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Electricity Specification 400M1

Issue 2 December 2021

Mobile Elevated Work Platforms for General Use on Overhead Lines and Tree Cutting

Amendment Summary

ISSUE NO. DATE	DESCRIPTION
Issue 2	New template and format applied throughout. Emergency controls sub-section added.
December 2021	Prepared by: D M Talbot
	Approved by: Policy Approval Panel and signed on its behalf by Steve Cox, Engineering and Technical Director

Contents

1 Introduction

This Specification comprises general and technical requirements for Mobile Elevated Work Platforms (MEWPs) for general use on the overhead line network (Network) owned by Electricity North West Limited (Electricity North West), as Distribution Licensee.

2 Scope

This Specification covers the particular requirements for MEWPs to be used for general overhead line work. (It does not cover general manufacturing standards for motor vehicles.)

The MEWPs covered by this Specification shall be safe to use for live line work where the voltage is less than 1000V.

The MEWPs covered by this Specification shall NOT be used for rubber glove working (high voltage live line working).

3 Definitions

Approval	Sanction by the Electricity North West Overhead Line Circuits Policy Manager that specified criteria have been satisfied
Contract	The agreement between Electricity North West and the Contractor for the execution of the Works including therein all documents to which reference may properly be made in order to ascertain the rights and obligations of the parties under the said agreement.
Contractor	The person or person's firm or company, including personal representatives, successors and permitted assigns, who's Tender has been accepted by Electricity North West.
GVW	Gross Vehicle Weight. This is the permissible maximum weight of the vehicle. It includes oil, fuel, cargo, driver, passengers, etc.
Kerb Weight	The weight of the vehicle parked at the kerb. It is the weight without occupants or cargo.
MEWP	Mobile Elevated Work Platform.
Specification	The Specifications and schedules (if any) agreed by the parties for the purpose of the Contract.
Sub-Contractor	Any person (other than the Contractor) named in the Contract for any part of the Works or any person to whom any part of the Contract has been sub-let with the

	consent in writing of the Electricity North West Overhead Line Circuits Policy Manager, and the legal representatives, successors and assigns of such person.
Supplier	Any person or person's firm or company who supplies goods to Electricity North West or to its Contractor.
Tender	An offer in writing to execute work or supply goods at a fixed price.
Tenderer	The person or person's firm or company, including personal representatives, successors and permitted assigns, invited by Electricity North West to submit a Tender.

4 General Requirements for Approvals and Testing

4.1 Product not to be Changed

No change in the product, packaging or labelling shall be made after Approval has been granted without prior notice to the Electricity North West Overhead Line Circuits Policy Manager, and receipt of a written agreement to the proposed change from the Electricity North West Overhead Line Circuits Policy Manager.

4.2 Electricity North West Technical Approval

The Tenderer shall submit, with this Tender, proposals for testing which will demonstrate, to the satisfaction of the Electricity North West Overhead Line Circuits Policy Manager, compliance with this Specification. Such tests shall be carried out without expense to Electricity North West.

Alternatively, technical reports and other data may be submitted that the Tenderer considers will demonstrate, to the satisfaction of the Electricity North West Overhead Line Circuits Policy Manager, compliance with this Specification. Acceptance of this evidence shall be at the discretion of the Electricity North West Overhead Line Circuits Policy Manager but will not be unreasonably withheld.

Approval shall be 'factory specific' and is not transferable to another factory without the written Approval of the Electricity North West Overhead Line Circuits Policy Manager.

The Supplier and product shall comply with all the relevant requirements of Electricity North West document CP311.

4.3 Quality Assurance

The Tenderer shall confirm whether or not Approval is held in accordance with a quality assurance scheme accredited under ISO 9000. If not, the Tenderer shall submit a statement of the quality assurance procedures employed to control the quality of the product, including the performance of Suppliers and Sub-Contractors.

The right is reserved for the repeat of such tests, from time to time, that the Electricity North West Overhead Line Circuits Policy Manager may deem to be reasonably necessary to demonstrate continued compliance with the Specification.

The Tenderer shall submit, with the Tender, a list of tests and inspections which are carried out on the product prior to despatch which shall demonstrate, to the satisfaction of the Electricity North West Overhead Line Circuits Policy Manager, fitness for installation and service.

