

Lifting Operations Standard

AGL-HSE-STD-007.5

The scope of this standard applies to all AGL employees and contractors required to participate in lifting operations, more specifically individuals required to inspect, test or utilise lifting equipment as part of AGL work.

The reference numbers given to minimum controls provide a direct linkage between this standard and the Risk and Control Matrix. The Lifting Operations Methodology AGL-HSE-SDM-007.5 provides further explanation of how to achieve the minimum controls.

The underlined minimum controls below have been identified as being critical controls.

RCM Ref	Minimum Controls
Lifting Operations Procedures and/or Lift Plans	
7.5.1.1	<p>Documented lifting operations procedures and/or Lift Plans must be developed when the following operations are carried out:</p> <ul style="list-style-type: none"> • Tilt-up and precast concrete lifts; • Multiple crane lifts, where more than one crane is used to lift a load at any one time; • Lifting of workboxes; • Working near live overhead electric lines; • Lifting large pressure vessels or tanks; and • Erection of tower cranes or wind turbines.
Planning Lifting Operations	
<u>7.5.1.2</u>	<u>Pre-start checklists, log books, registration, maintenance records and appropriate certification must be completed prior to crane operation.</u>
<u>7.5.1.3</u>	<u>Prior to lifting loads, the operator and /or dogger must ensure that the load is fully secure and verify that the load mass is within the plant and equipment's Working Load Limit.</u>
7.5.1.4	Where there is more than one crane at the site and/or a working radius overlap is/or may be present, a system to prevent collision must be in place.
Exclusion Zones	
<u>7.5.1.5</u>	<u>Exclusion zones must be established for any lift to prevent unauthorised access and be set up based on a completed risk assessment.</u>
Awareness of Power Lines	
<u>7.5.1.6</u>	<p><u>When carrying out lifting operations near power lines:</u></p> <ul style="list-style-type: none"> • <u>The location of any overhead power lines must be identified within the lifting plant and equipment's working area and documented within the Lifting Operations Procedures and/or Lift Plan; and</u>

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	<ul style="list-style-type: none"> <u>Voltage of power lines must be identified, and based on the identified voltage, "No Go Zones" and spotters must be established in accordance with relevant legislation.</u>
Outriggers	
7.5.1.7	Outriggers must be used when fitted to lifting plant and equipment.
7.5.1.8	Outriggers must be visually inspected and the ground integrity determined to ensure it has been properly set to the ground.
Inclement Weather	
7.5.1.9	Cranes being used outdoors must not be operated during inclement weather conditions as guided by the manufacturer's instruction and/or a risk assessment.
Carrying Out Lifting Operations	
7.5.1.10	There must be a documented and approved method for communication between the crane operator and dogger.
<u>7.5.1.11</u>	<u>Lifting plant and equipment must only be operated within the manufacturer's specifications and within the specific lifting rating.</u>
<u>7.5.1.12</u>	<u>The operator must not leave the plant controls while the motor is running and/or there is a load attached to the crane.</u>
<u>7.5.1.13</u>	<u>Loads must never be positioned directly above the operator's compartment, personnel or occupied buildings.</u>
Controlling the Load	
<u>7.5.1.14</u>	<u>Riggers and doggers must keep their load in sight and maintain a travel path clear of people and obstacles.</u>
7.5.1.15	If a tag line needs to be attached to the load it must be long enough to keep personnel out of the exclusion zone and be used to orientate the load as required (unless a risk assessment can demonstrate otherwise).
Managing Defective Lifting Plant and Equipment	
7.5.1.16	If a fault is identified which may compromise the safety of any lifting plant or equipment, operation must not commence until the fault has been rectified. A process must be established to remove faulty equipment from service.
Crane Documentation	
7.5.1.17	All cranes and lifting gear operated by AGL personnel must be documented on a plant and equipment register and certified by a competent person.

