1			Accident Analysis for Rope Access													
Source	Date Incident	Location	Abstract *	Comments	Equipment	Height	Incident Count	Equipment Failure Misuse	No Independent Fall Protection	Lack of Training	Lack of Sound Anchorage	Height Related	Over 300'	Wind Related	NY, NY	СА
IWCA Accident Analysis for the Window Cleaning Industry 1995	1/7/1977		The window cleaner seated in a window washing rig at the sixth floor level fell to his death when the rope or ropes of his window washing scaffold broke. It was determined that a portion of the rope had been worn beyond a safe working condition. The deceased was tied to a lifeline. However, he fell approximately 40 feet and the weight of his body snapped the lifeline. The tackle had deteriorated to the extent that it was unsafe for use and the employees safety bet! lanyard was not attached to the lifeline the length to prevent the employee from falling a distance greater than six feet in the event of tackle failure.	Equipment failure. Inappropriate equipment.	RDS?	40+ feet	1	1								
IWCA Accident Analysis for the Window Cleaning Industry 1995	08/18/86	Austin, TX	Window cleaner falls to death at Austin office building from 29th floor to 14th floor.	Misuse of equipment. No fall protection.	RDS	29 floors	1	1	1				1			
IWCA Accident Analysis for the Window Cleaning Industry 1995	10/30/86	Cedar Rapids, IA	Window Cleaner killed in six story fall using Bosun's chair and pulley device	?	RDS	6 floors	1		1							
IWCA Accident Analysis for the Window Cleaning Industry 1995	6/2/1987	Temple, TX	Worker fell about 40' while using RDS. Did not wrap rope enough times around sky genie descent device. Had no independent safety line. Worker paralyzed and skin on hands burned.	No independent safety line and harness. Misuse.	RDS	6 floors	1	1	1							
IWCA Accident Analysis for the Window Cleaning Industry 1995	6/29/1987	Woodbridge, NJ	Window cleaner fell from the 11th floor. Was connected to both a chair and a hook called a Sky-Genie which police said apparently malfunctioned.	No independent safety line. Possible misuse or equipment failure.	RDS	11+ floors	1	1	1							
IWCA Accident Analysis for the Window Cleaning Industry 1995	07/29/87	St. Louis, MO	Window cleaner was rapelling down the side of the building with his rope hanging in front of an exit to an underground parking garage. As an person left the parking garage, the rope got entangled in the rear bumper, pulling the window cleaner to his death.	Misuse. Failure to protect equipment.	RDS	?	1	1								
IWCA Accident Analysis for the Window Cleaning Industry 1995	09/28/87	Denver, CO	Window cleaner died after a 45 feet fall. His rope broke, perhaps accidentally cut by a scraper he was using to clean windows.	No independent fall protection. Failure to protect rope.	RDS	45+ feet	1	1	1							
IWCA Accident Analysis for the Window Cleaning Industry 1995	02/25/88	Chicago, IL	Worker saved by his safety harness when the main line of his bowsun's chair snapped. Fire fighters broke out a window to rescue him. The shattered glass came tumbling down and he was pulled in through the opening.	Equipment Failure- Misuse.	RDS	?	1	1								
IWCA Accident Analysis for the Window Cleaning Industry 1995	03/04/88	Salt Lake City, UT	Window Cleaner fell about 50 feet to her death after her rope and chair rigging came loose from a top the building where she was preparing to wash windows.	Misuse. No independent fall protection	RDS	50+ feet	1	1	1							
IWCA Accident Analysis for the Window Cleaning Industry 1995	03/16/89	Atlanta, GA	Worker fell 20 stories to his death while washing windows. Police at the scene said they believe the harness snapped causing him to fall.	Equipment Failure.	RDS	20+ floors	1	1								
IWCA Accident Analysis for the Window Cleaning Industry 1995	04/16/90	Washington, DC	Window Cleaner fell 10 floors while using a Sky Genie device. He was not wearing a safety belt at the time and died the next day.	No fall protection	RDS	10+ floors	1	1								
IWCA Accident Analysis for the Window Cleaning Industry 1995	June-91	Philadelphia, PA	Window cleaner using Sky Genie attaches descent line and lifeline to horizontal sttel cable on roof. Upon clearing the parapet, steel cable parts, sending window cleaner 32 floors to his death.	Misuse, Equipment Failure, No Fall Protection	RDS	32 floors	1	1	1				1			
IWCA Accident Analysis for the Window Cleaning Industry 1995	07/01/91	San Francisco, CA	Window Cleaner falls 7 stories to his death while using Sky Genie device attached to a rolling outrigger. The front wheels of the outrigger came off the parapet wall, causing the whole device to fall to the ground.	Misuse, No Fall Protection	RDS	7+ floors	1	1	1							

					r	T			_	-				 
IWCA Accident						+								 
Analysis for the				Equipment										
Window Cleaning			Window Cleaner fall approximately 35 feet and sustains serious injuries after his descending	Failure, No Fall										
Industry 1995	October-91	Bismarck, ND	line broke.	Protection	RDS	35+ feet	1	1	1					
IWCA Accident														
Analysis for the														
Window Cleaning		Washington,	Window Cleaner using RDS falls from building. Apparently, was not attached to his safety	No Fall										
Industry 1995	October-92	DC	lines at the time of the fall.	Protection	RDS		1		1					
							-							
			Man on second day on the job as a window washer, fell five stories to his death. There was				1		-					
IWCA Accident			no explanation why additional safety lines-if they were in use, didn't prevent the man's											
Analysis for the			death when his main line supporting him gave way. Employer was fined because worker	Misuse, No										
Window Cleaning			was not using a lifeline that would have safely held him. Apparently, the knot in his main	Independent Fall										
	4000	Deathers I OD	supporting line failed which caused the fall.		000	2								
Industry 1995	1993	Portland, UK	supporting line failed which caused the fail.	Protection	RDS	r	1	1	1					
IWCA Accident														
Analysis for the														
Window Cleaning			Window cleaner cleaning a 50 story building becomes stranded in descent equipment lines											
Industry 1995	April-93	Tampa, FL	as a result of a wind gust. Employer says that there was never any danger.	Misuse?	RDS	50 floors	1	1				1	1	
IWCA Accident														
Analysis for the					I	1	1		1	1				
Window Cleaning		1	Window cleaner fell to his death when the anchor his RDS was tied to apparently failed. He	No independent	1	1	1			1				
Industry 1995	June-93	Boston, MA	was not wearing an independent lifeline which would have prevented this.	fall protection.	RDS	2	1		1	1				
	June 35	_ 55ton, 14A	nee nee neede generation interne miner mone nere pretentee tills.	protection.		ť –	1 1		-1	1				
IWCA Accident							1							
Analysis for the			Window cleaner falls while using RDS. Apparently, no fall protection equipment was being		I	1	1		1	1				
Window Cleaning		Pittsburgh,	used because his co-worker said that he thought he jus let go of his descent line and	No indonende -t		1	1			1				
				No independent			1 .			1				
Industry 1995	July-93	PA	descended very fast to the ground.	fall protection.	RDS	1	1		1					
INNICA Assistant			Wile day, Classes with DDC attacked to descend on factors and the langest											
IWCA Accident			Window Cleaner using RDS attempted to descend on frozen ropes. He became stuck		I	1	1		1	1				
Analysis for the			because the ropes would not go through the device. Company management arrived at the			1	1			1				
Window Cleaning			jobsite to rectify the situation but the fire dept. chief took precedence over the matter and		I	1	1		1	1				
Industry 1995	01/06/94		forced the issue by breaking a window to rescue the worker.	Misuse.	RDS	?	1	1						
IWCA Accident				Misuse, No										
Analysis for the				independent fall										
Window Cleaning			Window cleaner fell 8 stories to his death. His body was found face down on a seatboard	protection, lack										
Industry 1995	05/20/94	PA	which fell into a courtyard. He had two months experience.	of training.	RDS	8 floors	1	1	1 1					
1100301 ¥ 1555	03/20/34	18	which reir into a courtyard. The had two months experience.	or training.	1105	0 110013		1	-					
			Window cleaner falls to his death while using Sky Genie Equipment. Building was equipped											
IWCA Accident			with davits for transportable suspended scaffolding. Worker attached both his working line											
Analysis for the				Misuse, No										
			and lifeline using knots to an anchorage for perimeter protection. The knots came undone											
Window Cleaning			which caused the fall. Because there was no independent lifeline, the window cleaner was	independent fall										
Industry 1995	7/21/1994	Redwood, CA	killed.	protection.	RDS	?	1	1	1					1
IWCA Accident			Window washer fell 10 stories when he lost control of his boatswain's chair and slipped off											
Analysis for the			the edge of the roof. While preparing to clean the windows, he slipped while trying to hook											
Window Cleaning			up his chair. He fell more than nine stories before being stopped by some scaffolding. He	No Independent		1	1			1				
Industry 1995	7/29/1994	Tampa, FL	was working alone at the building	Fall Protection	RDS	10 floors	1		1	1				
										1				
IWCA Accident			25 year old window washer fell 14 stories to his death when the rope supporting him	Lack of certified		1	1			1				
Analysis for the			slipped loose. After securing the line of his chair to a 4 inch pipe on the roof, he climbed	anchorage, No		1	1			1				
Window Cleaning			over the side of the building to begin washing windows when the rope slipped off of the	Independent Fall	I	1	1		1	1				
Industry 1995	9/21/1994		pipe.	Protection.	RDS	14 floors	1		1	1				
mausuy 1990	5/21/1994		linine.	FIOLECTION.	100	14 10015	1			+ <sup>1</sup>				 
							1							
				Lack of certified		1	1			1				
INACA Assident			Werker fell 170 feet to his death while deaple - windows. Us was windows with the			1	1			1				
IWCA Accident			Worker fell 170 feet to his death while cleaning windows. He was using controlled descent	anchorage, No	I	1	1		1	1				
Analysis for the			equipment anchored to a portable rooftop rig which he apparently forgot to place the	Independent Fall	I	1	1		1	1				
Window Cleaning			required counterweights on. The rig also cam off the roof during the fall. He neglected both	Protection.	I	1	1		1	1				
Industry 1995	12/14/1994	l	a tieback and most importantly, an independently anchored lifeline.	Misuse.	RDS	170 feet	1	1	1	1				
					I	1								
			Employee #1 was cleaning windows from a boatswain's chair suspended by a two											
			part line hooked into a Sky Genie. The lifeline was attached to a common anchorage,											
			which in this case was a perimeter cable. The quarter inch cable was spliced in a			1	1			1				
			poor manner that allowed the ends to pull out under load and cause a failure in the			1	1			1				
			anchorage. Employee #1 fell approximately five stories (60 ft) and struck his right		I	1	1		1	1				
			foot on a ledge, severely injuring it. He was transported to a nearby medical center			1	1			1				
IMIS 170746077	3/28/1995		and was treated and released.	Anchor Failure	RDS	60'	1			1				
11113 1/0/400//	012011770					50				<sup>1</sup>				
					L					I				
IWCA Accident						1	1			1				
Analysis for the					I	1	1		1	1				
Window Cleaning			Window cleaner falls four stories and lives. Was cleaning windows when his rope	No Independent		1	1			1				
	4/4/1995	Cambridge MA	gave way. He was tied to a safety line, but for some reason the line didn't catch him.	Fall Protection	RDS	4 floors	1		1	1				
Industry 1995							· 1		±1	1				