The Tenderer shall provide free of charge to Electricity North West such samples as may, in the opinion of the Electricity North West Overhead Line Circuits Policy Manager, be reasonably required for inspection and/or retention as quality control samples. The Electricity North West Overhead Line Circuits Policy Manager will confirm the requirement for samples at the time of Tendering.

The right is reserved for inspections to be made of Tenderer's facilities, from time to time, as deemed reasonably necessary by the Electricity North West Overhead Line Circuits Policy Manager to ensure compliance with this Specification and any Contract of which it forms a part.

The Tenderer shall submit, with the Tender, such details of product packaging disposal, as will enable Electricity North West to comply with the requirements of BS EN ISO 14001 - Environmental Management Systems.

4.4 Formulation

The Tenderer shall submit, with the Tender, such details of the formulation and use of the product and associated substances as will enable Electricity North West to comply with the obligations of the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 2002, in the use, storage and disposal of the product. The Tenderer may stipulate, prior to submission of such information, that it is to remain confidential, and the Electricity North West Overhead Line Circuits Policy Manager will, if requested, confirm agreement to this prior to receipt of the information.

4.5 Identification Markings

The Tenderer shall submit, with the Tender, details of markings which it is proposed to apply to the product or packaging to identify manufacturing batches or items. The forms and content of such markings shall be subject to the Approval of the Electricity North West Overhead Line Circuits Policy Manager and shall in all cases include the Electricity North West approved description and commodity code number.

The Tenderer shall submit, with the Tender, such details of marking gross weight on components, assemblies and packages, as will enable Electricity North West to comply with the Health and Safety Manual Handling Operation Regulations 1992, for components, assemblies and packages supplied with a gross weight over 1kg. The forms and content of such markings shall be subject to the Approval of the Electricity North West Overhead Line Circuits Policy Manager.

4.6 Minimum Life Expectancy

The minimum life expectancy of all products covered by this Specification is 10 years.

4.7 Product Conformity

Preference will be given to those Suppliers who can provide suitable product conformity certification to a recognised or specified standard, or an equivalent certification.

4.8 Confirmation of Conformance

The Tenderer shall complete the conformance declaration sheets in Appendix D. Failure to complete these declaration sheets may result in an unacceptable bid.

5 Requirements for Type and Routine Testing

The Electricity North West Overhead Line Circuits Policy Manager shall set out the requirement of the following tests to be carried out by the Supplier at the Supplier's cost.

5.1 Requirement for Type Tests at Suppliers Premises

These are a series of one-off type tests, which are carried out to ensure the satisfactory performance of the product design, under extremes of operating stresses, and of endurance, as may be appropriate, to be determined by the Electricity North West Overhead Line Circuits Policy Manager.

These may or may not be destructive tests.

5.2 Requirement for Routine Tests at the Supplier's Premises

These tests may be required to be carried out on every individual unit or component, as specified, or at some regular frequency to be determined by the Electricity North West Overhead Line Circuits Policy Manager.

The results of these tests may be required to be supplied to Electricity North West with each unit purchased or retained for inspection, at a period to be determined by the Electricity North West Overhead Line Circuits Policy Manager.

6 Technical Requirements

6.1 General

MEWPs covered by this Specification will mainly be used as access and work platforms for working at height on wood poles and overhead line conductors, therefore:

- They shall be suitable for use off-road.
- They shall meet all legal requirements for vehicles of this type.

A typical example of such a MEWP is shown below.

6.2 Chassis

The proposed chassis, including basic telescopic access platform (NSS approved or equivalent with 3500kg GVW) and tyres shall be approved by Electricity North West prior to the addition of the standard equipment (refer to Section 6.3).

The tyres shall be an acceptable type of all-terrain tyre. (Details of the proposed tyres shall be included in the tender.)

6.3 Standard Equipment

Once the chassis has been approved, the standard equipment listed in Appendix A shall be fitted to, and tested on, the approved chassis (with approved tyres fitted).

