Oil Sands Safety Association (OSSA)

Aerial Work Platform

Safety Training Standard

AWP2005 – 18

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1.0 PURPOSE

The purpose of this Standard is to clearly establish the minimum acceptable content for Aerial Work Platform training programs provided by Training Providers who have received Accreditation Status from the Oil Sands Safety Association (OSSA). This Standard is intended for end-users (workers required to use) of Aerial Work Platforms.

For all definitions referencing this Standard, see Appendix I.

Exceptions to this Standard must be approved by the Board of Directors of the OSSA.

1.1 Disclaimer

The information in this publication is solely for general illustration and instructional purposes and does not, in any way, create a business or professional services relationship between the OSSA Members and Employees and the Training Providers, Instructors, Contract Instructors, employees trained by Accredited Training Providers, or any other Organization. This Standard will not apply to every circumstance. This Standard is not (and is not intended to be) a definitive guide to the OH&S Act or the accompanying regulations and regardless of the Standard set out herein, each reader and user is solely responsible for their own compliance with all applicable Legislation, including the OH&S Act. The OSSA assumes no obligation to update the Standard set out herein or advise on further developments concerning the topics mentioned herein.

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1.2 Introduction

This Aerial Work Platform Safety Training Standard has been established to guide Training Providers with direction on minimum content requirements to meet the needs of the OSSA Member companies.

The delivery of the content and the completion of the proficiency testing will typically take eight (8) hours, based on any or all of the following:

- The number of participants;
- The number of instructors completing the assessments;
- The number of Aerial Work Platform machines available for testing.

It should be noted that the training required to meet this Standard focuses on the needs of the "end-user". Additional training may be required for supervisors and engineers to reflect their responsibilities for this critical safety work.

This is the minimum standard that must be met in order to receive Accreditation as an Aerial Work Platform Training Provider from the OSSA.

1.3 Scope

End-users (workers) required to utilize self propelled elevating work platforms must be trained and competent in their proper use, care and maintenance. The purpose of the OSSA Aerial Work Platform Standard is to ensure that those workers demonstrate a basic level of knowledge and proficiency in Aerial Work Platform equipment use and theory.

Subject to the previous sentences, all programs submitted for Accreditation must, at a minimum, meet the requirements specified in each section of this Standard.

1.4 Training Pre-requisite

The pre-requisite for participating in an OSSA Accredited Aerial Work Platform training program is the successful completion of an OSSA accredited Fall Protection course.

1.5 Training Material Requirements

The program content for Accredited Safety Training Programs for Aerial Work Platforms must ensure that **all references to weight and measures** are expressed **in both imperial and metric units**. The programs are also expected to have available, at a minimum, the material listed below for the use of the participants:

1) Participant's user guides and/or workbooks to be kept by the user upon successful completion of the program that contain the information provided in conjunction with the major headings listed within this standard.
2) Access to applicable sections of the Alberta OH&S Act, Regulations and Code regarding Aerial Work Platform.

3) Have at a minimum a CSA approved Personal Fall Arrest System as well as a Travel Restraint System for use by participants in proficiency testing.
4) Have at a minimum a boom lift video and a scissor lift video illustrating their safe operation.
5) Have at a minimum a self propelled elevated work platform with the appropriate operator's manual.
6) Have at a minimum all specific training material required for the equipment supplied for training purposes.

NOTE*: Additional training aids as determined by the provider (e.g. PowerPoint presentations, photographs etc.)*

2.0 AERIAL WORK PLATFORM BASICS

2.1 Legislation and Standards

1) Overview of Alberta OH&S Act, Regulations & Code requirements for Aerial Work Platforms.
2) Development of training material or instruction must use, at a minimum, but not be limited to, as references, the following:

a)	CSA B354.1-04	Portable Elevating Work Platform
b)	CSA 354.4-02	Self Propelled Boom Supported Elevating Work Platforms
c)	CSA 354.2-01	Self Propelled Elevating Work Platform
d)	ANSI A92.6-1999	Self Propelled Elevating Work Platform
e)	**ANSI A92.5-2006**	**Boom-Supported Elevating Work Platform**

NOTE: If any of the above regulations are revised, the new revised versions must be utilized.

