Occupational Safety and Health Administration
Comprehensive List of Audit Findings
Thomas Jefferson National Accelerator Facility
August 11, 2003-August 15, 2003

Control #	Building Number or Name	Location or Room	Standard Number	Hazard Description	Instances	Comments/Measurements	Recommended Abatement
009	101	Hall A	1910.157(c)(1)	A fire extinguisher was placed on the floor at the entrance of the laser room.	1	The entrance to the laser room had a mounting bracket for the fire extinguisher, but the bracket was not mounted correctly.	Correctly mount the fire extinguisher bracket and hang the fire extinguisher.
010	90	127	1910.305(g)(1)(iii)(A)	Extension cords were used as a substitute for fixed wiring for equipment on the work benches.	1	An electrical trench is scheduled for installation later this year. This will allow the lab to install more fixed electrical installations.	Install fixed electrical equipment.
011	1	North Tunnel - 1L06	1910.303(b)(1)	The turbo cart pump had a piece of wire, stripped on each end, inserted into the plug to turn the pump on.	1	The power cord for the turbo cart #1 pump had a screw-together connector with a piece of wire inserted into the holes, which turned on the pump.	Provide an approved attachment plug.
012	1	North Tunnel - North Linac Area, Station 220	1910.22(a)(1)	A wire cable lying on the floor created a trip hazard.	1	Low-voltage signal cables were installed 2 years ago. These were meant to be temporary.	Place the signal cables inside the existing cable tray.
013	58	Machine Shop	1910.212(b)	The Bolder buffer (SN-F387) was not anchored to the floor.	1	None	Anchor the machine to the floor.
014	58	Machine Shop	1910.212(b)	A heavy-duty drill press (SN-F25411) was not anchored to the floor.	1	None	Anchor the machine to the floor.
015	58	Machine Shop	1910.212(a)(1)	A guard was missing on the spindle and shaft of the Bolder grinder/buffer (SN-F387).	1	None	Provide a guard for the shaft and spindle.
016	58	Machine Shop	1910.212(b)	A Clousing drill press (SN-F1087, model 2215) was not anchored to the concrete floor.	1	None	Anchor the machine to the floor.
017	67	High Bay Next to Overhead Storage	5(a)(1)	An Atlet forklift had its seatbelt removed.	1	An electric lift used to lift large magnets in the acceleration area appears to have had a new seat installed without a seatbelt.	Check with the manufacturer for a retrofit seatbelt kit and install the seatbelt.
018	67	Magnet Supply Room 107	1910.303(h)(2)(ii)	High-voltage (greater than 600V) breakers are open to non-qualified persons. The breaker room allows for people to pass through to the exit. This high-voltage equipment was labeled but not enclosed.	1	None	Label the door to the room as "Authorized Personnel Only; High Voltage Equipment."
019	67	North Access - High bay storage	1910.22(d)	Equipment and materials were stored overhead, but floor loads were not marked or determined.	1	None	Determine the floor load limits and mark them at access points.
020	67	High Bay	1910.303(b)(2)	A type SJ female plug from an extension cord set was spliced with electrical tape to the power out cord of a large transformer.	1	The transformer label indicates "University of Illinois" and "#621454_19." Alternatively use 1910.303(c).	Install an approved outlet power cord.
021	8	Compressor Room	1910.303(b)(2)	A light-duty two-wire residential pedestal fan was used to cool electrical equipment.	1	None	Use an approved industrial-type fan with a grounded frame.
022	67	108	Recommendation	Signage for this room did not specify a duration of exposure requiring hearing protection or that hearing protection is required when entering. Noise levels were estimated to be approximately 90-95 dBa.	2	One employee was observed inside the pump room without PPE. The sign indicates that PPE should be used "during extended periods." Other signs in the Central Helium Liquefier specify the use of PPE when entering the room.	Use signage to indicate that employees are required to use PPE whenever they are inside the room.
023	89	Technical Area	1910.1200(h)(1)	Employees performing soldering and using solder and alcohols could not recall having hazard communication training.	4	The auditor spoke with one employee who remembered having spill training. The employee did not recall receiving any training regarding MSDSs or hazard communication.	Train employees in hazard communication.
024	89	Technical Area	Recommendation	Employees were observed eating and drinking in close proximity to lead soldering operations.	4	TJ Labs has other soldering areas where "clean desks" can be used for coffee and food if they are labeled and subject to the wipe program. No overexposure is possible from soldering. The lead standard does not apply.	Designate clean areas by labeling where food and drink may be consumed.
025	8	Main Operation Area	1910.146(c)(1)	Areas below the floor level and stretching as far as 50 yards from the access ladders and stairs were incorrectly evaluated by TJ Labs as not being confined spaces.	2	The manager states that this is not a confined space since it was designed for continuous occupancy. No employees were observed in the area and only 2-3 employees work in the building. The potential hazard is rupture of the cryogenic helium or nitrogen lines.	Produce objective data for areas that are far removed from stairs or ladders, confirming that inadvertent rupture of the lines will not cause a problem.

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026	53	Southeast Junction Chamber	1910.22(a)(1)	A garden hose that is used to redirect water was placed along the walkway. Employees could trip on this water hose.	1	None	Remove the water hose from the walkway.
027	53	Zone 27 - Chemical Fume Hood	1910.157(c)(1)	There were no identification signs in place above the fire extinguisher.	1	None	Install an identification sign above the fire extinguisher.
028	53	North Linac Klystron Test Stand	1910.22(a)(1)	A water hose was placed along the floor, creating a tripping hazard.	1	None	Remove the water hose from the floor.
