



PLANT RISK ASSESSMENT REPORT



SECTION 1: PLANT IDENTIFICATION

Report Number:	407/795	Assessment Date:	10/05/2023
Company:	Wacker Neuson	Plant Type:	Telehandler
Make:	Wacker Neuson	Models:	TH412, TH627
Assessment Purpose:	<input checked="" type="checkbox"/>	Operational risks associated with the unit as it stands – On site	
	<input type="checkbox"/>	Operational risks associated with the unit as it stands – Desk top analysis	
	<input type="checkbox"/>	Access Systems	
	<input type="checkbox"/>	Modification/s	
	<input checked="" type="checkbox"/>	Other : Group assessment of plant type	
Assessed by:	Darren Husson – VEHTEC Pty Ltd		



SECTION 2: PLANT SUMMARY

Preamble: Both of these Tele-Handlers have All Wheel steering, with the TH412 having a payload of 1,200kg and maximum stacking height of 4,300mm and the larger TH627 having a payload of 2,500 kg with a maximum stacking height of 5,730mm. An operator's cabin is fitted with a clear 'roof' is fitted to the TH627 as standard, with the TH412 also having an 'open' cabin design, both ROPS approved. Vertical Lift System (VLS) providing the ability to lift and lower on a nearly vertically plane is standard to both models. Units are well decaled with safety and instructional advice. This risk assessment covers the configuration at the time of inspection (without payload or additional modifications). This document is intended to highlight Occupational Health Safety and Welfare related risks that may present during on site set up and operation and has been conducted in accordance with the Work Health and Safety Act 2012 (SA).

Is the plant designed for its intended use?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Final Sign off by Employer/Owner user - All actions/recommendations complete</i> Name: _____ Position: _____ Signed: _____ Date: _____
Has the plant been modified from the original design?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is the plant in good working condition?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is action required before the plant can be safely used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Has the required action / remedy been undertaken?	<input type="checkbox"/> Yes <input type="checkbox"/> N/A	



Photographs are for illustrative purposes only. Functions, layout, engines and bodies will vary between models



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SECTION 3: RISK ANALYSIS LIKELIHOOD AND CONSEQUENCES

Table 1. Measure of Likelihood (L)		
Level	Description	Detail
A	Almost Certain	The event is expected to occur in most circumstances
B	Likely	The event will probably occur in most circumstances
C	Moderate	The event should occur at some time
D	Unlikely	The event could occur at some time
E	Rare	The event may occur only in exceptional circumstances

Table 2. Measure of Consequences or Impact (C)		
Level	Description	Detail
1	Insignificant	No injuries, low financial loss
2	Minor	First Aid treatment, on site release immediately contained, medium financial loss
3	Moderate	Medical treatment required, on site release contained with outside assistance, high financial loss
4	Major	Extensive injuries, loss of production capability, off site release with no detrimental effects, major financial loss
5	Catastrophic	Death, toxic release off site with detrimental effect, huge financial loss

Table 3. Risk Analysis Matrix (Risk)					
Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (Almost certain)	S	S	H	H	H
B (Likely)	M	S	S	H	H
C (Moderate)	L	M	S	H	H
D (Unlikely)	L	L	M	S	H
E (Rare)	L	L	M	S	S

Legend:

- **H**= High risk, detailed research and management planning required.
- **S**= Significant risk, senior management attention needed. Continuous review.
- **M**= Moderate risk, management responsibility. Periodic review
- **L**= low risk, manage by routine procedures. Periodic review to ensure risk does not increase.

