

INDEX

-A-

Abrasive blasting	112
equipment	268
Access	103, 405
roads	548
Accident prevention	
piping	137
plan	2, 4, 7, 10, 14
signals	145
signs, tags, labels	137, 158
Accidents	11, 15-16, 18
Activity hazard analysis - see hazard analysis	
Aerial lift	235, 473, 639
Air-purifying respirator	60
Aircraft	357, 367
Airfield operations	641
Alarm systems	191, 375
All terrain vehicles	366
Alternating current dielectric test	77
Altitude dive tables	15
Antimony	199
Arc welding and cutting	204
cables and connectors	205
Arsenic	199
Asbestos	4, 92, 94
Assured equipment grounding conductor program	219
Attachment plugs and receptacles	213
Automatically darkening lenses	48
Automatic feeding devices	264

-B-

Backup alarms	358
Barium	199
Batteries and battery charging	225
Beryllium	199
Blasting	589
air blast pressure	600
black powder	593
blasting machines	591
circuits	603
detonating cord	602
detonators	590
drilling	600
electromagnetic radiation	598
energy ratios	599
explosives	589
explosives, handling,	597
explosives, storage	593
explosives, transportation	594
firing	605
lightning	590, 593
loading	600
misfires	607
peak particle velocities	599
post-blast procedures	607

safety plan	589
scaled distances	600
static electrical discharges	590
underground	598, 601
underwater blasting	608
vibration and damage control	598
warning signs	606
wiring	603
Body belt/harness systems	75
Boiler and Pressure Vessel Code	393
Boilers	401
Boom - see cranes and derricks	
Brush chippers	636
Brush removal and chipping	636
Burning operations	165

-C-

Cadmium	199
Cage boom guards	224
Caissons - see underground construction	
Carbon monoxide	69, 625, 626
Carbon tetrachloride	186
Cardiopulmonary resuscitation	27, 615
Caution signs	139
Cement	273
Chain	284
Chain saws	268
Change rooms	24
Chemical agent	56
Chopping tools	639
Christmas tree lifting	280
Chromium	199
Circuit breaker	214
Classified locations - see hazardous (classified) locations	
Cobalt	199
Code for Unfired Pressure Vessels	397
Cofferdams	499
Combustible liquid	168, 276
Communication facilities	247
Compressed air	397
blasting	520, 529
work/work plan	532
Compressed gas	397
cylinders	402
Compressed gaseous oxygen, liquid air, or liquid oxygen	69
Compressors	70
Concrete work	537
Confined space	113-125
see permit-required confined space	
Construction areas	135, 144, 514
Contact lenses	44
Contract diving operations	611
air compressor systems	625
altitude dive tables	615
bell	623
breathing air supply hoses	626
briefing	618-620

decompression sickness/pulmonary barotrauma	619
dive log	618, 620
dive operations plan	613, 615
dive teams	620
divers	611
emergency and first aid equipment	628
equipment	625
mixed-gas diving	624
power tools	628
pre-dive conference	616
safe practices manual	613
SCUBA diving operations	620
surface supplied air	611, 626
surface supplied air operations	622
Control of hazardous energy - see hazardous energy	
Conveyors	347
Copper	199
Cranes and derricks	303
anti-two block (upper limit) device	317, 323
boom, angle/radius indicator	329
boom, assembly and disassembly	320
boom, hoist disengaging device	320
boom, stops	319
communication	310
crawler-, truck-, wheel-, and ringer-mounted cranes	317
critical lifts	315
derricks	332
design and construction standards	308
drum rotation indicators	318
duty cycle	317, 329
environmental considerations	316
floating	324, 329
gantry	331
helicopter	334
inspection criteria	311
inspections, frequent	312
load indicating device	317
load moment indicator	317
load performance test	314
luffing jib cranes	323
mobile	309, 352, 436, 514, 517
monorails	332
on-rubber rating	321
operators	306
operational performance test	313
operators, examination and qualification	307
outriggers	320
overhead	297
performance tests	313
periodic inspections	337
pillar	321
portal	321
tandem/tailing crane lifts	316
testing requirements	313
tower(hammerhead)	323
under hung	332
Cumulative trauma prevention	129

