



Profile: Ship & Boat Building and Repair



Office of Maritime Enforcement

Industry Group 373 – Ship & Boat Building and Repair

Industry Description:

The ship building and repairing industry consists of establishments primarily engaged in building and repairing ships, barges, and lighters, whether self-propelled or towed by other craft. This industry also includes the conversion and alteration of ships and the manufacture of off-shore oil and gas well drilling and production platforms (whether or not self-propelled). [Note: Offshore rigs that are capable of transport on the water (i.e., can be floated and towed to their installation or production site) are considered to be “vessels” and, therefore, are covered by Part 1915 rules.] The boat building and repair industry consists of establishments primarily engaged in the building and repairing of craft such as fiberglass boats, motor boats, kayaks, canoes, houseboats, and dinghies.

Ship and boat building and repair activities comprise some of the most hazardous work place operations. Hazards include exposure to toxic substances, hazardous atmospheres, electrocution, falls, fires, and explosions. The SIC code for “Ship Building and Repair” is 3731. The SIC code for “Boat Building and Repair” is 3732. Shipbreaking is classified under “Water Transportation Services, Not Elsewhere Classified” {Dismantling Ships} SIC code 4499.

According to employment data published by the Bureau of Labor Statistics (BLS), the average total employment in U.S. private and public (Navy) shipyards for 2002 was 95,000. This total reflects an increase of approximately 1% from the 2001 revised average total employment for the shipbuilding and repairing industry. This is the first increase in the average total employment since 1998. The 2002 employment level in the U.S. shipbuilding and repairing industry is down 44% from the 1982 level of 171,600 employees. BLS data show the total employment for the boat building and repair industry to be 53,000 in 2002.

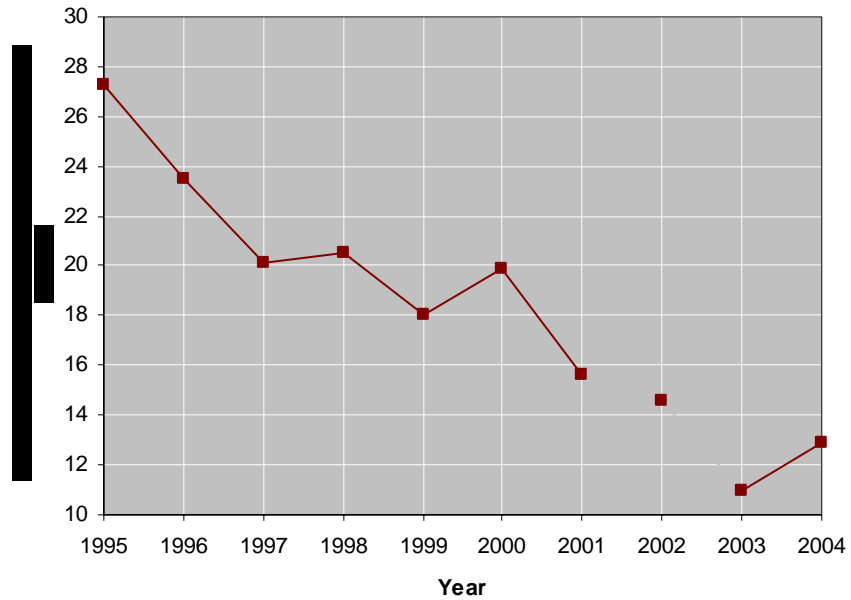
As of December 31, 2002, ships on order or under construction in U.S. private shipyards totaled 39 naval (1,000 light displacement tons and larger) and 16 commercial vessels (1,000 gross tons and larger). The U.S. Navy shipbuilding plan for fiscal years 2003-2008 includes the construction of 42 new ships, and represents an increase in new shipbuilding work available to the nation’s industrial base when compared with Navy programs for the past several years. The FY 2003-2008 program, with an average of seven new ships per year, represents a 5% increase in the quantity of ships being procured compared to the FY 2002-2007 plan. The Navy’s plan includes the construction of 13 guided missile destroyers (DDG-51/DD(X)), 8 attack submarines (SSN) and 6 amphibious transport ships (LPD).

Regarding boat building, the National Marine Manufacturers Association (NMMA), in their 2003 statistical abstract, calculated total boat and water craft sales to be 1,276,800 units in 2003. This is an approximately 1% decrease from the 2002 figure of 1,289,300 units. These units include such diverse craft as jet boats, inboard and outboard motor boats, canoes, sailboats, dories, skiffs, and kayaks.