029	8A	Storage Building	1910.303(g)(3)(i)	An electrical disconnect was blocked by a 55-gallon drum filled with waste oil.	1	None	Remove the 55-gallon drum to provide access to the electrical disconnect.
030	53	NL-L2-27	1910.303(g)(3)(i)	Electrical equipment was blocked by storage materials.	1	A 220-V electrical control panel was completely blocked by storage materials.	Clear the access by removing all storage materials.
031	1	NL-12	1910.22(a)(1)	An RG-58 cord was placed along the floor, creating a tripping hazard.	1	None	Remove the cord from the walking area and install fixed wiring.
032	53	North Linac Area #15	1910.303(b)(1)	The safety cover on the welder receptacle was broken.	1	None	Replace the receptacle with a safety cover.
033	53	Underground Injector	1910.305(g)(1)(iii)(A)	In Exit Stairs #1, 3, 4, and 6, flexible wiring was used in lieu of fixed wiring.	4	Extension cords were used to supply power to mobile equipment.	Install fixed wiring.
034	10	Trailer	1910.157(c)(1)	No identification sign was in place above the fire extinguisher.	1	None	Install an identification sign above the fire extinguisher.
035	53	IN03 - Underground Injection Tunnel	1910.303(f)	An electrical control box had no label or marking, identifying the equipment it controlled.	1	None	Identify and mark the electrical control box (voltage, equipment controlled).
036	53	IN02 - Underground Injection Tunnel	1910.305(g)(1)(i)(D)	A flexible electric cord was tied in a knot around a metal conduit.	1	The cord is used to power a vacuum pump.	Use an appropriate tie wrap or install fixed wiring.
037	1	North Tunnel - 1L 12	1910.305(g)(1)(iii)(A)	Three turbo power pumps were powered by orange extension cords that were used in lieu of fixed wiring.	3	None	Replace the wiring with fixed wiring.
038	1	North Tunnel - 1L 11	1910.303(b)(2)	A Relocatable Power Tap (RPT) was not used in accordance with its listing, in that high-draw electrical equipment was plugged into the RPT.	1	A high-draw electrical pump was plugged into the RPT.	Replace the RPT with fixed wiring.
039	95	Outside - North	1910.101(b)	Compressed gas cylinders were exposed to direct solar heating.	1	None	Either construct a shed or move the cylinders to a shaded area.
040	91	Outside - North	1910.101(b)	Compressed gas cylinders were exposed to direct solar heating. This is not in accordance with Compressed Gas Association Pamphlet P-1-1965.	1	None	Protect the cylinders by constructing a shed or move the cylinders to a shaded area.
041	91	Outside - North	1910.101(b)	The compressed gas cylinder storage area was not protected from vehicular traffic.	1	None	Either move the cylinders to a protected area or install substantial barricades.
042	95	Outside - North	1910.101(b)	The compressed gas cylinder storage area was not protected from vehicular traffic.	1	Five cylinder racks were located adjacent to the roadway and were not protected. Seventeen cylinders of helium, argon, and nitrogen were stored in the racks.	Either move the cylinders to a protected area or install substantial barricades.
043	90	Outside 90	1910.101(b)	A small cylinder of oxygen was stored approximately 9 feet away from a large cylinder of ethane. This is not in accordance with Compressed Gas Association Pamphlet P-1-1965.	1	None	Move the oxygen cylinder at least 20 feet away from the flammable gases.
044	91	Hall A High Powered Beam Dump Cooling System	1910.146(c)(2)	A 54-inch deep sump pit, which was designated as a "permit required" confined space, was not posted with signs informing employees of the hazards.	1	Nitrogen is used as a cooling agent in the room.	Designate the space as either a "permit" or "non-permit required" confined space, and install the appropriate danger signs.
045	94	Floor Level, South Side	1910.303(g)(3)(ii)	Access to the 480 VAC disconnect (#MDP-TD-10) for welders was partially blocked by two chairs.	1	None	The chairs were removed during the audit.
046	1	Control Area	1910.303(g)(3)(i)	The access area in front of the circuit breaker boxes (NLPP3 and NLPP4) was blocked by the "timing" system.	2	None	Relocate the circuit breaker boxes.

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047	1	NL 13 Tap Switch	1910.303(g)(1)(i)	There was limited space between the switch area for the transformer (NL 13) and the storage cabinet (I.F. cabinet).	1	There were 8 1/2 inches between the On/Off switch for the transformer (NL 13) and the storage cabinet (I.F. Cabinet).	Move the I.F. Cabinet so that the clear space between the switch of the transformer and the storage cabinet is at least 3 feet.
048	1	NL 06 Tap Switch	1910.303(g)(1)(i)	The space between the switch area for the transformer (NL 06) and the A.E.S. cabinet (#16) was 20 inches.	1	None	Move cabinet #16 so that the clear space between the switch of the transformer and the storage cabinet (A.E.S. #16) is at least 3 feet.
049	1	North Tunnel	1910.303(g)(1)(i)	Access to the electrical disconnects was blocked by metal piping.	1	None	Relocate the electrical disconnects so that they are accessible.
050	1	Frame 42 (NL 20)	1910.303(h)(3)(ii)	The work areas behind the racks had inadequate lighting.	25	The auditor estimated the lighting for the back side of the racks to be less than 5 candle power.	Install additional lighting behind the racks to increase the available lumens.
051	101	Truck Ramp, Hall A	1910.67(b)(1)	The Snorkelift A60 aerial lift was not kept in good repair in that the right front tire was damaged and needed to be replaced.	1	None	Replace the damaged right front tire on the aerial lift.
