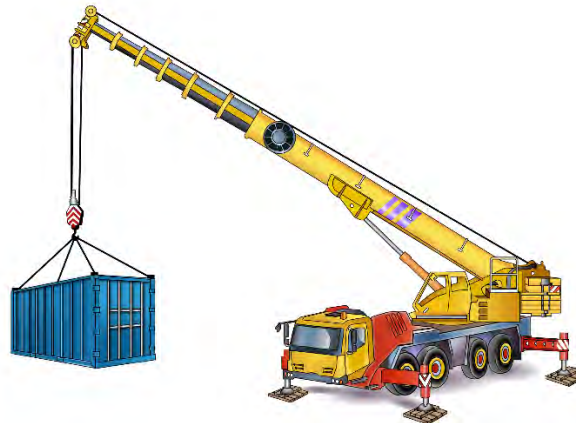


TLILIC0013

Licence to operate a slewing mobile crane

(up to 60 tonnes)

MAPPING DOCUMENT



The information and questions contained in the Safety and Licence Guide/PowerPoint Presentation, Learner Workbook/Assessment and Logbook have been mapped to the elements, performance criteria, and knowledge and performance evidence for the unit of competency TLILIC0013 Licence to operate a slewing mobile crane (up to 60 tonnes)

Elements and Performance Criteria

Element 1	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer’s Marking Guide	Review Questions Formative Assessment
Plan work/task	1.1 Task requirements are identified from work orders or equivalent and a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures	<ul style="list-style-type: none"> • Set up the crane for the task • Plan the lift • Identify and estimate the weight of the load <p>Question 8, 9</p>	Practical Training Task 1	Question 24
	1.2 Work area operating surface is confirmed to determine ground suitability for operational use of mobile crane in accordance with workplace procedures	<ul style="list-style-type: none"> • Outriggers and packing • Why you need packing • Bearing capacity of different types of ground • Packing formula • Types of packing <p>Question 10, 11, 12, 13, 14, 15, 16</p>	Theory Training Task 1 Theory Training Task 32 Theory Training Task 33 Theory Training Task 34 Theory Training Task 35 Theory Training Task 37 Theory Training Task 38 Theory Training Task 41 Practical Training Task 6	Question 33

	<p>1.3 Mobile crane rated capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures</p>	<ul style="list-style-type: none"> • How to calculate the weight of a load • Common weights • SWL / WLL • Choosing the right crane • Types of loads <p>Question 17, 18, 19, 20, 21, 22, 23</p>	<p>Theory Training Task 26 Theory Training Task 27 Theory Training Task 30 Theory Training Task 44 Theory Training Task 45 Theory Training Task 46 Theory Training Task 48 Practical Training Task 5 Practical Training Task 6</p>	<p>Question 29 Question 36 Question 37 Question 39</p>
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Element 1	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer's Marking Guide	Review Questions Formative Assessment
Plan work/task	<p>1.4 Appropriate paths for operating the mobile crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures</p>	<ul style="list-style-type: none"> • Check your planned route <p>Question 23, 24</p>	<p>Theory Training Task 31 Theory Training Task 62 Theory Training Task 36 Load Chart Activity 2 Load Chart Activity 4 Practical Training Task 5 Practical Training Task 6 Practical Training Task 7</p>	<p>Question 32 Question 34 Question 47</p>
	<p>1.5 Relevant hazard identification and risk elimination/control measures are applied and advised to associated personnel in accordance with workplace procedures</p>	<ul style="list-style-type: none"> • Overhead powerlines on poles • Overhead powerlines on towers • Prepare for hazards • Assess the risk 	<p>Theory Training Task 1 Theory Training Task 4 Theory Training Task 5 Theory Training Task 6 Theory Training Task 7</p>	<p>Question 7 Question 12 Question 8 Question 9 Question 10 Question 11</p>

		<ul style="list-style-type: none"> • Hazard control • How to remember the Hierarchy of Hazard Control • Hierarchy of hazard control details • Personal Protective Equipment (PPE) • Identifying workplace hazards <p>Question 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46</p>	<p>Theory Training Task 36</p> <p>Theory Training Task 8</p> <p>Practical Training Task 1</p>	
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Element 1	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer’s Marking Guide	Review Questions Formative Assessment
Plan work/task	1.6 Traffic management plan implementation is confirmed in accordance with workplace procedures	Question 43, 44, 45	Theory Training Task 36	Question 9 Question 10
	1.7 Appropriate communication procedures are identified with associated personnel in accordance with workplace procedures	<ul style="list-style-type: none"> • Communication <p>Question 47, 48, 49, 50, 51, 52, 102</p>	Theory Training Task 9 Theory Training Task 10 Theory Training Task 11 Practical Training Task 3	Question 13 Question 14 Question 15 Question 16 Question 17
	1.8 All crane and lifting operations are confirmed to ensure relevant work area requirements are correct in accordance with a lift plan and workplace procedures	Question 53, 54	Theory Training Task 40 Theory Training Task 42	Question 12

