NSW GOVERNMENT

SELF ASSESSMENT CHECKLIST
MAY 2020

GET GRAIN SAFE

SAFE USE OF SILOS, AUGERS, FIELD BINS AND CHASER BINS ON FARMS

INTRODUCTION

This checklist aims to minimise risks associated with the use of silos, augers, field bins, chaser bins and bulk handling equipment used on farms. Field bins are also referred to as transportable or portable silos.

If you are an employer, self-employed person, controller (or owner) of a workplace and plant with responsibilities under the *Work Health and Safety Act 2017* (WHS Act) and Work Health and Safety Regulation 2011 (WHS Regulation), use this checklist to:

- assess how effectively you are managing safety
- review procedures to improve safety
- consult with workers about hazards and risks
- purchase or assess a new container, make changes to the workplace, or plan a new facility.

For more detailed information refer to:

SafeWork NSW *Code of Practice, Safe use of bulk solids containers and flatbed storage including silos, field bins and chaser bins.*

1. SITE SELECTION, PREPARATION AND INSTALLATION

Evaluate the proposed location of the container/plant and equipment

Factors to consider	Yes	No/unsure	N/A
Can the surface support the loads?	☐	☐	☐
Is drainage adequate to prevent flooding and subsidence?	☐	☐	☐
Have foundations been installed in accordance with the manufacturer's instructions?	☐	☐	☐
Is there safe vehicle access to and from public roads?	☐	☐	☐
Is the stored substance within the manufacturer's specification?	☐	☐	☐
Are loading and unloading rates within the manufacturer's specifications?	☐	☐	☐
Are distances from other buildings and facilities sufficient to allow safe access and egress from work areas?	☐	☐	☐

2. EMERGENCY PLANNING

Consider the following when developing emergency plans

Factors to consider	Yes	No/unsure	N/A
Has a site emergency plan been developed, documented and communicated to all workers and contractors?	☐	☐	☐
Are measures in place to rescue trapped workers from silos, fall prevention/ arrest systems etc.?	☐	☐	☐
Are detectors for heat, smoke and fire installed where required?	☐	☐	☐
Is there a site map outlining location of plant, equipment and silos, which clearly have identifiers (i.e. Silo 1, Auger 2) for Emergency Services to use in the event of an Emergency?	☐	☐	☐
Are procedures established for entry to confined spaces?	☐	☐	☐
Are there evacuation procedures in the event of a fire?	☐	☐	☐
Is adequate fire fighting and emergency equipment available and regularly maintained?	☐	☐	☐
Are there isolation, lockout and emergency procedures in place for ancillary plant, such as augers and conveyors? – e.g. for clearing blockages, for operational maintenance.	☐	☐	☐
Are there measures in place to prevent unauthorised access by children and visitors? E.g. are confined space entry points locked or bolted shut to prevent unauthorised access?	☐	☐	☐

3. SIGNS DISPLAYED ON EACH CONTAINER/EQUIPMENT

Display suitable signs warning of hazards and outlining procedures

Factors to consider	Yes	No/unsure	N/A
Are confined spaces identified?	☐	☐	☐
Are there signs at appropriate places to prohibit unauthorised entry?	☐	☐	☐
Are allowable loads on conveyors and augers displayed?	☐	☐	☐
Are there warning signs for fall prevention/arrest devices when climbing ladders or accessing elevated areas?	☐	☐	☐
Are there warning and information signs relating to transportable conveyors/ augers and lowering of booms into transportable position?	☐	☐	☐
Do outward opening hatches warn of streaming substances?	☐	☐	☐

4. TRAINING

Ensure relevant training needs have been identified

Factors to consider	Yes	No/unsure	N/A
Is there training in safe work methods, including those identified in the manufacturer's operating manual and instructions?	☐	☐	☐
Is there training in the safe use of tools and equipment?	☐	☐	☐
Is there training in the use of plant, such as augers?	☐	☐	☐
Is there training in the use of substances, such as fumigants?	☐	☐	☐
Is there training in identifying the moisture content of stored grain and fodder?	☐	☐	☐
Is there training in the care, use, storage and maintenance of personal protective equipment?	☐	☐	☐
Is there training in emergency procedures, first aid and injury reporting?	☐	☐	☐
Is there training in observing restrictions on entry into the container?	☐	☐	☐
Is there training in observing warning signs, including those on the container?	☐	☐	☐
Is there training in observing hot work permit systems for maintenance involving cutting, welding and grinding?	☐	☐	☐
Is there training in confined spaces?	☐	☐	☐
Is there training in using fall prevention/arrest devices when accessing containers and climbing ladders?	☐	☐	☐
Is training recorded in a register, which includes date of training, training undertaken and refresher date if necessary?	☐	☐	☐