BLS Profile

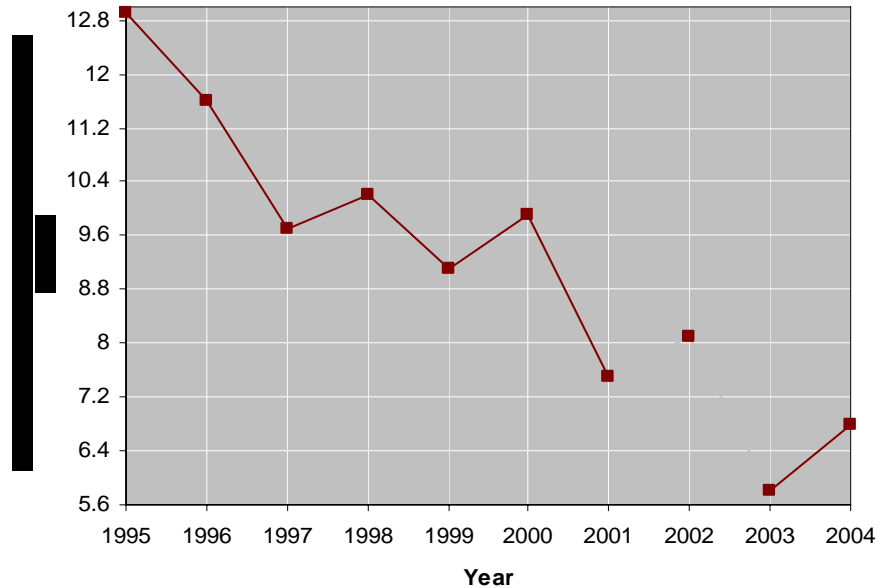
Total Recordable Case Rate (Industry Group 373)

Year	Annual
1995	27.3
1996	23.5
1997	20.1
1998	20.5
1999	18.0
2000	19.9
2001	15.6
2002	14.6*
2003	11.0**
2004	12.9



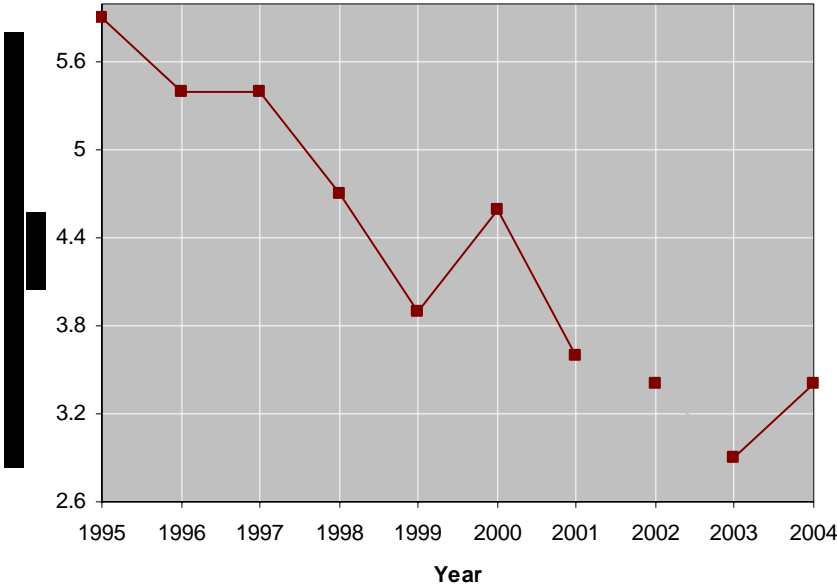
Lost Workday Case Rate (Industry Group 373)

Year	Annual
1995	12.9
1996	11.6
1997	9.7
1998	10.2
1999	9.1
2000	9.9
2001	7.5
2002	8.1*
2003	5.8**
2004	6.8



Cases with Days Away Rate (Industry Group 373)

Year	Annual
1995	5.9
1996	5.4
1997	5.4
1998	4.7
1999	3.9
2000	4.6
2001	3.6
2002	3.4*
2003	2.9**
2004	3.4



* Effective January 1, 2002, the Occupational Safety and Health Administration (OSHA) revise it requirements for reporting occupational injuries and illnesses. Due to the revised recordkeeping rule, the estimates from the 2002 survey are not comparable with those from previous years, thus resulting in the discontinuous graph lines.