	1.9 Information required to ensure that lifting equipment and gear inspection, use, maintenance and storage complies with manufacturer requirements is obtained and interpreted	<ul style="list-style-type: none"> Make sure lifting equipment complies with manufacturer’s requirements. Page 103. 	Make sure lifting equipment complies with manufacturer’s requirements. Page 103.	Question 21
Element 2	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer’s Marking Guide	Logbook Review Questions Formative Assessment
Prepare for work/task	2.1 Consultation with workplace personnel is established and maintained to ensure lift plan is clear and consistent with site requirements in accordance with a lift plan and workplace procedures	<p>Question 48, 49,50</p>	Theory Training Task 37	Question 14 Question 13
	2.2 Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures	<ul style="list-style-type: none"> Hierarchy of hazard control details Personal Protective Equipment (PPE) Too dark <p>Question 55, 56, 57</p>	Theory Training Task 2 Theory Training Task 3 Theory Training Task 4 Practical Training Task 1	Question 7 Question 8 Question 11 Question 12
	2.3 Mobile crane is accessed safely in accordance with manufacturer requirements and safe work procedures	<p>Question 58, 59,</p>	Theory Training Task 47 Practical Training Task 7	Question 38
	2.4 Pre-start mobile crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> Check the crane Crane computer Conduct pre-operational checks Lifting equipment <p>Question 58, 60, 61, 62, 63,64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85</p>	Theory Training Task 13 Theory Training Task 14 Theory Training Task 15 Theory Training Task 16 Theory Training Task 17 Theory Training Task 18 Theory Training Task 19 Practical Training Task 4	Question 18 Question 19 Question 20 Question 21

	<p>2.5 Mobile crane is set up correctly with any lifting gear as and stabilised as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures</p>	<ul style="list-style-type: none"> • Multiple crane lifts • Rated capacity <p>Question 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97</p>	<p>Theory Training Task 28 Theory Training Task 29 Theory Training Task 43 Theory Training Task 48 Theory Training Task 50 Theory Training Task 59</p> <p>Practical Training Task 6 Practical Training Task 7</p>	<p>Question 30 Question 31 Question 35 Question 39 Question 40</p>
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Element 2	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer's Marking Guide	Review Questions Formative Assessment
Prepare for work/task	2.6 Counterweight/s are set up as required in accordance with the lift plan, relevant manufacturer requirements and safe work procedures	Question		
	2.7 Fly jib is set up as required in accordance with specific manufacturer requirements and safe work procedures	Question 98, 99, 100, 122, 123	Theory Training Task 19 Theory Training Task 28 Theory Training Task 29 Theory Training Task 44 Theory Training Task 45 Theory Training Task 48 Theory Training Task 49 Theory Training Task 51 Theory Training Task 63 Theory Training Task 64 Theory Training Task 66	Question 21 Question 30

			Load Chart Activity 2 Load Chart Activity 3 Load Chart Activity 4 Load Chart Activity 5 Load Chart Activity 6 Practical Training Task 6 Practical Training Task 7	
	2.8 Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> Start the crane Strange noises Test the safety devices Hoist limit Post-start checks Crane controls <p>Question 97, 101, 102, 103, 104, 105, 106</p>	Theory Training Task 19 Theory Training Task 20 Theory Training Task 22 Theory Training Task 23 Theory Training Task 24 Theory Training Task 25 Theory Training Task 63 Load Chart Activity 1 Practical Training Task 4	Question 22 Question 26 Question 27 Question 28 Question 44 Question 46
	2.9 Crane logbook is checked to confirm current compliance, is correct for the crane type, is completed and signed and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> Crane controls Recording and reporting faults Check the logbook <p>Question 107, 108, 109, 110, 111, 112</p>	Theory Training Task 21 Practical Training Task 4	Question 23 Question 25
	2.10 Weather and work environment conditions are assessed to determine any impact on mobile crane operations in accordance with	<ul style="list-style-type: none"> Weather Workplace conditions Flash bank rule 	Theory Training Task 1 Theory Training Task 2	Question 9

