
- g) Type test certificates
- h) Sample routine test certificates
- i) List of departure from technical specifications

Offers of vendors who fail to furnish above particulars shall be rejected.

9.0 Stock Availability

The bidder is required to show the size of his/her stock holding and the ability to meet the required estimate quantity per annum. The movement of the dropout fuse and links will depend on EFL's project works and for operation and maintenance purposes. An estimate movement of the items are outlined in the table below:

EFL Stock Code	Item Description	3 Year Stock Movement
I04424	11kV 100A Dropout Fuse Type D6/11	1336
I04427	Combination Dropout C/W	1693
I02085	2A HT Expulsion Fuse (Slow)	487
I02086	5A HT Expulsion Fuse (Slow)	2255
I02087	10A HT Expulsion Fuse (Slow)	2205
I02088	15A HT Expulsion Fuse (Slow)	1466
I02089	20A HT Expulsion Fuse (Slow)	1457
I02090	40A HT Expulsion Fuse (Slow)	243
I02090A	30A HT Expulsion Fuse (Slow)	801
I02091	60A HT Expulsion Fuse (Slow)	47
I02092	100A HT Expulsion Fuse (Slow)	74
I02099	100A Fuse link (Fast)	44
I02100	2A HT Expulsion Fuse (Fast)	1016
I02101	3.15A HT Expulsion Fuse (Fast)	295
I02102	5A HT Expulsion Fuse (Fast)	2884
I02103	8A HT Expulsion Fuse (Fast)	338
I02104	10A HT Expulsion Fuse (Fast)	2031
I02105	15A HT Expulsion Fuse (Fast)	1620
I02107	20A HT Expulsion Fuse (Fast)	1247
I02108	30A HT Expulsion Fuse (Fast)	777
I02109	40A HT Expulsion Fuse (Fast)	87
I02110	60A HT Expulsion Fuse (Fast)	78
I04438	33kV 300A Dropout Fuse	21
I02112	2A 33kV Expulsion Fuse (Fast)	0
I02114	5A 33kV Expulsion Fuse (Fast)	0

10.0 Environmental Considerations

Suppliers are required to comment on the environmental soundness of the design and the materials used in the manufacture of the items tendered. In particular, comments should address such issues as recycling and disposal at the end of service life.

11.0 Reliability

Suppliers are required to comment on the reliability of the equipment and the performance of the materials tendered for a service life of 35 years under the specified system and environmental conditions.

Suppliers are invited to submit any proposals which may increase the anticipated service life of poles.

12.0 Samples

12.1 Production Samples

Samples of items may be required during the tender assessment period. Samples would normally only be required from tenderers who have previously not supplied the items to the Purchaser.

12.2 Sample Delivery

When samples are required, production samples shall be delivered freight free, suitably packaged and labelled including reference to the Contract Number.

The Purchaser may at its discretion either purchase the samples at the tendered price or return the samples to the respective tenderer after the contract has been awarded. Samples shall be supplied within 7 days of official request.

13.0 Training

Training material in the form of drawings, instructions and/or audio visuals shall be provided for the items accepted under the offer.

This material shall include but is not limited to the following topics:

- Handling
- Storage
- Application
- Installation
- Maintenance
- Environmental performance
- Electrical performance
- Mechanical performance
- Disposal

The bidder shall also be required to provide training to EFL personnel (two sessions, one in Suva and the other in Navutu, to an audience of 25 per session) at the beginning of contract, upon first delivery, at the bidders cost for the items above. Such cost shall be included in the cost of supply of dropout disconnector units and fuse links and EFL WILL NOT pay separately for such training. The bidder shall also provide samples units for training at own cost.

14.0 Appendix

14.1 Technical Data Requirement Checklist

All tenderers are required to complete and submit a copy of this form with their bid submissions.
A separate schedule is to be provided for each item offered.