6.3.1 Emergency Controls

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Emergency stop button shall be fitted in the bucket and on the turret controls. Electric emergency control switch shall be fitted in bucket and turret/ground controls. Emergency electric and manual pump shall be fitted as standard.

6.4 Technical Specification

The MEWP shall meet or exceed the requirements specified in Appendix B.

The Tenderer shall provide the "Actual" values in the corresponding column of the table.

The Tenderer shall provide the images and associated detail required by Appendix B.

6.5 Protection Against Electrocution

6.5.1 General

Persons on the ground who are touching the vehicle, mainframe, outriggers or controls, or persons in the bucket shall be protected against electric shock should the bucket or boom come in contact with conductors or live metalwork on the LV Network, i.e. voltages up to and including 1kV AC. The Tenderer shall specify how persons on the ground will be protected. Example options are given below.

6.5.2 Insulating Bucket/Boon from the Chassis (Preferred option)

In this case, persons on the ground who are touching the vehicle will be protected from electric shock by insulation within the boom.

6.5.3 Providing Insulation for the End of the Boom

In this case, insulation (same rating as the bucket) would cover the end of the boom, such that, if inadvertent contact occurs between the boom and conductors or live metalwork, the insulation will protect persons on the ground who are touching the vehicle.

It is envisaged that this insulation would have to be in the form of a hinged cap or removable piece to allow it to be moved out of the way before the boom contacts the ground.

6.5.4 Providing a Bonding Point on the Chassis for Connection to External Earth

In this case, the chassis shall have an earth bonding point, comprising an M10 bolt.

6.6 Testing

After approved tyres and all other equipment have been fitted (i.e. the MEWP is ready to drive and use), each MEWP shall subjected to a low voltage dielectric test to prove that it meets the requirement stated in Section 6.5 (**Error! Reference source not found.**).

The details of the proposed test shall be supplied as part of the Tender. State any restrictions or limitations of the test. Note that in the case of Section 6.5.2 or 6.5.3 this test must include the whole vehicle.

In the case of Section 6.5.4, the Tenderer shall include a suitable bonding test, together with acceptably low resistance values which will meet the requirements of Section 6.5.1.

Each MEWP shall be delivered with a test certificate proving that the dielectric test has been passed (and the bonding test in the case of Section 6.5.4). The requirements of the test certificate are given in Appendix C.

The Tender shall include a separate cost for each annual retest.

6.7 Documentation

Hardcopy and softcopy operation and maintenance manuals (in English) shall be supplied:

- Each manual shall provide sufficient information for the MEWP to be operated safely, including parameters/envelope of safe operation.
- One hardcopy manual shall be supplied with each MEWP.

7 Delivery and Training

Each MEWP shall be delivered ready for immediate use.

On delivery, a group of users who are trained and authorised to operate and/or maintain MEWPs shall be introduced to the features and limitations of the MEWP, for example, location and use of controls, stabilisers, earth bonding point, operating envelope of the platform.

Training on daily checks and general maintenance shall be given at the same time.

8 Documents Referenced

DOCUMENTS REFERENCED	
Health and Safety at Work Act 1974	
Control of Substances Hazardous to Health Regulations 2002	
Manual Handling Operations Regulations 1992	
BS EN ISO 9000	Quality management systems
BS EN ISO 14001	Environmental management systems. Requirements with guidance for use
CP311	Equipment Approval Policy and Process

9 Keywords

MEWP.

Appendix A – Standard Equipment to be Fitted to Each MEWP

DESCRIPTION	QTY PER MEWP
2 Person plastic bucket with anti-slip floor; access from deck.	1
Hydraulic outriggers, A frame, individually operated.	4
Horn operation from within the bucket.	1
Engine stop/start in bucket.	1
12 volt supply to the bucket.	1
Emergency stop button in bucket and on turret controls.	1
Emergency electric pump.	1
Emergency manual pump.	1
Electric emergency control switch in bucket/turret/ ground controls.	1
Telescopic boom control from ground level.	1
Engine stop/start on turret controls.	1
Access steps one each side to deck (not to impede departure angle).	2
Integral foot plates, painted in yellow.	4
Work lights.	2
Clip-on tool box.	1
Reflective red chevrons to bucket.	1
LED amber roof bar, 2 amber LEDs to front grille,2 amber LEDs to rear.	1
Electric hour meter fitted in vehicle cab.	1
Locking fuel cap.	1