2.2 Why Aerial Work Platform Training

The training program must be personalized by providing an overview and introduction to Aerial Work Platforms and the Legislation that clearly reinforces the need to correctly utilize the Aerial Work Platform in order to reduce incidents in the field.

It is important to provide instruction to both the employer and the end-user as to their respective responsibilities with respect to the OH&S Act, Regulations and Code as well as the CSA and ANSI Standards.

At a minimum the following Employer Responsibilities must be taught and covered on the theory test:

1) The employer is responsible to ensure that the worker is competent and is familiar with the specific model they are required to operate and these familiarizations must be documented.

At a minimum the following Worker Responsibilities must be taught and covered on the theory test:

1) The worker is responsible to be competent and familiar with the specific model that they are required to operate and these familiarizations must be documented.
2) The worker is responsible to inform the employer of their experience or lack of experience with respect to the specific model that they are to operate.

2.3 History

Participants must discuss recent statistical information on incidents from Alberta Workplace Health and Safety or other applicable sources relating to Aerial Work Platforms.

2.4 Planning

1) The training program must include methods of analyzing, eliminating, preventing, and controlling hazards associated with Aerial Work Platforms.
2) Participants must have an opportunity to participate in discussions in the classroom using examples from the working environment.
3) The training program must include, but not be limited to, such things as:
    a) Choosing the right machine for the job and how to become familiar with the specific equipment they will be required to operate (CSA B3454.4-02 Section 7.4), including having an understanding of the machine Safe Operating Envelope.
    b) Demonstrating and performing pre-use checks and visual inspections on the model the person is to operate.
    c) How to inspect the path of travel including rough terrain and gradeability.
    d) Requesting rescue plans and how rescue personnel can be contacted.
    e) Weather considerations affecting the operator and machine including, at a minimum, wind and temperature.
    f) Identifying workplace hazards and controls. (ie: field level risk assessments, Job Safety Analysis, etc.)
    g) Determining minimum safe approach distance. (MSAD)
4) Participants must discuss the responsibility of the individual worker to review the specific job site rules and regulations (ie: safe work permits requirement etc.)., which may exceed legal requirements, and have them included in the plans.

5) Participants must discuss the importance of communication including ensuring that operators are aware of their responsibilities to discuss job pre-planning activities, and the reporting of deficiencies.
6) Participants must discuss the choice of and importance of PPE, including **Travel Restraint Systems** and Personal Fall Arrest Systems. (OH&S Code Part 9 141).
7) Participants must discuss entanglement as defined in the Definitions (Appendix 1), including, but limited to, the following topics:
    a) How entanglement can be created.
    b) How to get out of entanglement.
    c) How entanglement can be avoided.
8) Participants must discuss the hazards in such circumstances as being trapped with the equipment in confined spaces, structures or other equipment; being blocked into a location; etc.

2.5 Load Limitations & Calculations

All participants must be able to:

a) Determine machine rated capacities.
b) Demonstrate, using working examples, how to calculate the correct load to remain within the machine Safe Operating Envelope.
c) Understand that an Aerial Work Platform is not to be utilized as a crane unless approved by the manufacturer.

2.6 Machine Specific Features (Operator's Manual)

Participants must discuss all of the information found in the operator's manual for the specific machine(s) they will be using in the training program. (ie: machine rated loads, reach, maneuverability, weight and stability, Anchor points etc.).

2.7 PPE as it Applies to Aerial Work Platforms

Participants must discuss all PPE required for operating any type of Aerial Work Platform (including **Travel Restraint Systems** and Personal Fall Arrest Systems) and be able to demonstrate an understanding of the difference between fall arrest and travel restraint. (OH&S Code Part 9 Section 141)

2.8 Stability

Participants must be instructed on the following factors that affect stability. The discussion must include, but not be limited to, the following:

a) The affects of the counterweight including tail swing area and zero "O" tail swing.
b) The factors affecting forward and backward stability.

c) The affects of weight in the platform.

d) The factors that affect stability in the footprint area.

e) The factors that affect stability of the swing area.

f) The affects of ground on stability.

g) Tip over prevention.