Item	Units	Required	Item Tendered
EFL Stock Code			
Name of Bidder			
Name of Manufacturer			
Manufacturer's Address			
Country of Manufacture of Fuse			
Rated current of full assembly (minimum)	Amps	11kV - 100 33kV - 100	
Rated current of full assembly (maximum)	Amps		
Rated frequency	Hz	50	
Rated lightning impulse withstand voltage			
Phase to earth (peak)	kV	11kV - 95 33kV - 200	
Across the isolating the distance (peak)	kV		
Rated power frequency withstand voltage (dry)			
Phase to earth (rms)	kV		
Across the isolating the distance (rms)	kV		
Rated power frequency withstand voltage (wet)			
Phase to earth (rms)	kV	11kV - 28 33kV - 70	
Across the isolating the distance (rms)	kV		
Rated fault current breaking capacity of assembly at rated voltage	Amps	11kV - 8 33kV - 4	
Rated load breaking current at full voltage	Amps		
Rated fault current capacity of earth connection	Amps		
Classification of assembly			
Spark production (to AS 1033.1)			
Speed of operation			
TRV capability (class)			
Insulators		As per clause 4.1.6	
Material			
Dimensions (typical)			
Color (to AS 2700)		Munsell Grey	
Creepage distance - HV terminal to centre support	mm/kVV	11kV - 230 33kV - 580	
Isolating distance - across open terminals			
Pollution performance rating (to AS 4436)		Cat IV	
Fittings			
Materials			
Protective coating type and thickness			
Conductor connections			
Material			

Flat palm			
Protective coating type			
Connection type			
Fuse carrier		As per clause 4.1.5	
Type			
Contact type			
Plating - type and thickness			
Operating method		As per clause 4.1.2	
Arc shortening rod fitted			
Fuse link		As per clause 4.2	
Fuse element material		As per clause 4.2.2	
Arc extinguishing aids		As per clause 4.2.3	
Power dissipation at rated current	Watts		
Resistance at ambient temperature with 10% or rated current			
Manufacturing tolerance (resistance)	Ohms		
Temperature coefficient of resistance	Ohms/deg C		
Do the fuse-links conform to the temperature/ temperature rise limits in IEC 60282.1?			
Earth connection			
Type and size			
Material			
Distance from earth connection to nearest conducting metalwork on oppose side of isolating air gap when link is open (in mm)			
Mounting		As per clause 4.1.3 & 4.1.3.1	
Mounting angle (to the vertical plane)			
Material of mounting plate		NEMA Heavy Duty	
Thickness			
Copies of Type Test Reports		As per clause 6.1	
Copies of Routine Test Reports		As per clause 6.2	
Copies of drawings		As per clause 8.0	
Copies of technical data sheets		As per clause 8.0	
Copies of time-current characteristic curve in MS Excel format		As per clause 4.2.3	