052	10	Office #3	1910.303(g)(1)(i)	The circuit breaker box (#SL L2, Section 2/29) in Office #3 was blocked by a file cabinet and a work bench.	1	None	Clear the area in front of the circuit breaker box.
053	10	Outside building	1910.101(b)(1)	Multiple inert compressed gas cylinders were in storage outside of Building #10 and were not protected from direct sunlight.	12	None	Install a roof over the cylinder storage rack to protect the cylinders from direct sunlight.
054	1	Column Line 47	1910.305(g)(1)(iii)(A)	A temporary relocatable power tap was used in lieu of fixed wiring of the structure.	1	None	Remove the temporary power tap from service and install permanent wiring.
055	1	North Tunnel - Exit Stairs	1910.303(g)(3)(i)	The electrical disconnects for the sump pumps were blocked by the piping for the pumps.	3	None	Relocate the disconnects so that they are not blocked by the piping for the pumps.
056	ARC	L104 and L208B	Recommendation	Ventilation hoods are not being inspected regularly.	2	Ventilation hood L104 had not been inspected since 6/17/02. Ventilation hood L208B had not been inspected since 1/26/01.	Inspect ventilation hoods on 3-month intervals, according to 1910.1450 Appendix A: (c)(4)(h).
057	ARC	Entire Building	Recommendation	The employer makes fire extinguishers available but does not train employees on their use.	1	The guide told compliance officers that employees are to evacuate.	Train employees to use the fire extinguishers in the event of a fire.
058	ARC	103A Pump Room	1910.101(b)	Compressed gas cylinders containing refrigerant were not secured in accordance with Compressed Gas Association Pamphlet P-1-1965.	1	None	Secure the cylinder.
059	ARC	Lab L307 and 7th Floor South End Hallway	1910.157(e)(2)	The fire extinguishers that are available for use are not inspected monthly.	2	The fire extinguisher located in the 7th Floor, South End hallway has not been inspected since January 2003. The fire extinguisher located in Laboratory L307 has not been inspected since 2002.	Inspect fire extinguishers monthly.
060	ARC	L208B	1910.101(b)	A compressed gas cylinder containing helium was not secured in accordance with Compressed Gas Association Pamphlet P-1-1965.	1	None	Secure the cylinder.
061	1	North Tunnel - Exit 2	1910.36(g)(1)	The air duct projects down to a height of 68 inches above the floor of the exit route.	1	A height of 6 feet, 8 inches is required.	Replace the duct work with new duct work that is higher than 6 feet, 8 inches from the ground.
062	94	Catwalk: "Pie Shell" Area	1910.22(a)(1)	A metal strip, which is not a permanent part of the catwalk, has been added on with "C" clamps. The strip was flapping loose at the end of the catwalk, and presented a potential tripping/fall hazard.	1	The audit team visually inspected the metal strip that was sticking out.	Secure the strip with clamps and place tape or some other material over any sharp corners.
063	94	Near Exit	1910.157(c)(1)	The fire extinguisher is missing from Fire Extinguisher Station #5 near the exit.	1	A sign denoting where the extinguisher should be located and the hook holder were present, but there was no extinguisher.	Ensure that a charged and serviced extinguisher is placed at Station #5.
064	94	Beam Dump Area	1910.305(e)(1)	The Beam Dump Area electrical panels have water leaking behind them and pooling in front of Box Number BUPL3. TJ Labs calls this area the "Down Stream Alcove."	2	Management stated that water leakage has been a long-term (chronic) problem due to the area being below the water table. The auditor observed two areas with substantial leakage.	Ensure that panels are shielded from leakage, and that panels are sealed so that they are waterproof.

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066	94	Stop Water Building; Beam Dump Area	Recommendation	Since the facility is below the water table, there is a problem with water leaking through concrete walls and shielding. There is a substantial build-up of deposits on the wall and floor area, which may pose a biohazard in terms of mold or fungus due to wet conditions.	1	The audit team member observed water leakage and potential for fungi or mold growth.	1) Send a sample to the lab for analysis to ascertain if potential pathogens are present. 2) If there is a positive result from the lab, contact experts in the area for decontamination. 3) Abate conditions that caused the leakage; a waterproof liner may be a solution.
067	42	Exit Stair #6	1910.101(b)	A compressed cylinder of helium was not secured from being knocked over. The cylinder was in a small cart that was not stable.	1	The cylinder had a regulator and valve attached and was stored near an exit way.	Remove the cylinder to a secure location and secure it.
068	Beam Switchyard	Station HBS0445	1910.305(g)(1)(iii)(A)	An extension cord was being used in lieu of permanent wiring to power a 110-V AC power strip. The power strip was powering a camera.	1	An extension cord was run up and over the hallway from outlet CHP37. The situation had existed for several months. The camera assembly number was MQA2C20.	A permanent outlet should be installed in the vicinity of the camera.
069	ARC	L 109 D	1910.133(a)(1)	There were no glasses or goggles available for use by employees who may have to use a drill press or a bandsaw.	1	There was a caution sign posted next to the bandsaw stating that safety glasses with side shields are required when operating the drill press.	Provide the room with safety glasses or goggles and reword the sign to include the bandsaw.
070	2	South Linac	1910.22(a)(2)	There were three separate areas in the South Linac tunnel where the floors were wet from leaks.	3	The water was from various equipment leaks. Employees were susceptible to slips and falls.	Fix the leaking equipment and have the floors squeegeed more frequently.
