





Risk Assessment & Method Statement – MEWP Personal Evacuation

Document Number: AT RAM 011
Issue Date: 04/02/2022
Review Date: 03/02/2025

Revision: 1
Complied by: Alex Mountain
Reviewed/Authorised by: Peter King

Purpose:	This document details the method by a personal evacuation will be carried out from a Mobile Elevated Work Platform (MEWP) in the event the basket becomes stranded at height. The document will be used in conjunction with <i>AT RAM 003 - MEWP Use on a Windfarm</i> and is only to be followed once other rescue measures (described in AT RAM 003 Appendix C) have been exhausted. To evacuate out of the basket using rope access techniques is a last resort measure and is not standard operating procedure.		
	A risk assessment of the task is found in Appendix A. Appendix B contains a pre-use checklist used to identify specific points that will vary between MEWPs.		
Summary of Changes	Rev 0	01/07/20	First Issue
	Rev 1	04/02/22	Scheduled review

Complied by:	Alex Mountain	04/02/22	
Authorised by:	Peter King	04/02/22	

1. Task Description

Mobile Elevated Work Platforms (MEWPs) are used by AccessTec to create a stable working platform whilst accessing blades to carry out repairs/inspections.

There is a low but present risk that the basket can become stranded at height requiring a grounds person to operate the controls at the base of the machine to bring the basket safely down.

Normal MEWP use on a windfarm is described in *AT RAM 003 - MEWP Use on a Windfarm*. AT RAM 003 contains a rescue plan in Appendix C which is to be followed.




The normal rescue plan is detailed below:




	EMERGENCY SITUATION	PROPOSED ACTION
STEP 1	Failure of upper control functions while elevated	Where the normal upper control functions fail; the operator will use the upper auxiliary controls to lower the platform safely
STEP 2	Failure of the operator to be able to operate the MEWP functions while elevated due to one of the following reasons: <ol style="list-style-type: none"> 1. Operator incapacitated 2. Both normal and auxiliary functions fail to operate from upper control station 	Where the operator is incapable of lowering the raised platform using the upper controls; a nominated person familiarised in the use of the ground controls will lower the platform safely using the normal ground controls
STEP 3	Failure of normal ground controls	Where the normal ground controls fail; a nominated person familiarised in the use of the ground controls will use the ground auxiliary controls to safely lower the platform
STEP 4	Failure of ALL normal and auxiliary lowering functions	Where all normal and auxiliary functions have failed a qualified person, and a service technician should be contacted.

On occasion, either because the work task requires 2 technicians to work in the basket or there is no cover on site, it is not practical to have a nominated grounds person (steps 2 & 3). In addition, a service technician (step 4) may take several hours to attend site especially when working in remote locations and over weekends.

A situation may also arise where the stranded technicians are exposed to severe weather (high winds, electrical storm, heavy rain, cold conditions etc..) that was not present or forecasted when they commenced the works. In this situation it is paramount that they are able to descend quickly without having to rely on external assistance.

ONLY when steps 1 to 4 of the normal rescue plan (above) have been exhausted is the following action permissible. **ONLY** IRATA trained rope access technicians should carry out the personal evacuation and they must be under the supervision of a Level 3.

1		<p>Ensure contact has been made with the AccessTec project manager. They will monitor weather conditions and deal with communication with the MEWP hire company/client during the evacuation</p> <p>Engage the emergency STOP button- ensure the machine is not running and the controls are disabled.</p> <p>Ensure no one on the ground is attempting to lower the machine</p>
2		<p>Check the windspeed is <12 m/s using a handheld anemometer and other weather conditions are suitable for an evacuation</p>
3		<p>Following the pre-defined information in Appendix B (specific to the MEWP in use), the IRATA Level 3 will:</p> <ol style="list-style-type: none"> 1. Rig ropes to anchors that have been determined to be unquestionably reliable 2. Ensure the ropes are long enough to reach the ground and have knots in 3. Ensure an exclusion zone is in place below the MEWP 4. Supervise the descent of any Level 1 or 2 technician

4		<p>Prior to evacuation, ensure all tools/materials in the basket are safely stowed and attached to the basket with lanyards to prevent anything falling out during and after the descent</p>
5		<p>If required, place rope protection where ropes may contact the basket</p> <p>Abseil to the ground in a controlled manor one person at a time. Two ropes are to be used each independently anchored. The technician attaches to the working line with a descender and the second rope with a backup device.</p>
6		<p>Actions to be followed once both technicians are on the ground if weather conditions permit:</p> <ol style="list-style-type: none"> 1. Lower the basket to the ground following direction from the MEWP hire company. DO NOT USE THE MACHINE until deemed safe to do so by the hire company 2. De-rig the ropes and stow 3. Submit <i>ATF-006 QHSE Observation Form</i> detailing the incident

2. Plant and Equipment

- Two-way radios
- Anemometer

3. Personal Protective Equipment (PPE)

Site Mandatory PPE	MEWP Specific PPE (to be worn when operating the machine)	Rescue Equipment (to be carried in the basket and used as a last resort)
Safety Boots	Petzl full body harness EN361, EN358, EN813	Hardware for descending EN341 Class A EN12841 type C
Safety Glasses	Fall restraint lanyard	Back up device EN12841
Gloves		5 x Karabiners EN362
Helmet		10.5 and 11mm Semi static Rope EN1891 type A

All work at height equipment is inspected by a competent person every 6 months as per LOLER requirements. Equipment manifest/inspection record supplied.