*Only hazards with a risk deemed higher than 'low' need to be controlled

SECTION 4: HAZARD IDENTIFICATION

1	Plant in its current state has potential to cause injury/illness due to:				
1.1a	Entanglement (Bystander moving into the operating range of machine. Unit has good forward operator visibility)	Yes	D	4	S
1.1b	(Bystander caught in the forward or lifting action of the lift arm)	Yes	D	4	S
1.2	Puncturing (Bystander caught in the forward action of the lift arm)	Yes	D	4	S
1.3a	Cutting (Bystander moving into the operating range of machine. Unit has good forward operator visibility)	Yes	D	3	M
1.3b	(Bystander caught in the forward or lifting action of the lift arm)	Yes	D	3	M
1.3c	(Pinch point when closing engine inspection cover or cabin access doors)	Yes	D	3	M
1.4	Stretching (Operator incorrect entry/egress from cabin)	Yes	D	3	M
1.5	Stabbing (Bystander caught in the forward action)	Yes	D	4	S
1.6a	Trapping (Bystander moving into the operating range of machine. Unit has good forward operator visibility)	Yes	D	4	S
1.6b	(Bystander caught in the forward or lifting action of the lift arm)	Yes	D	4	S
1.6c	(Bystander trapped by product/goods falling from lift arm/bucket/attachment)	Yes	E	5	S
1.6d	(Unit rollover on uneven ground or operating in uneven terrain)	Yes	E	5	S
1.6e	(Wheel nuts coming loose after tyre repair or normal use, incorrect tyre pressures)	Yes	D	3	M
1.6f	(Uncontrolled movement if overloaded – Has lowering brake valve fitted as standard)	Yes	D	4	S
1.6g	(Pinch point when closing engine inspection cover or cabin access doors)	Yes	D	3	M
1.7a	Abrasion (Bystander caught in the forward or lifting action of the lift arm)	Yes	D	3	M
1.7b	(Operators impacting external mirror when accessing cabin)	Yes	D	3	M
1.8	Engulfment (Bystander engulfed by product/goods falling from lift arm/bucket/attachment)	Yes	D	5	H
1.9a	Crushing (Bystander moving into the operating range of machine. Unit has good forward operator visibility)	Yes	D	3	M
1.9b	(Bystander caught in the forward or lifting action of the lift arm)	Yes	D	4	S
1.9c	(Bystander crushed by product/goods falling from lift arm/bucket/attachment)	Yes	D	5	H
1.9d	(Unit rollover on uneven ground or operating in uneven terrain)	Yes	D	4	S
1.9e	(Wheel nuts coming loose after tyre repair or normal use, incorrect tyre pressures)	Yes	D	3	M
1.9f	(Uncontrolled movement if overloaded - Has lowering brake valve fitted as standard)	Yes	D	4	S
1.9g	(Pinch point when closing engine inspection cover or cabin access doors)	Yes	D	3	M
1.10a	Shearing (Bystander moving into the operating range of machine. Unit has good forward operator visibility)	Yes	D	3	M
1.10b	(Bystander caught in the forward or lifting action of the lift arm)	Yes	D	3	M
1.11	Tearing (Operator incorrect ascent/descent from cabin – Good step with residue gaps and tread width. Three (3) points of contact available)	Yes	D	3	M
1.12	Asphyxiation	No			
1.13	Slips, Trips (Wet or muddy cabin access steps - good step traction provided. Steps have residue gaps and adequate tread width. Grab/hand rails are also fitted to allow 3 points of contact)	Yes	D	2	L
1.14	Falls (Operator incorrect entry/egress from cabin)	Yes	D	3	M

1.15a	Falling Objects (Wheel nuts that are not tensioned correctly may come loose and cause a runaway wheel which can impact other road users or bystanders)	Yes	D	4	S
1.15b	(Bystander caught in product falling from extended lift arm/attachment)	Yes	D	4	S
1.16	Expelled Parts	No			
2	Plant in its current or intended state has the potential to create a hazardous condition due to:				
2.1	Pressured Content (Operator is protected by enclosed cabin) (Burst hydraulic lines – limited exposure to lines – Never attempt to locate sources of hydraulic fluid leaks with machine running)	Yes	D	2	L
2.2	Explosion (No smoking around machine in particular the battery and fuel system, ensure unit is switched off during re-fuelling)	Yes	D	2	L
2.3	Radiation	No			
2.4	Vapour	No			
2.5	Dust (Open operators cabin - TH412 – Operator to wear appropriate PPE as per Employer/Owner SWP)	Yes	D	2	L
2.6	Moisture (Open operators cabin - TH412 – Operator to wear appropriate PPE as per Employer/Owner SWP)	Yes	D	2	L
2.7	Gases (Exhaust directed to the rear, unit not to be operated in confined spaces)	No			
2.8	Fire	No			
2.9	Vibration	No			
2.10	Electricity (Raised lift arm or load being carried contacting overhead power lines)	Yes	E	5	S
2.11	Friction	No			
2.12	Ice Formation	No			
2.13	Laser Beams	No			
2.14	Hot and Cold Parts (Engine when checking, do not attempt to open hot radiator or hydraulic tank, perform engine level checks when cold)	Yes	E	2	L
2.15	Temperature Extremes	N/A			
2.16	Noise (Low dB levels) (Units decaled in excess of 100dB – Appropriate noise cancelling PPE to be worn as per Employer/Owner SWP)	Yes	D	2	L
Yes / No / N/A					
3	Manual handling requirements have been assessed as acceptable (Lift points fitted. Employer/Owner assessment required)	N/A			
4	Repetitive, forceful, awkward, sustained movements have been minimised/eliminated	N/A			
5	The current guard (s) and their condition are adequate for this plant (Unit designed for application)	Yes			
6	Is the guarding appropriate for all work requirements (Employer/Owner assessment required)	Yes			
7	Operator controls are located for ease of use by operators	Yes			
8	Operator controls are identified and marked appropriately	Yes			
9	Emergency stops are clearly marked	Yes			
10	Emergency stops are located at the most likely place(s) for emergency use	Yes			
11	The power source of the plant has been designed, constructed, installed, protected, maintained as to minimise the risk of harm to employees	Yes			
12	There is provision to lock out the plant, and dissipate energy	Yes			
13	Access platforms/ladders/handrails are provided	Yes			
14	Access to moving parts from the platform can be performed safely	N/A			
15	Access platforms/ladders/handrails provide secure, non-slipping access	Yes			