071	90	126, Northwest Corner	Recommendation	The area where photomultiplier tubes are tested with an x-ray tube has a sign on the front of the testing hood, but adequate signage is not present in the area to warn employees.	1	The audit team member was not able to readily discern that x-rays were used in the area due to the placement of the "Caution X-Ray" sign. There are numerous individuals who frequent the lab who may not be aware of x-rays being used.	Place the sign where it readily identifies that x-rays are being used so that visitors will be aware.
072	98	Southwest Corner of Welding Shop	1910.303(g)(3)(i)	The area in front of the electrical disconnect (B4/L3/15) was blocked by a desk and a storage cabinet.	1	None	Relocate the desk and the storage cabinet so that they are outside of the 3-foot area in front of the disconnect switch.
073	102	West Side of Building	1910.305(g)(1)(iii)(A)	A flexible electrical cord was used in lieu of the fixed wiring of the structure, in that the flood light on top of the fluorescent light was powered by a flexible cord running from an outlet at the floor level.	1	A flexible cord for the flood light ran from an outlet that was 18 inches above the floor.	Install permanent wiring to power the flood light.
074	102	West Side of Building	1910.303(g)(2)(i)	Fluorescent lights that are in place 7 feet, 3 inches above the floor are not protected from damage.	1	None	Install protective sleeves over the fluorescent light tubes or raise the fluorescent lights to 8 feet or more above the floor.
075	19	Shop	1910.213(c)(3)	The Delta table saw used for ripping operations was not equipped with anti-kickback fingers.	1	The saw is used infrequently to rip boards and other pieces of wood. The saw was equipped with a hood and a spreader.	Provide the anti-kickback fingers for the saw.
076	12	Kitchen	1910.212(a)(1)	The Univex food mixer was not provided with a bowl guard.	1	The mixer is used daily to make biscuits. It is also used for cake mixes. The operator stops the machine before scraping the sides with a spatula.	Provide a bowl guard for the mixer.
077	58	Southeast Annex and Test Lab West Door	1910.36(d)(1)	The panic bars on the exit doors were not operational due to the magnetic locks which were installed for security purposes.	2	The magnetic locks were added to limit access to and from the building.	1) Remove the magnetic locks. 2) Alarm the panic hardware. 3) Limit access and egress for non-emergency situations to a single entry point.
078	59	Machine Shop	1910.212(b)	The drill press (SN-24164) was not anchored to the floor.	1	None	Bolt the equipment to the floor.
079	59	Machine Shop	1910.212(b)	The Wilton grinder (SN-W6-87) was not anchored to the floor.	1	None	Bolt the equipment to the floor.
080	CTF Building	Cryogenic Lab	1910.212(a)(1)	The two Expander units located in the cryogenic lab did not have guards to prevent injuries from ingoing nip points.	2	None	Install a guard to cover the ingoing nip point.
081	Construction - Building 58	Basement	1926.301(a)	A crescent wrench had a socket welded to the hole in the handle, damaging the wrench and making it an unsafe hand tool.	1	The socket was used to turn on gas cylinders that didn't have wheels installed on the valve stem.	Remove the altered wrench from service.
082	Construction - Building 58	Outside	1926.651(k)	The trench was not inspected by a competent person.	1	The foreman presented himself as a competent person. When CSHO quizzed him on the soil, he did not know how to classify the soil. He called the soil clay and he did not know how to field test the soil. CSHO field tested the soil, which was sandy.	Train the lead employees as competent persons.

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083	Construction - Building 58	Basement	1926.351(b)(2)	Welding cables had repairs 28 and 38 inches from the electrode holder.	1	The welding lead had repaired damage 28 and 38 inches from the rod holder. The repair consisted of tape applied to the wire where insulation was damaged.	The welding lead was immediately removed from service.
084	11	Room 4 Area	1910.37(b)(4)	The exit route in the vicinity of Room 4 was not posted and was not immediately apparent.	1	There was no posting in the hallway outside Room 4, indicating the direction of the exit route. The route went through an office to a door.	Post the exit route appropriately.
085	18	FEL Vault	1910.37(a)(3)	Employees working on the laser at the far right of the room's entry did not have a clear and unobstructed path to the alternate exit in the event that the first exit was blocked.	5	Employees would have to crawl over equipment (no ramps over) if the large bladder holding sulfur hexafluoride leaked or if a line ruptured. The bladder is in close proximity to the prime exit door. Sulfur hexafluoride is an asphyxiant.	Either: 1) Build ramps to allow use of the far exit for this area; or: 2) Dike the sulfur hexafluoride bladder with solid walls to limit the travel of materials in case of leaks and install an oxygen sensor at the dike (at floor level).
086	18	210	Recommendation	Employees brazing copper and loading graphite particles have not had their exposures characterized by personal air sampling.	1	The operations take place without local exhaust ventilation in place.	Perform personal air sampling for both of these operations.
087	38	107	1910.146(c)(2)	The piping area below room level was described by the safety escort as a permit-required confined space. This area was not posted as such.	1	Signage was once posted in the piping area, but had been removed during maintenance of the piping.	Re-post signs indicating that the piping area is a permit-required confined space.
088	18	210	1910.134(f)(1)	Employees brazing copper and loading graphite particles have not been fit-tested for the respirators that they wear.	1	The escort for this building states that the employees using respirators in Room 210 have not been fit-tested. The respirators are dual cartridge half masks.	Perform fit tests for employees who are authorized to wear respirators.
089	18	213	1910.36(e)(2)	The lab doors on the upper floor level open inward, not outward.	6	The labs upstairs in FEL are Class 4 laser areas. TJ Labs lists Class 4 lasers (>500 mW) as a fire hazard in their EH&S Manual.	Modify or replace the lab doors so that they open out in the direction of egress flow to the exit.