2.9 Working at Heights Greater Than 80 Feet (25 meters)

Participants must have a discussion on the hazards of working with Aerial Work Platforms at heights greater than 80 feet (25 meters). The discussion must include, but not be limited to, the following:

a) The purpose and proper use of extendable axles.

b) The functions and purpose of Envelope Management Systems.

c) How the additional height is affected by various ground conditions.

d) The effects of the additional height (fear of heights) on the operator which may result in creating errors in judgment or personal emergencies.

3.0 AERIAL WORK PLATFORM TYPES

Participants must be able to:

1) Identify the operating and technical differences, and
2) Demonstrate the ability to choose the appropriate machine from examples developed, so as to demonstrate the participant's understanding of the different machines for the following equipment:

a) Push Around Units.

b) Slab type scissor lifts.

c) Rough terrain or off slab scissors.

d) Straight telescopic boom lifts.

e) Articulating boom lifts.

4.0 AERIAL WORK PLATFORM SYSTEM COMPONENTS

1) The training program must contain the following content and participants must discuss each system component using the following guide:

a) Overview.

b) Definitions appropriate to specific components.

c) Purposes of the component.

d) Pre-use/pre-operational inspection, unit visual inspection, care and maintenance.

NOTE: Pre-use/pre-operational inspection must be taught as a critical item and shown as a component of the instructor's aids as well as clearly stated in both the Instructor's notes and Participant's manuals.

e) All hazards associated with any component must also be discussed and participants must be able to describe processes of identifying and controlling those hazards. E.g. (Pneumatic vs. Foam filled tires)

2) Components:

a) Anchorages.

b) Connecting Components.

c) Controllers (various types).

d) Wheels, tires, axles, including oscillating axles.

e) Cylinders.

f) Fuel Systems.

g) Engines (gas, diesel, propane and electric).

h) Boom/scissor components including jibs and risers.

i) Basket/platforms.

j) Safety Devices (e.g. Tilt alarms/switches and limit switches/Emergency Controls, positive air shutoff).

k) Envelope Management System.

l) Stabilizers/outriggers.

m) Motion alarms.

n) Jacking systems.

o) Extendable axles.

p) The appropriate fall protection system.

q) Optional equipment.

NOTE: The above list is for reference only and is not meant to limit the course content.

5.0 PROFICIENCY TESTING

Although described under each of the previous sections of the Standard, it is important that the following practical and knowledge evaluation/test topics are covered as outlined in 5.1, 5.2 and/or 5.3 to ensure that participants are proficient in this Standard upon completion of the Aerial Work Platform training program.

During the proficiency testing, the participant may be given the opportunity to demonstrate proficiency on an Aerial Work Platform under 80 feet (25 meters) and/or on an Aerial Work Platform above 80 feet (25 meters).

The minimum requirement to receive an Aerial Work Platform training credential is successful completion of a proficiency test on Aerial Work Platforms under 80 feet (25 meters).

Testing on Aerial Work Platforms above 80 feet (25 meters) is **optional.**

Any participant successfully completing the above 80 feet (25 meters) Aerial Work Platform proficiency test will also be accredited for the under 80 feet (25 meters) Aerial Work Platform.

5.1 Knowledge Evaluation

The participant must demonstrate knowledge and proficiency by individually answering questions on the following topics:

1) Legislative requirements as it applies to Aerial Work Platforms.
2) Employer and worker responsibilities.
3) The familiarization process with equipment. (CSA B354.4-02, ANSI A92.6-1999 7.7)
4) The importance of communication including ensuring that operators have the ability to communicate the pre-job planning, and reporting of deficiencies.
5) Load limitations and calculations.
6) Safety Devices – where to find them, what they do, what checks to make, etc.
7) Hazards – ground, power lines, etc.
8) Components as listed in 4.0 (2) - their uses, limitations.
9) Systems. (mechanical, electrical, hydraulic).
10) Minimum Safe Approach Distance. (MSAD)
11) Emergency Controls.
12) Path of travel.
13) Entanglement.
14) Trapped with the equipment. (as per 2.4(8))
15) PPE:
    a) Fall Protection requirements as per machine type and OH&S Code.
    b) Difference between fall arrest and travel restraint.
16) Manufacturers Operating Manual.
17) Pre-use checklist.
18) Types of lifts.