Cutting, arc and gas 263

-D-

D-rings	75
Debris nets	420
Demolition	477
engineering survey	477
mechanical	484
plan	477
Derricks - see cranes and derricks	
Detonating cord	591
Diesel fuel	526
Disconnects	214
Diving	611
see contract diving operations	
Dose Limits	100
Dosimetry	100
Double insulation	217
Dredging	388
hopper dredges	390
pipeline	388
Drilling equipment	342
Drilling machines	528
Drinking water	19
Dump trucks	361
Dust	226, 335, 346, 522

-E-

Electrical	209
conductors	210
conductors, overhead	222
conductors, stringing	237
electrical protective equipment	77
isolation	209
overload protection	214
substations	245
storms	242
temporary wiring and lighting	220
underground electrical installations	244
Electromagnetic	247
Elevating work platform	471
Emergency	
descent devices	430
lighting and power systems	374
medical technician	33
operations	41
planning	17
response	579
Enclosed spaces	198, 260
Engineering/administrative controls	29, 87
Environmental monitoring	95, 128
Epoxy resins	29
Excavations	489, 642
Class I perimeter protection	493
Class II perimeter protection	493
Class III perimeter protection	493
inspection and testing	489

mobile equipment and motor vehicle precautions	492
protection from falling material	492
protection from water	491
protective systems	490
shield systems	498
sloping and benching	495
trenching	498
Explosive-actuated tools	266
Explosives	365, 533
Handling	511
Eye and face protection	42, 48

-F-

Face masks and hoods	48, 97
Facial hair	63
Fall protection	405, 410
warning line systems	574
personal fall arrest systems and positioning devices	75, 415
safety nets	415, 418
Falling object protective structures	300
Fencing	36, 512
Fire	
alarm systems	191
blankets	186
detection systems	191
extinguishers	184
extinguishers, approved	184
extinguishing, chlorobromomethane	186
extinguishing systems, fixed	189
fighting equipment	190
fighting organizations, training and drilling	192
lanes	166
patrols	193
prevention and protection	163
prevention and protection plan	163
protection, first response	184
protection, in the construction process	167
protection, standpipe and hose system	186
suppression systems, fixed	189
First aid	18, 27
attendant	33
facilities	28
kits	30
station	32
Fit testing - see respirators	
Flag and signal persons	146
Flammable	
atmosphere	267
gases	267
liquid	92
materials	267
Flammable and combustible liquids	92, 168, 174
portable tanks	169
storage cabinet sand areas	170
storage tanks	170
storage, underground	164

Flashlight	42, 172
Flexible cords	210
Floating cranes and derricks - see cranes and derricks	
Floating plant	369
Access	382
escape hatches and emergency exits	376
inspection and certification	369
personnel qualifications	370
see dredging and launches, motorboats, and skiffs	
Floor and wall holes and openings	487
Floor removal	483
Fluorine	200
Flying objects, protection against	79, 300
Foodservice	24
Formwork	539
Fueling	173, 527
Fuses	213, 597

-G-

Gas metal arc welding	206
Gassy operations	516
Generators	
frame grounding - see grounding	
portable and vehicle-mounted	215
Glare-resistant glasses	38
Grinding and abrasive machinery	261
Ground/grounding	215
Electrode	205, 217
frame grounding	217
protective	217
Guardrails	411

-H-

Hand protection	42
Hand signals	145, 159-161
Hand tools	259
Hand-arm vibration	129, 131
Handlamps, portable	213
Handrails	414
Harmful plants, animals, and insects	97
Haul roads	147
Hazard analysis	3, 5, 6, 8
position hazard analysis	3, 5, 6
Hazard communication	12
Hazardous classifications - see gassy operations and potentially gassy operations	
Hazardous locations	166
Hazardous energy, control	249
full personnel protection	250
plan	251
procedures	251
Hazardous materials	197, 392
Hazardous substances, agents, environments	87
Hazardous, toxic, and radioactive waste	106
Head protection	52
Hearing	
conservation	50

protection	48
Heat/cold stress monitoring plan	126
Heating devices	95, 178
gas	182
LP-Gas	183
natural gas	182, 197
open-flame heating devices	179
positive operating procedure	179
Herbicides	23
Hoisting	341
ropes	279, 310
Hooks	288
Hot or molten substances	95
Hot stick distances	231
Hot tapping	202
Hot work permits	96
Housekeeping	275
Hydraulic	
fluid	234, 260, 526
tools	234, 260
Hydrocarbons	29, 626
Hydrogen sulfide	519
Hydrostatic testing	393