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IMIS 171020191	6/6/1995		On June 6, 1995, Employee #1, of a window cleaning company, was attempting to enter a boatswain's chair scaffold. The scaffold did not have extensions to the boom or counterweights. He was not wearing a safety belt and lifeline. The scaffold and the employee fell approximately 50 feet, causing fatal injuries. Two citations were issued for serious violations of 0529(3) and 0541(1).	Not tied to equipment	RDS	50'	1	1	1		1		
IWCA Accident Analysis for the Window Cleaning Industry 1995	6/7/1995	Grand Rapids, MI	Worker fell to his death while working in the six story atrium. He and his co-worker had failed to use safety gear while suspended about 40 feet above a concrete floor. It was determined that he ran into trouble while standing on a bosun's chair suspended from a boom located on a fourth floor balcony. The unit got away from him and there was no backup safety system or device. The safety equipment was in the truck.	Misuse, No Independent Fall Protection.	RDS	40 feet	1	1	1		1		
IMIS 699579	6/14/1995		There were 2 employees washing windows when the support system failed causing one employee to fall 34' and be seriously injured and the other to fall from the roof 48' resulting in death.	anchor. Moving Portable anchor. No fall protection.	RDS	48'	1	1	1		1		
IWCA Accident Analysis for the Window Cleaning Industry 1995	6/14/1995	Forest Park, IL	Could be same incident as above. Two window washers were hospitalized after they fell three stories to a sidewalk. One died of multiple injuries, his co-worker is listed in stable condition. It was said that the scaffold that was being used rolled off the track. Both me fell about 35 feet. OSHA inspectors said the men had lifelines but they were attached to the support device.	anchor. Moving Portable anchor. No fall protection.	RDS	35 feet	1	1	1		1		
IMIS 170376776	7/31/1995		Window washer company. EE #1, a window washer using a boatswain's chair without a separate safety line, fell from the roof top of a nine story building while attempting to attach the descent device to the working rope from a seated position with his legs over the side. EE #1 is unsure exactly what precipitated his fall, but may be the latch for the descent device was not properly secured. While falling, entangled in the boatswains chair, EE #1 grabbed the working rope in his hands and held on, slowing his fall until the pain became too intense to continue holding. He free fell and landed on a row of plastic garbage cans which broke his fall and fell to the pavement. He sustained 3rd degree burns to both hands, bruising of right shoulder/back area and a lacerated left knee. He was taken by campus police to Alta bates hospital, where he received skin grafts and was released on 8-11-95.	No fall protection. Failure to properly rig.	RDS	9 floors	1	1	1				
Boston Herald	9/5/1995	Cambridge, MA	A window washer fell four stories and landed without a scratch. He was cleaning windows 55 feet above the ground when his rope gave way. He was tied to a safety line, but for some reason that line didn't catch him either.	No fall protection. Misuse	RDS	55 feet	1	1	1				
IMIS 897769	12/13/1995		On December 13, 1995, at approximately 10:00 a.m. Employee #1 was preparing to wash windows on a 14 story condominum working from a boatswains chair. Employee #1 had rigged up his repelling equipment and lifeline and had placed them over the side of the building. Employee #1 did not connect to his life line when he went over the parapet wall and did not fully engage the eye of his rappel rack into his locing type D-ring resulting in Employee #1 falling to the ground below.	Not tied off properly. No use of fall protection.	RDS	14 floors	1	1	1				
IMIS 170789259	3/27/1996		Window washer with 2 years experience was working alone on a 3-story (about 35 foot height) brick building when fall occurred. He had been on site for &2-1/2 weeks washing windows and caulking windows. It was a partly cloudy day, temperature in low 30s with a light wind. No witnesses reported seeing employee #1 fall. 911 cail was placed by a motorist with a mobile phone. Employee #1 mas reportedly wearing a repelling harness and secondary safety belt. Harness was connected with a D-ring + figure 8 to a PMI climbing rope which was NOT connected to an anchor point on the roof. Safety belt was not connected to a rope. Injuries included multiple fractures and a closed head injury. Employee #1's head injury resulted in death 8 days following the fall.	Not tied off to anchor.	RDS	35'	1	1			1		
IMIS 200850055	8/5/1996		Worker on ground fatality injured and worker on window washing scaffold hospitalized with injuries sustained from bricks and other debris that fell from 21st floor building parapet from which csaffold was suspended. Parapet from which scaffold was suspended had failed due to incorrect secondary tie back wire rope angle was installed at an incorrect angle and excessive overhang dimension on parapet clamp.	Use of unsound anchorage.	RDS or Scaffold	21 floors	1	1			1		
		1						-			-		
			l de la constante de	1		1			L				

IMIS 170572150	12/18/1996		Employee 11s a window washer for a small (4 employee) window washing company. On the day of the accident, employee 1 was suspended in a boatswain chair at the tenth floor level of an office building washing windows. One strap of the chair became unhooked. Employee 1 fell and was caught by his lifeline. Another employee (supervisor) repelled down to where employee 1 was suspended grabbed him and they both descended to the second floor level. At this level employee 1 unlocked and detained his lanyard from the safety harness and jumped to the ground below. A pedestrian caught/slowed employee 1 fall to the ground. Employee 1 was taken to hospital with bruises. Employee 1 has not been seen of or heard from by anyone and cannot be found at this time. Inspection of chair, equipment used revealed employee 1 was using a double non-locking hasp attachment to attach repel line to chair attachments. Interviews with fellow employees and employer reveal that no one knows where hasp came from. The hasp is not standard equipment and was not necessary since a locking D-ring was also used in chair setup.	Poor Equipment	RDS	10 floors	1	1						
IMIS 170726962	4/22/1997		ON April 22, 1997 at approximately 1100 hours, late report received on May 12, 1997, a window cleaner, age 39, employed by a maintenance company, was involved in an accident. Employee <i>≰</i> 1 was attempting to use a boatswain chair when he and the chair fell four stories to the ground, the O-ring connection was not checked. Employee broke his back, he was immediately transported to Eden Medical center for treatment. Accident related citation issued for serious, T8CCR 3286(a)(2) and T8CCR 3286(a)(4).	No fall protection	RDS	4 floors	1		1					
IMIS 170726426	10/14/1997		On October 14, 1997 at 0817 hours an Industrial Accident/Fatality occurred at an Industrial Office Complex in Fremont CA. The decedent was employed as a window washer assistant to the owner/contractor who was engaged in a window-cleaning operation on a building housing a bank processing center. The decedent was assigned to work on the roof-moving the equipment used to suspend the contractor on a boatswain's chair at the east face of the building. The decedent fell 32-feet from the roofrop to the parking lot below. He sustained fatal multiple blunt trauma and was pronounced dead at 0841 hours. Causes: (1) Equipment used wilh counterweights was a Serious Safety violation, and (2) the decedent did not have any fall protection while assigned to work within 6-feet of the edge of the roof. Accident-Related Serious Violation of T8 CCR 3212(d)(1) and 3291(d)(1).	No fall protection.	RDS	32 feet	1		1					
IMIS 100963644	5/6/1998		The above named victim is a window washer,he was washing windows on a Anne Arundel County Office Building. He had been assigned the work by the sole owner of the company to wash the windows on the south side of building 'C'. He had secured two nylon type #16 SOL BR ropes to the 4' diameter metal pipes that were in reinforced concrete beams into the building structure. He had a full body harness with a 3' shock absorbing lanyard that had a grabbing device on it. Then over top of the body harness he had put on his bosun's chair. He did not have a 3rd line, (Life Line). He was using a Sky Genie descent control device. The victim was attempting to repel down the side of building 'C' to start washing the windows. His supervisor who was washing windows on the other side of the building herd another employee yell out to him and said help that I had for got to hook up. By the time that his supervisor had got over to where another employee had been working the victim had fell 545' to the soft ground below. The victim sustained two broken ankles,back and neck and internal injuries from the fall. He was flown by trooper 2 to the hospital.	Training Issue	RDS	55'	1		1	1	1			
IMIS 170042626	8/17/1998		On 8-17-98 at 1:48 pm employee #2 had swung over side of building at 45 foot level in boatswains chair. Portable scaffold tipped off roof of building. Employee #1 was pulled from roof and suffered massive, fatal head trauma. Employee #2 dropped in chair about 40 feet resulting in multiple fractures to left leg and hop. Counter balance weights were not installed on portable scaffold and it was not securely anchored. Employee #1 wearing full body harness and attached to scaffold by lanyard. Employee #2 utilizing lifeline which was also attached to scaffold.	Not tied off to sound anchorage. No fall protection.	RDS	45'	1	1	1		1			
IMIS 202250551	12/17/1998		Employee was washing windows on the north east face of the elevated walkway spanning N. Sierra St. and the parking garage. He was suspended in a boatswains chair from a portable support device approx. 21 feet above the ground. The portable support device suddenly became unstable and fell off the edge of the roof. Employee sustained a fractured wrist and pelvis.	Not tied off to sound anchorage. No fall protection.	RDS	21'	1		1		1		 	
Tampa Tribune	12/19/1998	Tampa, FL	36 year old high-rise window washer fell 13 stories from a hotel. The cleaning crew was making its first descent of the morning. He was slitting in a chair with two ropes suspending it. The ropes are secured with a self-locking ring and a safety rope is supposed to protect workers in a fall. He had just cleared the sign on the 14th floor tower and dropped down about one floor when the ring popped open and he started to fall. He looked down and saw his safety line fall.	No fall protection.	RDS	14 floors	1		1					
		1				1			1			1		