Appendix B – Technical Specification

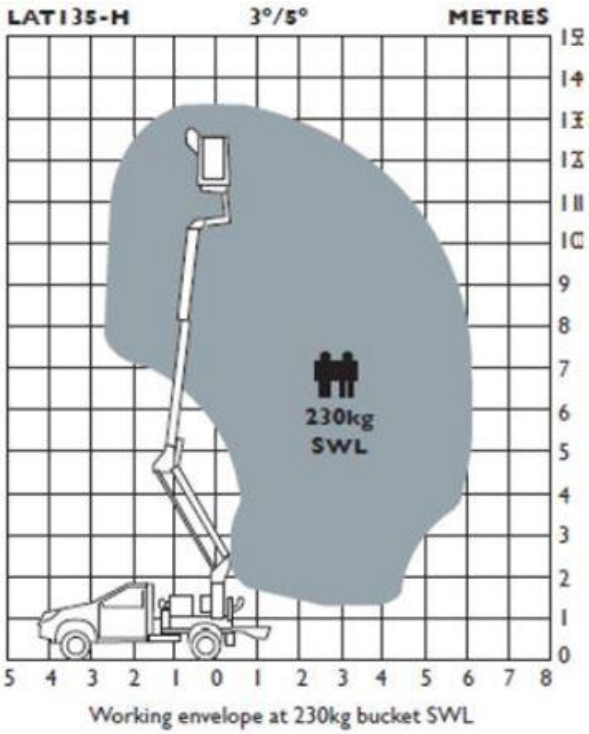
DESCRIPTION	REQUIRED	ACTUAL
Working height minimum	13.2m	
Travelling height	<2.7m	
Outreach minimum	6.5m	
Turret rotation	360º	
Safe working load	225kg @ 5º	
Basket dimensions	Must be 2 man	
Dielectric test to 1kV with certificate (please advise on a separate sheet page 5 of this document how this is achieved and any restrictions i.e. conditions of use)	Refer to Appendix D	
Kerb Weight	TBA	
Payload front axle *	TBA	
Payload rear axle *	TBA	
Warranty	TBA	
* A sufficient payload shall be available for fuel, people and equipment.		

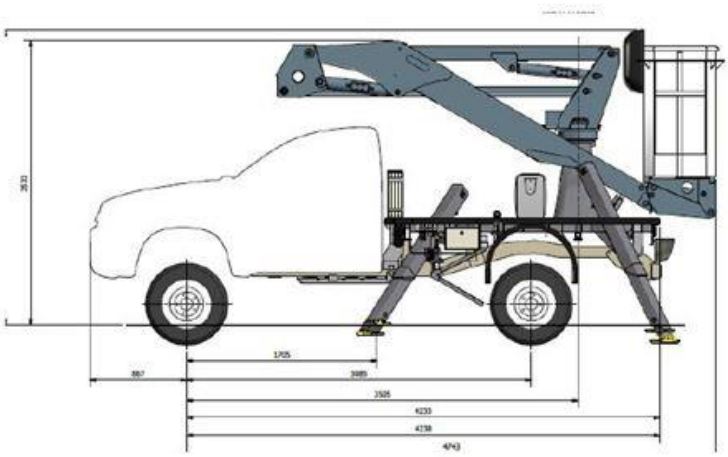
Images, Dimensions and Working Envelope of Proposed MEWP

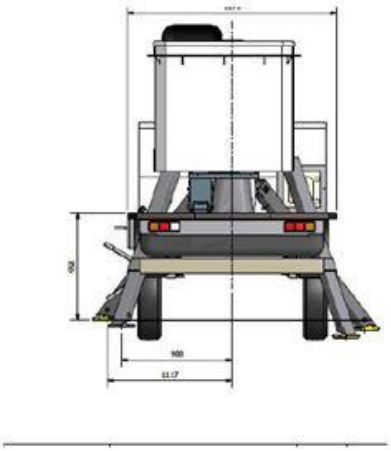
Refer to the examples below and provide similar images of the proposed MEWP, together with photographs, illustrations and drawings, etc showing:

- The MEWP.
- The working envelope.
- Other dimensions and features.