5. LADDERS, ACCESS TO TOP HATCHES AND FALLS FROM HEIGHTS

Ensure there are no risks of a person falling from a height, both inside and outside containers

Factors to consider	Yes	No/unsure	N/A
Can the need for access to heights and ladders be eliminated or reduced?	☐	☐	☐
Can the elevated position be accessed by a less hazardous means? – e.g. can an inclined ladder be used instead of a vertical ladder or accessed via a drone for inspection purposes?	☐	☐	☐
Are fall prevention/arrest systems in place, such as guard railings and safety cages?	☐	☐	☐
Are warning signs in place regarding fall prevention/arrest devices and harness equipment for elevated areas?	☐	☐	☐
Are suitable rated attachment points available for fall prevention/arrest devices and rescue devices?	☐	☐	☐
Has access to ladders/elevated areas been made inaccessible to unauthorised people, including children?	☐	☐	☐
Where fitted, are ground operated lid/hatch opening systems functioning properly?	☐	☐	☐

6. ACCESS TO CONTAINER INTERIOR – CONFINED SPACE AND RISK OF ENTRAPMENT IN GRAIN OR OTHER SUBSTANCES

Ensure control measures are in place when working inside and outside containers

Factors to consider	Yes	No/unsure	N/A
Can the need for confined space entry be eliminated?	☐	☐	☐
Are hazard risk assessment carried out prior to confined space entry?	☐	☐	☐
Are the access doors and barriers to the container locked to prevent unauthorised access, in particular by children?	☐	☐	☐
Are unauthorised people denied access to the inside of the container via ladders? – e.g. by locking ladder covers.	☐	☐	☐
Are children kept away from areas where machinery is used? – e.g. augers.	☐	☐	☐
Have provisions been made to prevent workers from entering the container through openings above the maximum level of stored substance?	☐	☐	☐
Has the potential for entrapment by the stored substance been identified?	☐	☐	☐
Has the potential for atmospheric contamination or an unsafe atmosphere been identified?	☐	☐	☐
Is there lifting equipment, harnesses or lifeline arrangements in place for rescue procedures?	☐	☐	☐
Has the atmosphere within the container been tested for combustible gases, vapours, dusts and toxic agents?	☐	☐	☐
Is there a possibility of recurrence of unsafe atmospheric conditions while the person is inside the container?	☐	☐	☐
Has all associated equipment and plant been locked out and tagged prior to a person entering the container?	☐	☐	☐
Are there appropriate respirators supplied with a dust filter or self-contained breathing apparatus?	☐	☐	☐
Are visual inspections made to ensure that no-one is in the container prior to operating the loading and unloading equipment?	☐	☐	☐

7. FIRE AND EXPLOSIONS RISK

Identify fire and explosion risks for the container contents, associated plant, and any gases that may be generated

Factors to consider	Yes	No/unsure	N/A
Are dust fire and dust explosion hazards controlled? – e.g. is a dust cloud generated and visible during loading or unloading?	☐	☐	☐
If the stored substance is likely to produce toxic or flammable gas, have the risks been controlled?	☐	☐	☐
Have hazardous areas been classified for explosive dusts?	☐	☐	☐
Have hazards been identified for flammable atmospheres?	☐	☐	☐
Have potential ignition sources been identified and controlled?	☐	☐	☐
Is the moisture content of the stored substance regularly checked to ensure it is within specification?	☐	☐	☐
Is ventilation of work areas necessary and in place?	☐	☐	☐
Are restrictions on entry necessary and in place?	☐	☐	☐
Does the cleaning and maintenance program remove accumulated dust deposits?	☐	☐	☐
Is the filtration system regularly cleaned?	☐	☐	☐
Has the policy of not fighting fires been adopted and workers informed?	☐	☐	☐
Is lightning protection necessary and in place to prevent it being an ignition source?	☐	☐	☐
Are appropriate warning signs in place? – e.g. no smoking, no naked flame.	☐	☐	☐