** Beginning with the 2003 reference yea, the BLS Survey of Occupational Injuries and Illnesses began using the 2000 North American Industry Classification System (NAICS). Prior to 2003, the survey used the Standard Industrial Classification (SIC) system. The substantial differences between these systems result in breaks in series for industry data.

Fatality Totals for NAICS Group 33661 (2004): 9

Source: Bureau of Labor Statistics (National data)

National Summary by Region

NAICS 33661

Regions	Establishments with 10 or more employees		Establishments with 9 or fewer employees	
	Establishments	Employees	Establishments	Employees
1	104	11455	478	1144
2	56	4078	210	461
3	86	25447	291	679
4	409	47609	1312	3308
5	120	19367	420	922
6	215	31795	638	1459
7	33	4741	72	182
8	6	188	65	153
9	123	10942	474	1053
10	120	7375	575	1326

N/A = Data not available

Establishment and employment counts come from Dunn & Bradstreet, March 2006.

Note: OSHA Region 8 data primarily represents boat building/repair.

National Summary by Region

FY 2005 Federal OSHA Inspection Data SIC 373

Federal Data Only	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Total Inspections	19	5	60	38	9	39	4	0	44	70	288
Records Inspec.	0	1	0	0	0	0	0	0	0	0	1
Safety	11	3	40	22	4	29	2	0	44	41	196
Health	8	2	20	16	5	10	2	0	0	29	92
Inspections By Type											
Unprogrammed	12	1	19	20	6	14	0	0	5	22	99
Accidents	1	0	1	3	0	4	0	0	0	0	9
Complaints	7	1	12	9	4	8	0	0	2	6	49
Referrals	1		3	0	0	2	0	0	0	12	18
Monitoring	0		0	0	0	0	0	0	3	0	3
Variance	0		0	0	0	0	0	0	0	0	0
Follow-Up	3		0	7	2	0	0	0	0	1	13
Unprog. Related	0		3	1	0	0	0	0	0	3	7
Other	0		0	0	0	0	0	0	0	0	0
Programmed	7	4	41	18	3	25	4	0	39	48	189
Planned	7	4	40	16	0	25	4	0	37	46	179
Prog. Related	0	0	1	2	3	0	0	0	2	2	10
Other	0	0	0	0	0	0	0	0	0	0	0

Source: IMIS Database

Top 10 Violations Cited

Standard	#Cited	#Insp	Description
1910.134	147	69	Respiratory Protection
1910.1200	85	40	Hazard Communication
1910.305	64	38	Electrical, Wiring Methods, Comp' & Equip'
1910.107	47	15	Spray Finishing Using Flammable and Comb. Materials
1910.303	47	35	Electrical Systems Design, General Rqmts
1910.212	45	37	Machines, General Requirements
1915.73	45	32	Guarding of Deck Openings & Edges
1910.106	31	21	Flammable and Combustible Liquids
1910.215	30	27	Abrasive Wheel Machinery
1910.213	29	18	Woodworking Machinery Requirements

Source: IMIS Database – FY 2005 (Federal Only)

Average Number of Employees per Establishment: 29.9

Percent small establishments: 78.1%

Some Potential Hazards and Their Sources

Hazard	Source
Respiratory hazards	Painting, asbestos, welding, cleaning, and torch cutting, etc.
Noise	Chipping, grinding, powered equipment such as air compressors and generators
Electrical hazards	Exposure to energized electrical components in wet or damp locations
Struck-by	Overhead loads on cranes, materials handling equipment
Falls	Unguarded openings and edges on decks, scaffolding
Confined spaces	Double-bottom tanks, wing tanks, fuel tanks, ballast tanks, and cofferdams

Average Case and Demographic Characteristics

Average cases per year, 1995 - 2000		8,031
Demographics of worker	Sex	88.1% men
	Age	33.0% ages 35-44 26.3% ages 25-34 20.6% ages 45-54
	Length of service with employer	30.2% more than 5 years 26.5% less than 1 year 26.1% 1-5 years
	Race/ethnic origin	50.8% white non-Hispanic 12.8% black non-Hispanic 5.1% Hispanic of any race
Characteristics of injury/illness	Days away from work	49.1% 1-5 days 28.8% 6-30 days 21.8% 31 or more days
	Nature of injury/illness	43.1% sprains/strains 19.8% "all other" natures 12.2% bruises/contusions
	Part of body affected	24.0% legs/knees/feet/toes 22.4% back 19.3% arms/wrists/hands/fingers 11.9% head
	Source of injury/illness	23.5% parts/materials 21.2% worker motion/position 15.7% "all other" sources 13.6% floors/ground surfaces
	Event or exposure	20.9% overexertion 17.3% "all other" events/exposure 14.0% struck by object

Source: OSHA Office of Statistical Analysis compilation of BLS data

Note: The percentages on this table do not sum to 100%. Only the most frequently coded characteristics are listed. The "All Other" category should not be interpreted as being all inclusive of the categories not listed above.