4. Technical Content of Job (SSOW)

All RAMS must be reviewed by the customer prior to deployment – any points requiring clarification will be addressed prior to the work commencing. Work will be carried out in accordance with:

- LOLER 1998
- PUWER 1998
- IRATA COP
- Work at height regulation 2005
- MEWP manufactures operations manual (provides information on wind speed limits, SWL etc...) MEWP must be inspected in accordance to Local Specific Instructions and deemed fit for purpose. The MEWP shall be positioned in accordance with the area of the hardstand that has been deemed suitable by ground pressure testing or other means

5. Safety Risk Assessment

AccessTec’s risk assessment for this work is detailed in Appendix A. The risk assessment details the hazards identified by AccessTec for its employees, that are relevant to this task and includes details of how the hazards are to be minimised/managed. The supervisor must ensure that all personnel involved in the work are aware of the possible dangers and precautions they must take to ensure that the identified risk is minimised.

The main risks that have been identified for the elements of work covered by the method statement are listed below together with relevant mitigation measures.

Working at Height: The principle hazard associated with this activity is falling. All work to be carried out using principles laid out by IRATA. Care is to be taken when switching from been attached to the MEWP with fall restraint lanyard to attached to the rope access system.

Weather:

If technicians are stranded in a MEWP basket the weather conditions during the emergency evacuation need to be considered. A gap in the weather may need to be waited for. The principle conditions to be considered during a evacuation are:

- **Wind**
The limit for abseiling is 12m/s

- **Visibility**
Without continuous visibility between the MEWP basket and the ground the evacuation should not be carried out

- **Precipitation (rain, snow, hail etc..)**
Precipitation should only be considered a safety concern for an evacuation if:
 - Adequate clothing for the conditions has not been provided.
 - The precipitation contributes to the deterioration of visibility to below safe values stated above.
 - The precipitation contributes to the deterioration of generalsafety.

- **Lightning storm procedure.**
Follow the standard lightning storm procedure in *AT RAM 003 - MEWP Use on a Windfarm*. The AccessTec project manager can monitor lightning activity during the evacuation if required.



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Appendix A – Risk Assessment

Appendix B – MEWP Evacuation Pre-Use Checklist

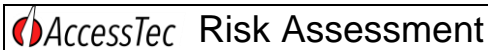
MEWP Model:					
Basket Maximum Working Height:					
Identification of Anchor Points for Rope Rigging:					
Anchor Points.		Alternative Anchor Point if Required			
Confirm you have ropes that are long enough to reach the ground:					
Technicians:					
Name:		Date:		Signature:	
Name:		Date:		Signature:	
Name:		Date:		Signature:	
Name:		Date:		Signature:	
Name:		Date:		Signature:	

AccessTec Risk Assessment

Task:	MEWP Personal Evacuation	Initial assessment Date:	30/06/2020	Rev:	1	AT RAM 011
Location:	Wind Turbines	Date of last review:	04/02/2022			
Author:	Alex Mountain	Date of next review	03/02/2022	Designation:		
Activities	Hazards	Initial risk rate Likelihood x Severity =	Safety Controls	Residual risk rate Likelihood x Severity =	Y/N	Action required Remarks

HAZARD CATEGORY – WHAT MIGHT GO WRONG

	Member of public	Operatives	Other		Member of public	Operatives	Other		Members of public	Operatives	Other
1		✓		17	Exposure to vibration *				Other Hazards		
2		✓		18	Repetitive motion / action			34	Risk of Service Strike – OHL & U/G		
3				19	Collision – moving objects/vehicles			35	Trapped / Crushed body parts		
4				20	Fire / flammable Atmosphere			36	Confined Spaces		
5	✓	✓		21	Explosion			37	Access / Egress		
6				22	Drowning			38	Struck / trapped by Vehicles/Mobile Plant Movements		
7				23	Asphyxiation			39	Stuck by Winch Bond		
8				24	Loss of containment – liquid/gas			40	Exposure at sea		
9				25	Adverse weather		✓	41	Extreme working over water		
10				26	Sharp objects		✓	42			
11				27	Radiation *			43			
12				29	Exposure to fumes / dust			Other Considerations			
13				30	Young persons			1	Pregnant women		
14				31	New or expectant mothers			2	Waste products		
15				32	Environmental threat			3	Lone workers		
16				33	Asbestos *			4			