-I-

Immediately dangerous to life or health	56
Impalement hazards	493, 537
Inclement weather	126
Indoctrination	11
Industrial hygienist	87, 89, 580
Infirmaries	32
Insecticides	23
Insects	25
Insulating	
links	224
mats	212
Intrinsically safe	226
Ionizing radiation	98
safety committee	99
warning signs, labels, signals	139

-J-

Jumbos	528
--------------	-----

-L-

Labels	105
Ladders	421
jacks	430, 498, 505
Lanyards	76
Lasers	108
caution and danger signs	156
Launches, motorboats, and skiffs	385
Lead..	4, 92, 199, 329
Licensed physician	14, 28, 32, 612, 630
Licensed physician's assistant	33
licensed practical nurse	33

Lifeline	76
Life ring	82
Life saving and safety skiffs	84
Lift trucks	235, 296
Lift-slab operations	545
Lifting - see safe lifting	
Lighting	133
Lime..	29, 273, 275
Limited access zone	570
Lineman's equipment	77
Liquefied petroleum gas(LP-Gas)	174
container valves	175
containers	175
hose	178
multiple container systems	176
safety devices	175
shut-off valves	178
Live boom	458
Live-line bare-hand	80, 236
Lockout and tagout	
devices	250, 254
procedures	251, 292, 347
see hazardous energy	

-M-

Machinery and mechanized equipment	291
Manganese	199
Manual on Uniform Traffic Control Devices	
for Streets and Highways	138, 147
Marine activities	369
Masonry construction	537, 570
Material	
handling, storage, disposal	271
hoists	336
Material Safety Data Sheets	12, 13
Medical	11, 27
facilities	11, 27
surveillance	107, 583
Medically determined qualified	39
Melting kettles	95
Mercury	199
Methane	516, 626
Miners' lights	42
Motor vehicles	357

-N-

National Board of Boiler and Pressure Vessel Inspectors	393
Navigation locks	391
Nickel	199
Noise hazard areas	48
Non-ionizing radiation	108

Occupational Safety and Health Administration	2, 8, 9, 10, 16
Operators	14
Outrigger beams	446
Over current	
protection	214
Overhead guards	300
Oxy fuel gas	202
cutting	202
welding	202
hose	203
Oxygen cylinders	67, 202
Ozone.	199

Paint barges	170
Paints	23
Permit-required confined space	113
entry procedures	121
program	122
Personal fall protection - see fall protection	
Personal floatation devices	80-83
lights	82
Personal protective equipment	
.....	39, 410
clothing	24
footwear	41
see specific type	
Physical qualifications	13
Physicians - see licensed physician	
Pile driving	340
Planking	408
Platforms	429
Positioning device - see fall protection	
Post-tensioning	537
Potentially gassy operations	516
lines - see electrical conductors	
transmission and distribution	222, 229
Precast concrete operations	544
Preparatory inspection	250, 343
Preservative coatings	198
Pressurized equipment and systems	393
Process safety management	91
Public	150, 220, 571, 595

Radiant energy	48, 206
Radiation	
monitoring	102
safety officer	98
safety program	99
Radio frequency radiation hazard warning symbol	155
Radio/cassette	292
Radioactive Waste Disposal	106
Rail clamps	323, 340
Railing (guardrails and handrails)	411
Ramps.	427

Registered nurse	33
Reinforcing steel	274, 537
Rescue	16, 65, 124, 493, 508, 629
Respirators	54
atmosphere-supplying	55, 68
fit testing	61
negative-pressure	60
positive-pressure	65
self-contained breathing apparatus	57
supplied air	611
Respiratory protection	54-74, 104
devices - see respirators	
program	54-55
Reverse-flow check valve	204
Rigger	305, 315, 550
Rigging	279
Drums	289
fiber rope	284
hardware	287
slings	285
wire rope	280
Ring buoys	82
Rodents	25
Rollover protective structures (ROPS)	301
Roofing	571
access	576
brackets	574
personal fall arrest systems	572
Rope - see rigging	
Runways	96, 272, 332, 427, 641

-S-

Safe lifting techniques	271
Safety	
belt	340
can	172
control	148, 181
devices	298
equipment	39, 619
harness	627
lashing	265, 268, 396
nets - see fall protection	
skiff	84, 385
tire rack/cage	299, 361
(relief)valves	167, 375, 395, 403
Safety and health program	1, 10
Safety and occupational health office	3, 4, 9, 10, 16
Sampling	62
Sanitary facilities	90
Sanitation	19
Saws - see woodworking machinery	
Scaffolds	430
access	432
bracket	433, 464
capacities	430
carpenter's bracket	464
design	431

form	464
horse	468
independent pole scaffolds	442
lean-to and prop-scaffolds	430
manually-operated hoists	448
manually propelled mobile scaffolds	436
metal	433
metal frame	436
pump jack	469
suspended	206, 443
suspended, hoisting machines	447
suspended, mason's multiple-point adjustable	458
suspended, stonemasons, multiple-point adjustable	453
suspended, support devices	445
suspended, support ropes	445
suspended, support systems	496
suspended, two-point	452
tube and coupler scaffolds	434
wood pole	437
Scaffolds, platforms, or temporary floors	430
Seatbelts	300
Selenium	197
Service/refueling/lubrication areas	184
Severe weather	126, 371, 571
Shackles	287
Shafts - see underground construction	
Sheaves	289
Shoring	539
Showers	24
Signal systems, personnel, procedures	145
see spotter	
Signs	137
Silica	113
Silver	199
Slings - see rigging	
Slip forms	542
Sloping/benching - see excavation	
Slow-moving vehicle emblem	142
Smoke alarms	375
Smoking	164, 391, 403, 525
Soap	24
Solar radiation	129
Solvents	29, 172, 206, 277
Sound-pressure	48
Spotter	42
see signal personnel	
Spray guns	265
Sprinkler head	202
Stairways	424
railings	426
Standard guardrails and handrails - see railing	
Static electricity	268
Steel	
erection	537
removal	484
Sun screen	129
Switches	214, 351

-T-

Tag lines	236, 334
Tank cars/trucks	174
Temporary	
building spacing	165
facilities	35
heating devices - see heating devices	
lighting	220
power distribution systems	220
sleeping quarters	36
structures	35
Throw bags	83
Tire service vehicles	298
Toe boards	414
Toilets	21-23
Tools	234
Hand	259
pneumatic	265
power	259
see specific type	
Torch valves	204
Torches	203
Towels	24
Towers - see scaffolds, metal	
erection	433
Towing	295
Toxic or corrosive materials	25, 316
Traffic flagging procedures	147
Training	6, 8, 1-13, 18
Transportation	22
Tree maintenance and removal	636
brush chippers	636
brush removal	636
cant hooks, cant dogs, tongs, and carrying bars	640
chopping tools	639
equipment	532
felling	634
limbing and bucking	638
power saws	639
pruning and trimming	638
tree climbing	633
trucks	639
wedges and chisels	640
Trenching - see excavations	
Tubing, polyvinyl chloride and aluminum	175
Tunnels	507
see underground construction	

-U-

Ultraviolet degradation	53
Underground	
installations	489
Underground construction	507
air monitoring requirements	518
air quality standards	520
caissons	531

fire prevention and protection	524
ground support systems	513
rescue teams	509
shafts	529
shafts, access	507
shafts, hoisting	530
ventilation	522
Unexploded ordnance	41, 343

-V-

Vanadium	199
Vehicle-mounted elevating and rotating work platforms	472
fire protection	168
Vent pipes	181
Ventilation and exhaust systems	111
Vermin control	25
Vessel	383
Visitors	12

-W-

Wall	
openings - see floor and wall holes and openings	
removal	482
Warning signs	36, 139
Washing facilities	23
Waste disposal	25
Welding and cutting	197
pressurized system	197
see specific type	
Wet locations	221
Windshields	360
Wire rope - see rigging	
Woodworking	
machinery and saws	263
machinery guarding	263
Work platforms	429
manufactured work platforms	429
Work practice controls	90
Work/warm-up regimen	127