						1		i i	-	r	1	 	T	
IMIS 18182477	2/4/1999		Employee attached his harness to the work line of a roof roller (type of scaffold) that was not yet properly anchored and fell to the ground pulling the roof roller with him. An other worker was in the process of setting up the roof roller at the time of the accident. The employee setting up the roof roller had his back turned and did not know why or how the victim went over the edge. The counter weights, boatswain's chair, safety lanyard with rope grab, and window washing equipment were still on the roof when the individual went over the side.	No fall protection.	RDS	unknown	1	1		1				
IMIS 201141058	2/12/1999		Two employees were washing the exterior windows of a building using a counterweight outrigger beam and a cda (controlled descent apparatus). The employees were on a rooftop approximately 150 ft x 75 ft in the northeast corner at a height of 51 ft. The equipment used by the two employees consisted of a counterweight outrigger system, with no visible markings indicating manufacturer, serial number, name of equipment or model number. Additional equipment included a single length of rope, cda, sky genie, a bucket with rags and squeegees for cleaning the windows. The employee washing the windows suspended from the counterweight outrigger beam/cda, sustained a broken back when the counterweight outrigger beam/separated, causing him to fall 30-40 feet. Two bolts were missing from the beam at the point of separation. The bolts were found 25 feet from the where the counterweight outrigger beam separated after the accident occurred. The equipment was not ited back to any approved anchorage and the employee was not attached to approved independent line and harness/lanyard.	No fall protection. Improper use of equipment.	RDS	51'	1	1 1		1				
IMIS 200672137	10/27/1999		A window washer working on a high-rise condo fell 18 stories to his death when the rope holding his descending device (SMC Rappel Rack) broke. The rope (. KM3 braided mountain climbing rope) apparently chaffed where it passed through a penthouse balcony and the victim did not have his rope grab attached to his safety line. The rope was not padded to prevent chaffing where it passed through the balcony. There is a written Safety & Health program but no supervision was on the job site.	No fall protection. Failure to protect rope.	RDS	18 floors	1							
11113 2000/213/	10/27/1799		joo siic.	protect tope.	100	10 HOUIS	1							
IMIS 202003760	11/29/1999		An employee engaged in window washing was fatally injured when the anchorage on the roof failed, resulting in the employee falling in excess of one hundred sixty (160) feet to the ground below. The employee was using one rope, doubled over, for use as both the primary support system and the personal fall arrest system. Additionally, the lines were connected to the same anchorage which was not capable of supporting the maximum intended load.	No sound anchorage. No fall protection.	RDS	160'	1	1		1				
wcmail.net/archives/ presep2000/july_200 0/msg00290.html		Los Angeles, CA	Window Cleaner fell 7 stories from the roof of a downtown LA high-rise to a third floor ledge. Was walking on a panel on the roof and the panel gave away while he was setting up his rappelling ine.	No fall protection	RDS	10 floors	1	1						1
0/113g00250.11111			and a free affecting the	F		10 110013	1	-						-
IMIS 20000990	7/20/2000	Kansas City. MO	On July 20, 2000, approximately 10:07, three employees of Quality Window Cleaning. Inc. were engaged in window cleaning. Two employees were washing windows from a boatswains chair, suspended from the roof by a roller(transportable roof rig), and descending down the building using descent control devices. The third employee was on the roof pushing the two rollers back and forth, moving the employees cleaning windows from window to window. The employee on the roof was moving the roller on the South end of the building, and one of the wheels of the roller slipped off the edge of the parapet wall. This caused the roller to fall to the ground and drag the other dom with it, because the two rollers were tied together and neither one was anchored to the roof. When the rollers fell to the ground the two window washers also fell 6-7 stories to the ground, because their lifelines were only attached to the suspension point on the roller. When the Southerr oller, the third employee was pushing, fell from the roof, the employee on the roof was cataputled to the ground approximately 84'4', fatally injuring the employee on the roof.	No fall protection. No sound anchorages.	RDS	85'	1	1		1				
wcmail.net/archives/ prefeb2001/septem		Vancouver, Canada	Accident in Vancouver. Window cleaner fell 23 floors to his death. Descent line was not anchored properly and his rope grab did not activate on his lifeline.	Improper setup.	RDS	23 floors	1	1						
ber_2000/msg00003 .html	0/01/2000													
	10/10/2000		On 10/10/00, at approximately 10:15am, a window washer fell approximately 60 feet while using a boatswain's chair to clean the windows on a six(6) story building. The employee's lifeline and the boatswain's chair's suspension line had not been adequately secured. The supervisor was at the site at the time of the accident.	No fall protection. No sound anchorage.	RDS	60'	1	1		1				
wcmail.net/archives/	/	Los Angeles, CA	teet to the ground below. The employee was using one rope, doubled over, for use as both the primary support system and the personal fall arrest system. Additionally, the lines were connected to the same anchorage which was not capable of supporting the maximum intended load. Window Cleaner fell 7 stories from the roof of a downtown LA high-rise to a third floor ledge. Was walking on a panel on the roof and the panel gave away while he was setting up his rappelling ine. On July 20, 2000, approximately 10:07, three employees of Quality Window Cleaning, Inc. were engaged in window cleaning. Two employees were washing windows from a boatswains chair, suspended from the roof by a roller(transportable roof rig), and descending down the building using descent control devices. The third employee was on the roof pushing the two rollers back and forth, moving the employees cleaning windows from window to window. The employee on the roof was moving the roller on the South end of the building, and one of the wheels of the roller slipped off the edge of the parapet wall. This caused the roller to fall to the ground and drag the other down with it, because the two rollers were tied to the ground the two window washers also fell 6-7 stories to the ground, because their lifelines were only attached to the suspension point on the roller. When the Southern roller, the third	anchorage. No fall protection.	RDS RDS	160'	1			1				

Image:	-					1	1	1		1	· · ·	 	-	
No.200	IMIS 656371	5/24/2001		single point scaffold claims he was attached to a safety line and rope grab with a full		RDS	14' ?	1						
Set insertion       Image reproduction in the method in the	IMIS 200771160	7/20/2001			protection. Improper	RDS	4 floors	1	1 1	L				
Box       B	OSHA Inspection 304674708 & 304744618	8/1/2001	Newark, NJ	all equipment provided them and not supervised adequately. Portable anchor that supported RDS not securely anchored to the roof. Not using an independent fall	rigging. Lack of sound anchorage. Lack of fall protection. Lack of training and	RDS	85 feet	1	1 2		1			
Main 171222110       Control       And employe anguaged a watch as abcord sourced pair watch as about a bout of activity and a state and	IMIS 200540664	8/6/2001		2001, when he fell approximately 40 feet. The employee was not wearing any fall		RDS?	40'	1						
BASE-30         100000         100000         100000         100000         100000         1000000         1000000         10000000         10000000         100000000         100000000         1000000000000000000000000000000000000	IMIS 171262116	9/1/2001		decent controlled device when the anchorage point on the roof failed causing the	protection. No sound	RDS	60'	1			1			
SHA inspection       No       No <td>OSHA Inspection 305415630</td> <td>7/1/2002</td> <td></td> <td>Employees operating RDS but not trained.</td> <td>Failure to train.</td> <td>RDS</td> <td>60 feet</td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td>	OSHA Inspection 305415630	7/1/2002		Employees operating RDS but not trained.	Failure to train.	RDS	60 feet	1		1				
SHA Inspection       No       No       No       Total       No       Total       No       Total       No	OSHA Inspection 303809412	12/20/2001	Waltham, MA	1/2 inch rope that was supporting the seatboard severed. He was using a .625 inch Komet rope grab along with a half harness and a 3 foot lanyard, however the employee was utilizing a .5 inch nylon braided rope lifeline in conjunction with the	Misuse	RDS	42 feet	1	1					
SHA Inspection       cope burns to both hands after having fallen about two stories down this separately attached the line. He stated that he had forgotine to attach the controlled descent device to 2000 and 1000 and 100000 and 10000000 and 100000 and 10000 and 10000 and 10000 and 10000	OSHA Inspection 304475049	1/18/2002		interior courtyard. He was killed by the fall. He was using a Petzl sit-harness and a		RDS	10 floors	1		L				
05697161       8/15/200       Las Vegas. WV       Employees using anchors that had not been certified, tested or inspected.       anchorages.       RDS       450 feet       1	OSHA Inspection 126086628	6/7/2002	El Monte, CA	rope burns to both hands after having fallen about two stories down the face of the building he was saved from the remainder of the fall via his separately attached lifeline. He stated that the had forgotten to attach the controlled descent device to	Misuse	RDS	2+ floors	1	1					1
SHA Inspection 03991582       2/13/2003       Failure was no independent from working line which between the 12th and 13th floors and managed to restor a narrow widow ledge. Winds that were guisling up to 35 miles per hour caught his ropes and wrapped them around an antenna on the west side of the building. He had on his boats working the window set the building. He had on his boats working the window set the line that would support him. There was no independent lifeline to which he could secure himself. He apparently a narrow widow ledge. Winds that were guisling up to 35 miles per hour caught his ropes and wrapped them around an antenna on the west side of the building. He       Sound and the secure himself to the building. He had on his boats working the window secure himself. He apparently fail Protection       RDS       21 around a control to the secure himself to the line that would support him. There was no independent lifeline to which he could secure himself. He apparently a narrow widow ledge. Winds that were guisling up to 35 miles per hour caught his ropes and wrapped them anound an antenna on the west side of the building. He had no his boats working the secure himself to the line that would support him. There was no independent lifeline to which he could secure himself. He apparently ratio a narrow widow ledge. Winds that were guisling up to 35 miles per hour caught his ropes and wrapped them anound an antenna on the west side of the building. He       Image: RDS       Im	OSHA Inspection 305697161	8/15/2002	Las Vegas, NV	Employees using anchors that had not been certified, tested or inspected.		RDS	450 feet	1			1	1		
SNA Inspection       Continue cleaning the windows on the side of a hospital building. He had on his boatswain's chair, but had not secured himselt to the line that would support him. There was no independent lifeline to which he could secure himself. He apparently a particular to ship balance and fell approximately 62 not.       No       RDS       Act of a feet       1	OSHA Inspection 305156994	11/19/2002		to sound anchorage. Portable anchor moved while worker suspended from it. Use	sound anchorages. Failure to use equipment properly. No independent	RDS	?	1	1		1			
Image: second	OSHA Inspection 303991582	2/13/2003	Tallahassee, FL	continue cleaning the windows on the side of a hospital building. He had on his boatswain's chair, but had not secured himselt to the line that would support him. There was no independent lifeline to which he could secure himself. He apparently		RDS	62 feet	1	1 1					
	Indianapolis	3/27/2002	Indiananolis	a narrow widow ledge. Winds that were gusting up to 35 miles per hour caught his ropes and wrapped them around an antenna on the west side of the building. He	Misusa	RDS							1	
							TO HOUS		1				-	

