

Survey of Plant Capacity: 2002

Issued January 2004

MQ-C1(02)

Current Industrial Reports



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Introduction

SUMMARY OF 2002 SURVEY RESULTS

U.S. domestic manufacturing plants used an estimated 63 percent (± 1 percentage point) of their full production capacity for the fourth quarter of 2002 and 64 percent (± 1 percentage point) for the fourth quarter of 2001. The durable goods industries fourth quarter 2002 rate of 59 percent (± 1 percentage point) was significantly lower than the rate of 69 percent (± 1 percentage point) estimated for nondurable goods industries. Durable goods industries are manufacturing industries in which products have a normal life expectancy of 3 years or more. North American Industry Classification System (NAICS) subsectors 321, 327, 331, 332, 333, 334, 335, 336, 337, and 339 are considered durable goods industries. Nondurable goods industries are manufacturing industries in which products generally have a life expectancy of less than 3 years. NAICS subsectors 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, and 326 are nondurable goods industries.

The advanced processing industries fourth quarter rate of 61 percent (± 1 percentage point) was significantly lower than the rate of 68 percent (± 1 percentage point) estimated for primary processing industries. Primary processing industries are industries in which products are generally the first processed output of raw materials in the manufacturing process. NAICS subsectors 313, 314, 321, 322, 324, 326, 327, 331, and 323 are classified as the primary processing industries. Advanced processing industries are industries in which products are considered finished manufactured items. NAICS subsectors 311, 312, 315, 316, 323, 333, 334, 335, 336, 337, and 339 are advanced processing industries.

Among the major industries with the lowest utilization rates of their full production capacity in the fourth quarter of 2002 were computer and electronic product manufacturing (NAICS 334) at 52 percent and leather and allied product manufacturing (NAICS 316) at 54 percent. Among the industries with the highest utilization rates for 2002 were paper manufacturing (NAICS 322) at 81 percent and petroleum and coal products manufacturing (NAICS 324) at 80 percent. Full production capacity is broadly defined as the maximum level of production an establishment could attain under normal operating conditions. In this report, the full production utilization rate is a ratio of the actual level of operations to the full production level.

Industries with the lowest utilization rates of their national emergency production capacity in the fourth quarter of 2002 were leather and allied product manufacturing

(NAICS 316) at 27 percent and apparel manufacturing (NAICS 315) at 31 percent. Among the industries with the highest utilization rates of 2002 were paper manufacturing (NAICS 322) at 71 percent and petroleum and coal products manufacturing (NAICS 324) at 68 percent. National emergency production is broadly defined as the greatest level of production an establishment can expect to sustain for 1 year or more under national emergency conditions. The national emergency production utilization rate is a ratio of the actual level of operations to the national emergency production level.

Table 1a summarizes full production utilization rates and table 1b summarizes emergency production utilization rates, at three-, four-, five-, and six-digit NAICS industry levels, for fourth quarters 1998 through 2002. Table 2 shows both full and emergency production utilization rates, standard errors, and the standard error of the change in utilization rates from 2001 to 2002 at the three-, four-, five-, and six-digit NAICS industry levels, for fourth quarters 2001 and 2002. Estimates are subject to sampling variability and nonsampling error. The range at which estimates are tested in this report is at the 90-percent confidence level. Appendix A contains reproductions of the survey form and instructions; Appendix B describes the qualification of the data; and Appendix C contains a description of the survey sample and estimating procedure.

INDUSTRIAL CLASSIFICATION

The industrial classification definitions are based on the 1997 edition of the North American Industry Classification System (NAICS) Manual published by the Office of Management and Budget. Prior to 1999, industrial classification definitions were based on the 1987 Standard Industrial Classification (SIC) Manual.

SURVEY DESCRIPTION

Data are obtained from manufacturing establishments by means of a mailed questionnaire. Respondents are asked to report their actual production, full production, and national emergency production levels of operation for the fourth quarter of the year in terms of value of production. From these reported dollar values, utilization rates for full production and national emergency production are derived. Year-to-year changes in these rates are affected by changes in the estimated capacity of industrial plants

due to factors such as capital expenditures, capital retirements, changes in the workforce, changes in prices, changes in product mix, and changes in respondents' estimates of productivity.

Final estimates are based on information collected from a sample of approximately 17,300 manufacturing and publishing establishments. Estimates in this release are based on response from approximately 77 percent of the survey panel.

LIMITATIONS OF THE DATA

For the following reasons, caution should be used when comparing 1998 rates with the 1999 through 2002 rates:

- The sample of plants used for 1998 was originally selected to represent SIC industries. These plants were tabulated on a NAICS basis.
- A new sampling methodology was used in 1999. See Appendix C.

- A new imputation methodology was used in 1999. See Appendix C.
- Plants used to create 1998 SIC estimates in prior publications were classified based on the 1992 Economic Census. For this publication, those plants have been reclassified using the more current 1997 Economic Census.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols appear frequently in the tables:

- | | |
|--------------|---|
| – | Represents zero. |
| (D) | Withheld to avoid disclosing data for individual companies. |
| (NA) | Not available. |
| NAICS | North American Industry Classification System. |
| ^a | Data cells with a level of imputation exceeding 50 percent. |

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
31-33	Manufacturing¹	63	64	71	74	73
	Durable goods industries¹	59	61	70	72	72
	Nondurable goods industries¹	69	70	73	76	73
	Advanced processing industries¹	61	63	70	72	71
	Primary processing industries¹	68	68	73	77	76
311	Food mfg	73	72	73	74	74
3111	Animal food mfg	73	69	76	79	71
31111	Animal food mfg	73	69	76	79	71
311111	Dog & cat food mfg	80	75	76	77	77
311119	Other animal food mfg	68	63	76	80	67
3112	Grain & oilseed milling	79	79	76	76	83
31121	Flour milling & malt mfg	78	77	77	78	77
311211	Flour milling	79	75	72	75	75
311212	Rice milling	74	89	95	92	80
311213	Malt mfg	75	75	82	74	87
31122	Starch & vegetable fats & oils mfg	91	89	87	84	84
311221	Wet corn milling	93	94	91	91	86
311222	Soybean processing	96	92	96	85	90
311223	Other oilseed processing	70	80	69	80	86
311225	Fats & oils refining & blending	84	81	^a 75	72	75
31123	Breakfast cereal mfg	^a 72	73	69	70	85
311230	Breakfast cereal mfg	^a 72	73	69	70	85
3113	Sugar & confectionery product mfg	69	71	74	72	71
31131	Sugar mfg	93	90	91	92	84
311311	Sugarcane mills	93	98	97	98	84
311312	Cane sugar refining	^a 79	^a 76	80	85	77
311313	Beet sugar mfg	97	97	95	92	90
31132	Chocolate & confectionery mfg from cacao beans	81	76	78	75	74
311320	Chocolate & confectionery mfg from cacao beans	81	76	78	75	74
31133	Confectionery mfg from purchased chocolate	63	65	66	64	67
311330	Confectionery mfg from purchased chocolate	63	65	66	64	67
31134	Nonchocolate confectionery mfg	63	70	77	74	67
311340	Nonchocolate confectionery mfg	63	70	77	74	67
3114	Fruit & vegetable preserving & specialty food mfg	64	63	65	69	76
31141	Frozen food mfg	77	77	82	82	83
311411	Frozen fruit, juice, & vegetable mfg	79	81	79	82	83
311412	Frozen specialty food mfg	76	74	84	82	83
31142	Fruit & vegetable canning, pickling, & drying	57	55	57	61	72
311421	Fruit & vegetable canning	51	52	54	59	66
311422	Specialty canning	66	63	^a 60	61	82
311423	Dried & dehydrated food mfg	68	50	60	74	69
3115	Dairy product mfg	77	78	77	78	78
31151	Dairy product (except frozen) mfg	78	78	78	79	81
311511	Fluid milk mfg	82	82	81	82	76
311512	Creamery butter mfg	72	71	79	81	89
311513	Cheese mfg	81	80	77	78	90
311514	Dry, condensed, & evaporated dairy product mfg	69	71	74	75	78
31152	Ice cream & frozen dessert mfg	69	79	72	69	65
311520	Ice cream & frozen dessert mfg	69	79	72	69	65
3116	Meat product mfg	83	83	85	85	83
31161	Animal slaughtering & processing	83	83	85	85	83
311611	Animal (except poultry) slaughtering	88	88	87	88	79
311612	Meat processed from carcasses	77	77	76	78	79
311613	Rendering & meat byproduct processing	76	75	^a 77	^a 82	86
311615	Poultry processing	86	86	91	90	88
3117	Seafood product preparation & packaging	56	60	61	62	51
31171	Seafood product preparation & packaging	56	60	61	62	51
311711	Seafood canning	64	64	79	66	^a 56
311712	Fresh & frozen seafood processing	55	60	58	61	51
3118	Bakeries & tortilla mfg	73	69	71	73	74
31181	Bread & bakery product mfg	76	68	71	76	75
311811	Retail bakeries	^a 65	66	64	74	81
311812	Commercial bakeries	76	68	72	76	74
311813	Frozen cakes, pies, & other pastries mfg	78	79	73	76	76
31182	Cookie, cracker, & pasta mfg	68	69	69	67	71
311821	Cookie & cracker mfg	66	69	67	63	70
311822	Flour mixes & dough mfg from purchased flour	72	72	76	80	79
311823	Dry pasta mfg	77	68	67	70	^a 64
31183	Tortilla mfg	79	76	77	78	(NA)
311830	Tortilla mfg	79	76	77	78	(NA)
3119	Other food mfg	73	71	68	68	63
31191	Snack food mfg	80	77	78	^a 76	72
311911	Roasted nuts & peanut butter mfg	76	71	70	82	72
311919	Other snack food mfg	81	78	80	^a 74	72
31192	Coffee & tea mfg	71	71	77	77	59
311920	Coffee & tea mfg	71	71	77	77	59
31193	Flavoring syrup & concentrate mfg	70	69	63	61	53
311930	Flavoring syrup & concentrate mfg	70	69	63	61	53
31194	Seasoning & dressing mfg	67	64	58	61	67
311941	Mayonnaise, dressing, & other prepared sauce mfg	74	69	61	58	70
311942	Spice & extract mfg	62	59	56	65	64
31199	All other food mfg	71	71	68	68	63
311991	Perishable prepared food mfg	67	66	67	67	51
311999	All other miscellaneous food mfg	72	73	69	68	68

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
312	Beverage & tobacco product mfg	65	68	71	75	71
3121	Beverage mfg	65	66	68	70	68
31211	Soft drink & ice mfg	57	56	61	63	59
312111	Soft drink mfg	60	58	62	64	61
312112	Bottled water mfg	50	51	49	56	45
312113	Ice mfg	23	27	40	^{a40}	43
31212	Breweries	81	82	82	85	82
312120	Breweries	81	82	82	85	82
31213	Wineries	66	69	65	71	79
312130	Wineries	66	69	65	71	79
31214	Distilleries	66	68	65	55	63
312140	Distilleries	66	68	65	55	63
3122	Tobacco mfg	65	69	73	81	73
31221	Tobacco stemming & redrying	59	75	81	77	77
312210	Tobacco stemming & redrying	59	75	81	77	77
31222	Tobacco product mfg	65	69	73	81	73
312221	Cigarette mfg	65	70	73	82	71
312229	Other tobacco product mfg	66	60	66	73	92
313	Textile mills	66	68	77	80	74
3131	Fiber, yarn, & thread mills	74	69	80	82	79
31311	Fiber, yarn, & thread mills	74	69	80	82	79
313111	Yarn spinning mills	78	70	82	83	80
313112	Yarn texturing, throwing, & twisting mills	69	68	74	79	76
313113	Thread mills	66	69	82	85	(D)
3132	Fabric mills	65	70	78	81	76
31321	Broadwoven fabric mills	66	72	84	85	80
313210	Broadwoven fabric mills	66	72	84	85	80
31322	Narrow fabric mills & schiffli machine embroidery	68	63	70	75	74
313221	Narrow fabric mills	69	63	70	77	74
313222	Schiffli machine embroidery	66	62	71	69	73
31323	Nonwoven fabric mills	62	74	74	83	79
313230	Nonwoven fabric mills	62	74	74	83	79
31324	Knit fabric mills	63	61	68	71	63
313241	Weft knit fabric mills	71	60	69	73	55
313249	Other knit fabric & lace mills	59	63	67	69	73
3133	Textile & fabric finishing & fabric coating mills	64	64	72	76	69
31331	Textile & fabric finishing mills	65	65	74	77	69
313311	Broadwoven fabric finishing mills	71	67	74	79	68
313312	Textile & fabric finishing mills	55	^{a59}	74	74	74
31332	Fabric coating mills	59	58	62	67	64
313320	Fabric coating mills	59	58	62	67	64
314	Textile product mills	66	70	71	76	76
3141	Textile furnishings mills	73	78	79	83	76
31411	Carpet & rug mills	75	77	79	83	71
314110	Carpet & rug mills	75	77	79	83	71
31412	Curtain & linen mills	72	79	79	82	84
314121	Curtain & drapery mills	77	76	74	74	76
314129	Other household textile product mills	70	80	81	87	88
3149	Other textile product mills	57	61	62	66	75
31491	Textile bag & canvas mills	61	61	60	60	62
314911	Textile bag mills	67	60	54	53	58
314912	Canvas & related product mills	59	61	65	65	65
31499	All other textile product mills	55	61	62	69	82
314991	Rope, cordage, & twine mills	61	^{a56}	^{a66}	61	69
314992	Tire cord & tire fabric mills	83	80	83	89	85
314999	All other miscellaneous textile product mills	53	60	60	68	83
315	Apparel mfg	72	69	75	77	69
3151	Apparel knitting mills	78	78	78	84	73
31511	Hosiery & sock mills	78	77	78	81	78
315111	Sheer hosiery mills	77	67	69	78	78
315119	Other hosiery & sock mills	78	81	83	83	78
31519	Other apparel knitting mills	^{a77}	80	77	86	69
315191	Outerwear knitting mills	^{a75}	78	76	90	68
315192	Underwear & nightwear knitting mills	^{a91}	^{a88}	82	72	73
3152	Cut & sew apparel mfg	^{a72}	^{a68}	^{a75}	^{a76}	68
31521	Cut & sew apparel contractors	69	71	^{a66}	78	75
315211	Men's & boys' cut & sew apparel contractors	75	^{a77}	^{a76}	75	89
315212	Women's, girls', & infants' cut & sew apparel contractors	66	68	^{a63}	^{a79}	70
31522	Men's & boys' cut & sew apparel mfg	75	71	^{a80}	^{a81}	74
315221	Men's & boys' cut & sew underwear & nightwear mfg	^{a60}	^{a54}	^{a70}	^{a69}	^{a72}
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	^{a60}	71	^{a76}	83	72
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	^{a73}	65	^{a72}	69	^{a73}
315224	Men's & boys' cut & sew trouser, slack, & jean mfg	80	76	^{a91}	^{a91}	72
315225	Men's & boys' cut & sew work clothing mfg	88	89	88	86	86
315228	Men's & boys' cut & sew other outerwear mfg	77	^{a75}	^{a76}	79	74
31523	Women's & girls' cut & sew apparel mfg	^{a70}	^{a65}	^{a73}	^{a73}	^{a63}
315231	Women's & girls' cut/ sew lingerie & nightwear mfg	^{a63}	53	73	73	66
315232	Women's & girls' cut & sew blouse & shirt mfg	83	^{a78}	^{a82}	^{a97}	62
315233	Women's & girls' cut & sew dress mfg	^{a58}	^{a49}	^{a64}	^{a55}	^{a68}
315234	Women's & girls' cut & sew suit, coat, skirt mfg	^{a61}	^{a75}	^{a73}	^{a40}	^{a65}
315239	Women's & girls' cut & sew other outerwear mfg	^{a78}	^{a76}	^{a76}	^{a98}	66
31529	Other cut & sew apparel	^{a78}	74	75	68	61
315291	Infants' cut & sew apparel mfg	(NA)	^{a91}	^{a85}	79	72
315292	Fur & leather apparel mfg	^{a61}	^{a68}	68	^{a71}	66
315299	All other cut & sew apparel mfg	^{a60}	68	69	61	55
3159	Apparel accessories & other apparel mfg	64	^{a62}	70	72	69
31599	Apparel accessories & other apparel mfg	64	^{a62}	70	72	69
315991	Hat, cap, & millinery mfg	59	^{a59}	72	71	68
315992	Glove & mitten mfg	^{a51}	56	77	73	64
315993	Men's & boys' neckwear mfg	76	70	69	77	74
315999	Other apparel accessories & other apparel mfg	68	64	68	71	71

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
316	Leather & allied product mfg	54	56	65	72	69
3161	Leather & hide tanning & finishing	63	^{a57}	70	74	72
31611	Leather & hide tanning & finishing	63	^{a57}	70	74	72
316110	Leather & hide tanning & finishing	63	^{a57}	70	74	72
3162	Footwear mfg	^{a48}	^{a56}	64	67	70
31621	Footwear mfg	^{a48}	^{a56}	64	67	70
316211	Rubber & plastics footwear mfg	^{a41}	^{a55}	65	72	74
316212	House slipper mfg	57	62	69	64	61
316213	Men's footwear (except athletic) mfg	61	61	59	67	67
316214	Women's footwear (except athletic) mfg	^{a26}	^{a37}	^{a70}	54	72
316219	Other footwear mfg	^{a79}	^{a69}	^{a74}	83	74
3169	Other leather & allied product mfg	56	54	63	^{a76}	^{a66}
31699	Other leather & allied product mfg	56	54	63	^{a76}	^{a66}
316991	Luggage mfg	48	45	53	^{a71}	^{a68}
316992	Women's handbag & purse mfg	62	^{a77}	80	^{a80}	^{a68}
316993	Personal leather good (except women's handbag & purse) mfg	^{a55}	^{a53}	86	79	^{a66}
316999	All other leather good mfg	78	79	81	84	63
321	Wood product mfg	67	66	69	75	74
3211	Sawmills & wood preservation	75	69	74	81	71
32111	Sawmills & wood preservation	75	69	74	81	71
321113	Sawmills	75	70	75	81	72
321114	Wood preservation	71	64	64	73	60
3212	Veneer, plywood, & engineered wood product mfg	66	66	75	81	83
32121	Veneer, plywood, & engineered wood product mfg	66	66	75	81	83
321211	Hardwood veneer & plywood mfg	67	62	75	83	80
321212	Softwood veneer & plywood mfg	86	84	81	83	97
321213	Engineered wood member (except truss) mfg	64	63	73	73	81
321214	Truss mfg	54	55	71	84	74
321219	Reconstituted wood product mfg	72	69	76	79	84
3219	Other wood product mfg	65	65	64	70	72
32191	Millwork	73	73	70	73	72
321911	Wood window & door mfg	72	74	76	78	78
321912	Cut stock, resawing lumber, & planing	77	77	70	70	88
321918	Other millwork (including flooring)	73	68	60	67	53
32192	Wood container & pallet mfg	59	57	67	69	79
321920	Wood container & pallet mfg	59	57	67	69	79
32199	All other wood product mfg	58	59	59	68	70
321991	Manufactured home (mobile home) mfg	54	58	54	69	73
321992	Prefabricated wood building mfg	65	56	61	59	70
321999	All other miscellaneous wood product mfg	59	64	70	72	64
322	Paper mfg	81	76	79	83	83
3221	Pulp, paper, & paperboard mills	90	83	87	91	92
32211	Pulp mills	87	90	88	91	91
322110	Pulp mills	87	90	88	91	91
32212	Paper mills	89	81	87	90	93
322121	Paper (except newsprint) mills	90	80	86	89	92
322122	Newsprint mills	86	88	96	97	(D)
32213	Paperboard mills	93	87	87	93	90
322130	Paperboard mills	93	87	87	93	90
3222	Converted paper product mfg	73	70	73	76	76
32221	Paperboard container mfg	74	69	73	75	78
322211	Corrugated & solid fiber box mfg	78	70	75	77	80
322212	Folding paperboard box mfg	79	73	70	72	79
322213	Setup paperboard box mfg	68	69	74	72	66
322214	Fiber can, tube, drum, & similar products mfg	^{a44}	51	63	71	67
322215	Nonfolding sanitary food container mfg	69	71	78	77	72
32222	Paper bag & coated & treated paper mfg	71	73	74	76	74
322221	Coated & laminated packaging paper & plastics film mfg	65	61	64	68	74
322222	Coated & laminated packaging paper & plastics film mfg	69	72	73	78	73
322223	Plastics, foil, & coated paper bag mfg	73	71	69	56	(D)
322224	Uncoated paper & multiwall bag mfg	79	79	82	77	73
322225	Laminated aluminum foil mfg for flexible packaging uses	81	82	81	82	76
322226	Surface-coated paperboard mfg	84	82	75	74	79
32223	Stationery product mfg	65	66	65	68	69
322231	Die-cut paper & paperboard office supplies mfg	79	76	75	77	75
322232	Envelope mfg	75	69	76	79	77
322233	Stationery, tablet, & related product mfg	44	55	^{a47}	49	54
32229	Other converted paper product mfg	76	70	77	83	80
322291	Sanitary paper product mfg	79	76	85	88	85
322299	All other converted paper product mfg	73	63	65	72	67
323	Printing & related support activities	69	71	75	76	74
3231	Printing & related support activities	69	71	75	76	74
32311	Printing	69	71	75	76	74
323110	Commercial lithographic printing	72	76	81	80	76
323111	Commercial gravure printing	84	78	83	82	82
323112	Commercial flexographic printing	74	70	75	79	82
323113	Commercial screen printing	^{a57}	63	63	69	70
323114	Quick printing	69	66	68	73	84
323115	Digital printing	^{a71}	70	63	65	77
323116	Manifold business form printing	64	68	68	67	71
323117	Book printing	64	58	69	72	66
323118	Blankbook, looseleaf binder, & device mfg	58	52	56	75	71
323119	Other commercial printing	70	71	68	77	68
32312	Support activities for printing	69	68	72	76	71
323121	Tradebinding & related work	66	65	72	74	68
323122	Prepress services	71	69	72	77	73

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
324	Petroleum & coal products mfg	80	80	83	81	78
3241	Petroleum & coal products mfg	80	80	83	81	78
32411	Petroleum refineries	91	91	94	93	91
324110	Petroleum refineries	91	91	94	93	91
32412	Asphalt paving, roofing, & saturated materials mfg	43	44	48	55	49
324121	Asphalt paving mixture & block mfg	32	31	36	44	39
324122	Asphalt shingle & coating materials mfg	66	72	^a 69	^a 73	72
32419	Other petroleum & coal products mfg	59	57	67	67	65
324191	Petroleum lubricating oil & grease mfg	59	57	63	64	61
324199	All other petroleum & coal products mfg	60	58	85	86	81
325	Chemical mfg	63	68	71	76	70
3251	Basic chemical mfg	72	69	76	82	80
32511	Petrochemical mfg	75	77	92	92	96
325110	Petrochemical mfg	75	77	92	92	96
32512	Industrial gas mfg	75	67	^a 79	79	82
325120	Industrial gas mfg	75	67	^a 79	79	82
32513	Dye & pigment mfg	81	71	78	81	85
325131	Inorganic dye & pigment mfg	86	78	87	90	90
325132	Synthetic organic dye & pigment mfg	76	64	69	70	79
32518	Other basic inorganic chemical mfg	64	66	68	74	73
325181	Alkalies & chlorine mfg	76	70	78	85	79
325182	Carbon black mfg	^a 78	74	84	92	92
325188	All other basic inorganic chemical mfg	62	65	67	72	72
32519	Other basic organic chemical mfg	76	69	81	87	82
325191	Gum & wood chemical mfg	80	78	81	74	86
325192	Cyclic crude & intermediate mfg	^a 83	^a 72	77	77	66
325193	Ethyl alcohol mfg	86	90	85	85	(D)
325199	All other basic organic chemical mfg	75	67	81	88	84
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg	75	72	79	87	80
32521	Resin & synthetic rubber mfg	75	72	79	87	80
325211	Plastics material & resin mfg	79	77	82	89	81
325212	Synthetic rubber mfg	54	51	65	72	73
32522	Artificial & synthetic fibers & filaments mfg	77	72	81	88	82
325221	Cellulosic organic fiber mfg	84	78	^a 80	^a 70	71
325222	Noncellulosic organic fiber mfg	76	72	81	90	83
3253	Pesticide, fertilizer, & other agricultural chemical mfg	60	69	76	72	77
32531	Fertilizer mfg	66	74	77	85	87
325311	Nitrogenous fertilizer mfg	86	89	81	93	95
325312	Phosphatic fertilizer mfg	83	94	89	89	94
325314	Fertilizer (mixing only) mfg	45	51	^a 62	^a 70	67
32532	Pesticide & other agricultural chemical mfg	57	66	76	65	72
325320	Pesticide & other agricultural chemical mfg	57	66	76	65	72
3254	Pharmaceutical & medicine mfg	58	70	69	77	64
32541	Pharmaceutical & medicine mfg	58	70	69	77	64
325411	Medicinal & botanical mfg	80	88	^a 85	^a 85	71
325412	Pharmaceutical preparation mfg	54	66	66	75	63
325413	In-vitro diagnostic substance mfg	^a 84	^a 85	^a 81	^a 89	^a 66
325414	Biological product (except diagnostic) mfg	72	86	76	77	66
3255	Paint, coating, & adhesive mfg	58	56	63	66	60
32551	Paint & coating mfg	61	55	64	69	59
325510	Paint & coating mfg	61	55	64	69	59
32552	Adhesive mfg	53	57	61	59	63
325520	Adhesive mfg	53	57	61	59	63
3256	Soap, cleaning compound, & toilet preparation mfg	67	64	62	68	61
32561	Soap & cleaning compound mfg	66	67	64	71	59
325611	Soap & other detergent mfg	66	66	68	69	56
325612	Polish & other sanitation good mfg	61	66	53	66	56
325613	Surface active agent mfg	76	75	76	84	73
32562	Toilet preparation mfg	68	62	61	64	63
325620	Toilet preparation mfg	68	62	61	64	63
3259	Other chemical product mfg	66	64	71	75	76
32591	Printing ink mfg	60	60	^a 59	64	71
325910	Printing ink mfg	60	60	^a 59	64	71
32592	Explosives mfg	69	71	68	63	63
325920	Explosives mfg	69	71	68	63	63
32599	All other chemical product & preparation mfg	67	65	72	77	77
325991	Custom compounding of purchased resin	69	66	73	80	64
325992	Photographic film, paper, plate, & chemical mfg	69	65	80	85	81
325998	All other miscellaneous chemical product & preparation mfg	63	64	66	70	81
326	Plastics & rubber products mfg	68	66	71	76	76
3261	Plastics product mfg	66	65	69	74	74
32611	Unsupported plastics film, sheet, & bag mfg	70	67	74	78	78
326111	Unsupported plastics bag mfg	65	69	^a 70	78	83
326112	Unsupported plastics packaging film & sheet mfg	70	70	73	78	82
326113	Unsupported plastics film & sheet (except packaging) mfg	73	66	77	79	75
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg	69	66	74	81	81
326121	Unsupported plastics profile shape mfg	69	69	75	76	82
326122	Plastics pipe & pipe fitting mfg	69	64	72	88	80
32613	Laminated plastics plate, sheet, & shape mfg	62	64	59	63	83
326130	Laminated plastics plate, sheet, & shape mfg	62	64	59	63	83
32614	Polystyrene foam product mfg	78	76	80	79	77
326140	Polystyrene foam product mfg	78	76	80	79	77
32615	Urethane & other foam product (except polystyrene) mfg	71	66	67	68	68
326150	Urethane & other foam product (except polystyrene) mfg	71	66	67	68	68
32616	Plastics bottle mfg	79	67	75	77	73
326160	Plastics bottle mfg	79	67	75	77	73
32619	Other plastics product mfg	63	63	66	73	73
326191	Plastics plumbing fixture mfg	54	57	61	63	73
326192	Resilient floor covering mfg	62	69	71	73	68
326199	All other plastics product mfg	63	64	66	73	73

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
326	Plastics & rubber products mfg—Con.					
3262	Rubber product mfg	74	72	79	84	81
32621	Tire mfg	85	81	87	93	89
326211	Tire mfg (except retreading)	87	82	88	95	90
326212	Tire retreading	61	67	67	68	72
32622	Rubber & plastics hoses & belting mfg	61	66	72	75	76
326220	Rubber & plastics hoses & belting mfg	61	66	72	75	76
32629	Other rubber product mfg	70	67	75	79	76
326291	Rubber product mfg for mechanical use	74	68	77	81	78
326299	All other rubber product mfg	66	67	73	78	75
327	Nonmetallic mineral product mfg	66	66	70	76	75
3271	Clay product & refractory mfg	70	69	74	75	73
32711	Pottery, ceramics, & plumbing fixture mfg	66	68	78	76	71
327111	Vitreous china plumbing fixture & bathroom accessories mfg	92	82	89	90	89
327112	Vitreous china, fine earthenware, & other pottery product mfg	58	64	74	71	73
327113	Porcelain electrical supply mfg	59	60	73	71	57
32712	Clay building material & refractories mfg	74	70	71	73	74
327121	Brick & structural clay tile mfg	88	88	89	89	94
327122	Ceramic wall & floor tile mfg	65	62	63	70	76
327123	Other structural clay product mfg	85	77	79	70	73
327124	Clay refractory mfg	64	52	53	66	55
327125	Nonclay refractory mfg	^a 67	69	70	66	71
3272	Glass & glass product mfg	73	65	80	85	79
32721	Glass & glass product mfg	73	65	80	85	79
327211	Flat glass mfg	79	76	82	89	88
327212	Other pressed & blown glass & glassware mfg	68	57	78	82	84
327213	Glass container mfg	95	94	92	91	95
327215	Glass product mfg made of purchased glass	68	59	76	84	67
3273	Cement & concrete product mfg	59	63	62	70	73
32731	Cement mfg	84	83	84	87	95
327310	Cement mfg	84	83	84	87	95
32732	Ready-mix concrete mfg	47	52	50	62	65
327320	Ready-mix concrete mfg	47	52	50	62	65
32733	Concrete pipe, brick, & block mfg	77	71	72	71	73
327331	Concrete block & brick mfg	79	73	75	75	69
327332	Concrete pipe mfg	75	70	68	66	77
32739	Other concrete product mfg	63	71	73	75	73
327390	Other concrete product mfg	63	71	73	75	73
3274	Lime & gypsum product mfg	76	76	83	87	89
32741	Lime mfg	75	71	72	74	71
327410	Lime mfg	75	71	72	74	71
32742	Gypsum product mfg	77	77	86	92	96
327420	Gypsum product mfg	77	77	86	92	96
3279	Other nonmetallic mineral product mfg	71	71	71	76	74
32791	Abrasive product mfg	67	66	62	67	67
327910	Abrasive product mfg	67	66	62	67	67
32799	All other nonmetallic mineral product mfg	73	74	77	82	77
327991	Cut stone & stone product mfg	69	76	60	67	^a 68
327992	Ground or treated mineral & earth mfg	70	59	82	88	70
327993	Mineral wool mfg	85	86	83	88	93
327999	All other miscellaneous nonmetallic mineral product mfg	59	70	73	73	66
331	Primary metal mfg	71	70	74	81	78
3311	Iron & steel mills & ferroalloy mfg	88	79	74	89	79
33111	Iron & steel mills & ferroalloy mfg	88	79	74	89	79
331111	Iron & steel mills	89	79	74	90	79
331112	Electrometallurgical ferroalloy product mfg	77	68	71	85	76
3312	Steel product mfg from purchased steel	65	61	70	78	74
33121	Iron & steel pipes & tubes mfg from purchased steel	65	63	69	76	71
331210	Iron & steel pipes & tubes mfg from purchased steel	65	63	69	76	71
33122	Rolling & drawing of purchased steel	66	59	72	79	77
331221	Cold-rolled steel shape mfg	66	53	68	76	71
331222	Steel wire drawing	66	66	75	82	83
3313	Alumina & aluminum production & processing	74	^a 70	79	85	84
33131	Alumina & aluminum production & processing	74	^a 70	79	85	84
331311	Alumina refining	^a 79	^a 84	^a 72	71	83
331312	Primary aluminum production	^a 70	^a 64	79	86	87
331314	Secondary smelting & alloying of aluminum	75	74	74	85	89
331315	Aluminum sheet, plate, & foil mfg	^a 87	^a 75	83	89	85
331316	Aluminum extruded product mfg	66	67	76	81	82
331319	Other aluminum rolling & drawing	65	59	74	80	71
3314	Nonferrous metal (except aluminum) production & processing	67	71	79	77	76
33141	Nonferrous metal (except aluminum) smelting & refining	73	73	81	78	74
331411	Primary smelting & refining of copper	68	73	77	81	93
331419	Other nonferrous metal primary smelting & refining	78	73	83	76	66
33142	Copper rolling, drawing, extruding, & alloying	76	74	86	89	86
331421	Copper rolling, drawing, & extruding	78	73	86	91	88
331422	Copper wire (except mechanical) drawing	80	82	89	93	84
331423	Secondary smelting, refining, & alloying of copper	^a 60	^a 67	79	72	^a 77
33149	Other nonferrous metal rolling, drawing, extruding, & alloying	60	69	73	70	70
331491	Other nonferrous metal rolling, drawing, & extruding	61	71	74	70	70
331492	Other nonferrous metal secondary smelting, refining, & alloying	^a 56	64	71	69	72
3315	Foundries	63	64	72	74	76
33151	Ferrous metal foundries	62	65	72	72	77
331511	Iron foundries	65	68	75	76	79
331512	Steel investment foundries	54	64	68	66	74
331513	Steel foundries (except investment)	58	55	66	66	76
33152	Nonferrous metal foundries	65	62	71	76	73
331521	Aluminum die-casting foundries	67	65	74	81	73
331522	Nonferrous (except aluminum) die-casting foundries	61	59	69	73	71
331524	Aluminum foundries (except die-casting)	64	62	70	75	74
331525	Copper foundries (except die-casting)	58	56	64	69	69
331528	Other nonferrous foundries (except die-casting)	75	^a 75	78	79	76

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
332	Fabricated metal product mfg	59	60	68	70	70
3321	Forging & stamping	56	57	65	68	68
33211	Forging & stamping	56	57	65	68	68
332111	Iron & steel forging	57	57	66	67	73
332112	Nonferrous forging	60	65	65	72	75
332114	Custom roll forming	53	54	60	64	67
332115	Crown & closure mfg	53	57	67	69	73
332116	Metal stamping	55	57	64	67	66
332117	Powder metallurgy part mfg	68	66	77	81	61
3322	Cutlery & handtool mfg	62	63	71	73	71
33221	Cutlery & handtool mfg	62	63	71	73	71
332211	Cutlery & flatware (except precious) mfg	65	57	72	74	88
332212	Hand & edge tool mfg	58	63	71	72	68
332213	Saw blade & handsaw mfg	72	69	75	75	70
332214	Kitchen utensil, pot, & pan mfg	67	63	64	71	64
3323	Architectural & structural metals mfg	57	60	65	67	67
33231	Plate work & fabricated structural product mfg	58	65	68	73	70
332311	Prefabricated metal building & component mfg	60	64	69	71	71
332312	Fabricated structural metal mfg	58	67	69	76	70
332313	Plate work mfg	53	58	64	63	69
33232	Ornamental & architectural metal products mfg	56	58	63	64	66
332321	Metal window & door mfg	60	58	60	63	65
332322	Sheet metal work mfg	53	56	65	64	65
332323	Ornamental & architectural metal work mfg	59	61	66	65	74
3324	Boiler, tank, & shipping container mfg	64	66	70	71	73
33241	Power boiler & heat exchanger mfg	54	60	60	63	73
332410	Power boiler & heat exchanger mfg	54	60	60	63	73
33242	Metal tank (heavy gauge) mfg	58	57	63	66	68
332420	Metal tank (heavy gauge) mfg	58	57	63	66	68
33243	Metal can, box, & other metal container (light gauge) mfg	75	74	79	79	76
332431	Metal can mfg	77	76	84	84	82
332439	Other metal container mfg	66	68	65	66	62
3325	Hardware mfg	67	69	73	74	69
33251	Hardware mfg	67	69	73	74	69
332510	Hardware mfg	67	69	73	74	69
3326	Spring & wire product mfg	65	62	69	73	72
33261	Spring & wire product mfg	65	62	69	73	72
332611	Spring (heavy gauge) mfg	71	66	67	70	61
332612	Spring (light gauge) mfg	64	61	67	72	76
332618	Other fabricated wire product mfg	65	62	70	74	73
3327	Machine shops, turned product, & screw, nut, & bolt mfg	53	53	66	70	73
33271	Machine shops	50	51	66	71	72
332710	Machine shops	50	51	66	71	72
33272	Turned product & screw, nut, & bolt mfg	59	59	67	70	73
332721	Precision turned product mfg	54	55	64	67	69
332722	Bolt, nut, screw, rivet, & washer mfg	65	65	70	73	78
3328	Coating, engraving, heat treating, & allied activities	61	63	71	74	71
33281	Coating, engraving, heat treating, & allied activities	61	63	71	74	71
332811	Metal heat treating	65	65	87	80	74
332812	Metal coating/engraving (exc jewelry/silverware)/allied services	71	71	69	73	74
332813	Electroplating, plating, polishing, anodizing, & coloring	52	55	66	71	67
3329	Other fabricated metal product mfg	64	65	70	71	72
33291	Metal valve mfg	64	64	68	68	71
332911	Industrial valve mfg	63	63	65	67	72
332912	Fluid power valve & hose fitting mfg	64	65	71	68	72
332913	Plumbing fixture fitting & trim mfg	66	67	69	69	68
332919	Other metal valve & pipe fitting mfg	62	62	70	74	69
33299	All other fabricated metal product mfg	64	66	71	74	72
332991	Ball & roller bearing mfg	68	69	73	80	78
332992	Small arms ammunition mfg	69	66	64	69	58
332993	Ammunition (except small arms) mfg	52	65	55	59	45
332994	Small arms mfg	72	66	76	77	74
332995	Other ordnance & accessories mfg	67	69	66	66	58
332996	Fabricated pipe & pipe fitting mfg	63	67	70	69	71
332997	Industrial pattern mfg	69	61	71	77	72
332998	Enameled iron & metal sanitary ware mfg	68	81	88	90	82
332999	All other miscellaneous fabricated metal product mfg	62	62	72	73	77
333	Machinery mfg	57	54	66	66	69
3331	Agriculture, construction, & mining machinery mfg	55	58	64	62	71
33311	Agricultural implement mfg	52	53	66	59	65
333111	Farm machinery & equipment mfg	53	54	66	56	66
333112	Lawn & garden tractor & home lawn & garden equipment mfg	50	51	65	71	63
33312	Construction machinery mfg	57	62	66	66	78
333120	Construction machinery mfg	57	62	66	66	78
33313	Mining & oil & gas field machinery mfg	54	61	59	60	72
333131	Mining machinery & equipment mfg	53	59	57	64	70
333132	Oil & gas field machinery & equipment mfg	54	62	60	59	72
3332	Industrial machinery mfg	51	45	71	65	66
33321	Sawmill & woodworking machinery mfg	49	53	63	68	68
333210	Sawmill & woodworking machinery mfg	49	53	63	68	68
33322	Plastics & rubber industry machinery mfg	56	60	72	75	71
333220	Plastics & rubber industry machinery mfg	56	60	72	75	71
33329	Other industrial machinery mfg	50	44	71	63	66
333291	Paper industry machinery mfg	62	58	64	60	^{a70}
333292	Textile machinery mfg	^{a57}	^{a51}	^{a62}	56	62
333293	Printing machinery & equipment mfg	58	55	69	67	69
333294	Food product machinery mfg	52	62	67	72	70
333295	Semiconductor machinery mfg	44	36	^{a80}	^{a59}	^{a58}
333298	All other industrial machinery mfg	54	58	66	68	72

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
333	Machinery mfg—Con.					
3333	Commercial & service industry machinery mfg	55	54	62	66	69
33331	Commercial & service industry machinery mfg	55	54	62	66	69
333311	Automatic vending machine mfg	41	^{a40}	60	64	72
333312	Commercial laundry, drycleaning, & pressing machine mfg	^{a28}	33	62	69	70
333313	Office machinery mfg	^{a56}	^{a51}	70	65	60
333314	Optical instrument & lens mfg	66	64	70	69	59
333315	Photographic & photocopying equipment mfg	59	54	53	62	76
333319	Other commercial & service industry machinery mfg	55	56	69	69	71
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg	60	59	66	67	65
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg	60	59	66	67	65
333411	Air purification equipment mfg	59	60	67	62	60
333412	Industrial & commercial fan & blower mfg	55	57	65	65	60
333414	Heating equipment (except warm air furnaces) mfg	59	58	64	67	63
333415	AC & warm air heating & commercial/industrial refig equip mfg	60	59	66	67	67
3335	Metalworking machinery mfg	57	51	68	70	71
33351	Metalworking machinery mfg	57	51	68	70	71
333511	Industrial mold mfg	64	38	72	74	73
333512	Machine tool (metal cutting types) mfg	47	47	61	68	71
333513	Machine tool (metal forming types) mfg	46	50	66	68	77
333514	Special die & tool, die set, jig, & fixture mfg	57	58	67	71	70
333515	Cutting tool & machine tool accessory mfg	60	60	72	68	74
333516	Rolling mill machinery & equipment mfg	58	55	65	68	63
333518	Other metalworking machinery mfg	58	58	70	66	61
3336	Engine, turbine, & power transmission equipment mfg	61	59	66	67	68
33361	Engine, turbine, & power transmission equipment mfg	61	59	66	67	68
333611	Turbine & turbine generator set unit mfg	^{a88}	88	75	53	60
333612	Speed changer, industrial high-speed drive, & gear mfg	53	53	63	64	67
333613	Mechanical power transmission equipment mfg	50	51	54	61	69
333618	Other engine equipment mfg	53	55	67	77	72
3339	Other general-purpose machinery mfg	58	60	66	67	69
33391	Pump & compressor mfg	63	62	61	62	67
333911	Pump & pumping equipment mfg	67	62	58	60	68
333912	Air & gas compressor mfg	56	62	66	64	66
333913	Measuring & dispensing pump mfg	^{a70}	^{a63}	^{a58}	67	69
33392	Material handling equipment mfg	55	55	67	71	70
333921	Elevator & moving stairway mfg	70	73	75	78	82
333922	Conveyor & conveying equipment mfg	55	57	69	71	66
333923	Overhead traveling crane, hoist, & monorail system mfg	49	50	65	73	73
333924	Industrial truck, tractor, trailer, & stacker machinery mfg	52	51	64	67	69
33399	All other general-purpose machinery mfg	58	61	68	68	70
333991	Power-driven handtool mfg	75	75	79	80	78
333992	Welding & soldering equipment mfg	50	57	69	72	75
333993	Packaging machinery mfg	62	60	62	67	72
333994	Industrial process furnace & oven mfg	49	51	67	63	66
333995	Fluid power cylinder & actuator mfg	62	66	69	67	71
333996	Fluid power pump & motor mfg	62	63	67	76	72
333997	Scale & balance (except laboratory) mfg	50	49	56	66	60
333999	All other miscellaneous general-purpose machinery mfg	55	61	66	62	65
334	Computer & electronic product mfg	52	57	73	73	71
3341	Computer & peripheral equipment mfg	62	^{a62}	66	69	^{a70}
33411	Computer & peripheral equipment mfg	62	^{a62}	66	69	^{a70}
334111	Electronic computer mfg	65	^{a66}	^{a64}	66	^{a66}
334112	Computer storage device mfg	^{a51}	^{a49}	65	82	79
334113	Computer terminal mfg	51	^{a38}	44	^{a45}	^{a70}
334119	Other computer peripheral equipment mfg	^{a66}	69	77	78	77
3342	Communications equipment mfg	^{a35}	^{a52}	75	77	73
33421	Telephone apparatus mfg	^{a27}	^{a46}	77	82	78
334210	Telephone apparatus mfg	^{a27}	^{a46}	77	82	78
33422	Radio & TV broadcasting & wireless communications equipment mfg	^{a56}	^{a65}	^{a73}	71	69
334220	Radio & TV broadcasting & wireless communications equipment mfg	^{a56}	^{a65}	^{a73}	71	69
33429	Other communications equipment mfg	66	66	71	78	66
334290	Other communications equipment mfg	66	66	71	78	66
3343	Audio & video equipment mfg	54	58	57	58	64
33431	Audio & video equipment mfg	54	58	57	58	64
334310	Audio & video equipment mfg	54	58	57	58	64
3344	Semiconductor & other electronic component mfg	58	^{a56}	82	81	^{a72}
33441	Semiconductor & other electronic component mfg	58	^{a56}	82	81	^{a72}
334411	Electron tube mfg	73	64	80	77	76
334412	Bare printed circuit board mfg	51	^{a49}	77	78	73
334413	Semiconductor & related device mfg	65	^{a57}	^{a87}	^{a86}	^{a73}
334414	Electronic capacitor mfg	51	^{a44}	86	83	75
334415	Electronic resistor mfg	47	45	67	63	61
334416	Electronic coil, transformer, & other inductor mfg	45	51	67	67	61
334417	Electronic connector mfg	53	64	75	67	^{a68}
334418	Printed circuit assembly (electronic assembly) mfg	47	^{a62}	75	69	^{a70}
334419	Other electronic component mfg	48	48	72	68	76
3345	Navigational, measuring, medical, & control instruments mfg	60	61	65	64	67
33451	Navigational, measuring, medical, & control instruments mfg	60	61	65	64	67
334510	Electromedical & electrotherapeutic apparatus mfg	79	75	75	70	79
334511	Search, detection, navigation, & guidance instrument mfg	59	59	59	61	66
334512	Automatic environmental control mfg	49	67	71	74	69
334513	Industrial process control instrument mfg	58	58	66	62	64
334514	Totalizing fluid meter & counting device mfg	60	70	70	74	63
334515	Electricity measuring & testing instrument mfg	51	55	69	68	(NA)
334516	Analytical laboratory instrument mfg	62	63	66	61	64
334517	Irradiation apparatus mfg	79	71	75	72	77
334518	Watch, clock, & part mfg	51	^{a55}	61	62	46
334519	Other measuring & controlling device mfg	59	57	64	61	65
3346	Mfg & reproducing magnetic & optical media	73	79	76	73	83
33461	Mfg & reproducing magnetic & optical media	73	79	76	73	83
334611	Software reproducing	81	75	70	^{a77}	87
334612	Prerecorded CD (except software), tape, & record reproducing	72	78	84	72	84
334613	Magnetic & optical recording media mfg	77	80	69	73	80

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
335	Electrical equipment, appliance, & component mfg	60	62	70	72	72
3351	Electric lighting equipment mfg	58	59	66	68	70
33511	Electric lamp bulb & part mfg	67	63	75	74	70
335110	Electric lamp bulb & part mfg	67	63	75	74	70
33512	Lighting fixture mfg	56	57	64	66	70
335121	Residential electric lighting fixture mfg	^{a52} 46	46	59	58	63
335122	Commercial/industrial/institutional electric lighting fixture mfg	54	58	63	66	70
335129	Other lighting equipment mfg	62	66	69	73	76
3352	Household appliance mfg	72	70	70	75	73
33521	Small electrical appliance mfg	68	69	68	70	65
335211	Electric housewares & household fan mfg	65	64	61	66	59
335212	Household vacuum cleaner mfg	71	74	77	73	73
33522	Major appliance mfg	74	71	71	77	76
335221	Household cooking appliance mfg	56	50	55	59	66
335222	Household refrigerator & home freezer mfg	81	83	75	81	79
335224	Household laundry equipment mfg	87	90	88	87	75
335228	Other major household appliance mfg	74	71	71	83	87
3353	Electrical equipment mfg	59	61	67	70	69
33531	Electrical equipment mfg	59	61	67	70	69
335311	Power, distribution, & specialty transformer mfg	63	71	75	78	73
335312	Motor & generator mfg	60	61	63	70	67
335313	Switchgear & switchboard apparatus mfg	64	66	77	74	77
335314	Relay & industrial control mfg	54	54	62	64	64
3359	Other electrical equipment & component mfg	58	62	74	75	74
33591	Battery mfg	57	64	71	81	80
335911	Storage battery mfg	^{a52} 62	^{a62} 76	80	80	79
335912	Primary battery mfg	64	67	65	81	82
33592	Communication & energy wire & cable mfg	53	62	83	80	82
335921	Fiber optic cable mfg	^{a45} 53	^{a60} 84	81	81	83
335929	Other communication & energy wire mfg	58	63	83	80	82
33593	Wiring device mfg	66	68	73	74	71
335931	Current-carrying wiring device mfg	67	68	71	72	72
335932	Noncurrent-carrying wiring device mfg	64	67	75	77	70
33599	All other electrical equipment & component mfg	57	54	69	68	66
335991	Carbon & graphite product mfg	53	54	64	72	76
335999	All other miscellaneous electrical equipment & component mfg	57	^{a54} 70	70	67	63
336	Transportation equipment mfg	64	64	68	73	74
3361	Motor vehicle mfg	83	76	79	86	83
33611	Automobile & light duty motor vehicle mfg	85	81	80	86	85
336111	Automobile mfg	82	78	84	85	89
336112	Light truck & utility vehicle mfg	89	84	78	87	81
33612	Heavy duty truck mfg	52	43	66	92	70
336120	Heavy duty truck mfg	52	43	66	92	70
3362	Motor vehicle body & trailer mfg	61	54	60	71	68
33621	Motor vehicle body & trailer mfg	61	54	60	71	68
336211	Motor vehicle body mfg	65	68	70	72	67
336212	Truck trailer mfg	54	39	61	77	75
336213	Motor home mfg	55	71	51	65	65
336214	Travel trailer & camper mfg	64	50	54	67	66
3363	Motor vehicle parts mfg	72	71	75	81	76
33631	Motor vehicle gasoline engine & engine parts mfg	73	73	78	85	78
336311	Carburetor, piston, piston ring, & valve mfg	80	76	79	88	88
336312	Gasoline engine & engine parts mfg	71	73	78	85	77
33632	Motor vehicle electrical & electronic equipment mfg	60	59	73	79	78
336321	Vehicular lighting equipment mfg	71	66	68	79	75
336322	Other motor vehicle electrical & electronic equipment mfg	59	58	73	79	78
33633	Motor vehicle steering & suspension component (except spring) mfg ..	72	69	70	82	83
336330	Motor vehicle steering & suspension component (except spring) mfg ..	72	69	70	82	83
33634	Motor vehicle brake system mfg	75	70	66	72	58
336340	Motor vehicle brake system mfg	75	70	66	72	58
33635	Motor vehicle transmission & power train parts mfg	81	76	74	86	85
336350	Motor vehicle transmission & power train parts mfg	81	76	74	86	85
33636	Motor vehicle seating & interior trim mfg	83	80	84	79	72
336360	Motor vehicle seating & interior trim mfg	83	80	84	79	72
33637	Motor vehicle metal stamping	75	73	74	82	79
336370	Motor vehicle metal stamping	75	73	74	82	79
33639	Other motor vehicle parts mfg	71	70	76	80	72
336391	Motor vehicle air-conditioning mfg	76	76	68	80	68
336399	All other motor vehicle parts mfg	70	70	77	80	72
3364	Aerospace product & parts mfg	52	54	56	61	69
33641	Aerospace product & parts mfg	52	54	56	61	69
336411	Aircraft mfg	50	64	61	68	68
336412	Aircraft engine & engine parts mfg	61	63	66	70	75
336413	Other aircraft part & auxiliary equipment mfg	58	64	69	68	72
336414	Guided missile & space vehicle mfg	^{a45} 45	^{a25} 64	^{a33} 69	^{a37} 66	66
336415	Guided missile & space vehicle propulsion unit & parts mfg	45	36	45	48	43
336419	Other guided missile & space vehicle parts & auxiliary equip mfg	46	47	73	65	74
3365	Railroad rolling stock mfg	45	^{a54} 69	69	76	87
33651	Railroad rolling stock mfg	45	^{a54} 69	69	76	87
336510	Railroad rolling stock mfg	45	^{a54} 69	69	76	87
3366	Ship & boat building	53	52	56	55	62
33661	Ship & boat building	53	52	56	55	62
336611	Ship building & repairing	51	49	53	53	62
336612	Boat building	59	^{a56} 62	62	63	63
3369	Other transportation equipment mfg	61	57	65	68	73
33699	Other transportation equipment mfg	61	57	65	68	73
336991	Motorcycle, bicycle, & parts mfg	^{a59} 42	^{a54} 42	^{a76} 39	79	90
336992	Military armored vehicle, tank, & tank component mfg	42	42	39	42	53
336999	All other transportation equipment mfg	74	70	74	78	71

See footnotes at end of table.

Table 1a. **Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.**

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production rate				
		2002	2001	2000	1999	1998
337	Furniture & related product mfg	61	62	68	73	74
3371	Household & institutional furniture & kitchen cabinet mfg	66	67	69	76	74
33711	Wood kitchen cabinet & counter top mfg	73	72	65	72	77
337110	Wood kitchen cabinet & counter top mfg	73	72	65	72	77
33712	Household & institutional furniture mfg	63	66	70	77	73
337121	Upholstered household furniture mfg	74	74	81	87	78
337122	Nonupholstered wood household furniture mfg	65	67	73	80	74
337124	Metal household furniture mfg	^{a47} 42	50	54	58	61
337125	Household furniture (except wood & metal) mfg	42	48	72	73	70
337127	Institutional furniture mfg	59	64	62	71	70
337129	Wood television, radio, & sewing machine cabinet mfg	67	69	71	73	61
3372	Office furniture (including fixtures) mfg	53	55	68	69	76
33721	Office furniture (including fixtures) mfg	53	55	68	69	76
337211	Wood office furniture mfg	42	46	76	70	81
337212	Custom architectural woodwork & millwork mfg	66	69	71	78	87
337214	Office furniture (except wood) mfg	52	56	73	71	75
337215	Showcase, partition, shelving, & locker mfg	60	56	59	64	72
3379	Other furniture related product mfg	63	57	66	73	72
33791	Mattress mfg	63	58	69	75	67
337910	Mattress mfg	63	58	69	75	67
33792	Blind & shade mfg	63	56	60	70	83
337920	Blind & shade mfg	63	56	60	70	83
339	Miscellaneous mfg	64	65	69	70	69
3391	Medical equipment & supplies mfg	63	67	71	71	71
33911	Medical equipment & supplies mfg	63	67	71	71	71
339111	Laboratory apparatus & furniture mfg	68	66	72	70	73
339112	Surgical & medical instrument mfg	58	67	68	66	67
339113	Surgical appliance & supplies mfg	66	65	72	76	71
339114	Dental equipment & supplies mfg	74	74	74	79	72
339115	Ophthalmic goods mfg	52	63	67	73	85
339116	Dental laboratories	88	85	86	87	78
3399	Other miscellaneous mfg	65	63	67	69	67
33991	Jewelry & silverware mfg	59	63	69	69	71
339911	Jewelry (except costume) mfg	58	64	73	74	74
339912	Silverware & plated ware mfg	55	64	63	64	66
339913	Jewelers' material & lapidary work mfg	68	60	67	80	72
339914	Costume jewelry & novelty mfg	64	^{a60} 60	60	58	65
33992	Sporting & athletic goods mfg	65	64	61	65	58
339920	Sporting & athletic goods mfg	65	64	61	65	58
33993	Doll, toy, & game mfg	60	59	63	72	63
339931	Doll & stuffed toy mfg	^{a27} 69	^{a57} 59	^{a59} 62	62	42
339932	Game, toy, & children's vehicle mfg	69	59	64	73	66
33994	Office supplies (except paper) mfg	63	63	65	69	68
339941	Pen & mechanical pencil mfg	63	58	70	67	67
339942	Lead pencil & art good mfg	69	78	75	74	65
339943	Marking device mfg	^{a56} 60	55	52	62	77
339944	Carbon paper & inked ribbon mfg	63	68	60	71	65
33995	Sign mfg	71	65	74	81	72
339950	Sign mfg	71	65	74	81	72
33999	All other miscellaneous mfg	65	63	68	67	69
339991	Gasket, packing, & sealing device mfg	70	68	73	75	75
339992	Musical instrument mfg	59	59	60	58	67
339993	Fastener, button, needle, & pin mfg	60	60	72	75	75
339994	Broom, brush, & mop mfg	66	62	66	68	76
339995	Burial casket mfg	63	69	71	71	69
339999	All other miscellaneous mfg	^{a65} 63	^{a61} 69	65	63	65
5111	Newspaper, periodical, book, and database publishers	81	(NA)	(NA)	(NA)	(NA)