19) Equipment Limitations.

20) Weather Considerations.

5.2 Practical Test for Machines Under 80 feet (25 meters)

The participant must successfully demonstrate proficiency on the machine as specified in section 1.5.5 of this Standard for the following:

1) Required pre-use walk around inspection and the reporting of deficiencies.
2) Locating and reviewing the operator's manual for the specific machine manufacturer's recommended pre-operational tests they are to perform.
3) Required pre-operational check and the reporting of deficiencies.
4) Participate in the path of travel inspection.
5) Demonstrate the knowledge of where to find and check the machine rated capacities.
6) Demonstrate a proper operational control of:
    a) Swing.
    b) Lift to full reach height/lower.
    c) Telescope in/out.
    d) Drive forward/reverse.
    e) Steer left/right.
    f) Platform rotation.
    g) Platform leveling.
    h) Emergency descent ground and platform.
    i) Upper/lower controls.
    j) Safety Device inspection including but not limited to, tilt sensor alarms, pothole protection systems, etc.
    k) Demonstrate the identification of hazards in the path of travel.
    l) Demonstrate the proper use of the appropriate fall protection system.
    m) Proper operation or riser or tower.
    n) Proper operation of jib.

NOTE: The proficiency test requirements listed above are meant as a minimum guideline and are not intended to limit the testing observations, questions and/or time.

5.3 Practical Test for Machines Over 80 feet (25 meters)

The participant must successfully demonstrate proficiency on an Aerial Work Platform above 80 feet (25 meters) and will include all criteria in 5.1 & 5.2 as well as the functional checks for the following:

a) The purpose and proper use of extendable axles.

b) The functions and purpose of Envelope Management Systems.

c) How the additional height is affected by various ground conditions.

d) The effects of the additional height (fear of heights) on the operator which may result in creating errors in judgment or personal emergencies.

5.4 Training Credential

Participants will be given a credential card that indicates they have successfully completed the OSSA Accredited Aerial Work Platform training program. The credential card must also identify the level of proficiency for under 80 feet (25 meters) and/or over 80 feet (25 meters).

Any participant successfully completing the above 80 feet (25 meters) Aerial Work Platform proficiency test will also be accredited for the under 80 feet (25 meters) Aerial Work Platform.

At this time Training Provider may inform all participants that they are accepting responsibility for the knowledge and skills passed on to them during the training.

5.5 Records Retention

Training records must be retained by the training provider for no less than 4 years from date of qualification (ANSI requirement)

6.0 RE-CERTIFICATION PROCESS

6.1 Proficiency Timeline

Certification for Aerial Work Platform training is valid for a period of not longer than three (3) years from the initial certification date.

6.2 Re-certification Process

The re-certification process must include the following:

Review of any major changes to critical topics of Aerial Work Platforms, including but not limited to, the following:

a) Changes to Aerial Work Platform theory.

b) Changes to practices.

c) Changes to Legislation or Standards.

d) Changes to all components.

e) Load calculations.

f) Changes to PPE.

g) Proficiency testing as per section 5.1 and 5.2 and or 5.3.

Should a participant not successfully pass the re-certification proficiency tests (both theory & practical), they will be required to take an OSSA Accredited Aerial Work Platform training program.

The OSSA will continue to **review** the material every three years in accordance with its principle (reviewing each safety training standard every three years) and **also** review the need for re-certification at that time.

7.0 APPENDIX I - DEFINITIONS

1. **"Accreditation" or "Accredited"** means authorization, in writing, from the OSSA that a Training Provider's Program meets the minimum requirements of a particular Safety Training Standard. Accreditation may be withdrawn by the OSSA at any time. In order to be a Safety Training Provider of a Standard, an Organization's Accreditation status must be current.

2. **"Aerial Work Platform"** means becoming knowledgeable and proficient in the subject areas set out in section 5.1 of this Standard.

3. **"Aerial Work Platform Safety Training Standard" or "Standard(s)"** means the minimum training standards set out in OSSA document AWP2003-01, as amended by the OSSA from time to time.

4. **"Anchor"** means a secure point of attachment.