BABBAR       Description       Descripion <thdescription< th="">       &lt;</thdescription<>	001101101011				1	1	1	1	1	1		, , , , , , , , , , , , , , , , , , ,			 
Bagers         Main         Restance         Main         No.         <	OSHA Inspection														
Image: constraints         Image: constraint         Image: constraints         Image: c		4/20/2002	Currenter Mitt	Employee using a seat harness instead of full hervices		PDC	2		1						
Observed	300308503	4/30/2003	Syracuse, NY	Employee using a seal namess instead of full body flamess.	ndHess.	RUS	1	1	1						
Observed															
Observed				Two employees were using anchor points which were not designed and approved for											
Image: constraint of constraints in constra				window cleaning. Employees were using parapet clamps to support suspended work											
windle dependence build output build (000 windle dependence (000 windle dependence (0000 windle dependence (000 windle dependence (000 windle dependence	306124348	5/15/2003	Las Vegas, NV	and the clamps were not tied back to sound anchorages.	anchorages.	RDS	451 feet	1			1		1		
windle dependence build output build (000 windle dependence (000 windle dependence (0000 windle dependence (000 windle dependence (000 windle dependence															
windle dependence build output build (000 windle dependence (000 windle dependence (0000 windle dependence (000 windle dependence (000 windle dependence					independent										
washingstate       washingstate <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>															
main algebraic         main					each line. 2										
minimized bias         Line         Line <thlin< th=""> <thline< th="">         Line</thline<></thlin<>															
production of a bit is a bit is booth which do not place bit do not pla	wcmail.net/archives/														
Biologeneration         The output mode in basics blick and to bail by gand. Both and bails down that any output field in the output basic by down the output basic	presep2003/may_20														
A GSM Argon         Number         Selection         Number         Numer         Number         Number	03/msg00314.html			Two workers in Boston killed when both fall to ground. Both men had main line and											
Image: Control         Image:				safety line attached to the same horizontal cable strung between two anchors. Cable											
GMA Impact:         Call Display         Display Properties         Display Properties         Display Properties         Display Properties         Display Properties         Display Properties         Display Properiis         Display Properiis <t< td=""><td>305549388</td><td>5/15/2003</td><td>Boston, MA</td><td>failed. Used improper wire rope clamps.</td><td>design.</td><td>RDS</td><td>?</td><td>1</td><td>1</td><td></td><td>1</td><td></td><td></td><td></td><td></td></t<>	305549388	5/15/2003	Boston, MA	failed. Used improper wire rope clamps.	design.	RDS	?	1	1		1				
GMA Impact:         Call Display         Display Properties         Display Properties         Display Properties         Display Properties         Display Properties         Display Properties         Display Properiis         Display Properiis <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
303550000       4010000       Board Mode Solution during base interface and inclusion grant bases and transport of material mode and tran	OSHA Inspection			Employees exposed to fall bazards while using reaf reliers in conjunction with DDC											
Control         Control <t< td=""><td></td><td>6/3/2003</td><td>Boston MA</td><td></td><td></td><td>RDS</td><td>2</td><td>1</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td></t<>		6/3/2003	Boston MA			RDS	2	1			1				
and         instance         base methods	505550040			inter renere en normave a neodor to an independent anenorage point.			ľ			+	1				
and         instance         base methods				Two window washers were left dangling from a building after their safety lines						-					
AP       Integr				became tangled during a windy rain shower. Winds were gusing to 36 mph. They											
Communication         Control															
womain length wheely prespectively. Joint weight with the net or of a lag agade into the scale after into the scale after into the scale after into the scale after into a lag in a low of	AP	7/16/2003	Fort Wayne, IN	building.	Misuse	RDS	14 + floors	1	1					1	
womain length wheely prespectively. Joint weight with the net or of a lag agade into the scale after into the scale after into the scale after into the scale after into a lag in a low of															
womain length wheely prespectively. Joint weight with the net or of a lag agade into the scale after into the scale after into the scale after into the scale after into a lag in a low of				Window cleaner saved in Grand Rapids, MI. Apparently he was climbing into his											
3/mg00543/html       visual       motion       Provide and approximation of the second of the seco															
Control         Control <t< td=""><td></td><td></td><td>Grand Rapids,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			Grand Rapids,												
GSHA inspection 3071 S327         11220004         Law varues. W         Bit file in lab been idea of the top 2 pandra fails of the usabulants and mode weight carticles changes and been secure to the model kick plate of the wardwards.         Ros         270 feet         1         0        0         0         0	3/msg00543/html	7/29/2003	MI	rescued.	Poor set-up.	RDS	320 feet	1	1				1		
GSHA inspection 3071 S327         11220004         Law varues. W         Bit file in lab been idea of the top 2 pandra fails of the usabulants and mode weight carticles changes and been secure to the model kick plate of the wardwards.         Ros         270 feet         1         0        0         0         0				Employee had been using anchor points that were not approved and designed for						-					
OSHA Impection       and the weight can theback had been secured to the metal kick plane of the wakew       Lick of sound active sing an 5 hock and factive sing.       Activ				window cleaning. The life line had been tied off to the top 2 hand rails of the catwalk											
CostA Inspection     An orizontal line used as anchorage for supporting a RDS.     No sound archorage. Lack of Sound Archorage. Lack of Sound SoftA Inspection     No sound archorage. Lack of Sound Archorage. Lack of Sound Archorage. No     RDS     P     1     1     Image for supporting a result of the sound archorage. Lack of Sound Archorage. No       OSHA Inspection 3076/7369     wruses. Wruse Lack of Sound Breeze/OW/Lines.     No     No     RDS     P     1     1     1     1       Neme: Lack of Sound Archorage. No     No     No     No     RDS     45 feet     1     1     1     1     1       No     No     No     No     No     RDS     45 feet     1     1     1     1     1       No       OSHA Inspection     No     No     No     No     No     No     No     No     No       OSHA Inspection     No     No     No     No     No     No     No     No     No       OSHA Inspection     No     No     No<	OSHA Inspection				Lack of sound										
OSHA Inspection       and board		1/23/2004	Las Vegas, NV			RDS	270 feet	1			1				
OSHA Inspection       and board															
OSHA inspection 306812165         enset. Ma         A horizontial line used as anchorage for supporting a RDS.         independent fail protection         RDS         7         1        1         1															
OSHA Inspection 306812165         41/2004         Busin. MA         A horizontal line used as anchorage for supporting a RDS.         Independent Independent Softa         RDS         P         I        I         I        I															
306812165       4120204       Reskort,MA       A horizontal line used as anchorage for supporting a RDS.       fall protection       RDS       ?       1       1       0 <th< td=""><td>OSHA Inspection</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	OSHA Inspection														
OSHA Inspection     end		4/12/2004	Boston, MA	A horizontal line used as anchorage for supporting a RDS.	fall protection.	RDS	?	1			1				
OSHA Inspection       and by the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the was window approximately 45, feet a burner of washing barrer of a start was washing a transmoster of a start were subtle of the was window approximately 45, feet a burner of the was window approximately approximately approximately approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the draw free of the was window approximately 46, feet a burner of the draw free of the was wi															
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OSHA Inspection       and by the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the provide was washing windows, working from a boatswain's chair approximately 45, feet a burner of the was window approximately 45, feet a burner of washing barrer of a start was washing a transmoster of a start were subtle of the was window approximately 45, feet a burner of the was window approximately approximately approximately approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the was window approximately 46, feet a burner of the draw free of the was window approximately 46, feet a burner of the draw free of the was wi															
OSHA Inspection 307677369       Employee was washing windows, working from a boatswainty chair approximately 45 beta above the ground. His privance statution and the field 45 feet to the asphalt and was killed.       No. Independent Fail Protection       RDS       45 feet       1															
OSHA Inspection       output       feed above the ground. His primary safety lines were attached to an air cooler unit.       Independent Fall Protection       RDS       45 feet       1				Employee was washing windows, working from a boatswain's chair approximately 45											
307677369       0-1/2004       Knowlin, TX       The the-off points failed and he fell 45 feet to the asphalt and was killed.       Fail Protection       RDS       45 feet       1	OSHA Inspection														
wcmail.net/archives/ presep2004/june_20       Image: Support of the was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root using the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was addentified to the same static line on the root was to reperform anchor 3 fail the protection. If the was using 2 ropes, but had removes the safety lines both tied to the chair harnesses. Both lines connected to the static line on the root using knots. Horizontal lines on the root were tied between root anchors. Safety lines were connected to the static line on the root using knots. Horizontal lines on the root using knots. Horizontal lines on the root were attached to metal roof anchors shafty lines. Some equipment in equipment were exposed to fall hazards while using RDS supported from lanchorage. Lack of sound anchorage. Lack of independent fail protection. If the was to properly rigged for a 4 to 1 safety factor. Life line and main line were both anchorage to a 4 wheeled portable support device which was not properly tigged for a 4 to 1 safety factor. Life line and main line were both anchorage to the same state hore properly rigged for a 4 to 1 safety factor. Life line and main line were both anchoreweights nore properly rigged for a 4 to 1 safety fact	307677369	6/1/2004	Knoxville, TX	The tie-off points failed and he fell 45 feet to the asphalt and was killed.		RDS	45 feet	1	1 1	L	1				
wcmail.net/archives/ presep2004/june_20       Image: Support of the was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root using the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was somehow able to cling to the building util rescued. If the was using 2 ropes, but had removed his safety harness while on the root was addentified to the same static line on the root was to reperform anchor 3 fail the protection. If the was using 2 ropes, but had removes the safety lines both tied to the chair harnesses. Both lines connected to the static line on the root using knots. Horizontal lines on the root were tied between root anchors. Safety lines were connected to the static line on the root using knots. Horizontal lines on the root using knots. Horizontal lines on the root were attached to metal roof anchors shafty lines. Some equipment in equipment were exposed to fall hazards while using RDS supported from lanchorage. Lack of sound anchorage. Lack of independent fail protection. If the was to properly rigged for a 4 to 1 safety factor. Life line and main line were both anchorage to a 4 wheeled portable support device which was not properly tigged for a 4 to 1 safety factor. Life line and main line were both anchorage to the same state hore properly rigged for a 4 to 1 safety factor. Life line and main line were both anchoreweights nore properly rigged for a 4 to 1 safety fact															
wcmail.net/archives/ presep2004/june_20 04/msg00087.html       Near accident in Toronto. Anchor had not been inspected for some time and the anchor failed. He was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building until rescued.       Sound anchor age. Lack of fail protection.       RDS       ?       1													T		
wcmail.net/archives/ presep2004/june_20 04/msg00087.html       Near accident in Toronto. anchor failed. He was using 2 ropes, but had remove his safety harness while on the drop. Was somehow able to cling to the building until rescued.       anchor age. Lack of railed.       nchor age. Lack of sound anchor age. Lack of sound anchor age.       nchor age. Lack of sound anchor age. Lack of independent anchor age.       nchor age. Lack of sound anchor age. Lack of sound anchor age.       nchor age. Lack of sound anchor age.       nchor age. Lack of independent anchor age.       nchor age. Lack of independent anchor age.       nchor age. Lack of sound anchor age.       nchor age. Lack of independent in achor age.       nchor age. Lack of independent in proper use.       nchor age. Lack of independent in p															
presep2004/june_20 04/msg00087.html       toronto. Canada       anchor falled. He was using 2 ropes, but had removed his safety harness while on the drop. Was somehow able to cling to the building until rescued.       Lack of faill protection       RDS       ?       1	wcmail.net/archives/			Near accident in Toronto. Anchor had not been inspected for some time and the											
04/msg00087.html       6/5/2004       Canada       the drop. Was somehow able to cling to the building until rescued.       protection.       RDS       ?       1			Toronto,	anchor failed. He was using 2 ropes, but had removed his safety harness while on	Lack of fall										
SHA Inspection       6/9/2004       Hartford. CT       Employees using RDS. Working lines and safety lines both tied to the chair harmesses. Both lines connected to the same static line on the roof. Horizontal lines on the roof. Horizontal lines on the roof were attached to metal roof anchors. Safety lines and safety lines on the roof.       anchorage. Lack of lines connected to the static line on the roof using knots. Horizontal lines on the roof. Hartford. CT       BSB </td 1       1       1       1       1       1       1         OSHA Inspection       6/9/2004       Hartford. CT       Bisrpair.       Employees were exposed to fall hazards while using RDS supported from inadequate anchorage. The anchorage for a primary support line and the life line were both anchored to a 4 wheeled portable support device which was not properly tatched to the portable line of the usal it properly rigged for a 4 to 1 safety factor. Life line and main line fall protection. Improper use       Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of independent fall protection. Improper u	04/msg00087.html	6/5/2004	Canada	the drop. Was somehow able to cling to the building until rescued.	protection.	RDS	?	1			1				
SHA Inspection       6/9/2004       Hartford. CT       Employees using RDS. Working lines and safety lines both tied to the chair harmesses. Both lines connected to the same static line on the roof. Horizontal lines on the roof. Horizontal lines on the roof were attached to metal roof anchors. Safety lines and safety lines on the roof.       anchorage. Lack of lines connected to the static line on the roof using knots. Horizontal lines on the roof. Hartford. CT       BSB </td 1       1       1       1       1       1       1         OSHA Inspection       6/9/2004       Hartford. CT       Bisrpair.       Employees were exposed to fall hazards while using RDS supported from inadequate anchorage. The anchorage for a primary support line and the life line were both anchored to a 4 wheeled portable support device which was not properly tatched to the portable line of the usal it properly rigged for a 4 to 1 safety factor. Life line and main line fall protection. Improper use       Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of sound anchorage. Lack of sound anchorage. Lack of independent fall protection. Improper use       Lack of independent fall protection. Improper u															
Anspection       hardrox.CT       hardrox.CT       hardrox.CT       hardrox.CT       Lack of independent indep				Employees using DDS . Working lines and a fety lines had his to the											
OSHA Inspection       6/9/2004       Hardrod, CT       Synthetic rope static lines on the root were tied between root anchors. Safety lines were attached to metal root autic line on the root using knots. Horizontal lines on the root using knote knots. Horizontal line devide line knots on thoroot using knots				Employees using KDS. Working lines and safety lines both fied to the chair											
OSHA Inspection       were connected to the static line on the roof using knots. Horizontal lines on the roof       fail protection. Improper equipment       RDS       ?       1						1	1	1	1 1	1	1				
306416595       6/9/2004       Hartford, C.T       disrepair.       disrepair.       equipment       RDS       ?       1 <td></td> <td></td> <td></td> <td>harnesses. Both lines connected to the same static line on the roof. Horizontal</td> <td></td>				harnesses. Both lines connected to the same static line on the roof. Horizontal											
OSHA Inspection     A the same carbiner. Counterweights not properly attached to the portable     Intervention     Intervention				harnesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines	independent										
SHA Inspection       anchorage.         0SHA Inspection       attached to the same carbiner. Counterweights not properly attached to the portable				harnesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in	independent fall protection. Improper										
SHA Inspection       anchorage.         0SHA Inspection       attached to the same carbiner. Counterweights not properly attached to the portable		6/9/2004	Hartford, CT	harnesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in	independent fall protection. Improper	RDS	?	1	1 1	L	1				
OSHA Inspection       attached to the same carbiner. Counterweights not properly attached to the portable       Lack of fall protection.		6/9/2004	Hartford, CT	harnesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in	independent fall protection. Improper equipment	RDS	?	1	1	L	1				
OSHA Inspection     attached to the same caribiner. Counterweights not properly attached to the portable     independent     fall protection.		6/9/2004	Hartford, CT	harmesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in disrepair.	independent fall protection. Improper equipment Lack of sound	RDS	?	1	1		1				 
OSHA Inspection     tied off nor was it properly rigged for a 4 to 1 safety factor. Life line and main line     fall protection.       Improper use     Improper use		6/9/2004	Hartford, CT	harnesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in disrepair.	independent fall protection. Improper equipment Lack of sound anchorage.	RDS	?	1	1		1				
		6/9/2004	Hartford, CT	harmesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in disrepair.	independent fall protection. Improper equipment Lack of sound anchorage. Lack of	RDS	?	1	1		1				
	306416595	6/9/2004	Hartford, CT	harmesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were led between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in disrepair. Employees were exposed to fall hazards while using RDS supported from inadequate anchorage. The anchorage for a primary support line and the life line were both anchored to a 4 wheeled portable support device which was not properly tied off nor was it properly rigged for a 4 to 1 safety factor. Life line and main line tied off nor was it properly rigged for a 4 to 1 safety factor. Life line and main line tied off nor was it properly rigged for a 4 to 1 safety factor.	independent fall protection. Improper equipment Lack of sound anchorage. Lack of independent fall protection.	RDS	?	1	1 :		1				
308103027         10/1/1/2/004         Boston, MA         support device.         of equipment.         RDS         9 floors         1         1         1	OSHA Inspection			harmesses. Both lines connected to the same static line on the roof. Horizontal synthetic rope static lines on the roof were tied between roof anchors. Safety lines were connected to the static line on the roof using knots. Horizontal lines on the roof were attached to metal roof anchors that had sharp edges. Some equipment in disrepair.	independent fall protection. Improper equipment Lack of sound anchorage. Lack of independent fall protection. Improper use		?	1	1 :		1				