16	Lighting is adequate for plant operation, maintenance and cleaning at any time (Work lights fitted front & rear)	Yes			
17	Noise levels have been assessed as below 85dB(A) (Units decaded in excess of 100dB - Appropriate noise cancelling PPE to be worn as per Employer/Owner SWP)	No	D	2	L
18	Personal Protective Equipment (PPE) has been provided for safe operation of this plant (Employer/Owner responsibility)	N/A			
19	PPE requirements are sign posted (Employer/Owner responsibility)	N/A			
20	There is provision for safe cleaning of this plant	Yes			
21	Safe access to areas to be cleaned has been provided	Yes			
22	There is provision for easy and safe scrap removal	Yes			
23	The plant has the potential to jam/block (Lift arm operation can jam, antiburst protection fitted to prevent uncontrolled lowering if the lift arm hose/s burst)	Yes	D	1	L
24	A safe system of work has been established to remove jam/blockage (Only trained mechanical technicians should attempt to lower the bucket if it is jammed)	N/A			
25	Safe system of work has been established for any sample retrieval	N/A			
26	There is adequate provision to properly service and routinely grease and oil the plant (Employer/Owner responsibility)	Yes			
27	Safe systems of work have been established for hazards associated with any necessary maintenance of the plant (Employer/Owner responsibility)	N/A			
28	The rigidity and stability of the plant and supporting structure is adequate (Providing unit is operated within gradability limits and rated operating capacities)	Yes			
29	The environment in which the plant is situated has been assessed for its interrelationship with this plant as acceptable (Employer/Owner assessment required)	Yes			
30	Ventilation and/or other air flow needs are adequate	Yes			
31	Static electricity hazards have been assessed and controlled	N/A			
32	Workplace substances associated with the use of the plant have been assessed	N/A			
33	Authorised entry systems for the plant and surrounds have been established	N/A			
34	The upstream and downstream effects of malfunction or unscheduled stoppage of the plant have been considered	N/A			