090	18	FEL Vault	1910.151(c)	No eye wash or shower was available in the Vault (basement) area where large pressurized vessels of sulfur hexafluoride are maintained and used.	3	Employees transfer large quantities of sulfur hexafluoride from vessels to a bladder near one of the exits. MSDS requires flushing with lukewarm water for skin contact or eye contact.	Install an eye wash and a shower in close proximity to these operations, observing reactivity precautions that are listed on the MSDS concerning moisture considerations.
091	38	108	Recommendation	Signage for this room did not specify the duration of exposure requiring hearing protection or that hearing protection was required when entering.	1	A sign indicates that the use of PPE is required "during extended periods."	Use signage to indicate the requirement to use PPE whenever in the room.
092	18	Room 212/Drill Press Table	1910.303(b)(2)	A metallic receptacle box was used with a flexible electric cord to provide a portable receptacle. The metallic receptacle box is approved for a fixed location.	1	None	Remove the metallic receptacle box and replace it with an approved portable receptacle.
093	82	General Work Area	Recommendation	Employees using Eccosorb LS, which contains isocyanates and antimony, have not been sampled for airborne exposures during hand coating applications.	1	This material is about to be used to coat plates preventing RF leakage of electrical components in a cabinet. No ventilation is present in the work area.	Perform personal air sampling to determine exposures.
094	18	FEL Vault	Recommendation	Employees participating in an emergency evacuation of Building 18 on 8/13/03 did not utilize procedures to account for all employees after the evacuation was complete.	1	Verbiage is from 1910.38(c)(4), which is not required for this use.	Assure that all employees have evacuated by taking a roll call at the muster point.
095	Transportainer 836	Wall Hangers	1910.303(b)(2)	New portable receptacles with flexible electrical cords and metallic receptacle boxes were hanging on wall hooks, available for use. Metallic receptacle boxes are not approved for portable use.	2	None	The cord sets were cut and removed. Instruct the electrical staff on what types of cord sets are allowable.
096	90	124	1910.101(b)	A compressed gas cylinder was not adequately secured. Please refer to the Compressed Gas Association pamphlet P-1-1965 for reference.	1	The auditor checked the compressed gas cylinder being stored in a temporary floor stand, and found that it was not secured. The cylinder was strapped to the floor stand at the bottom about 6 inches up from the base, which did not secure the cylinder from tipping over.	The cylinder should be secured three-quarters of the way up from the base to a solid/permanent fixture to prevent it from being knocked over.
097	90	108	5(a)(1)	The flammable gas cabinet vent plug was not in place, and the cabinet was not vented. Reference NFPA 30 (and manufacturer's specification)	1	A member of the audit team observed the cabinet vent plug missing. The plug was found hanging inside the cabinet.	The plug was placed in the vent by TJ Labs personnel before the audit team left Room 108.

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098	90	101	1910.151(c)	The eyewash handle that activates the eyewash is obstructed from being fully activated by a partition. Further, the water streams are not equal in that the right stream diminishes markedly after the eyewash is in operation for about five seconds. ANSI Z35	1	The auditor checked the eyewash for proper stream height and general operability. The lever that turns on the water supply is partially obstructed by a movable partition. Further, the water stream on the right side drops off to almost nothing.	The eyewash water stream should be adjusted so that the two streams are equilibrated and at the proper height. Further, the movable partition should be moved away from the eyewash actuator handle.
099	90	Flag Row Access	1910.157(c)(1)	The fire extinguisher is not mounted to the wall. There is no sign posted that designates the location of the extinguisher. The last hydrostatic test on the extinguisher was performed in 1997. The fire extinguisher was last inspected in October 1998.	1	None	The extinguisher should be hydrostatically tested and serviced. The extinguisher, or another extinguisher, should be mounted and a sign posted that identifies the location of the extinguisher.
100	54	Calibration Range	Recommendation	There is no physical barrier to prevent individuals from entering the calibration range area, nor an interlock that will retract the source if personnel enter the source range calibration area while the source is exposed.	1	At 18 centimeters from the CS-137 source, the exposure rate is 1 REM/hr.	The auditors recommend that an additional barrier be put in place to prohibit personnel from entering the calibration range area, in order to promote ALARA at the source range facility. Please refer to 10 CFR Part 20.
101	Site Wide	Site Wide	Recommendation	The written hazard communication program did not address who specifically will provide training on the hazards of chemicals and when it will be completed.	1	None	The written hazard communication program should address who specifically will provide training on the hazards of chemicals and when it will be completed.
102	Site Wide	Site Wide	1910.1200(h)(1)	There were no procedures in place to train new employees or those who change duties on the hazards of the chemicals in the workspace.	1	The written chemical hygiene/hazard communication plan did not address the procedures to be used to train employees new to a workspace on the hazards of that space. The plan must specify how the training will be completed.	Develop and implement procedures to train new employees and those who change duties on the hazards of chemicals used in that space. Clearly state these procedures in the written program.
103	Site Wide	Site Wide	1910.1200(e)(1)(ii)	There was no procedure in place to inform employees of the hazards of chemicals in unlabeled pipes.	1	The chemical hygiene/hazard communication program did not address how employees would be informed of the hazards associated with chemicals in unlabeled pipes. If there are no unlabeled pipes, this must be stated clearly.	Develop and implement procedures to inform employees of the hazards of chemicals in unlabeled piping or clearly state that this is not applicable.
104	102	Refrigeration Building	1910.151(c)	The eyewash was installed outside, too far from the exposure areas.	1	A corrosive material (potassium hydroxide, CL-4856) is in use in the refrigeration building.	Relocate the eyewash and the shower to inside the refrigeration building.