		1		1	1	1				1		-		 
OSHA Inspection 309008597	6/8/2005	Burlington, MA	Workers exposed to fall hazards, crushing hazards, and struck-by hazards resulting from improperly rigged, anchored and/or operated outrigger beam suspension unit. Roof roller rolled off roof. Worker fell approx. 48 feet and then struck by roof roller. Roller was not lied back to a sound anchorage on the roof. Roof roller was not equipped with enough counter-weights to maintain 4 to 1 safety factor. Equipment not installed properly. Suspension equipment was being moved while worker was suspended from the equipment. Worker tending the roller on the roof was tied to the roller instead of an independent anchor on the roof. The roller pulled the worker off the roof to his death.	No sound anchorage. No fall protection. Failure to follow manufacturers instructions.	RDS	53 feet	1	1	1		1			
OSHA Inspection 308701143	8/11/2005	Las Vegas, NV	Two employees were using anchor points not approved and designed for a minimum 5000 lb. safety factor. Metal pipes were used by employees to tie off the work line and safety line. Window cleaners were swinging to reach windows out of their reach.	No sound anchorage. No independent fall protection. Swinging.	RDS	105 feet	1	1	1		1			
wcmail.net/archives/ presep2005/august_ 2005/msg00258.htm I	8/12/2005	Toronto, Canada	A man fell to his death while working from a bosun chair on a 6 storey building in Toronto. Details are very hard to come by. We know that the building is in an area of old buildings with no anchors.	No sound anchorage? No fall protection	RDS	6 floors	1		1		1			
OSHA Inspection 307955724	10/18/2005	Austin, TX	Helper fell 6 stories from roof to a lower roof. Did not have fall protection. No anchors to tie back equipment, life lines or to provide fall protection for workers within 6 feet of edge. No independent anchorage for life line.	No sound anchorage. No fall protection.	RDS	117 feet	1		1		1			 
OSHA Inspection 309277697	10/19/2005		Employee was preparing to wash windows on a building. He took his safety line and his boatswain's chair line and place in the same d-ring. He hooked them into a .375 inch wire that was stretched between two building anchor points on the roor. It does not appear that he attached one end of the wire to the anchorage point he went over the edge of a balcony on floor 6 and fell approximately 72 feet and died.	No sound anchorage. No independent fall protection	RDS	72 feet	1		1		1			
wcmail.net/archives/ prefeb2006/october _2005/msg00342.ht ml	10/19/2005	Portland, OR	Window cleaner fell 5 stories to his death in Portland. Main line and safety line tied to same D-ring and put on a cable. Line got bound up in the gate of the D-ring.	Not using independent sound anchorages for main line and life line. Improper set up.	RDS	5 floors	1	1	1		1			
OSHA Inspection 308111160	10/24/2005	Boston, MA	Employees were using RDS supported from an inadequate anchorage point. Lifeline was not rigged independently from the transportable counterweighted outrigger used for the primary suspension line exposing the worker to fall hazards of up to 5 floors. The lifeline and the primary line were tied together in a knot attaching them both to the outrigger. The outrigger was not tied-back to a certified anchorage on the building.	No independent fall protection. No sound anchorage.	RDS	5 floors	1		1		1			
OSHA Inspection				No fall	1	1								
309348803	10/28/2005	Cambridge, MA	Employee was using RDS that was not in conjunction with a fall arrest system.	protection.	RDS	?	1		1					 
OSHA Inspection 309529527	12/1/2005	Burlington, MA	Worker exposed to a fall hazard of 40 feet while using an old, worn rope that failed. Employees not trained. Equipment not inspected. Not enough counterweights used with roor folling suspension unit. Lack of tlebacks for main line and life line. Life line and main line tiebacks must be independent and within 15 degrees of point of descent.	No sound anchorage. Failure to inspect and replace worn equipment. No fall protection.	RDS	40 feet	1	1	1		1			
OSHA Inspection 308277524	6/1/2006	East Hartford, CT	Employee was washing windows using a RDS suspended from a portable unit without enough counterweights to maintain 4 to 1 ratio. Counterweights were not secured to the unit. The portable unit was not tied back to a roof mounted sound anchorage. Ropes used were beyond their life expectancy. Life line not tied back independently of main line. Life line was excessively worn.	No sound anchorage. Worn equipment. Improper use of equipment. No independent fall protection anchorages.	RDS	?	1	1	1		1			