14.2 Technical Document Checklist

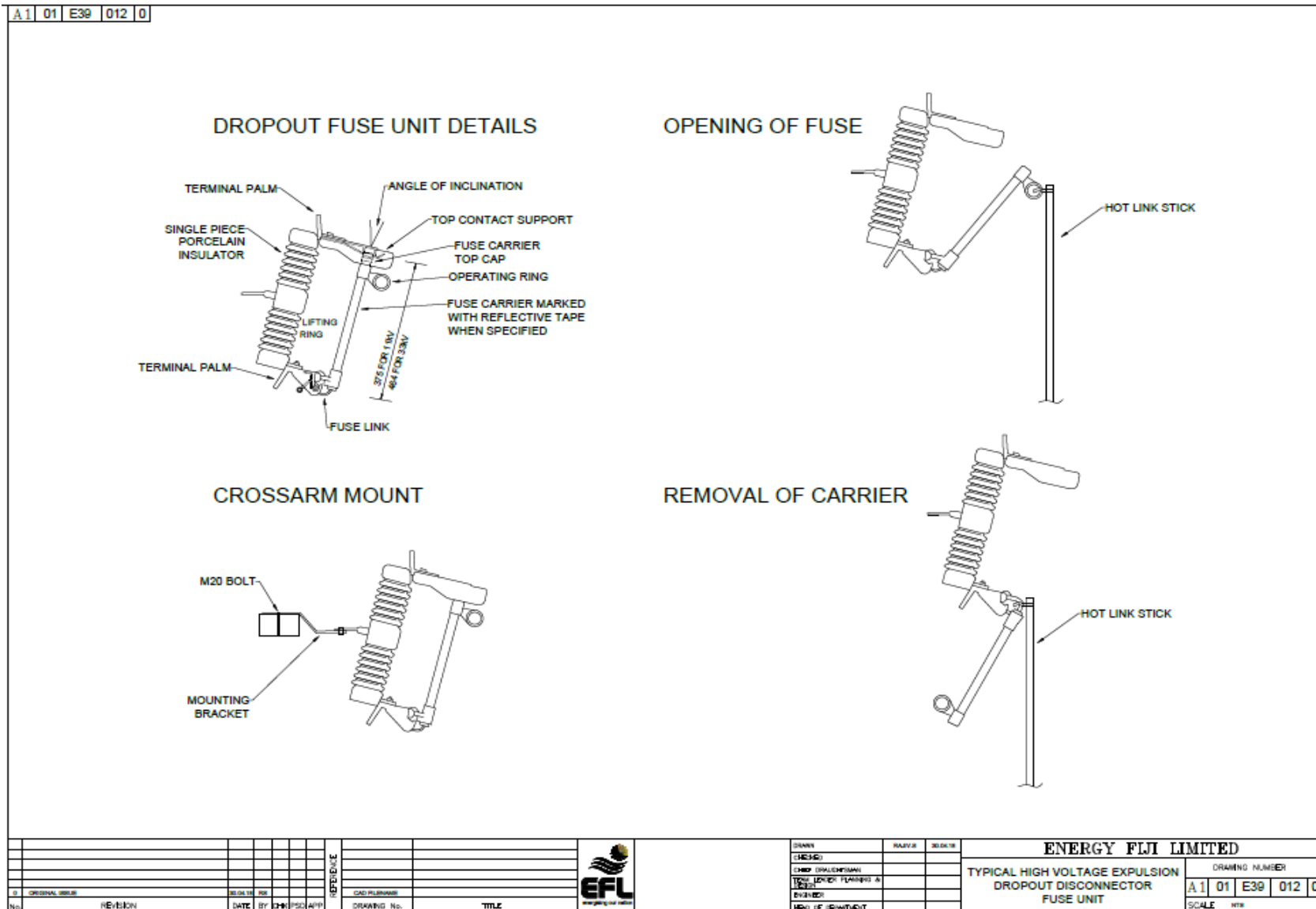
CLAUSE Ref.	PARTICULARS	YES/NO
The Supplier must provide to the Purchaser full and comprehensive details of the following items?		
4.1.2	Distance between contacts in accordance with EFL drawing number A1 01 E39 012.	
4.1.3	Disconnecter mounting requirements	
4.1.4	Contact surfaces	
4.1.7	Design of terminal connections	
4.1.8	Corrosion protection and galvanisation of parts	
5.0	Quality system manual to be used in performing this Contract and evidence that the Supplier satisfies the Quality Certification requirements of ISO 9001	
6.1	Type test reports submitted	
6.2	Availability of routine test reports when requested	
10.0	Environmental considerations	
11.0	Reliability - any proposals which will satisfy the performance specification or increase the service life	
12.0	Samples supplied	
13.0	Availability of training materials	
	Details of service performance submitted	

Name of Tenderer: _____

Signature of Tenderer: _____

Date: _____

14.3 Typical Dropout Disconnecter Unit Drawing



14.4 Departures from Specification

The bidder shall nominate the Clause or relevant section of the tender specification and describe the departure.

Tender Specification Reference ⁱ	Departure

ⁱ Where possible, the tender shall refer to the specific Clause of the tender specification.