2003 BLS Industry Data for SIC 3730 – SHIP AND BOAT BUILDING AND REPAIRING

All Reported Cases	4160	
Nature of Illness or Injury	Number	% Total
Sprains, Strains	2000	48.1
Fractures	300	7.2
Cuts, Punctures	250	6.0
Bruises	440	10.6
Heat Burns	30	0.7
Chemical Burns	20	0.5
Amputations	20	0.5
Carpal Tunnel	120	2.9
Tendonitis	30	0.7
Mult Trauma Total	120	2.9
Mult Trauma With Fracture	20	0.5
Mult Trauma With Sprain	40	1.0
Back Pain Total	150	3.6
Back Pain Hurt Back Only	70	1.7
All Other	690	16.6
Part of Body Affected	Number	% Total
Head Total	380	9.1
Eyes	250	6.0
Neck	150	3.6
Trunk Total	1460	35.1
Trunk Back	900	21.6
Trunk Shoulder	240	5.8
Upper Extremities Total	730	17.5
Upper Extremities Finger	160	3.8
Upper Extremities Hand	90	2.2
Upper Extremities Wrist	220	5.3
Lower Extremities Total	1100	26.4
Lower Extremities Knee	630	15.1
Lower Extremities Foot Toe	190	4.6
Body Systems	60	1.4
Multiple Body Parts	270	6.5
All Other Body Parts	N/A	N/A
Source of Injury or Illness	Number	% Total
Chem And Chem Products	30	0.7
Containers	290	7.0
Furniture And Fixtures	110	2.6
Machinery	220	5.3
Parts And Materials	880	21.2
Worker Motion	890	21.4
Floors Walkways	660	15.9
Handtools	340	8.2
Vehicle	200	4.8
Health Care Patient	N/A	N/A

All Other Sources	540	13.0
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Sex	Number	% Total
Men	3780	90.9
Women	380	9.1
Sex Not Reported	N/A	N/A

Age	Number	% Total
Under 14	N/A	N/A
14 to 15	N/A	N/A
16 to 19	20	0.5
20 to 24	280	6.7
25 to 34	850	20.4
35 to 44	1130	27.2
45 to 54	1180	28.4
55 to 64	610	14.7
65 And Over	40	1.0
Not Reported	60	1.4

Race	Number	% Total
White Non Hispanic	1910	45.9
Black	480	11.5
Asian	N/A	N/A
American Indian or Alaskan Native	N/A	N/A
Hispanic or Latino and Others	N/A	N/A
Multirace	N/A	N/A
Race Not Reported	1310	31.5

Length of Service	Number	% Total
Less Than 3 Months	420	10.1
3 to 11 Months	690	16.6
1 to 5 years	1350	32.5
More Than 5 Years	1620	38.9
Service Not Reported	80	1.9

Days away from work	Number	% Total
1 Day	510	12.3
2 Days	410	9.9
3 to 5 Days	610	14.7
6 to 10 Days	390	9.4
11 to 20 Days	600	14.4
21 to 30 Days	330	7.9
31 Days Or More	1310	31.5
Median Days Away	13	N/A

Event/Exposure Leading to Injury	Number	% Total
Total Contact With Objects	1320	31.7
Struck By Object	570	13.7
Struck Against Object	500	12.0
Caught In Object	90	2.2
Fall to Lower Level	280	6.7
Fall On Same Level	320	7.7

Slips Or Trips	180	4.3
Overexertion Total	1020	24.5
Overexertion In Lifting	460	11.1
Repetitive Motion	220	5.3
Exposure to Harmful Substance	240	5.8
Transportation Accidents	N/A	N/A
Fires And Explosions	N/A	N/A
Total Assaults - Violent Acts	N/A	N/A
Assaults By Person	N/A	N/A
All Other Assaults	N/A	N/A
All Other Events	550	13.2

Photo Credits

- 1) Ship under construction – OSHA Region IX
- 2) Man cleaning tank on ship – OSHA Region IX
- 3) Man grinding deck of ship – OSHA Region IX