8. ELECTRICAL SAFETY

Proximity to overhead powerlines, electrically powered equipment and leads

Factors to consider	Yes	No/unsure	N/A
Has the position of overhead powerlines been identified, voltage determined, and safe working distances identified?	☐	☐	☐
If poles are used to break crusted grain, are distances from powerlines safe?	☐	☐	☐
Do travel routes of trucks and augers avoid low powerlines?	☐	☐	☐
Are augers always lowered when moved or towed?	☐	☐	☐
Have residual current devices (RCDs) been fitted to all power outlets?	☐	☐	☐
Is regular inspection of electrical equipment and leads carried out?	☐	☐	☐
Have all high risks with electrical equipment been identified? – e.g. have areas been identified where water penetration, abrasion or dust penetration makes electrical work unsafe?	☐	☐	☐
Is regular testing of high-risk electrical equipment necessary due to potential damage?	☐	☐	☐

9. BULK HANDLING PLANT AND EQUIPMENT FOR LOADING AND UNLOADING

Identify and control the risks of using plant for loading and unloading the container

Factors to consider	Yes	No/unsure	N/A
Are moving parts of augers or other conveyors adequately guarded to prevent human contact (including children)?	☐	☐	☐
Are guards always replaced after maintenance and clearing blockages?	☐	☐	☐
Does the auger have a correctly fitted flight intake guard, and emergency stop switch located near the flight?	☐	☐	☐
Is guarding installed and maintained over the auger chutes and sweep channels within the silo?	☐	☐	☐
Do methods ensure that auger or conveyor discharge rates are within the manufacturer's specifications?	☐	☐	☐
Are drivetrains from external sources e.g. ptos from tractors or stationary engines adequately guarded?	☐	☐	☐
Are moving parts including belts/pulleys, and chain/sprockets drive arrangements guarded?	☐	☐	☐
Is the terrain level and stable to avoid the plant, such as an auger or conveyor, tipping over?	☐	☐	☐
Is suitable personal protective equipment, such as hearing protection, dust mask and safety boots worn when operating augers?	☐	☐	☐
Have the risks from vehicle movements been identified and suitable controls adopted?	☐	☐	☐
Are there safe operating procedures for equipment and plant, such as augers?	☐	☐	☐
Are conveyors clearly identified with a plant ID number?	☐	☐	☐
Are emergency stops clearly labelled?	☐	☐	☐
Are lock out and tagging procedures used to prevent accidental starting of augers or conveyors – e.g. during clearing of blockages or operational maintenance.	☐	☐	☐

10. PERSONAL PROTECTIVE EQUIPMENT

Provide sufficient personal protective equipment (PPE) for all workers

Factors to consider	Yes	No/unsure	N/A
Breathing - AS/NZS 1716, Respiratory protective devices	☐	☐	☐
Hearing - AS/NZS 1270, Acoustics – Hearing protectors	☐	☐	☐
Eyes - AS/NZS 1337, Eye protectors for industrial applications	☐	☐	☐
Hands - AS/NZS 2161, Occupational protective gloves	☐	☐	☐
Fall protection - AS/NZS 1891, Industrial fall-arrest systems and devices	☐	☐	☐

11. INSPECTION AND MAINTENANCE

Regularly examine major equipment and ancillary plant

Factors to consider	Yes	No/unsure	N/A
Is there a regular inspection and maintenance program in place for the container and ancillary plant?	☐	☐	☐
Have you consulted the manufacturer's or supplier's operating manual to determine inspection procedures, and required frequency of inspection and maintenance?	☐	☐	☐
Have maintenance records been kept?	☐	☐	☐
Have you undertaken a visual inspection of metalwork for damage, corrosion, bolts and welds?	☐	☐	☐
Do you undertake prestart visual inspections of plant and equipment?	☐	☐	☐
Have you undertaken a visual inspection of all access points, such as ladders, stairs, handles and platforms, and attachment fixtures, for corrosion and integrity?	☐	☐	☐
Have you undertaken a visual inspection and an operational check of hatches, latches and control mechanisms?	☐	☐	☐
Have you undertaken a visual inspection of containers, particularly for bulging?	☐	☐	☐
Have you undertaken a visual inspection of filling devices, unloading devices, discharge equipment (e.g. augers and conveyors)?	☐	☐	☐
Have you undertaken a visual inspection of plant and equipment guarding?	☐	☐	☐
Have you undertaken a visual inspection of safety device attachments, safety lines, harnesses and anchor points for integrity?	☐	☐	☐
Have you undertaken a visual inspection of electrical equipment, leads and cables for damage?	☐	☐	☐
Have you undertaken a visual inspection of seals and sealing devices for integrity?	☐	☐	☐
Have you undertaken a visual inspection of warning signs and labels to check for wear and tear?	☐	☐	☐

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SafeWork NSW, 92–100 Donnison Street, Gosford, NSW 2250

Locked Bag 2906, Lisarow, NSW 2252

Customer Service Centre 13 10 50

Website www.safework.nsw.gov.au

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