	manufacturer requirements and safe work procedures	Question 39		
	2.11 Weight of the load is confirmed	<ul style="list-style-type: none"> • Check the weight of the load. Page 129 • Identify and estimate the weight of the load. Page 129 	<ul style="list-style-type: none"> • Check the weight of the load. Page 25 • Identify and estimate the weight of the load. Page 25 	Question 29 Question 30
	2.12 Derated Working Load Limit (WLL) of lifting equipment resulting from selected slinging techniques is calculated and confirmed as suitable to meet the requirements of the lift plan	<ul style="list-style-type: none"> • Check the working load limit (WLL) of the load. Page 130 	Check the working load limit (WLL) of the load. Page 25	Question 30 Question 36
	2.13 Suitable lifting points and slinging techniques are identified	<ul style="list-style-type: none"> • Lifting or sling points on a load. Page 131 	Lifting or sling points on a load. Page 26	Question 42
	2.14 Lifting equipment and gear are confirmed as ready for safe use	<ul style="list-style-type: none"> • Check that the lifting equipment and gear are safe to use. Page 132 	Check that the lifting equipment and gear are safe to use. Page 26	Question 42
	2.15 Load destination stability is confirmed ensuring it is able to bear the load and is prepared for safe access and landing	<ul style="list-style-type: none"> • Prepare load destination. Page 133 	Prepare load destination. Page 27	Question 48

Element 3	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer's Marking Guide	Review Questions Formative Assessment
Perform work/task	3.1 Lifts are determined within the RC of the mobile crane in accordance with the load chart/s and lift plan	<ul style="list-style-type: none"> • Introduction to load charts • How to read a load chart • Load Chart X • Using load charts • Crane configuration and the load chart • Rounding up • Check crane's load capacity • Find the right load chart • Load Chart up to 20 Tonne <p>Question 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158</p>	Theory Training Task 28 Theory Training Task 29 Theory Training Task 42 Load Chart Activity 1 Load Chart Activity 3 Load Chart Activity 5 Load Chart Activity 6 Practical Training Task 5	Question 30 Question 31
	3.2 Boom/jib and hook block is safely positioned over the load following directions from associated personnel in accordance with the lift plan and safe work procedures	<ul style="list-style-type: none"> • Check crane's load capacity • Do the lift <p>Question 113</p>	Theory Training Task 49 Theory Training Task 51 Theory Training Task 58 Theory Training Task 52 Theory Training Task 63 Practical Training Task 7	Question 41
	3.3 Main hook including any lifting gear, where required are connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements	<ul style="list-style-type: none"> • Do the lift • Attaching the lifting equipment 	Theory Training Task 39 Theory Training Task 40 Theory Training Task 42	Question 30 Question 36

Element 3	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer's Marking Guide	Review Questions Formative Assessment
	3.4 Test lift is carried out in accordance with dogging and safe work procedures	<ul style="list-style-type: none"> • Conduct a test lift Question 114, 115, 116	Theory Training Task 12 Theory Training Task 53 Theory Training Task 54 Practical Training Task 3 Practical Training Task 7	Question 42
	3.5 Loads are transferred using relevant crane movements and tag lines as required, in accordance with lift plan and safe work procedures	<ul style="list-style-type: none"> • Use the crane carefully • Taglines Question 117, 118, 119, 120, 122, 123, 124, 125, 126	Theory Training Task 56 Theory Training Task 57 Theory Training Task 63 Theory Training Task 64 Theory Training Task 65 Theory Training Task 66 Theory Training Task 67 Practical Training Task 7	Question 48 Question 49
	3.6 Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures	<ul style="list-style-type: none"> • Operate crane according to procedures Question 111, 112, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142	Theory Training Task 55 Theory Training Task 57 Theory Training Task 60 Theory Training Task 61 Theory Training Task 66 Practical Training Task 7	Question 43 Question 45 Question 49