105	93	Cooling Tower	1910.146(c)(2)	There is no posting of danger signs or any other equally effective means to identify the points of entry into the storage tanks.	3	The three storage tanks are each 1,200-gallon capacity. There are no signs posted at the man entry openings.	Post danger signs at the entry points for these tanks.
106	93	Cooling Tower	1910.1200(f)(5)	The three 1,200-gallon tanks were not labeled, tagged, or marked.	3	The three 1,200-gallon tanks were filled with an unknown material. No labels or tags were affixed to the tanks.	Install proper labels on all three tanks.
107	102	Refrigeration Building	1910.37(b)(4)	No exit signs were installed above the doorway.	1	None	Install an exit sign above the doorway.
108	56	Fabrication Shop/Welding	1910.157(c)(1)	The 40-pound fire extinguisher was mounted too high, based on the weight of the fire extinguisher. The extinguisher was mounted approximately 5 feet from the floor.	1	None	Lower the fire extinguisher so that it is mounted approximately 3 feet from the floor.
109	56	West ARC Service Building/Fabrication Shop/Welding	1910.157(c)(1)	No identification sign was posted above the fire extinguisher.	1	None	Install a sign above the fire extinguisher to indicate its location.
110	102	Annex	1910.37(b)(4)	There was no exit sign posted above the exit door.	1	None	Install an exit sign above the exit door.
111	102	Annex	1910.37(b)(6)	The exit sign above the exit door was not illuminated.	1	The exit sign bulb was blown.	Replace the light bulb in the exit sign so that the sign will illuminate.
112	90	125	1910.307(b)(2)	The flammable liquids storage cabinet was located adjacent to the electrical actuator potential switch box. The switch box was not approved for Class I, Division II locations.	1	The flammable liquids storage cabinet contained glass bottles of acetone which were subject to breakage if dropped and to leakage if not tightly capped.	Move the flammable liquids storage cabinet to a location at least 20 feet from the electrical box.

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113	90	Mezzanine	1910.157(e)(3)	The fire extinguisher located at the entrance to the room was not changed out during the most recent annual inspection.	1	This observation is based on a Test and Maintenance Survey. For reference, see the TJNAF ES&M Program.	Replace the extinguisher and assure that the Safety Warden inspects it monthly.
114	90	127	1910.303(g)(3)(ii)	The disconnect for the welding machine on the north wall was partially blocked by the small lathe.	1	An electrical trench is scheduled to be installed this year. Installation of the trench will enable relocation of the disconnect.	Relocate either the lathe or the disconnect.
115	90	108	1910.106(d)(5)(i)	Flammable liquid storage cabinets containing acetone and methanol containers were located along the way of egress from the building, as designated on the posted emergency evacuation plan.	1	None	Either move the cabinets, remove the flammable liquids from the cabinets, or designate a safer exit pathway.
116	90	127	5(a)(1)	Two pins (Grade 8 bolts) supporting the leg angle of the Hall A target platform were not secured with nuts. Also, during design of the platform, there was no consideration of the potential effects of shock loading on the stability of the platform in the event that a 200-pound employee (attached to a lanyard and harness) falls from the platform.	1	The target weight is just over 2,000 pounds. Employees have to drive the pins in with hammers, which may affect the shear strength of the bolts. The platform is about 18 feet high, including the height of the target.	1) Evaluate the effects of shock loading on the stability of the platform and on the shear load to which the pins would be exposed in the event of a 200-pound employee (attached to the target or platform with a lanyard) falling off the platform. 2) Evaluate the effect that driving the pins has on their sheer strength. 3) Erect a stable work platform.
117	90	118	1910.133(b)(1)	Some protective eyewear in this lab had a cracked lens, which invalidated its approval.	1	Reference ANSI Z87.1-1989. The eyewear was for use in the laser lab.	The goggles were thrown in the trash can.
118	90	101	1910.1200(h)(1)	The potential for exposure to nitrosamines was not included in the hazard communication training program. Nitrosamines may be present due to the effects of heat and bacterial contamination	1	VAL COOL and TRIM-SOL cooling fluids contained triethanolamine and isopropylamine. Nitrosamines (human carcinogens) have been historically associated with cooling fluids containing triethanolamine.	Instruct the employees regarding the frequent exchange of reservoir fluids. Instruct the employees about the hazards of nitrosamines.
119	90	Flag Row Access	1910.303(g)(1)(ii)	Cable spools were stacked in front of an electrical panel. Also, equipment was installed in front of an electrical box.	2	None	Move the cable spools away from the electrical panel to provide the required clearance for access. Move the equipment to another location so that it doesn't block access to the electrical box.
120	54	Calibration Range	Recommendation	There is a desk located in the unshielded part of the instrument calibration range control area. The desk has a computer on it, meaning that an individual could use the computer while the calibration source is exposed, which is not compatible with the ALARA principle.	1	The desk is next to the unshielded entrance to the calibration range.	The desk and computer should be relocated, so that the desk is within the shielded area, or shielding should be provided. Please refer to 10 CFR Part 20 as a reference and for the definition of ALARA.
121	90	108	1910.23(d)(1)	The handrails on the stairway used to access the storage mezzanine were only 36 inches high.	1	There was a fall potential of about 18 feet to the concrete floor.	Weld an extension to the top of the railing to provide an approved standard railing.
122	90	Mezzanine	1910.22(b)(1)	The condensate drain for the HVAC system presented a tripping hazard in the area between the system and the back rail.	1	This is a low occupancy area. The primary exposure is limited to HVAC technicians. An HVAC technician was observed working in the area.	Since this is an occasional occupancy location, use some hazard warning tape to create an awareness barrier.