OSHA Inspection 308279918	6/19/2006	Harford, CT	Employees performing window cleaning using RDS on the exterior of the 17 story building. Support lines and safety lines were tled together to the same counterweights on the roof. Tiebacks were not perpendicular to the will of the building. Excessive slack between the weight and the tieback attaching point. Use of rope without adequate strength. Caribiner was not locked. Ropes were not protected from abrasion. Two short ropes tied together to make a safety line long enough. Some ropes with excessive wear. Harnesses not rated for fall arrest. Lanyards used did not have adequate strength. Ascenders were used instead of rope grabs.	No sound anchorage. No independent fall protection. Improper equipment.	RDS	17 floors	1	1	1		1			
												<u> </u>		 
OSHA Inspection 309983914	6/22/2006	Woburn, MA	An employee washing windows while suspended from a rolling outrigger beam suspension unit was exposed to crushing hazards, struck-by hazards and fall hazards of up to 60 feet. The roof roller was not tied back to an anchorage point on the building. Anchorage points were not supplied for the roof roller within a 15 degree angle for tie-backs. Manufacturer's instructions were not provided. The wheels on the roof roller were not locked in place while a worker was suspended.	No sound anchorages. No independent fall protection.	RDS	60 feet	1		1		1			
AP	7/11/2006	Washington	A window washer was working on a 10 story building when his lines becames tangled. He was hanging by the safety rope until emergency responders arrived and was brought down on a ladder. His safety line was significantly frayed.	Misuse	RDS	10 floors	1	1						 
OSHA Inspection 310190350	7/24/2006	Marlborough, MA	Improper assembly of portable roof top roller system. Employee fell 30 feet to the ground along with the employee's rope descent system. No on-site inspection of the equipment was performed prior to the start of work.	Failure to follow manufacturer's instructions. No sound anchorage. No independent fall protection.	RDS	30 feet	1	1	1		1			
OSHA Inspection 309258366	8/30/2006	Atlanta, GA	An employee was exposed to a fall hazard exceeding 80 feet while using RDS with a lifeline that had worn fibers due to excessive abrasion.	Failure to inspect and replace worn equipment.	RDS	80 feet	1	1						
wcmail.net/archives/ prefeb2007/october _2006/msg00119.ht ml & whiotv.com/print/10 036433/detail.html	10/9/2006	Miami, OH	Victim fell more than 60 feet to the ground where scaffolding was found on top of him. Portable anchor was not properly assembled. Fall was not actually 60' but closer to 30'.	No fall protection. Failure to tie back portable anchor. Failure to use equipment as designed.	RDS	60'	1	1	1		1			
foxnews.com/printer _friendly_wires/200 6Nov30/0,4675,Slee pingWindowWash	11/30/2006	Nashville, TX	A window washer working on a downtown high-rise building apparently fell asleep on the job.	Misuse	RDS	20 floors	1	1						
WINK News Fort Myers, FL	6/15/2007	South Fort Myers, FL	The victim was on top of the building along with a trainee who had been on the job about 2 weeks. They were both harnessed in chairs going over the sides when the accident happened. We're told the victim went straight down the rope and he tried to grab onto it but he couldn't so he fell eight stories. Officials say that he failed to hook up the equipment properly. The trainee says the victim was paying so much attention to him that he failed to connect his own gear correctly.	Failure to use equipment properly	RDS	8 floors	1	1						
wfsb.com/print/137 91889/detail.html	7/31/2007	New Haven, CT	A New Haven window washer was rescued from the side of a 12 story building after the ropes to his harness became tangled.	Misuse	RDS	12 floors	1	1						 
OSHA Inspection 311177711	8/13/2007	Cambridge, MA	An employee using RDS while window washing was exposed to a fall of approximately 35°. The employee's safety line was connected to the unsecured roof rigger. Roof rigger was not properly counterweighted.	No sound anchorage. No independent fall protection. Using equipment improperly.	RDS	35 feet	1	1	1		1			

				iengui.	RD3	42 floors	1	1			11		
Denverpost.com/fdc p?1275945822357	6/13/2008	Denver, CO	The worker fell about 30 feet, or about three stories, from a 5th floor window to a two-story sub roof below. Two ropes dangling from the southside rooftop of the 42 story high-rise wrapped around the corner of the building to the east, or front, side of the building. One rope came up short of the sub-roof by about three stories and the second rope came up short about one story.	Failure to set up ropes to appropriate length.	RDS	42 (lagar							
OSHA Inspection 312099039	6/10/2008	Boston, MA	An employee was exposed to a fall hazard of 9 floors. The lifeline was not rigged independent of the transportable outrigger used to support the worker. The outrigger was tied back to a fence.	No sound anchorage. No independent fall protection.	RDS	9 floors	1		1	1			
OSHA Inspection 310844832	6/3/2008	Harrisburg, PA	An employee using a manual Fisk descender and counterweighted outrigger suspension device was not tied off properly in that the support or lifeline and working or descent line wer lied off to the same outrigger device. Also, the roof top roller outrigger suspension device was not anchored to a secure anchorage point with a wire rope equivalent in strength to the suspension rope. Worker was being moved laterally while suspended from the roof top roller.	No sound anchorage. No independent fall protection. Failure to use equipment properly	RDS	120 feet	1	1	1	1			
OSHA Inspection 312328065	5/22/2008	Orlando, FL	Workers exposed to fall hazard likely to cause death. Window washing system had loose bolts and only one rope was used for the safety line and the working line. Rope was attached to counter weights on the suspension device. The building did not have an anchorage point to tie off to. Manufacturers instructions were not provided for the suspension device.	No sound anchorage. No fall protection. Equipment in disrepair.	RDS	7 floors	1	1	1	1			
OSHA Inspection 311643860	5/9/2008	Las Vegas, NV	Suspended work was allowed to be performed when it had not been determined that the building had provided, identified and certified anchorages for independent safety lines and primary support anchorage for rope descent systems. Ropes for the rope descent and personal fall arrest systems were tied around the unsecured pipes that were lying in the front of the doorways of the hotel rooms. The ropes were then carried into an adjacent hotel room and tied around the toilet.	No sound anchorage. No independent fall protection.	RDS	15 floors	1		1	1			
washingtonpost.com /wp- dyn/content/article/ 2008/04/17/	4/17/2008	Washington, DC	A man who was washing outdoor windows on the 4th floor of the National Museum of the American Indian fell to his death this morning. The man fell from the SW corner of the building. He was about 60' high when the cable that was holding him broke. It was not clear whether the man did not have a safety line attached to his cable, or if it was attached and failed.		RDS	60 feet	1		1				
OSHA Inpection 311641328	3/21/2008	Las Vegas, NV	Two employees using RDS were not properly trained. Equipment was in disrepair. Independent lifeline anchorages were not provided.	No training. No sound anchorage. No independent fall protection. Failure to inspect and replace equipment in disrepair.	RDS	35 floors	1	1	1	1			

	1	1		1		1		1	-	-	-	, ,	 	 
OSHA Inspection 311758445	7/2/2008	Hartford, CT	Two employees were using RDS to clean the exterior windows of a 17 story building. Primary working lines and safety lines were tied to the same roof anchors. Old lines that should have been discarded were used. Knots were used that reduced the strength of the ropes. Ropes used were not compatible with descent device.	No independent fall protection. Failure to inspect and discard old equipment.	RDS	17 floors	1	1	1					
OSHA Inspection 312134513	7/7/2008	Colorado Springs, CO	Life lines in use were not attached to an independent achor point. The life line and working line were attached to the same point on the mobile, counterweighted outrigger device. Employees were not using full body harnesses. Employers were using ascenders in place of rope grabs. Outrigger devices were custom made and were not approved for use by an engineer. The mobile counterweighted outrigger devices were not tied back to certified anchorages on the building. Employees were swinging windows outside of their reach.	No independent fall protection. No sound anchors. Improper equipment.	RDS	40 feet	1	1	1		1			
OSHA Inspection 312516727	8/5/2008	Lakeland, FL	An employee using a portable counterweighted outrigger suspension device was exposed to falls of six stories. The employer did not ensure that the building had provided, identified and certified anchorages for independent safety lines, tie-backs for outriggers, parapet clamps and cornice hooks. The portable counterweighted outrigger device had not been approved by a registered professional engineer. The employer did not ensure that every primary lin, life line and tie-back line was attached with minimal slack to an identified anchor within 15 degrees of the area being accessed. The employer did not ensure that the tie-back anchorage and life line anchorage were independent of each other.	No independent fall protection. No sound anchors. Unapproved equipment	RDS	6 floors	1	1	1		1			
OSHA Inspection 311759013	8/18/2008	Hartford, CT	Two workers were using RDS to wash the exterior window of the building. One worker was using a harness not rated for fall protection. The primary working line and safety line were tied together around a roof vent. The primary working line and safety line were tied together to a railing in the stairwell. Counterweighted outriggers were used to support RDS, but were not tied back. Primary working lines and safety lines were excessively worn and frayed. A rack descent device had a hole worn through it. One harness and lanyard were dated more than 10 years old. Not enough counterweight used on outriggers.	No sound anchorages. No independent fall protection. Failure to inspect and replace worn	RDS	?	1	1	1		1			
OSHA Inspection 311872402	10/8/2008	Erie, PA	Employees were exposed to the improper rigging, labeling, and use of scaffold system components resulting in potential fall hazards. Employees were washing windows from an RDS that was attached to a rolling outrigger. No competent person was on site. No manufacturers information available to determine the appropriate amount of counterweight to use on the rolling outrigger. The amount of weight did not provide a 4 to 1 safety factor. The counterweighted outrigger was being moved when a worker was suspended from it and neither the rig or the employee who was moving the rig were tied off. There was not an indepenent lifeline.	Improper rigging. Lack of training and supervision. No sound anchors. No fall protection.	RDS	40 feet +	1	1	1	1	1			
OSHA Inspection 312280829	10/13/2008	Las Vegas, NV	Employer did not provide a plan of service, emergency rescue plan and did not verify certification of anchorages	No certification of anchorages.	RDS	121 feet	1				1			
OSHA Inspection 312282544	11/20/2008	Las Vegas, NV	Employer did not ensure that equipment was maintained in safe operating condition. Equipment had been modified without the supervision or approval of the manufacturer and not inspected prior to use. Full body harnesses were not used. Suspended work was performed without assurances from the building that identified, certified anchorages for independent safety lines and primary support lines were present.	No sound anchors, Poor equipment. No independent fall protection.	RDS	121 feet	1	1	1		1			
OSHA Inspection 311404248	4/16/2009	Milwaukee, W1	Fall protection system to be independent from the anchorage point for the suspension system. The vertical life line and suspension ropes were attached to each other. Rope was secured to steel weights placed in a mop bucket on wheels then lied back to the elevator mechanical roof housing. Employees were not trained. Employees did not inspect rope before use and remove defective rope from service. Rope was damaged. Rope was not protected from abrasion.	No sound anchorages or tie-backs. No independent fall protection. Failure to inspect, replace and protect equipment.	RDS	?	1	1	1		1			