SECTION 5: RISKS AND CONTROLS

Summary of Hazards Identified and solution(s) to adequately manage the respective risk.							
Hazard Item No	Level of Risk		Action Required / Comments				
1.1a 1.1b 1.2 1.3a 1.3b 1.3c 1.5 1.6a 1.6b 1.6g 1.7a 1.7b 1.9a 1.9b 1.9g 1.10a 1.10b	Moderate	Significant	<p><u>Hazard</u></p> <p>The Telehandler operation presents entanglement, puncturing, cutting, stabbing, trapping, abrasion, crushing and shearing hazards.</p> <p><u>Comments</u></p> <p>The work site must be assessed for its suitability prior to operation.</p> <p><u>Controls</u></p> <p>Operation of the Telehandler must occur only within a designated Work Traffic Management Zone (WZTM) area, established prior to operation.</p>	<p><u>Action Required</u></p> <p>Employ controls. Consider inclusion within a Safe Working Procedure (SWP).</p>			
			<p>Non-essential persons and bystanders must be removed from the work zone prior to operation. The operator must select a position for operation that is stable, clear of obstacles and provides a clear view of the work zone.</p>	<p>Responsible Person</p>	<p>Employer/Owner/Operator</p>	<p>Due Date</p>	<p>As required</p>
			<p>When using the Telehandler, the operator is to ensure the unit is deployed on relatively level ground, and the operation is undertaken as per the manufacturer’s guidelines.</p>	<p>Actioned by: (Name & Date)</p>			
			<p>Lift arm is fitted with antiburst protection to prevent uncontrolled lift arm movement. Operator station provides clear view of load being lifted with transparent ROPS/FOPS cabin roof. Operator is obligated to ensure all non-critical personnel are removed from the work zone. Operator is to perform a job site risk assessment prior to operation. Overload cutout is fitted with display within cabin should the operator attempt to exceed the Safe Working Limit (SWL) of the unit. Operators are to be familiar with the SWL of lift arm with the rated SWL to be respected at all times</p> <p>Care to be taken when closing the engine cover, cabin access door and removing/installing lift arm attachments.</p> <p><u>Revised Risk Assessment</u></p> <p>With the above controls in place the risk is considered controlled.</p>	<p>Verified by: (Name & Date)</p>			

1.4 1.11 1.14	Moderate	<p>Hazard Falls, stretching, tearing and abrasion when entering or egressing from the operator's cabin.</p> <p>Comments Cabin access is only via the LHS of the Telehandler. External mirrors are fitted for on road use. Grab/hand rails are available.</p> <p>Controls Operators to exit the cabin in the same orientation they entered. Utilise the three points of contact principle. Clean residue mud from boots and steps as required. Three points of contact are available when boarding or alighting.</p> <p>Operators are to exercise care as they may impact on the LHS external mirror when entering the cabin.</p> <p>Revised Risk Assessment With the above controls in place the risk is considered controlled.</p>	Action Required	Employ controls. Consider inclusion within a Safe Working Procedure (SWP).			
		Responsible Person	Employer/Owner/Operator	Due Date	As required		
		Actioned by: (Name & Date)					
		Verified by: (Name & Date)					
1.6c 1.8 1.9c 1.15b	Significant High	<p>Hazard Falling objects and engulfment risk.</p> <p>Controls Operation of the Telehandler is to occur only within a designated Work Zone Traffic Management area.</p> <p>When in use, the operator is to ensure the unit is deployed on relatively level ground and the operation is undertaken as per the manufacturers' guidelines. Maximum operation inclinations are decalced in Cabin.</p> <p>Load gauge indicator is installed in the cabin to alert the operator should lift arm use exceed SWL.</p> <p>Wheel nuts are to be visually checked prior to operation and physically checked after a wheel has been removed for maintenance as per the manufacturer's recommendations.</p> <p>Items are not to be stored on the machine outside of designated storage facilities.</p> <p>Revised Risk Assessment With the above controls in place the risk is considered controlled.</p>	Action Required	Employ controls. Consider inclusion within a Safe Working Procedure (SWP).			
		Responsible Person	Employer/Owner/Operator	Due Date	As required		
		Actioned by: (Name & Date)					
		Verified by: (Name & Date)					

1.6d 1.6e 1.9d 1.9e	Moderate	Significant	<p><u>Hazard</u> Unit roll over when travelling or operating in steep or uneven terrain, or following a tyre repair.</p> <p><u>Controls</u> Operation of the Telehandler is to occur only within a designated Work Zone Traffic Management area.</p> <p>Operators to analyse the area for operation prior to doing so. The Telehandler is only be operated on relatively flat level surface. Cabin is fitted with instruction and warning decals.</p> <p>Operator is to check that wheel nuts are not loose, inspect during pre-operational inspection.</p> <p><u>Revised Risk Assessment</u> With the above controls in place the risk is considered controlled.</p>	<u>Action Required</u>	Employ controls. Consider inclusion within a Safe Working Procedure (SWP).		
			Responsible Person	Employer/Owner/Operator	Due Date	As required	
			Actioned by: (Name & Date)				
			Verified by: (Name & Date)				
1.6f 1.9f 23	Low	Significant	<p><u>Hazard</u> Jam/block.</p> <p><u>Comments</u> In the advent of a mechanical or hydraulic fault, the forks/bucket may suddenly descend, however the 'Lowering brake valve' will activate and control the lift arm.</p> <p><u>Controls</u> The lift arm is only to be used within a Work Zone Traffic Management (WZTM) designated area.</p> <p>Operators are not to place body or limbs under lift arm. Lift arm support to be utilised at all times when access in or around lift arm is required.</p> <p>Clearing of jam/block is only to be undertaken by trained maintenance staff.</p> <p><u>Revised Risk Assessment</u> With the above controls in place the risk is considered controlled.</p>	<u>Action Required</u>	Employ controls. Consider inclusion within a Safe Working Procedure (SWP).		
			Responsible Person	Employer/Owner/Operator	Due Date	As required	
			Actioned by: (Name & Date)				
			Verified by: (Name & Date)				