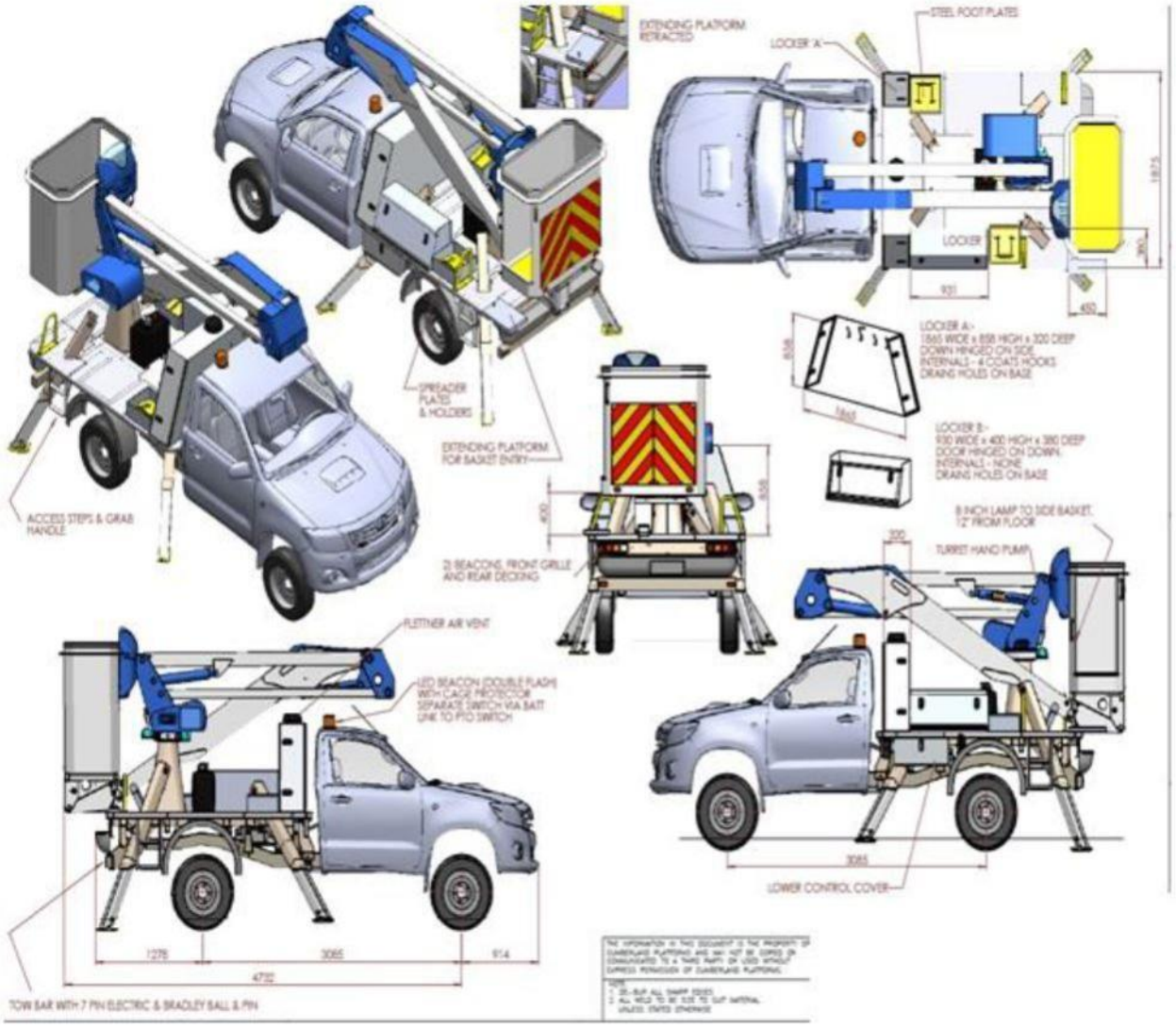
Example Photographs, Illustrations and/or Drawings (1 of 2)







Example Photographs, Illustrations and/or Drawings (2 of 2)



Appendix C – Requirements of Dielectric Test Certificate

D1 General Requirements

Each test certificate shall contain the following information:

- Details of Supplier.
- Address of the test facility.
- Details of vehicle:
  Type
  Model
  Chassis Number
  Any other unique identifier
  Design Voltage
  Rated Voltage.
- Test Standard.
- Itemized list of Equipment used (each item of equipment to have a valid calibration certificate).
- Name and signature of tester and date of test.
- Name and signature of authoriser and date authorised.