5. **"Board of Directors"** means the Owners of the OSSA that provide, in writing, endorsement for initial documents and approval for any revisions or exceptions to a Safety Training Standard and/or Regional Code of Practice.

6. **"Connecting Components"** means pins, bushings, bolted systems.

7. **"Contract Instructor"** means an individual or organization, independent of an Accredited Training provider, that has completed a "Train-the Trainer" program with an Accredited Training Provider, signed all legal agreements, and has otherwise met the requirements set out in this Standard.

8. **"Controllers"** means functional joysticks or activation switches.

9. **"Cylinders"** include hydraulic or pneumatic cylinders.

10. **"Emergency Controls"** means any system such as valves, electric motors, pumps etc, designed in such a way that they may be used in an emergency to lower the basket or platform.

11. **"Engines"** include internal combustion or electric engines.

12. **"Entanglement"** means rope, electric cords, hoses, and foreign objects that can become entangled in the Aerial Work Platform.

13. **"Envelope Management Systems"** means any automated system designed to limit the movement of the Aerial Work Platform componentry.

14. **"Familiar"** means information regarding the control functions and Safety Devices for the aerial platform(s) which is (are) to be operated by a qualified person.

15. **"Foam Filled"** means a process used to replace the air in tires with a compound which solidifies inside the tire to eliminate punctures and to add weight.

16. **"Fuel Systems"** include gasoline, diesel, propane or electric fuel systems or a combination of the same.

17. **"Full Body Harness"** means a body support device consisting of connected straps designed to distribute a fall arresting force over at least the thighs, shoulders and pelvis, with provision for attaching a Lanyard, lifeline or other components**.**

18. **"Instructors"** means individuals that are employees of the Accredited Training Provider and are providing training under an Accredited Training program.

19. **"Lanyard"** means a flexible line of webbing or synthetic or wire rope that is used to secure a Full Body Harness or safety belt to a lifeline or Anchor.

20. **"Legislation"** means all municipal and local laws, statutes, ordinances, by-laws, regulations, orders, directives and decisions rendered by any ministry, department or administrative or regulatory agency relating in any way to the health and safety of workers in the Province of Alberta.

21. **"Members"** means the member or subscriber Organizations of the OSSA and includes their respective employees, officers, directors, shareholders, ownership groups and successors and assigns, including, without limitation, Syncrude Canada Ltd., Suncor Energy Inc., and Albian Sands Energy Inc.

22. **"MSAD**" means minimum safe approach distance.

23. **"OH&S Act"** means the *Occupational Health and Safety Act*, R.S.A. 2000, c.O-2, as amended) and includes all of the regulations passed under the OH&S Act from time to time.

24. **"Organization(s)"** means and includes any individual, corporation, partnership, firm joint venture, syndicate, association, government, governmental agency or board or commission or authority, and other forms of entity or organization.

25. **"OSSA Members and Employees"** means the OSSA and its employees, agents contractors and Members.

26. **"Outriggers"** means devices traditionally used to extend out and down and may be used to lift the unit off of the ground for leveling purposes.

27. **"Personal Fall Arrest System"** means personal protective equipment that will stop a workers fall before the worker hits a surface below the worker.

28. **"Pneumatic"** means filled with air.

29. **"PPE"** means personal protective equipment.

30. **"Re-Certification"** means a process to verify that a worker continues to maintain the proficiency requirements as specified in the original accredited training program. This process will include re-testing of knowledge requirements and /or challenging a proficiency exam.

31. **"Safe Operating Envelope"** means the manufacturer's stated designed operating limits of the specific machine being operated.

32. **"Safety Devices"** means any number of components designed to protect the operator.

33. **"Stabilizer"** means a device which when activated will stabilize the unit traditionally by extending down to contact the ground.

34. "**Standard**" means the minimum acceptable content requirements for a Training Provider's safety training program that is set out in an OSSA Safety Training Standard, as amended by the OSSA from time to time.

35. **"Travel Restraint System"** means a type of fall protection system, including guardrails or similar barriers, that prevent a worker from traveling to the edge of a structure or to a work position from which the worker could fall.

36. **"Training Providers"** means those Organizations that have received Accreditation status, in writing, from the OSSA to provide a Aerial Work Platform training program.