		1		1	1		1		1	1				
				No fall										
				protection. No		1			1					
			Employees cleaning exterior windows utilizing RDS were not protected from falling in											
			that they did not have full body harness connected to a separate life line, the ropes	anchorage.										
			being used were over two years old, the system was not connected to an approved	Failure to										
OSHA Inspection			anchor point, the ropes were not protected to prevent abrasion, not provision for	inspect										
313143869	6/10/2009	Birmingham, AL	prompt rescue, equipment not inspected.	equipment.	RDS	2	1	1 1		1				
313143803	0/10/2007	Dirinigi diri, / C	prompt resource, equipment not inspected.	equipment.	IND O	1	1	1 1		1				
				-										
				No sound										
				anchorage.										
				Failure to										
			Employees were exposed to fall hazards while using RDS to wash the exterior	inspect and										
			windows of a 17 story building. Primary working lines and safety lines were tied to	replace worn										
			the same guardrail structure on the roof. Tie off points had unknown strength. Two	equipment. No										
OSHA Inspection			rack descent devices had excessive wear. Equipment was not inspected prior to use	independent										
313200263	6/11/2009	Springfield, MA	on that day.	fall protection.	RDS	17 floors	1	1 1		1				
			A suspended window cleaning employee sustained a fall of approximately 6 stories											
			from the roof level to the ground level of an office building. Portable rolling outrigge	No fall										
			system was not engineered. , the load supporting roof parapet had not been	protection. No										
OSHA Inspection			structurally verified to support the weight, no sound anchorages were provided for	sound										
307047647 &			the main line or safety line or equipment tie-back, suspended worker was moved	anchorage.										
			horizontally on equipment not designed for this purpose, wheels of portable outrigge			1								
www.msnbc.com/cle			were worn, fall arrest systems were not completely worn/assembled prior to	inspect or use										
anprintproxy.aspx?1			approaching the point of suspension, main line and life line were not independent,	equipment										
27661	6/17/2009	Eau Claire, WI	Equipment was not inspected and was deficient, employees were not trained.	properly.	RDS	6 stories	1	1 1		1				
				No fall										
				protection. Rig		1			1					
				not tied back to										
				sound										
				anchorage.										
woodtv.com/dpp/ne			21 year old window washer died after falling about 45 feet from the Grand Rapids Ar											
ws/local/grand_rapi		Grand Rapids,	Museum. "There was not enough weight on the rig and when he went off the	up equipment										
ds/window_washer	6/17/2009	MI	building, it just came down on top of him." he said.	as designed.	RDS	45 feet	1	1 1		1				
				Rope or other										
				equipment										
fox13now.com/news				failure. Failure										
/kstu-window-			A window washer harnessed on a downtown highrise building lost control of his chai rigging and fell three stories. While he was lowering himself down, the rigging on his											
washer-breaks-														
window		Salt Lake City,	rope chair failed. The man was able to swing himself and break through a window to	replace										
	6/18/2009	Salt Lake City, UT			RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	replace	RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	equipment	RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	equipment No independent	RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	No independent fall arrest	RDS	5 floors	1	1					 	
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	No independent systems.	RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to	<ul> <li>replace equipment</li> <li>No independent fall arrest systems.</li> <li>Failure to</li> </ul>	RDS	5 floors	1	1						
	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to stop his fail.	No independent fall arrest systems. Failure to inspect and	RDS	5 floors	1	1						
OSHA Inspection	6/18/2009		rope chair failed. The man was able to swing himself and break through a window to stop his fail.	No independent fall arrest systems. Fallure to inspect and replace	RDS	5 floors	1	1						
OSHA Inspection		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperty utilized independent fall arrest systems. Equipment	No independent fall arrest systems. Failure to inspect and replace damaged			1	1					 	
OSHA Inspection 312851728	6/18/2009 7/20/2009		rope chair failed. The man was able to swing himself and break through a window to stop his fail.	No independent fall arrest systems. Fallure to inspect and replace	RDS	5 floors 125 feet	1	1						
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperty utilized independent fall arrest systems. Equipment	No independent fall arrest systems. Failure to inspect and replace damaged			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperty utilized independent fall arrest systems. Equipment and components with defects were not removed from service.	No independent fall arrest systems. Failure to inspect and replace damaged			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to fails of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fail arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to fails in excess of 50 feet while performing window	Peplace equipment No Independent fall arrest systems. Failure to Inspect and replace damaged equipment.			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to fails of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fail arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to fails in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling	Peplace equipment No independent fall arrest systems. Failure to inspect and replace damaged equipment.			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperty utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that	replace     equipment     v			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to fails of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fail arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as	replace       equipment       No       independent       fall arrest       systems.       Fallure to       inspect and       replace       damaged       equipment.       No sound       anchorage.			1							
		UT	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified ancher points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used.	replace equipment No Failurest systems. Failure to inspect and replace damaged equipment. No sound anchorage. Improper			1							
312851728		Auslin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide	replace     equipment     v     requipment     No     independent     fall arrest     systems.     Failure to     inspect and     replace     damaged     equipment.     No sound     anchorage.     Improper     equipment. No			1							
0SHA Inspection	7/20/2009	UT Austin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fall. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had	replace     equipment     No     No     replace     quipment,     fall arrest     systems,     Failure to     inspect and     replace     quipment,     No     sound     anchorage,     Improper     equipment,     No	RDS	125 feet	1			1				
312851728		Auslin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide	replace     equipment     v     requipment     No     independent     fall arrest     systems.     Failure to     inspect and     replace     damaged     equipment.     No sound     anchorage.     Improper     equipment. No			1			1				
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05HA Inspection	7/20/2009	UT Austin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fall. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had	replace     equipment     v	RDS	125 feet	1		1	1				
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05HA Inspection	7/20/2009	UT Austin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fall. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had	Ireplace     equipment     equipment     No     independent     fall arrest     systems.     Failure to     inspect and     replace     damaged     equipment.     No sound     anchorage.     Improper     equipment. No     training. No     supervision.     No sound	RDS	125 feet	1		1	1				
05HA Inspection	7/20/2009	UT Austin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fail. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified ancher points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had visible wear. Roof was not rated for the load of the portable outrigger.	Ireplace     equipment     vo     independent     fail arrest     systems.     Failure to     inspect and     replace     damaged     equipment.     vo     sound     anchorage.     Improper     equipment.No     supervision.     vo     supervision.     vo     sound     anchorage.No     supervision.     vo	RDS	125 feet	1		1	1				
05HA Inspection 312142946	7/20/2009	UT Austin, TX	rope chair failed. The man was able to swing himself and break through a window to stop his fail.  Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service.  Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and tie-back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had visible wear. Roof was not rated for the load of the portable outrigger.	Ireplace     equipment     equipment     independent     fall arrest     systems.     Failure to     inspect and     replace     damaged     equipment.     No sound     anchorage.     Improper     equipment. No     training. No     supervision.     No sound     anchorage.     No sound     fall protection.	RDS	125 feet	1		1	1				
OSHA Inspection 312142946 OSHA Inspection	7/20/2009 8/3/2009	UT Austin, TX Colorado Springs, CO	rope chair failed. The man was able to swing himself and break through a window to stop his fall. Employees exposed to falls of 125 feet while cleaning windows from RDS. Not equipped with and improperly utilized independent fall arrest systems. Equipment and components with defects were not removed from service. Employees were exposed to falls in excess of 50 feet while performing window cleaning operations using RDS. The life line and the back line for the portable rolling outrigger unit were attached to structures on the roof with unknown strengths that were not certified anchor points. Employees were not using full body harnesses as part of their fall protection system. A strap had been removed from the chair used. Employer did not have an effective rescue plan. Employer did not provide supervision or training. Area below work was not effectively barricaded. Rope had visible wear. Roof was not rated for the load of the portable outrigger.	replace     equipment     equipment     No     independent     fall arrest     systems.     Failure to     inspect and     replace     equipment.     No sound     anchorage. No     nuproper     equipment. No     supervision.     No sound     anchorage. No     independent     fall protection.     Improper use	RDS RDS	125 feet			1	1				

r		1		1	1	1	1	1		-		 	
seattletimes.nwsour ce.com/cgi- bin/printstory.pl?do cument_id=2010308 575&zsecti	11/19/2009	Seattle, WA	A window washer fell 8 stories but only suffered a broken finger. He was caught by his rope when he reached the second floor level, and the rope softened the impact of his fall. He probably held his descent device open and panicked.	Misuse	RDS	8 floors	1	1					
OSHA Inspection 313107658	12/2/2009	Miami, FL	Employees were exposed to a fall hazard of 80 feet from a building on which they were performing pressure washing while suspended from RDS. Employees lifelines were not attached to anchorages that had been inspected annually by a qualified person. Employees lifelines were not attached to anchorages that had been certified under the supervision of a registered professional engineer.	No sound anchorages or tie-backs	RDS	80 feet	1			1			
OSHA Inspection 313896144	12/23/2009	Birmingham, AL	Employees cleaning exterior windows utilizing RDS were not protected from falling in that the employees did not wear and safely secure their personal fall arrest equipment prior to approaching the point of suspension. Employees were not trained in proper set up. No plan for rescue. Wheels of the single point scaffold were place on the parapet.	No fall protection. Improper use of equipment. No training.	RDS	?	1	1	1 1				
www.680news.com/ article/print/41646	4/2/2010	Toronto, Canada	A few of the workers were on the roof of a 33 story residential building, while strapping themselves in and lowering themselves, there was an equipment malfunction. One of the workers fell a number of stories. His safety harness did catch him and he did not land on the ground.	Fall protection not set to prevent long fall. Equipment malfunction?	RDS	33 floors	1	1	1		1		
OSHA Inspection 313798654	4/22/2010	Boston, MA	An employee using a rope descent system did not tie back his life line to an independent anchorage.	No independent fall protection	RDS	?	1	1	1 1				
OSHA Inspection 314309568	4/24/2010	Jersey City, NJ	Three window washers using RDS were not properly anchored, in that the rigging line and the life line were not independent of each other and each chair was not using its own anchorage point. Two of the window washers had damaged lanyards as part of their fall protection system.	No independent fall protection, failure to inspect, replace or repair equipment, misuse	RDS	?	1	1	1 1				
OSHA Inspection 313798720	4/28/2010	Boston, MA	Employe utilizing a transportable support device did not tie back the equipment independently from his fall protection anchorage.	No independent fall protection	RDS	?	1		1 1				
OSHA Inspection 314368655	5/10/2010	Birmingham , AL	An employee cleaning interior windows utilizing a Rope Descent System was not protected from falls in that the safety line and the primary working line were attached to the same anchorage point. The primary working line and lifeline were not attached within 15 degrees of perpendicular of teh area being accessed.	No independent fall protection, misuse	RDS	?	1	1	1 1				
OSHA Inspection 314465386	6/14/2010	Kansas City, MO	Employees were allowed or required to work from suspended boatswain's chairs without proper training. Equipment had not been inspected and was in disrepair. Using sit harness only and not a full body harness, suspension lines and lifelines shared a common point of anchorage, ropes were not protected from abraision, lines were not anchored in line or within 15 degress of perpendicular of the suspended worker.	Lack of training, misuse, failure to protect rope, lack of independent fall protection	RDS	?	1	1	1 1				