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7.5.1.18	The documentation for cranes and lifting gear must be made available at the AGL Controlled Site where the crane or lifting gear is in operation.
7.5.1.19	Lift Studies must be completed for the following: <ul style="list-style-type: none"> • Lifts involving more than one crane; • Lifts involving a combined load of over 20 tonne; or • Lifts involving a load above 80% of the crane's capacity.
Inspection and Testing of Cranes	
7.5.1.20	Inspections and tests must include the checking of items in accordance with appropriate Australian Standards, design specifications and the Original Equipment Manufacturer's Guidelines for: <ul style="list-style-type: none"> • Major inspection (completed for all cranes every 10 years); • Annual inspection; • Commissioning inspection and tests; • Routine inspection and maintenance; and • Pre-operational inspections. Inspecting and testing of cranes must also include the: <ul style="list-style-type: none"> • Major inspections, regular inspection and testing required for all plant; and • Inspection and testing for plant re-registration purposes.
Commissioning Inspections and Testing	
7.5.1.21	Commissioning inspections and tests must be carried out once a crane has been erected and prior to being put into service.
Pre-Operational Inspections	
7.5.1.22	Pre-operational visual inspection and functional tests of all cranes must be carried out, entered into a log book and include: <ul style="list-style-type: none"> • All relevant items indicated in the operations manual; • Operating and emergency controls; • Brakes; • Safety switches and interlocks, including limiting and indicating devices; • Visual inspection of the structure; and • Wire ropes to ensure they are on the drum and correctly reeved on the sheave.
Registration of Cranes	
7.5.1.23	All lifting equipment must be registered in accordance with any relevant regulatory requirements. Where relevant, the Crane Design Registration number must be issued from the regulator for: <ul style="list-style-type: none"> • Tower cranes (including self-erecting); • Mobile crane with a Working Load Limit of more than 10 tonnes; • Bridge crane with a Working Load Limit of at least 10 tonnes; • Gantry crane with a Working Load Limit of more than 5 tonnes; • Hoists with platforms movement exceeding 2.4 metres (designed to lift people); and • Vehicle hoists.

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7.5.1.24	All tower cranes (including self-erecting) and mobile cranes with a Working Load Limit of more than 10 tonnes must be individually registered and issued with an item registration number from the regulator.
Management of Lifting Gear	
<u>7.5.1.25</u>	<u>All lifting gear must be tagged to identify the date of the last inspection.</u>
7.5.1.26	All lifting gear must be of the correct specifications for the weight and load to be lifted.
7.5.1.27	Lifting gear owned or operated by AGL personnel must be stored in a dedicated storage area where it will be protected from damage.
<u>7.5.1.28</u>	<u>All lifting hooks must be fitted with a safety latch to prevent the load from accidentally detaching.</u>
7.5.1.29	All lifting gear must be permanently marked and legible to indicate the Working Load Limit.
Lifting Gear Documentation	
7.5.1.30	Documented inspection and maintenance records for all lifting gear must be available at the site with the lifting gear.
Inspection of Lifting Gear	
<u>7.5.1.31</u>	<u>All lifting gear must be visually inspected prior to each use to check for significant damage, wear and legibility of tag.</u>
7.5.1.32	All synthetic slings and fibre rope slings must have periodic inspections every 3 months.
7.5.1.33	All winches, blocks, hoists, chains and rope slings must be inspected and documented at least every 3 months, or for specifically identified items used less than once every 3 months, prior to use.
7.5.1.34	All winches, blocks, hoists, chains and rope slings must be tested and documented at least every 12 months, or for specifically identified items used less than once a year, prior to use.
7.5.1.35	If defects are identified during an inspection the lifting gear must be withdrawn and inspected by a competent person who can make a decision on whether it can be used, repaired or discarded.
Other Plant used for Lifting Operations	
7.5.1.36	The use of workboxes must be carried out in accordance with the Fall Prevention and Working at Heights Standard (AGL-HSE-STD-007.2).
Training and Competency	
<u>7.5.1.37</u>	<u>Personnel required to carry out operation, rigging, spotting and/or dogging activities must have the relevant high risk licences which are recorded and maintained.</u>
7.5.1.38	Personnel required to carry out maintenance, inspection and testing on cranes must have the necessary skills, qualifications, competence and experience.

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7.5.1.39	Personnel required to inspect, maintain or test a specific part of a crane for the engineer as part of a major inspection must have suitable experience and competence to do so.
7.5.1.40	Personnel required to carry out periodic inspection of lifting gear and equipment must have the relevant high risk licences and the necessary skills, qualifications and experience.

Version	Reviewed by	Approved by	Date approved	Next Review
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