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Transferring from Fall Restraint to Rope Access	Fall from Height	3x4 12 (Medium)	<ul style="list-style-type: none"> Maintain connected to the fall restraint system in the basket whilst transferring to the rope access system. Once descender and backup are attached, remove fall restraint 	2x4 (8-Low)		
Evacuation Using Rope Access – anchor selection	Fall from Height	3x4 12 (Medium)	<ul style="list-style-type: none"> Identify anchors on different MEWPs in Appendix B Ropes to be rigged to anchors of 'unquestionable soundness' – examples can be seen in the method statement 	2x4 (8-Low)		
Evacuation Using Rope Access	Falling	3x4 12 (Medium)	<ul style="list-style-type: none"> Use of twin static rope system IRATA Code of Practice including associated annexes and BS 7985 Code of practice for the use of rope access methods for industrial purposes. Working in accordance with GWO working at height. IRATA Guidelines Working on Wind Turbines 	2x4 (8-Low)	N	
Evacuation Using Rope Access	Damage to anchor line from sharp edge	3x4 12 (Medium)	<ul style="list-style-type: none"> Ensure the Hierarchy for protection of anchor line as detailed in Annex P of the IRATA Code of Practice is followed. Rope protection is provided in the rescue kit Rig ropes in a manor so they do not pass over sharp objects 	2x4 (8-Low)	N	

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Housekeeping	Slips/Trips/ Falls/Fall down steps	3x3 9 (Medium)	<ul style="list-style-type: none"> • Worksite and access routes to be kept clear of any material as often as is practical with consideration given to removal. Ropes to be bagged in the nacelle when not in use. • Suitable disposal areas to be identified and utilised for differing waste material. All waste material to be removed from Turbine and taken back to Office for disposal in appropriate containers. Technicians to be briefed at Tool Box Talks. 	2x3 6 (Low)	N	
Evacuation Using Rope Access	Injury from dropped objects	4x3 12 (Medium)	<ul style="list-style-type: none"> • Ensure an 'Exclusion Zone' is established prior to the evacuation • Signs and barriers to be erected at suitable locations taking into account the trajectory of falling objects. • Frequent monitoring of Exclusion zones, ensuring that adequate exclusion zones are maintained throughout project progression. 	2x3 6 (Low)	N	
Evacuation Using Rope Access	Weather - Extreme wind Wind pressure Gusts	3x3 9 (Medium)	<ul style="list-style-type: none"> • Wind speeds shall be assessed prior to work being carried out. Work tasks shall be prohibited when wind speed limits for the turbine type are exceeded-see RAMs summary doc. • Care shall be taken when opening all external doors. Nacelle doors shall not be opened when wind speed limits for that machine size are exceeded. Carry anemometers • Assess the wind conditions throughout the operation and maintain contact with the nominated weather forecast checker for weather updates and follow local instructions. • Windspeed limit for external blade/tower work is 12m/s. • Ropes tied off at the base of the turbine/TP. 	1x3 3 (Low)	N	


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Lack of egress due to rope tangles	Exposure to changing weather. Unable to emergency descend/rescue	4x3 12 (medium)	<ul style="list-style-type: none"> Onshore- ensure there isn't an excessive amount of rope on the ground. Bag ropes to prevent entanglement. Ensure a spare set of ropes are available on site in case a rescue is needed. 	2x3 6 (Low)	N	
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RISK RATING TABLE							
INCREASING LIKELIHOOD		➔					
INCREASING SEVERITY ↓		Very Unlikely 1	Unlikely 2	Possible 3	Likely 4	Very Likely 5	
		Personal Injury Equipment or Property damage Environment Impact	Little or no chance of occurrence	Conceivable but would require multiple failure of systems & controls	Could happen when additional factors are present but unlikely to occur	Not certain to happen but additional factors may result in an accident	Almost inevitable that an accident would occur
	Negligible 1	No Disruption to operations Potential for slight injury Potential for slight effect Potential for slight damage	1 LOW	2 LOW	3 LOW	4 LOW	5 LOW
	Slight 2	Brief Disruption to operations Potential for minor injury Potential for minor effect Potential for minor damage	2 LOW	4 LOW	6 LOW	8 MED	10 MED
	Moderate 3	Partial Shutdown Potential for major injury Potential for local effect Potential for local damage	3 LOW	6 LOW	9 MED	12 MED	15 HIGH
	High 4	Disruption to operations Potential for single fatality Potential for major effect Potential for local damage	4 LOW	8 MED	12 MED	16 HIGH	20 HIGH
	V High 5	Major Disruption to operations Potential for multiple fatalities Potential for massive effect Potential for extensive damage	5 LOW	10 MED	15 HIGH	20 HIGH	25 HIGH

HUMAN FACTORS MUST BE CONSIDERED IN ALL TASKS, BUT THE RISK POTENTIAL IS NOT QUANTIFIABLE CARRY OUT SITE SPECIFIC RA BEFORE WORK COMMENCES.

Risk	= the likelihood of the harm being realised	Rating	Key to risk rating:
Hazard	= something with the potential to cause harm	1-6	= Low
L	Likelihood/probability	8 - 12	= Significant / Medium
S	Severity	15-25	= Unacceptable / HIGH
R	Risk		
RR	Residual Risk Rating		