123	90	102	1910.37(a)(3)	Combustible materials were stored in cabinets under the stairs to the control room. The cabinet doors were open, and welding operations were nearby. This presented the possibility of fire.	1	None	Remove the combustible materials.
124	90	Flag Road Access	1910.303(g)(3)(ii)	The electrical disconnects for the large power panels were blocked by a large fan in storage.	1	The fan was in a large crate that could not be easily moved.	Remove the fan to provide the required clearance for access to the disconnects.
125	Site Wide	Site Wide	1910.1200(e)(1)(ii)	There was no procedure in place to inform employees of the hazards of non-routine tasks or jobs.	1	The chemical hygiene/hazard communication program did not address how employees would be informed of any non-routine hazardous tasks. The hazards, if any, must be communicated to employees before task completion.	Develop and implement procedures to inform employees of the hazards of non-routine tasks.
126	Site Wide	Site Wide	1910.1200(e)(2)(iii)	There was no method in place to inform other contractors working on site of the labeling system used in the workplace.	1	The chemical hygiene/hazard communication plan doesn't address how subcontractors will be informed of the lab's secondary labeling system.	Develop and implement procedures to inform subcontractors of the secondary labeling system in use.

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127	Site Wide	Site Wide	1910.1200(e)(2)(ii)	The hazard communication plan did not address the methods to be used to inform subcontractors of any precautionary measures that need to be taken in the workplace.	1	The chemical hygiene plan contains elements of a hazard communication plan but does not address the way in which TJ Lab will inform subcontractors on any precautionary measures or hazards in the area.	Develop a program that addresses any of these conditions.
128	18	211	1910.303(b)(2)	A wall receptacle had a 30-amp receptacle on a branch circuit with a 20-amp breaker.	1	None	Insure that the receptacles are approved for the circuit breaker protection.
129	11	4	1910.37(a)(3)	The exit route to a posted exit door went through an office that could be locked.	1	Exit routes must not go through spaces that can be locked.	Remove the exit sign from above the door and replace it with a "Not an Exit" sign.
130	VARC	Boiler Room	1910.36(d)(1)	The emergency exit door, cut into the roll-up door, was provided with a latch that had to be turned and held to open the door.	1	To open the door, a person needs to turn and hold the latch while pushing the door.	Install panic hardware on the door or designate a new exit route.
131	19	Shop Roll-Up Door	1910.36(d)(1)	The emergency exit door, cut into the roll-up door, was provided with a lockable latch.	1	This was the only emergency exit door on this side of the building.	Provide non-lockable panic hardware for the door or remove the emergency exit designation from the door.
132	97	Entire Building	1910.36(d)(1)	All six of the exterior emergency exit doors for the building were provided with knobs instead of panic hardware that would provide for instant egress from the building. Some of the doors were also provided with locks.	6	None	Install panic hardware on all of the exterior emergency exit doors.
133	VARC	Boiler Room	1910.36(g)(2)	The emergency exit door, cut into the roll-up door, was only 27 1/2 inches wide.	1	All points on an exit route must be at least 28 inches wide.	Enlarge the door to at least 28 inches wide.
134	VARC	Boiler Room	1910.36(g)(1)	The emergency exit door, cut into the roll-up door, was only 5 feet 7 1/2 inches high.	1	All points on an exit route must be at least 7 feet 6 inches high.	Enlarge the door to at least 7 feet 6 inches high.
135	16	Side Corridors	1910.37(b)(4)	The side corridors do not have exit signs posted on the end of the hallway that is adjacent to the main center hallway.	1	The many side corridors of Building 16 have posted exit signs on one end of the hallway above the emergency exit doors. The other ends of the hallways are not posted, despite the fact that they could have to be used if the end of the hallway with the marked door is blocked.	Post exit signs on the end of the side corridors adjacent to the main hallway.
136	Site Wide	Site Wide	Recommendation	The operators of the Cushman carts did not have any type of formal training and orientation to safely operate the vehicles.	1	It seems that operators of the Cushmans have no formal training to safely operate the carts. This was ascertained from interviews with several employees who did not know of a training program.	Develop a training program to train and orient employees who drive Cushman carts on the safe operation of these vehicles.
137	11A	Large Room	1910.303(g)(1)(ii)	There was a table with a computer monitor sitting on it that was blocking the circuit breaker panel.	1	A sign on the panel door stated that there should be 36 inches of clear space in front of the box. The voltage was 110 volts AC.	Move the table and ensure that the area stays clear.
138	19	Shop	1910.303(b)(1)(i)	A quad outlet electrical knockout box was attached to a flexible cord and was being used as an extension cord to power a portable sander. This is not allowed by the National Electric Code listing.	1	The power was 110 volts AC.	Provide an approved extension cord to power the sander.
139	19	Shop	1910.213(h)(4)	The 10-inch Craftsman radial arm saw did not return to its starting position after it was pulled out to the fully extended position and the handle released.	1	The saw was equipped with lower blade guards.	Provide the saw with a mechanism that returns the cutting head to its starting position.
140	19	Shop	1910.215(a)(4)	The work rest of the Craftsman bench grinder was 1/2 inch away from the wheel.	1	The tongue guard was properly adjusted.	Adjust the work rest to within 1/8 inch from the wheel.
141	96C	Outside of Building 96C	1910.101(b)	There were two cylinders of oxygen stored within 20 feet of three cylinders of ethane.	1	None	The oxygen tanks were moved immediately to a location at least 20 feet from the ethane cylinders.