	<p>3.7 All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures</p>	<p>Question 143, 144</p>	<p>Theory Training Task 9 Theory Training Task 10 Theory Training Task 11 Theory Training Task 12 Practical Training Task 3</p>	<p>Question 13 Question 17</p>
	<p>3.8 Load is lowered and landed safely in accordance with lift plan and safe work procedures</p>	<p>Question 145</p>	<p>Practical Training Task 7</p>	<p>NA</p>
	<p>3.9 Lifting gear is positioned for safe disconnection from the load and crane is positioned for next task in accordance with lift plan and safe work procedures</p>	<p>Question 145</p>	<ul style="list-style-type: none"> • Practical Training Task 4 	<p>NA</p>
	<p>3.10 Lifting equipment and gear are inspected for defects, and defective items are isolated, labelled and reported.</p>	<p>Inspect lifting equipment. Page 238</p>	<ul style="list-style-type: none"> • Practical Training Task 4 	<p>Question 23</p>

Element 4	Performance Criteria	Safety and Licence Guide and PowerPoint	Learner Workbook / Trainer’s Marking Guide	Review Questions Formative Assessment
Pack up	4.1 Crane boom/jib, lifting gear and associated equipment is stowed and secured as required in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> • Shut down and pack up • Stow boom/jib and equipment • Apply motion locks and brakes Question 158, 159	Theory Training Task 71 Theory Training Task 68 Load Chart Activity 2 Load Chart Activity 4 Practical Training 8	Question 50 Question 53
	4.2 Crane fly jib is removed to storage position and secured as required in accordance with manufacturer requirements and safe work procedures	Question 159	Theory Training Task 71	Question 53
	4.3 Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> • Shut down and pack up • Stow boom/jib and equipment • Apply motion locks and brakes Question 159	Theory Training Task 69 Theory Training Task 71 Practical Training Task 8	Question 51 Question 53
	4.4 Outriggers, plates and/or packing are stowed and secured in accordance with manufacturer requirements and safe work procedures	<ul style="list-style-type: none"> • Stow and secure outriggers/stabilisers • Stow and secure plates and packing Question 159, 160	Theory Training Task 70 Theory Training Task 71 Theory Training Task 74 Practical Training Task 8	Question 52 Question 53
	4.5 Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures	<ul style="list-style-type: none"> • Leaving the crane unattended • Shut down according to procedures Question 161	Theory Training Task 71 Theory Training Task 72	Question 51 Question 53

Knowledge Evidence

Evidence which is required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

Knowledge evidence	National assessment instrument (NAI)
<ul style="list-style-type: none"> • appropriate workplace communication procedures including: <ul style="list-style-type: none"> • hand signals • questioning techniques • signage • two-way radios • written instructions • whistles 	Question 44
<p>characteristics and impact of factors affecting vehicle loading crane stability whilst mobilising compared to slewing crane including:</p> <ul style="list-style-type: none"> • correct tyre pressure (inflation/condition) • emergency procedures in the event of incident • position of operator • use of stabilizers 	Question 49 Question 76 Question 82 Question 83
<ul style="list-style-type: none"> • characteristics and impact of factors affecting non-slewing articulated mobile crane stability whilst mobilising loads compared to slewing crane including: <ul style="list-style-type: none"> • articulation of crane • correct tyre pressure (inflation/condition) • driving safely on public and private roadways • unique handling characteristics of a mobile articulated crane and the emergency procedures in the event of loss of control as per manufacturer recommendations • pick up and carry the load • side slope derations 	Question 12 Question 26 Question 43 Question 76 Question 82 Question 83

<ul style="list-style-type: none"> confirming and following traffic management plan procedures relevant to their role in the work area 	<ul style="list-style-type: none"> Task one: Traffic including pedestrians, vehicles and other plant.
<ul style="list-style-type: none"> lifting gear movements and control functions are smooth and comply with lift plan 	<ul style="list-style-type: none"> Task one: The assessor will provide you with a lift plan that you are required to fill out and complete.
<ul style="list-style-type: none"> start-up is in accordance with manufacturer requirements and safe work procedures 	<ul style="list-style-type: none"> Task one: Hazard identification and risk control For task one, before you start operating the crane, you should tell your assessor what hazards you are checking for and discuss any hazards you can see and how dangerous you think they are. You should apply risk control measures where needed.
<ul style="list-style-type: none"> steering, transmission and brake functions comply with operating requirements 	<ul style="list-style-type: none"> Task three: Conduct operational checks. Steering. Travel brakes.
<ul style="list-style-type: none"> there are no unusual noises 	<ul style="list-style-type: none"> Task three: Conduct operational checks.
<ul style="list-style-type: none"> determining any defects or faults with operation of crane, recording in relevant documentation and reporting to relevant person/s 	<ul style="list-style-type: none"> Task one: Hazard identification and risk control
<ul style="list-style-type: none"> ensuring risk control measures within the work area are effective as per safe work procedures 	<ul style="list-style-type: none"> Task one: Hazard identification and risk control
<ul style="list-style-type: none"> following directions of dogger or rigger 	<ul style="list-style-type: none"> Task five: Interpret and act on communications For task five, while you are doing the lifts, a licensed dogger will communicate with you using a series of hand and whistle signals and two-way radios.
<ul style="list-style-type: none"> inputting crane configuration into crane computer (where fitted) and checking operation to accurately reflect crane configuration 	<ul style="list-style-type: none"> Task four: Input data into crane computer and confirm it accurately reflects the crane configuration
<ul style="list-style-type: none"> interpreting and acting on communications signals including: <ul style="list-style-type: none"> hoist down - hand and whistle and 2-way radio hoist up - hand and whistle and 2-way radio luff boom down - hand and whistle and 2-way radio luff boom up - hand and whistle and 2-way radio slew left - hand and whistle and 2-way radio slew right - hand and whistle and 2-way radio stop - hand and whistle and 2-way radio 	<ul style="list-style-type: none"> Task three: Conduct operational checks