r		1		1	1	1			1	1				
OSHA Inspection 312866023	6/16/2010		Employees cleaning windows on 18 story building, No written work plan, tied off main line and safety line to roof vent and vent pipe, did not protect ropes from sharp edges, main line and safety line both tied to same anchor point, two workers lines tied to same anchor point, worker sitting on parapet and not secured to the lanyard and lifeline, worker fell 18 stories, 10' of slack in line.	No sound anchorages or tie-backs, no fall protection, no independent fall protection, misuse	RDS	18 floors	1	1	1	1	1			
OSHA Inspection 314426206	7/12/2010		Employees cleaning exterior windows utilizing a Rope Descent System were not protected from falls in that they did not wear and safely secure their personal fall arrest equipment prior to approaching the point of suspension.	No fall protection	RDS	?	1	1	1	1				
OSHA Inspection 314636168	7/20/2010	Smyrna, GA	The design or construction of the portable suspension device that employees were using in conjunction with a suspended boatswain's chair had not been approved by a registered professional engineer for the loads imposed.	Lack of sound anchorage	RDS	?	1				1			
OSHA Inspection 313976797	8/18/2010	Las Vegas, NV	Two employees were using a rope descent system to clean the exterior windows of a 42 story building. The employees had their working line and independent life line attached to the same davit arm. The davit plate on the davit arm stated that the maximum load capacity is 1000 lbs. The manufacturer stated that the davit arm is not an acceptable anchorage point for a personal fall arrest system. The lanyards that the employees were using had an overall length of 44 inches, 20 inches longer than the maximum allowable length of 24 inches when attached to the upper front torso attachment of the employees harness.	No independent fall protection, misuse	RDS	42 floors	1	1	1			1		
OSHA Inspection 314179102	9/22/2010	Dallas, TX	On the South side of the building at least two employees, who were washing windows while working from Sky Genie Seatboard Systems without vertical life lines attached to anchor points independent of the seatboard systems, were exposed to the hazard of falling as much as 252 feet to the lower level.	No independent fall protection, lack of sound anchorage.	RDS	252 feet	1		1		1			
OSHA Inspectino 314179631	11/1/2010	Dallas, TX	On an elevated pedestrian walkway, an employee was washing windows from a Sky Genie seatboard without a vertical life line attached to an anchor point independent of the seat board system. The employee was exposed to falls of up to 30 feet to the street below.	No independent fall protection	RDS	30 feet	1		1					
OSHA.gov inspection 315283705	3/14/2011		Employees cleaning exterior windows utilizing a Rope Descent System were not protected from falling in that the employees primary working line and lifeline were not attached within 15 degrees of the perpendicular of the face of a working surface of the building.	Failure to use proper tie- backs	RDS	unknown	1		1					
OSHA.gov inspection 314233685	3/2/2011		employee not trained, employee using a rope descent system was not safely secured to an independent fall arrest system, equipment not inspected	lack of training, failure to use tie-back anchorage, failure to inspect equipment	RDS	unknown	1	1	1	1	1			
OSHA.gov inspection 315140384	5/9/2011		employees were exposed to fall and struck-by hazards from the following: a) employees were "tied off" to the transportable cournterweighted outrigger instead of an independent anchorage. b) the mule tie back had approximately 40 feet of slack c) an employee on the roof was not wearing a full body harness	lack of proper anchorages or failure to use anchorages	RDS	unknown	1		1		1			
OSHA.gov inspection 314405275	5/12/2011	Hartford, CT	Employer provided employees with defective seatboard	Poor equipment	RDS	unknown	1	1						

				1	1	1		1				1		
robinson- solutions.blogspot.c om/2011_06_01_arc hive.html	6/30/2011	Wellington, New	An abseiling window cleaner was seriously injured today after falling at least five stories in central Wellington. The man fell from a building on The Terrace about midday. The man, in his 205 or 305, had been harnessed onto the back of a 10-12 story building. "At some point during his way down the building, around the sixth floor from the ground level, the harness has failed and he has subsequently fallen approximately five to six stories from there.	Lack of independent fall protection	RDS	6+stories	1		1					
seattletimes.nwsour ce.com/html/localne ws/2015614216_win dowwasher15m.htm l	7/14/2011	Seattle, WA	Garcia was working alone, as he usually does, and had finished cleaning the hall's fifth floor front windows when a chain securing his seat snapped. He then tumbled abougt eight feet from his seat, but was caught by a backup safety line.	failure to protect or properly inspect rope	RDS	5+ floors	1	1						
http://tvnz.co.nz/nat ional-news/repeated- industrial-rope-falls- not-good-enough- 4716798	2/11/2012		18 year old window cleaner critically injured in a fall while abseiling from the roof of a 4 story building while cleaning windows. Single anchor failed - no independent safety line.	No independent safety line	RDS	4 floors	1	1	1	1	1			
http://www.myfoxal .com/story/1740812 0/window-washer- survives-13-story-fall	4/13/2012		Window cleaner fell 13 stories or about 200 feet. Was slowed down by equipment. Worker was not secured within the seatboard prior to being suspended.		RDS	13 floors	1	1						
http://journaltimes.c om/news/local/firefi ghters-help-stuck- window-washer-all- in-a-day- s/article_86513ef0- 9607-11e1-8693- 001a4bcf887a.html	5/4/2012	Racine, WI	Worker using rope descent system had descender lock up and had to be rescued.		RDS		1	1		1				
http://www.winnipe gfreepress.com/local /Window-washer- survives-eight-storey- fall-157629945.html	6/6/2012	Winnipeg,	Window washer survived 8 story fall after smashing through a glass skylight. His rope snapped and safety backup did not engage.		RDS	8 floors	1	1	1					
https://www.osha.g ov/pls/imis/establish ment.inspection_det ail?id=710179.015	10/29/2012		workers using personal fall protection that was not marked as compliant, not inspected and workers not trained in use. Defective equipment.		RDS		1	1		1				
http://www.heralds un.com.au/news/nat ional/gold-coast- high-rise-window- cleaner-who- plunged-five-floors-is- plucked-to-safety-by- tourist-on-17th- floor/story-fndo45r1- 1226540276550?nk= 2d8e0eeb9d431fd10 e48e44d6f263bb7	12/19/2012	Brisbane, Australia	window cleaner was tethered to an abseiling rope while working on the 21st floor when he fell to the 17 floor and struck his head and was left hanging.		RDS	21+ floors	1	1	1					

http://www.trentoni an.com/article/2013 0617/NEWS01/1306 19668/trenton-		
0617/NEWS01/1306		
0617/NEWS01/1306		
19668/trenton-		
firefighters-rescue-		
stuck-window-		
washer         6/18/2013         Trenton, NJ         Window washer rescued after being stuck outside the 8th floor         RDS         9 floors         1         1		
http://www.lasvegas		
sun.com/news/2013		
/jul/08/firefighters-		
attempting-rescue-		
stranded-window- Las Vegas, A stranded window cleaner was rescued after the mechanism controlling the		
was/#axz2YTsRGQlE 7/8/2013 NV window washing platform broke. RDS 10 floors 1 1		
http://6abc.com/arc Philadelphia window washer fell from the seventh floor to the second floor roof after I harness		
hive/9215518/ 8/22/2013 , PA broke RDS 7+ floors 1 1		
https://www.osha.g Window cleaners wer using an outrigger beam suspension unit which was not tied		
ov/pls/imis/establish back to an anchorage point on the building and was not utilizing enough counter		
ment.violation_detai weight to maintain a 4 to 1 safety ratio. Employee tending the roller had little to no		
I?id=932324.015&cit         Concord,         training. Roller was moved horizontally. No hazard assessment. Not training or		
ation_id=01001A 8/19/2013 NH manufacturers instructions. Using a rope descent system with a body belt life line RDS 41 feet 1 1 1 1 1		
http://fox2now.com		
/2013/08/26/windo		
w-washer-rescued-		
from-clayton- Clayton, A window washer was rescued outside the 24th floor of a building after becoming		
apartment-building/ 8/26/2013 MO stuck. RDS 24 floors 1 1		
http://www.pennliv		
e.com/midstate/ind		
ex.ssf/2013/09/man		
rescued after dang		
ling_fro.html 9/25/2013 Harrisburg, Window Washer slipped in his harness and was rescued. RDS 70 + feet 1 1		
http://www.edinbur		
phnews.scotsman.co		
m/news/window-		
cleaner-has-no-		
memory-of-40ft-fall- window cleaner taken to hospital after his harness snapped and he fell. Ropes were		
The first of the f		
1-312301/ 3/30/2013 Luiniburgit, joid and shapped.	<del>  </del>	
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http://winnipeg.ctvn		
mtup/ymmpeg.ctvn ews.ca/window-		
washer-rescued-		
after-dangling-from-		
hydro-building-		
1.1485723 10/7/2013 Winnipeg, Qwindow cleaner rescued after his ropes were tangled in high winds RDS 1 1 1		
http://theadvocate.c     image: constraint of the second of		
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http://theadvocate.c om/news/8170653- 123/stranded- window-washer-		
http://theadvocate.c om/news/8170653- 123/stranded-		

http://www.theolym pian.com/2014/07/1 7/3230439_olympia- firefighters-rescue- window.html?rh=1			Fire Department rescues two window washer found hanging from their safety lines. Roof rig seen in picture hanging with them.		RDS	6 floors	1	1	1						
http://www.wxyz.co m/news/region/detr oit/video-window- washer-rescued- after-dangling-from- building-in-detroit	12/10/2014	Detroit, MI	Window cleaner was dangling in rope descent system in Detroit and needed to be rescued. Appears to have slipped out of his chair.		RDS	4+ floors	1	1	1						
Totals							159	109 110	24	73	0	10	4	0	3
*IMIS Abstracts are ve	erbatim from I	/IS database	except company and employee names have been removed and replaced with non-spe	cific wording.											

My Analysis							
69% of all incidents involved equipment failure, misuse of equipment or using improper equipment. I believe that all incidents of equipment failure can be directly tied to a failure to inspect, repair or discard equipment in disrepair. This problem can be eliminated with better training and attention to diligently inspecting equipment and repairing or replacing anything that is not in proper working condition.							
Only 1 incident in 159 can be attributed in any way, shape or form to the height of the descent. This was attributed to wind tangling the lines and a worker being stuck and height being a contributing factor at 50 floors. 9 other incidents were over 300' descents, but height did not play a role in the incident. There are several other incidents that we do not know the height of the descent, to make any other correlation. It is my contention that Rope Descent System Height descents should not be limited and that in many cases over 300', rope descent systems may be a safer alternative to Suspended Scaffolding due to its propensity to have equipment failure without apparent human error.							