142	101B	Rear Exit Discharge	1910.23(d)(1)(iii)	The four-riser exit stairs that were part of the exit discharge were provided with a stair rail on only one side.	1	The stairs were less than 44 inches wide.	Provide a stair rail on the open side.
143	Constructi on - Building 58	Basement	1926.102(a)(2)	The welding shield in use had been altered, causing the face shield to no longer meet the ANSI Z87.1 standards.	1	The ANSI-approved welding shield had been field-altered by the owner. The sides of the hood had been removed by a cutoff grinder, and a piece of leather had been attached to the bottom of the hood.	Replace the altered welding shield with a new shield that is not altered.
144	97	Electrical Room, Lower Level	1910.22(a)(2)	The floor in the lower level electrical room was not maintained in a dry condition in that water was lying on the floor.	1	None	Clean up the water and stop the water leak.

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145	97	Electrical Room	1910.305(e)(1)	Water was coming out of electrical box number (CHP-3). In addition, the electrical box was not designed for a wet location.	1	None	Find the and eliminate the source of the water leak. Ensure that water will not leak or come into contact with the electrical box.
146	101B	101B Work Area	1910.1200(t)(5)(ii)	A container of isopropyl alcohol (flammable) did not contain a hazard warning label.	1	None	An employee placed a hazard warning label on the container. The auditor observed abatement.
147	CEBAF	Stairwell to Roof	1910.157(e)(2)	The portable fire extinguisher located in the stairwell to the roof of CEBAF did not indicate a monthly inspection date. The last inspection date indicated is 12/6.	1	None	Ensure that all portable fire extinguishers are inspected on a monthly basis and documented with the most current inspection date.
148	CEBAF	Kitchen	1910.151(c)	There was no emergency eyewash in the kitchen area where employees are using corrosive chemicals.	1	Chemicals present in the kitchen area included: lime-a-way (corrosive), Greasecutter Plus (corrosive), Ster-bac-bin, and Quaternary Ammonium Sanitizer.	Install an emergency eyewash in the kitchen area.
149	VARC Building	Boiler Room	Recommendation	The handrail leading to the roll-up door in the boiler room was loose.	1	None	Secure the handrail.
150	92	NW and SW Corners	1910.146(c)(2)	Two identified confined spaces were not marked as "permit required." The current signs were in poor condition and the warnings had peeled off.	2	None	Ensure that new "permit required" warning signs are placed on these two confined spaces.
151	58	NW Corner of the Pump Room	1910.146(c)(2)	The sump pump pit in the northwest corner of the pump room was not marked as a permit-required confined space.	1	None	Install a permit-required confined space sign.
152	92	Outside - North	1910.101(b)	Compressed gas cylinders in storage were not protected from direct sunlight and weather. The cylinders were also exposed to vehicular traffic.	20	None	Locate the compressed gas cylinders to an area where they are not exposed to collision damage and are protected from direct sunlight.
153	98	Milling Area	1910.303(g)(3)(i)	Two electrical disconnects were blocked: (a) the disconnect for the LeBlond lathe was blocked by the lathe; and (b) the disconnect for the two Bridgeport vertical milling machines was blocked by the machines themselves.	3	None	Relocate the disconnects for the machines so that the appropriate clearance is maintained.
154	98	Cryogenics Shop	1910.303(b)(2)	The relocatable power tap was used to connect high drain electrical equipment.	1	None	Remove the relocatable power tap from service and replace it with wiring suitable for the electrical loading.
155	98	Outside	1910.101(b)	Compressed gas cylinders in storage were not protected from direct sunlight, weather or vehicular collision.	10	None	Relocate the compressed gas cylinders to an area away from vehicular traffic or install adequate collision barriers. Construct a roof over the cylinders to protect them from direct solar exposure and weather.
156	98	Welding Shop/North Corner	1910.303(g)(3)(i)	Access to disconnect number B4/L3/16 was blocked by a large liquid argon cylinder.	1	None	Relocate the argon cylinder to allow 3 feet of clearance in front of the disconnect.
157	Medical	Record Room	1904.29(a)(3)	An injury from 2002 was misclassified using pre-2002 standards for the OSHA 300 log. The injury was never recorded.	1	The record keeper did not have a complete understanding of the OSHA requirements for a recordable event.	Ensure that all work-related injuries that meet the OSHA recordability criteria are recorded.
158	Medical	REIO	Recommendation	No job descriptions were included with the pre-placement exams.	1	None	Include job descriptions with the pre-placement exams.
159	Medical	Record Room	Recommendation	The record-keeper, who has non-medical training, was the sole decision-maker regarding the recordability of whether injuries or illnesses are work-related.	1	Related standard is 29 CFR 1904	Involve medical personnel actively in the record-keeping process, through meetings and committees.
160	Medical	Records	1910.1030(g)(2)(i)	An employee who was potentially exposed to bloodborne pathogens did not know the appropriate management of a blood spill in the workplace.	1	None	Incorporate training for cleanup of blood or infectious materials into the basic safety training for all employees.

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161	Medical	Records	Recommendation	The Safety Department and the Occupational Medicine Department do not work together to look for epidemiological or statistical trends regarding workplace hazards.	1	None	The Safety Department and the Occupational Medicine Department should work together to identify epidemiological and statistical trends in injuries or monitoring data. This should contribute to the identification of modifiable hazards, document intervention, and measure improvements.
162	Medical	Records	Recommendation	The physician and nurses receive minimal financial and time support for CME/CEU training.	1	None	Provide continuing education assistance annually to nursing and medical personnel.
TOTAL							

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