Test sequence and pass/fail result for each test (refer to the example shown in D2 below).

D2 Example Test Sequence with Pass/Fail Result

1.	**The telescopic boom was positioned 0 degrees above horizontal and extended 50cm.**	
2.	An AC voltage of 3kV, 50Hz was applied to each insulated clearance for three minutes. There was no flashover or breakdown.	Pass [√]
3.	The unit was connected through a shielded cable to current meter and the ground.	**N/A**
4.	An AC voltage of 1 kV, 50Hz was applied to the boom tip and n/s harness point for one minute and the current leakage never exceeded 500 microamperes. [170µA]	Pass[√]
5.	An AC voltage of 1 KV 50Hz was applied to the boom tip and o/s harness point for one minute and the current leakage never exceeded 500 micro amperes. [170µA]	Pass [√]
6.	An AC voltage of 1 kV, 50Hz was applied to the end of the boom and to the turret for one minute and the current leakage never exceeded 3,500 microamperes. [650µA]	Pass [√]
7.	A DC voltage of 1 kV was applied between turret and fly boom, the insulation resistance recorded was >499M Ohms.	Pass [√]
8.	A DC voltage of 1 kV was applied between turret and n/s harness point, the insulation resistance recorded was >499M Ohms.	Pass [√]
9.	A DC voltage of 1 KV was applied between turret and o/s harness point ,the insulation resistance recorded was >499M Ohms	Pass[√]
10.	A DC voltage of 1 kV was applied between turret and upper controls, the insulation resistance recorded was >499M Ohms.	Pass [√]
11.	A DC voltage of 1 kV was applied between fly boom and n/s harness point, the insulation resistance recorded was >499M Ohms.	Pass [√]
12.	A DC voltage of 1 KV was applied between fly boom and o/s harness point ,the insulation resistance recorded was >499M Ohms	Pass [√]
13	The insulation has been inspected and all metal parts are covered. [Yes]	Pass [√]

Appendix D – Conformance Declaration

SECTION-BY-SECTION CONFORMANCE WITH SPECIFICATION

The Tenderer shall declare conformance or otherwise for each product/service or range of products/services, section-by-section, using the following Conformance Declaration Codes.

Conformance Declaration Codes:

N/A =	Clause is not applicable/appropriate to the product/service.
C1 =	The product/service conforms fully with the requirements of this clause.
C2 =	The product/service conforms partially with the requirements of this clause.
C3 =	The product/service does not conform to the requirements of this clause.
C4 =	The product/service does not currently conform to the requirements of this clause, but the manufacturer proposes to modify and test the product in order to conform.

Manufacturer:

Product/Service Description:

Product/Service Reference:

Name:

Company:

Signature:

SECTION-BY-SECTION CONFORMANCE			
Section	**Section Topic**	**Conformance Declaration Code**	**Remarks * (must be completed if code is not C1)**
4.1	**Product not to be Changed**		
4.2	**Electricity North West Technical Approval**		
4.3	**Quality Assurance**		
4.4	**Formulation**		
4.5	**Identification Markings**		
4.6	**Minimum Life Expectancy**		
4.7	**Product Conformity**		
4.8	**Confirmation of Conformance**		
5.1	**Requirements for Type Tests at the Supplier's Premises**		
5.2	**Requirement for Routine Tests at the Supplier's Premises**		
6.1	**General**		
6.2	**Chassis**		
6.3	**Standard Equipment**		
6.4	**Technical Specification**		
6.5	**Protection against Electrocution**		

6.6	**Testing**		
6.7	**Documentation**		
7	**Delivery and Training**		

Additional Notes: