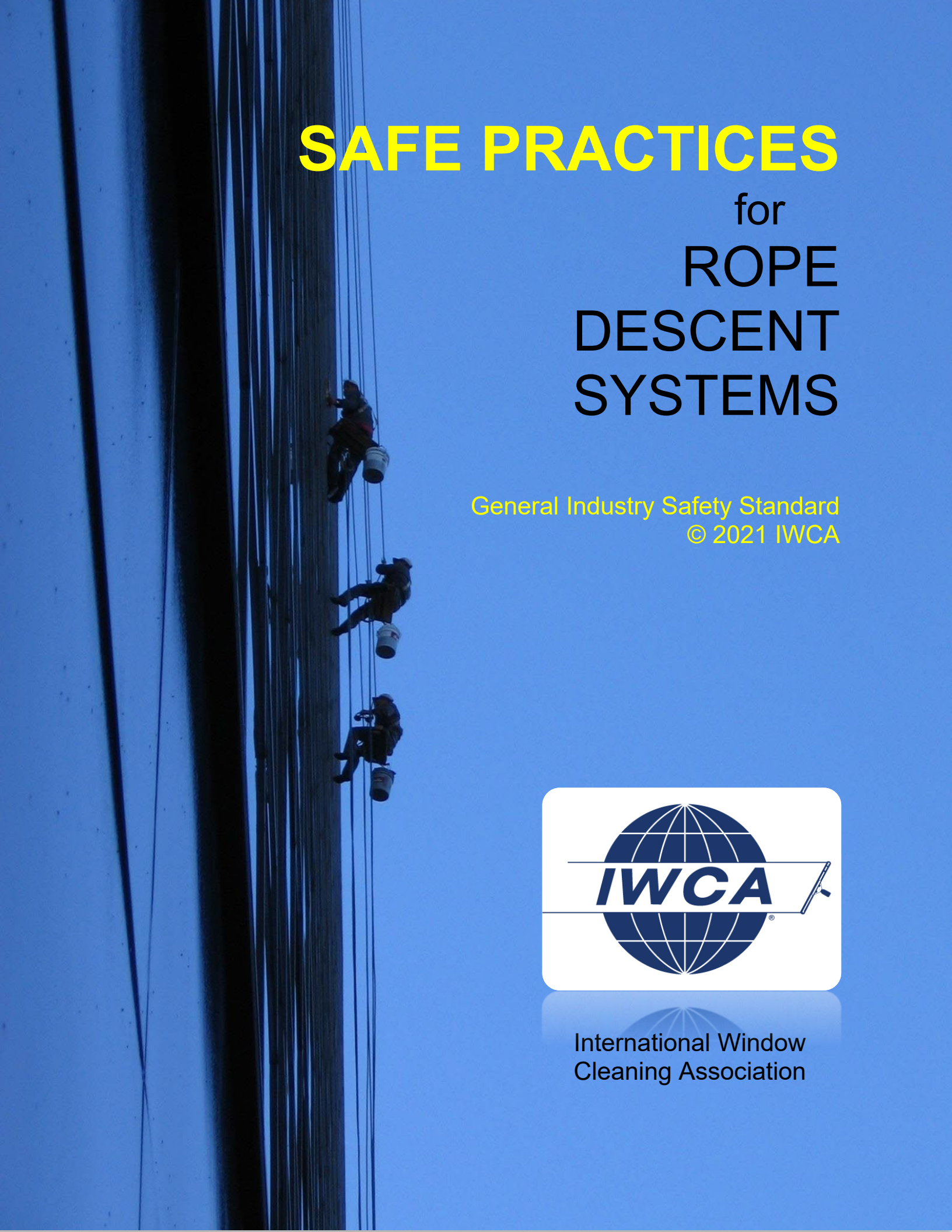

SAFE PRACTICES
for
ROPE DESCENT SYSTEMS

General Industry Safety Standard

International Window Cleaning Association

Foreword

In January, 2017, the Federal Department of the Occupational Safety and Health Administration (OSHA) published a revised regulation for Walking and Working Surfaces (1910 Subpart D and I) which included Fall Protection and Falling Object Protection. OSHA began working on these revisions in 1991. A long awaited regulation for Rope Descending Systems (RDS) was included in this revision.

This guide has been developed by the International Window Cleaning Association (IWCA) mainly because professional window cleaning at a commercial or residential high rise building takes place annually more than any other trade that may use ropes to access work areas on a vertical work surface. Additionally, the RDS regulations published by OSHA are very broad based.

As the premier Association for the Industry with regards to safety, training and advocacy, and due to emerging and evolving technologies over the last 30 years, the IWCA saw the need to further define and clarify accepted safe practices for the use of RDS which were not included in the 2017 OSHA regulations.

The scope and purpose of this general industry safety standard is to provide enhanced safe practices and up to date recommendations to assist thousands of trained workers across the country when using RDS to access commercial and residential high rise buildings.

What is a Rope Descending System?

It is a type of two rope access system that enables a worker to be suspended and allows them to descend in a controlled manner and, as needed, stop at any point during the descent. The primary suspension of a rope descent system usually consists of a roof anchorage, support rope, a descent device, carabiner(s) or shackle(s), and a chair (seatboard). The chair(seatboard) is an optional component but has been found to be an ergonomic aid for the operator when carrying and tethering tools for the work being performed.

In addition to the components of a primary suspension system, the operator of a rope descent system is required to use a backup secondary fall protection system which consists of a roof anchorage, vertical rope lifeline and full body harness, lanyard and rope-grabbing/stopping device. A rope descent system is also an integral component when ascending or performing rope transfers and rescue.

Rope Descending Systems (RDS) are regulated by OSHA CFR 1910.27.
Fall Protection & Falling Object Protection are regulated by OSHA CFR 1910.28
Fall Protection Systems, Criteria & Practices are regulated by OSHA CFR 1910.29
Training Requirements for each are regulated by OSHA CFR 1910.30
Personal Fall Protection Systems are regulation by OSHA CFR 1910.140

ROPE DESCENT SYSTEMS 30 YEARS AGO……..

Contents

1. PURPOSE

The purpose of this guide is to identify and provide accepted safe practices when using RDS to perform building maintenance on commercial and residential buildings.

RDS is used to access work areas that cannot be accessed by ground supported equipment such as extension poles or devices, ladders, tower scaffolding and aerial work platforms.

2. SCOPE

The scope of this guide is to provide criteria, techniques and procedures to protect persons from recognized hazards associated with the use of RDS used on commercial and residential buildings.

This guide is intended for the protection of all affected parties when RDS are used including building owners or their managing agents, employers, operators, regulatory agencies and the general public.

The techniques or methods to perform any type of routine or restorative building maintenance, or other methods of suspended access equipment are not part of the scope of this guide.

3. GENERAL REQUIREMENTS

3.1 Job Hazard Analysis or Site Assessment

One of the most important steps to keeping workers safe on the job is to perform a site assessment before starting work at a site.

3.1.1 The site assessment should identify the safety and health hazards workers may encounter at a particular location.

3.1.2 Because commercial and residential high rise buildings are owned properties that hire outside contractors who use RDS to perform routine and non-routine building maintenance, OSHA Regulations require the owners or their managing agents and the operators of a RDS to share responsibilities with providing a safe place to work.

3.1.3 RDS should not be used on a commercial or residential high rise building which has an installed façade access system or equipment in place that is fully functional and has been inspected, tested, certified and maintained in accordance with OSHA regulations.

3.1.4 When performing RDS work on a commercial or residential high rise building where all operators will be required to perform multiple descents over heights of 300 feet or more in order to complete the work, the RDS manager shall implement means and methods to protect operators from hazards associated with long time periods of

suspension on rope, exposure to forecasted and/or unexpected wind and weather, ability to provide adequate protection of general public, and ability to perform prompt rescue.

3.2 Workers Using Rope Descending Systems (RDS)

These items identify the workplace hazards faced by RDS operators that should be evaluated as part of the site assessment (JHA). These hazards are present at any and all buildings where RDS may be used:

- Falling and Falling Objects
- Geographic Location & Environment
- Roof Anchorage Rigging Points
- Suspended Line Load Path Obstacles
- Electrical Lines and Radio Frequency Installations (RFI's)
- General Public
- Rescue

3.3 Building Owners and Managing Agents

These items identify the workplace hazards faced by RDS operators that are under the control of the building ownership. These hazards should be reviewed and the building owner shall provide the necessary documentation to insure proper safety practices will be followed:

- Geographic Location & Environment
- Roof Anchorage Rigging Points
- Electrical Lines and RFI's
- General Public
- Rescue

4. DOCUMENTATION REQUIREMENTS

4.1 Site Specific Work Plans

The site owner or their managing agent and the RDS operator each have the responsibility to contribute to the site specific work plan.

4.2 RDS Operator Work Plan Requirements

A written plan developed by the RDS operator or qualified person shall be provided that will inform the building owner or their operating agents when areas of the building needing accessed are located in areas where workers will use RDS. The plan shall be

readily available for use by the building owners or their managing agent, RDS operators, enforcing authorities and emergency personnel.

The plan shall include but not be limited to the identification of the following hazards and the means and methods to eliminate the hazards:

4.2.1 All fall hazard areas, rooftop rigging and drop zones and falling object hazard areas.

4.2.2 All RDS suspension line and safety line load path obstacles (vertical and horizontal).

4.2.3 Location of all electrical lines and RFI's.

4.2.4 Location where falling object hazards may exist for the general public.

4.2.5 Verification that all RDS operators onsite have been trained and certified in accordance with the applicable sections of this guide.

4.2.6 Means and methods to be employed in the event a RDS operator requires rescue.

4.2.7 Means and methods to be followed in the event of a natural disaster or emergency.

4.2.8 Means and methods to control and avoid the effects of wind on rope access systems, positioning, and the overall work environment.

4.2.9 If new hazards arise during the course of work, work shall be stopped until appropriate protective measures have been identified, documented in the plan, and implemented.

4.2.10 An effective communication plan shall be established prior to beginning work and shall remain effective for all the time that work is actively taking place. Electronic means shall be utilized.

4.3 Building Owner/Manager Work Plan Requirements

The following items require written documention verifying their condition or procedure to be followed to insure a safe work site. The documentation shall be included in the site specific plan:

4.3.1 Identification of fall hazard zones on rooftop areas where RDS will be rigged and used.

4.3.2 Written documentation that roof anchor rigging points used with RDS have been inspected, tested, maintained and certified to be capable of supporting 5000lbs in any direction per worker attached. This may include structural elements of the building.

4.3.3 Verification of electrical line location and safety requirements for working near RFI's.

4.3.4 Identification of areas where general public may be exposed to falling object hazards.

4.3.5 Means and methods to be employed in the event a RDS operator requires rescue.

4.3.6 Means and methods to be followed in the event of a natural disaster or emergency.

4.3.7 The plan shall be readily available for use by the building owners or their operating agent, RDS operators, enforcing authorities and emergency personnel.

4.4 Building Anchorage Inspection and Certification

4.4.1 Before any rope descent system is used, the building owner must inform the employer in writing, that the building owner has identified, tested,certified, and maintained each anchorage so it is capable of supporting at least 5,000 pounds (268 kg), in any direction, for each employee attached. This may include structural elements of the building.

4.4.2 The information must be based on an annual inspection by a qualified person and certification of each anchorage by a qualified person, as necessary, and at least every 10 years.

4.4.3 The employer must ensure that no employee uses any anchorage before the employer has obtained written information from the building owner that each anchorage meets the requirements above. The employer must keep the information for the duration of the use of RDS to complete the job.

4.5 Operator Provided Equipment Inspection

4.5.1 All components of RDS and personal fall protection systems shall be inspected before and after each use.

4.5.2 Component manufacturer guidelines shall be followed when determining the equipments condition.

4.5.3 Any damaged or excessively worn components should be reported immediately and taken out of service until repairs or replacements are made.

4.5.4 Written or recorded inspection logs for all components of RDS and fall protection systems shall be maintained and provided upon request.

5. OPERATOR REQUIREMENTS

5.1 Duties of RDS Operator

5.1.1 The employer of RDS operators is ultimately responsible for insuring the proper use of the equipment and the training of the operators.

5.1.2 Employers shall develop and provide a safe RDS operation to protect the safety and health of workers and the general public.

5.1.3 Regardless of what type of RDS equipment may be used on the job, the employer must ensure that the equipment is properly inspected and maintained before it gets used.

5.1.4 The employer must also ensure that employees are properly trained, evaluated and certified; and in a language or means and methods that they fully understand.

5.1.5 Proper resources shall be provided to employees for the development and safe operation of RDS.

5.1.6 The employer shall act as manager or may appoint a person to manage the RDS program and activities within their organization.

5.2 Program Management

5.2.1 The employer shall ensure that the RDS manager has a working knowledge of National Standards and Federal, State and Local regulations that apply to RDS. This includes but is not limited to fall protection requirements, their systems and components.

5.2.2 The RDS manager shall be responsible for company wide compliance with all standards and regulations.

5.3 Supervision

5.3.1 The employer shall appoint a Certified RDS Operator to act as a supervisor at each worksite where RDS is used.

5.3.2 No RDS operator shall be appointed as a supervisor unless they are certified according to these guidelines.

5.3.3 RDS shall only be used when there is a minimum of one Certified RDS supervisor and one RDS operator onsite.

5.4 The RDS Supervisor is responsible for ensuring:

5.4.1 The Site Specific Work Plan has been implemented and reviewed by all RDS operators onsite.

5.4.2 The supervisor shall record verification which includes the following:

5.4.3 That all hazards noted in the Site Specific Work Plan have been identified, addressed and corrected prior to the start of operation.

5.4.4 That all RDS operators are directed to adhere to the Site Specific Work Plan and are to identify and inform the supervisor of any hazards which may exist outside of the Site Specific Work Plan.

5.4.5 That all RDS operators have been properly trained and are capable of performing the required operations.

5.4.6 That there is open communications to the building owner, manager or their designated representative at all times when RDS is being used.

5.4.7 That all anchorage points have been identified, inspected, tested and certified prior to use in accordance with the Building Owner/Manager Requirements of the Site Specific Work Plan.

5.4.8 That all rigging of primary suspension and backup safety lines is done according to the Site Specific Work Plan.

5.4.9 That all RDS equipment provided by the employer for the worksite has been inspected and verified in safe working condition.

5.4.10 That all RDS operators secure their tools and equipment to prevent them from falling while suspended on rope.

5.4.11 That all work areas are properly barricaded and signage exists to protect the general public.

5.4.12 That prompt rescue of any operator can be performed and means of acquiring emergency services have been identified.

5.4.13 That on the job accidents have been reported to them.

5.4.14 That RDS operators are properly logging their hours “on-rope”.

5.5 The RDS Operator *(Authorized or Certified)* is responsible for ensuring:

5.5.1 Completion and proficiency with the RDS training program provided by the employer.

5.5.2 Full understanding and working knowledge of the Site Specific Work Plan.

5.5.3 Verification their equipment bought onsite has been inspected and is in safe working condition prior to use.

5.5.4 That all tools and equipment are secured from falling while suspended on rope.

5.5.5 That they perform their work within their level of training, skills, qualifications and experience.

5.5.6 That they are ready and able to perform a prompt self or partner rescue if required.

5.5.7 That they inform the RDS supervisor if any task is beyond their training, skills, qualfications and experience prior to the start of operations.

5.5.8 They they will inform their supervisor of any on the job accidents.

5.5.9 That they are properly logging their hours “on-rope”.

6. TRAINING and CERTIFICATION

6.1 Authorized RDS Operator- Is a RDS operator who has been trained and has the requisite skills and knowledge to demonstrate proficiency while under supervision when operating a RDS.

6.1.1 Training shall be documented and verified and shall include at a minimum, an understanding and working knowledge of the following:

6.1.2 Safety standards and Federal, State and Local regulations which apply to the use of rope access and rope descending equipment.

6.1.3 Verification of documentation of anchorage inspection, testing and certification.

6.1.4 Contents of a Job Hazard Analysis.

6.1.5 Contents and requirements of a Site Specific Work Plan.

6.1.6 Proper rigging practices which includes correct knot usage, use of multiple anchors, and the limitations imposed by catenary loads when multiple anchors or suspension re-direction is incorporated.

6.1.7 Inspecting and maintaining RDS equipment.

6.1.8 Fall protection and falling object protection systems, components and criteria.

6.1.9 Vertical lifeline suspension trauma, strain relief.

6.1.10 Proper rigging theory and technique.

6.1.11 Limitations on the use of RDS

6.1.12 Proper inspection, care and use of the following RDS components:

a. Suspension rope
b. Back up or safety rope
c. Knots in rope
d. Protective head gear
e. Rope descending devices
f. Rope ascending devices
g. Carabiners
h. Seatboards
i. Tool & equipment lanyards
j. Full body harnesses
k. Fall protection lanyards
l. Fall protection rope grabs/rope stops
m. Falling and falling object warning systems

6.2 Certified RDS Operator- Is a RDS operator who has verified documentation that they have been trained, evaluated and certified as competent indicating they are capable of identifying existing and predictable hazards at the worksite or working conditions which are hazardous, or dangerous and that they have the knowledge, skill and experience to take prompt corrective measures to eliminate them.

6.2.1 A Certified RDS Operator Training Program shall include at a minimum, assurance the operator recieves and maintains a full working knowledge and understanding of:

6.2.2 Safety standards and Federal, State and Local regulations which apply to the use of rope access equipment.

6.2.3 Verification of documentation of anchorage inspection, testing and certification.

6.2.4 Contents of a Job Hazard Analysis.

6.2.5 Contents and requirements of a Site Specific Work Plan.

6.2.6 Proper rigging practices which includes correct knot usage, use of multiple anchors, and the limitations imposed by catenary loads when multiple anchors or suspension re-direction is incorporated.

6.2.7 Performing a self or partner rescue while suspended on rope.

6.2.8 Inspecting and maintaining RDS equipment.

6.2.9 Fall protection and falling object protection systems, components and criteria.

6.2.10 Vertical lifeline suspension trauma, strain relief, self and partner rescue techniques.

6.2.11 Proper rigging theory and technique.

6.2.12 Limitations on the use of RDS

6.2.13 Proper inspection, care and use of the following RDS components:

a. Suspension rope
b. Back up or safety rope
c. Knots in rope
d. Protective head gear
e. Rope descending devices
f. Rope ascending devices
g. Carabiners
h. Seatboards
i. Tool & equipment lanyards
j. Full body harnesses
k. Fall protection lanyards
l. Fall protection rope grabs/rope stops
m. Falling and falling object warning systems

6.2.14 That they have verified 480 hours logged on rope and in accordance with the above requirements

7. EVALUATION

7.1 In order to become Certified, a RDS operator is required to successfully complete the IWCA RDS Safety Training exam and shall also be evaluated by an IWCA Approved Evaluator. The evaluation incorporates the use of a checklist and testing system to verify they have retained the requisite knowledge, understanding and physical skill necessary to use RDS and perform the job safely according to these guidelines.

7.1.1 Additionally, they shall be required to have logged a minimum of 480 hours on rope before taking the exam and getting evaluated.

7.1.2 The IWCA RDS Certification requires re-certification via the IWCA RDS Safety Training program test along with an employer provided “hands on” evaluation by an IWCA Approved Evaluator.

7.1.3 Re-certification and evaluation by an IWCA Approved Evaluator is required every 3 years.

7.1.5 RDS Operator Evaluation Form

Rope Descending System Operator Evaluation Form

Operator _____

Evaluator_____Date:_____

TRAINING CRITERIA	Authorized	PASS	FAIL		Certified	PASS	FAIL
Classroom							
OSHA Regulations							
1910.21 to 1910.22							
1910.27-Scaffolds & Rope Descent Systems							
1910.28-Duty to Have Fall Protection & Falling Object Protection							
1910.29-Fall Protection Systems & Falling Object Protection Criteria/Practices							
1910.30-Training Requirements							
IWCA Certified RDS Program							
IWCA I-14 Standard-RDS Systems & Related Sections							
Site Specific Work Plans							
Roof Anchor Rigging Point Identification							
Roof Anchor Inspection & Certification							
Building Management and Communication							
Rope Rigging Theory							
Advanced Rope Rigging Theory							
Hands On-Physical Demonstration							
Equipment							
Component Selection & Inspection							
Harness-Lanyard-Backup Fall Arrestor							
Rope							
Descending Device-Seatboard							
Ascending Device							
Connecting Hardware							
Helmet							
Harness Fitting & Wearing							
Inspection Logs							
Rigging							
Anchor Identification							
Anchor Loading							
Work Restraint Lines							

TRAINING CRITERIA	Authorized	PASS	FAIL		Certified	PASS	FAIL
Roof Rigs/Positioning Devices							
Swingfall							
Figure 8 Knot							
Alpine Butterfly							
Fisherman's (aka Stopper)							
Multiple Anchor Rigging							
Repositioning Rigging							
Rope Protection							
Inboard to Outboard							
Seatboard							
Negotiating Protected & Unprotected Roof Edge							
Safety Back Ups							
Water Bucket							
Tool Lanyards							
Suction Cup							
Helmets							
Rope Work							
2 Line Management							
Descending							
Ascending							
Rope To Rope Transfers							
Stabilization							
480 hours On Rope Verification							
Rescue							
Rescue Kit							
Rope Grab Hang - Strain Relief							
Self Rescue							
Assisted (Partner) Rescue							
Pre-Rigging Anchor							
Advanced							
Pick-off Rescue -Conscience							
Pick-off Rescue -Unconscience							
Lowering Systems							

8. RDS COMPONENTS

8.1 All components of a RDS shall be used according to the manufacturers instructions, design limitations and requirements for inspection, maintenance and repairs.

8.1.1 No component shall be used beyond manufacturers recommendations and limitations.

8.2 Anchorage

8.2.1 In accordance with OSHA Regulations CFR 1910.27 and 1910.140, anchorages for primary suspension lines and backup safety lines are to be capable of supporting at least *5,000 pounds (268 kg), in any direction, for each employee attached.

8.2.2 Anchorages used to attached backup safety lines are to be independent from anchorages used to suspend operators or platforms on which operators work.

8.2.3 When backup safety lines are used, each operator must be attached to a separate line.

8.2.4 *5000 pound capacity is critical when the anchorage is on a commercial or residential high rise building because these anchors will be used as part of a suspended scaffold operation at some point in time in order to effectively maintain, repair or restore the building. This enables a building to be safely rigged with any type of suspended access equipment in order to perform routine and non-routine building maintenance.

8.3 Rope

8.3.1 The primary suspension ropes and backup safety ropes used in a RDS shall be static, have a minimum breaking strength of 5000lb and manufactured with synthetic fibers consisting of heat, abrasion and ultraviolet resistancy.

8.3.2 Additionally, both the primary and backup ropes shall be compatible to allow for the rope descending device and the backup deceleration device (aka-fall arrester, rope-grab, rope-stop) to effectively operate on either.

8.3.3 All rope used shall be long enough for the descent to allow the user to be on rope until the descent ends on grade, ground or safe working surface.

8.4 Connectors

8.4.1 Carabiners shall comply with OSHA 1910.140 and be of the auto locking type and capable of supporting 5000lbs (22.2 kN)

8.5 Descenders

8.5.1 Descending devices shall allow for controlled descent, be manual or automatic braking and enable the worker to stay securely suspended hands free at a work location.

8.6 Ascenders

8.6.1 Ascenders shall only be used to climb a fixed static rope and require no less than two mechanical actions to be removed from the rope.

8.6.2 When not in use, the ascender shall be secured to the worker to prevent it from falling.

8.6.3 Unless the manufacturer's instructions specifically allow it, ascenders shall not be used as a back-up for fall arrest.

8.7 Platform

8.7.1 When a seatboard is used as a work platform for equipment & tool bearing, the board shall be capable of supporting 300lbs.

8.7.2 The board shall be connected to the personal fall arrest harness when the operator is suspended.

8.8 Head Protection

8.8.1 Safety helmets shall be used for falling object protection and shall comply with ANSI Z89.1-2014- and be equipped with a chin strap or other restraining device to prevent it from coming off the worker's head.

8.9 Fall Protection

8.9.1 The personal fall arrest system and its components (lanyards, carabiners, deceleration devices, harnesses) shall comply with OSHA CFR 1910.140.

8.10 Full Body Harness

8.10.1 Full Body Harnesses used in fall protection systems shall have at a minimum, two attachment points rated for fall arrest, a front sternal and rear dorsal.

8.10.2 A front waist attachment is recommended when used as a main line suspension point so the worker is suspended in a sitting position.

8.10.3 The front waist attachment (aka, ventral) shall not be used for fall arrest.

8.11 Lanyards

8.11.1 The length of a lanyard used for a personal fall arrest system shall not exceed 3.2 feet (1m) in length when attached to the dorsal point (upper back) of the full body harness.

8.11.2 The lanyard may be attached to the sternal position (mid-front) only when the free fall distance is limited to 2 feet (0.6m) or less.

8.12 Deceleration Device

8.12.1 The deceleration device (aka fall arrester, rope-grab, rope-stop) shall be compatible with either rope in a RDS and used on the backup or safety line during operation of the RDS.

8.12.2 The device shall be maintained on the backup rope at a height that will limit the free fall distance and shall not become disengaged from the rope when the operators hands are on it or above it.

8.13 Personal Protective Equipment

8.13.1 All personal protective equipment (PPE) shall be properly fitted to the worker prior to use.

9. RDS EQUIPMENT USE

9.1 Site Preparation

9.1.1 Prior to mobilizing and operation of a RDS, all required documentation shall have been acquired and the Site Specific Work Plan shall be reviewed by the RDS Supervisor to the RDS Operator(s) and all identified protocols for worker safety and safety of the general public shall be implemented and verified.

9.2 Roof Edge

9.2.1 If the roof edge is unprotected, the fall hazard zones which are 6 feet and 15 feet shall be identified, established and maintained.

9.2.2 No worker shall be allowed in the fall hazard zones without the appropriate fall protection as identified and required by OSHA 1910.28.

9.3 Rigging

9.3.1 Primary suspension and secondary back up lines may only be rigged to anchors which have been verified in writing by the building owner, that they have been identified, inspected and certified capable of supporting 5000lbs in any direction.

9.3.2 Certified anchor points may include structural elements of the building.

9.3.3 Only one line shall be attached to one anchor at all times, unless the anchor has been verified to support multiple lines as described above.

9.3.4 In order to avoid swing fall hazards, primary main suspension lines shall be rigged to a main line anchor so that it is perpendicular to the roof edge and in a straight line, or within 15 degrees in either direction of that straight line.

9.3.5 The back up fall arrest system shall be rigged in such a manner that the employee cannot free fall more than 6 feet (1.8 m) or contact a lower level.

9.3.6 SPECIAL NOTE: The length of a lanyard used for a personal fall arrest system shall not exceed 3.2 feet (1m) in length when attached to the dorsal point (upper back) of the full body harness.

9.3.7 The fall arrest lanyard may be attached to the sternal position (mid-front) only when the free fall distance is limited to 2 feet (0.6m) or less.

9.3.8 If multiple anchors are used for positioning at a façade access descending location (aka drop location), the lateral positioning rigging between the multiple anchors shall not exceed 90 degrees. This also includes when using multiple anchors to tie back a portable positioning device such as a counterweighted outrigger beam.

9.3.9 When knots are used for rigging main and back up lines, they shall be approved by the RDS supervisor prior to use. Recommended knots are the Figure 8, Alpine Butterfly and Fisherman's (aka Stopper)

9.4 Suspension (On Rope)

9.4.1 When negotiating the roof edge to enter full suspension mode on rope (aka going over the roof edge), the RDS operator shall be attached to their primary rope and to their backup rope.

9.4.2 While suspended, the RDS operator shall maintain their plumb line of suspension to the load contact point on the roof edge within 15 degrees in either direction.

9.4.3 Prior to entering suspension mode, the RDS operator shall insure they have identified all load path obstacles and are adequately prepared with rope protection.

9.4.4 Any and all tools or equipment that will be used while suspended shall be secured to prevent them from falling.

9.5 Descending

9.5.1 RDS operators shall rig and use their descending device to descend in a controlled manner and, as needed, stop at any point during the descent.

9.5.2 Any descending device that is used on a daily basis and has an automatic braking feature; shall be inspected each day before use to insure that rope friction has not affected the ability of the brake to operate effectively.

9.5.3 RDS operators shall install rope protection at all load path obstacles during the descent.

9.5.4 RDS operators shall maintain public protection on the ground landing area and always work above and complete their descents within these protected areas.

9.5.5 Backup fall protection systems shall be engaged during edge negotiation and remain so during the entire descent from roof to ground or the landing work surface.

9.5.6 Exposure of primary suspension lines or backup safety lines to extreme heat or cold, chemicals, electrical lines or devices or other abuse shall be avoided.

9.6 Ascending

9.6.1 Ascending using a RDS may be done in accordance with all pertinent sections of this Standard.

9.6.2 Ascenders used shall require two or more deliberate actions by the RDS operator in order to be removed from the rope.

9.6.3 Backup fall protection systems shall be engaged during access to the ascending line and remain so during the entire ascent from starting point to finishing point.

9.7 Rope Transfer

9.7.1 Transferring from one RDS to another may be done in accordance with all pertinent sections of this Standard.

9.7.2 A rope transfer shall require the RDS operator to be secured 100% to both; a primary suspension line and a secondary backup line at all times.

9.8 Rescue

9.8.1 If during operation there was a failure of the primary descending system and the RDS operator activated and became supported by the backup fall arrest system, a prompt rescue shall be provided.

9.8.2 Performing a rescue while using RDS may be done in accordance with all pertinent sections of this Standard.

9.8.3 Rescue procedures shall include the information required to contact the appropriate emergency services.

9.8.4 Strain relief shall be engaged during a fall arrest situation.

9.8.5 Self rescues shall be performed by Authorized RDS operators.

9.8.6 Partner rescues shall be performed by Certified RDS operators.

9.8.7 Main and backup systems shall be used during a rescue.

9.8.8 Any on the job accidents shall be reported to a supervisor immediately.