2.10	Significant	<p><u>Hazard</u> Raised lift arm, attachments and/or load can come into contact with overhead power lines.</p> <p><u>Controls</u> Operators to analyse the area for operation prior to doing so. "Look Up and Live" methodology to be used.</p> <p>Extreme care to be taken when operating around power lines. For lifts that need to be conducted around power lines ensure minimum distances are adhered to and utilise a look-out as required.</p> <p>Detailed information is available from SA Power Networks: http://www.sapowernetworks.com.au/centric/corporate/safety/look_up_and_live.jsp</p> <p><u>Revised Risk Assessment</u> With the above controls in place the risk is considered controlled.</p>	<u>Action Required</u>	Employ controls. Consider inclusion within a Safe Working Procedure (SWP).				
			Responsible Person	Employer/Owner/Operator	Due Date	As required		
			Actioned by: (Name & Date)					
			Verified by: (Name & Date)					

SECTION 6: CONTROL MEASURES AND TRAINING

Control Measures

Pre-Operation	A Safe Working Procedure (SWP) should be developed for the correct use of the units systems prior to deployment. Complete familiarisation of the Operators Manual and all systems shall be considered Mandatory.
General Operation	The unit is intended for relatively flat ground deployment only. Decals in cabin indicate safe operating inclinations.
Attachments	Only OEM attachments (or those authorised by the OEM) should be used on the plant. Non authorised attachments may affect the safety and stability of the plant when in operation. SWL of lift arm is to be respected at all times.
Operational Risk	This risk assessment does not negate the requirement of the operator/supervisor to conduct an operational risk assessment of this piece of plant for its intended use and its interface with the operators and the suitability of this piece of plant to integrate and complete the required task. This document has been prepared with due care, however cannot be considered complete given the limited knowledge of the intended operational environment.
Work Zone Traffic Management	This risk assessment has been prepared with the knowledge that effective Work Zone Traffic Management (WZTM) systems will be employed in line with AS1742.3, WH&S Act 2012 (SA), WH&S Regulations 2012 (SA), Road Traffic Act 1961 and internal Standard Operating Procedures.
Continuous Review	This document is not intended to be static, nor is it intended to be considered complete for all situations. This document forms the basis to allow the Employer/Owner of the asset to have an informed position. A system of continuous review should be embraced in line with Management Policies.

Operator Competencies

Formal Qualifications:	Must comply with the regulations enforced by the WorkSafe authority within the state that the plant is being operated.
Competency Assessed Skills:	Skills must comply with the requirements of the guidelines established by the relevant state based WorkSafe authority and assessed by the state WorkSafe body's authorised assessor where applicable.
General Training Instruction:	On the job training by qualified Operator
Experience:	As appropriate and assessed (as above)
Standard Work Procedure (s):	To be developed by the client/user

SECTION 7: PLANT INSPECTIONS, MAINTENANCE AND TESTING

Inspection, Maintenance and Testing Requirements	Frequency
Manufacturers Operator and Service manuals as supplied with the unit	Refer Operator Manual
Servicing and Maintenance	As per Manufacturers guidelines
Fire extinguisher (if fitted)	As per existing fire extinguisher schedule
Tyre pressures – refer to Operator Manual or Placard for recommended pressures	Visually - Daily
	Physically - Monthly
Wheel nuts to be checked for correct tension	Visually - Daily
	Physically - Month

**This is not a definitive list and may need to be revised over time*