<ul style="list-style-type: none"> telescope in - hand and whistle and 2-way radio (where manufacturer requirements allow) telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow) 	
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Performance evidence	National assessment instrument (NAI)
<ul style="list-style-type: none"> monitoring load disconnection from hook is safe and ensuring no movement of crane operational controls 	<ul style="list-style-type: none"> Task four: Operation of the crane to the full range of its operations (safe moving of loads).
<ul style="list-style-type: none"> maintaining three points of contact whilst accessing crane 	<p>Task 6: Shut down and secure crane. Safely exits, maintaining three points of contact.</p>
<ul style="list-style-type: none"> operating a slewing mobile crane configured to a rated capacity (RC) of between 7tonne and up to 20tonne to lift and move four different loads using the main hook through an obstacle course including a 180-degree minimum slew using all crane operational controls while the load is in full view of the crane operator. Loads must consist of: <ul style="list-style-type: none"> a load of >50% of the Rated Capacity (RC) of the crane with a boom length of >75%, and stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling, and an asymmetric load that requires a dogger to sling, and a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling 	<ul style="list-style-type: none"> Specific requirements - A slewing mobile crane configured with at least four parts of line greater than 20 tonne and up to 60 tonne, in safe operating condition and compliant with AS 1418 and the requirements of the relevant state, territory or Commonwealth legislation.
<ul style="list-style-type: none"> positioning the mobile crane for safe operation for: <ul style="list-style-type: none"> application of the task/s manoeuvring in the workplace the stability of the mobile crane and the load 	<p>Task three: Conduct operational checks – Check that the weight and configuration of the counterweights are correct for crane operations per manufacturer’s specifications and load chart</p>
<ul style="list-style-type: none"> recording and maintaining accurate information relating to crane operations 	<p>Task six: Shut down and secure crane</p>

<ul style="list-style-type: none"> reporting to relevant person/s on workplace control measures that are not in place or deficient 	<ul style="list-style-type: none"> Task one: Hazard identification and risk control
<ul style="list-style-type: none"> setting up and validating an exclusion zone as per the lift plan 	<p>Task one: The assessor will provide you with a lift plan that you are required to fill out and complete. The lift plan must be returned to the assessor and reviewed as part of your performance assessment. The assessor will ask you some questions to test your knowledge.</p>
<ul style="list-style-type: none"> shutting down a slewing mobile crane in accordance with manufacturer requirements and safe work procedures 	<ul style="list-style-type: none"> Task six: Shut down and secure crane
<p>stabilising a slewing mobile crane for operation by:</p> <ul style="list-style-type: none"> correctly positioning plates or packing deploying outriggers establishing correct size plates or packing in accordance with the lift plan levels are checked 	<ul style="list-style-type: none"> Task four: Operation of the crane to the full range of its operations (safe moving of loads)
<ul style="list-style-type: none"> test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure: <ul style="list-style-type: none"> slinging is correct all crane equipment is functioning properly load centre of gravity is correct loads of unusual shape or weight distribution are correctly slung 	<ul style="list-style-type: none"> Task three: Operational checks
<ul style="list-style-type: none"> test-lifting load just clear of lifting plane to allow for checks of crane computer (where fitted) to ensure: <ul style="list-style-type: none"> load measuring equipment can be used to verify calculated weight of load near capacity loads do not overload crane 	<ul style="list-style-type: none"> Task three: Operational checks