¹Excluding NAICS 5111, Newspaper, periodical, book, and database publishers.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
31-33	Manufacturing¹	45	45	52	56	53
	Durable goods industries¹	40	40	49	52	51
	Nondurable goods industries¹	52	55	58	62	56
	Advanced processing industries¹	43	43	51	54	51
	Primary processing industries¹	50	52	57	62	59
311	Food mfg	58	55	57	61	58
3111	Animal food mfg	59	59	66	64	60
31111	Animal food mfg	59	59	66	64	60
311111	Dog & cat food mfg	73	68	70	59	75
311119	Other animal food mfg	48	50	62	69	51
3112	Grain & oilseed milling	73	73	69	69	75
31121	Flour milling & malt mfg	68	68	69	70	70
311211	Flour milling	71	67	65	71	68
311212	Rice milling	70	81	89	86	73
311213	Malt mfg	44	45	50	45	82
31122	Starch & vegetable fats & oils mfg	90	88	85	82	77
311221	Wet corn milling	93	94	90	88	81
311222	Soybean processing	96	91	95	84	89
311223	Other oilseed processing	70	73	64	74	77
311225	Fats & oils refining & blending	83	78	^a 73	71	65
31123	Breakfast cereal mfg	^a 65	66	62	61	74
311230	Breakfast cereal mfg	^a 65	66	62	61	74
3113	Sugar & confectionery product mfg	56	58	59	60	59
31131	Sugar mfg	85	78	79	82	71
311311	Sugarcane mills	92	94	93	97	80
311312	Cane sugar refining	^a 53	^a 53	56	57	52
311313	Beet sugar mfg	97	97	92	96	85
31132	Chocolate & confectionery mfg from cacao beans	76	71	73	70	65
311320	Chocolate & confectionery mfg from cacao beans	76	71	73	70	65
31133	Confectionery mfg from purchased chocolate	45	48	48	50	53
311330	Confectionery mfg from purchased chocolate	45	48	48	50	53
31134	Nonchocolate confectionery mfg	55	61	63	60	57
311340	Nonchocolate confectionery mfg	55	61	63	60	57
3114	Fruit & vegetable preserving & specialty food mfg	52	46	44	59	60
31141	Frozen food mfg	67	68	69	73	72
311411	Frozen fruit, juice, & vegetable mfg	72	73	69	76	76
311412	Frozen specialty food mfg	64	64	69	70	69
31142	Fruit & vegetable canning, pickling, & drying	45	37	35	52	54
311421	Fruit & vegetable canning	38	30	27	47	46
311422	Specialty canning	59	58	^a 56	58	69
311423	Dried & dehydrated food mfg	53	36	39	58	55
3115	Dairy product mfg	67	69	68	68	67
31151	Dairy product (except frozen) mfg	70	70	69	69	70
311511	Fluid milk mfg	72	71	72	73	65
311512	Creamery butter mfg	62	57	72	75	84
311513	Cheese mfg	74	77	71	74	87
311514	Dry, condensed, & evaporated dairy product mfg	63	64	64	58	62
31152	Ice cream & frozen dessert mfg	54	64	61	58	49
311520	Ice cream & frozen dessert mfg	54	64	61	58	49
3116	Meat product mfg	63	59	64	61	60
31161	Animal slaughtering & processing	63	59	64	61	60
311611	Animal (except poultry) slaughtering	70	53	71	72	51
311612	Meat processed from carcasses	62	60	56	43	59
311613	Rendering & meat byproduct processing	59	59	^a 45	^a 44	47
311615	Poultry processing	61	63	67	77	70
3117	Seafood product preparation & packaging	35	37	34	33	30
31171	Seafood product preparation & packaging	35	37	34	33	30
311711	Seafood canning	56	53	58	42	^a 43
311712	Fresh & frozen seafood processing	34	36	32	32	29
3118	Bakeries & tortilla mfg	55	44	55	62	53
31181	Bread & bakery product mfg	62	55	53	65	52
311811	Retail bakeries	^a 33	25	23	52	50
311812	Commercial bakeries	68	62	60	67	52
311813	Frozen cakes, pies, & other pastries mfg	61	61	60	64	47
31182	Cookie, cracker, & pasta mfg	44	30	58	58	56
311821	Cookie & cracker mfg	40	25	55	55	59
311822	Flour mixes & dough mfg from purchased flour	60	60	68	64	62
311823	Dry pasta mfg	73	66	62	71	^a 36
31183	Tortilla mfg	66	63	64	66	(NA)
311830	Tortilla mfg	66	63	64	66	(NA)
3119	Other food mfg	55	57	57	58	52
31191	Snack food mfg	66	64	63	^a 64	56
311911	Roasted nuts & peanut butter mfg	64	60	51	63	61
311919	Other snack food mfg	67	65	67	^a 64	55
31192	Coffee & tea mfg	39	57	67	64	51
311920	Coffee & tea mfg	39	57	67	64	51
31193	Flavoring syrup & concentrate mfg	54	55	55	52	43
311930	Flavoring syrup & concentrate mfg	54	55	55	52	43
31194	Seasoning & dressing mfg	57	55	50	53	58
311941	Mayonnaise, dressing, & other prepared sauce mfg	65	58	52	52	61
311942	Spice & extract mfg	50	51	48	53	55
31199	All other food mfg	51	53	54	58	53
311991	Perishable prepared food mfg	61	57	56	53	43
311999	All other miscellaneous food mfg	49	52	53	60	57

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
312	Beverage & tobacco product mfg	50	58	56	62	58
3121	Beverage mfg	53	57	52	59	52
31211	Soft drink & ice mfg	44	48	42	53	45
312111	Soft drink mfg	47	51	43	54	47
312112	Bottled water mfg	30	31	38	36	34
312113	Ice mfg	20	23	29	^{a33}	19
31212	Breweries	80	82	82	86	82
312120	Breweries	80	82	82	86	82
31213	Wineries	55	59	48	49	39
312130	Wineries	55	59	48	49	39
31214	Distilleries	43	45	42	41	37
312140	Distilleries	43	45	42	41	37
3122	Tobacco mfg	48	59	60	65	64
31221	Tobacco stemming & redrying	45	64	70	65	66
312210	Tobacco stemming & redrying	45	64	70	65	66
31222	Tobacco product mfg	48	59	60	65	64
312221	Cigarette mfg	48	60	61	67	64
312229	Other tobacco product mfg	54	49	49	55	61
313	Textile mills	56	58	68	70	64
3131	Fiber, yarn, & thread mills	65	61	70	77	70
31311	Fiber, yarn, & thread mills	65	61	70	77	70
313111	Yarn spinning mills	71	62	72	79	69
313112	Yarn texturing, throwing, & twisting mills	58	61	65	71	69
313113	Thread mills	53	55	78	82	(D)
3132	Fabric mills	56	63	71	72	64
31321	Broadwoven fabric mills	60	70	79	79	77
313210	Broadwoven fabric mills	60	70	79	79	77
31322	Narrow fabric mills & schiffli machine embroidery	49	49	57	60	49
313221	Narrow fabric mills	56	51	58	64	49
313222	Schiffli machine embroidery	46	41	48	45	50
31323	Nonwoven fabric mills	52	63	68	73	70
313230	Nonwoven fabric mills	52	63	68	73	70
31324	Knit fabric mills	50	53	57	56	42
313241	Weft knit fabric mills	53	51	59	64	33
313249	Other knit fabric & lace mills	48	55	54	50	58
3133	Textile & fabric finishing & fabric coating mills	52	50	62	65	60
31331	Textile & fabric finishing mills	52	50	63	66	62
313311	Broadwoven fabric finishing mills	54	50	62	67	62
313312	Textile & fabric finishing mills	49	^{a50}	64	65	62
31332	Fabric coating mills	48	52	54	59	53
313320	Fabric coating mills	48	52	54	59	53
314	Textile product mills	46	50	51	53	54
3141	Textile furnishings mills	49	54	55	58	56
31411	Carpet & rug mills	61	62	65	69	64
314110	Carpet & rug mills	61	62	65	69	64
31412	Curtain & linen mills	40	49	48	48	49
314121	Curtain & drapery mills	44	38	37	37	35
314129	Other household textile product mills	39	55	53	55	58
3149	Other textile product mills	41	45	46	47	49
31491	Textile bag & canvas mills	40	39	33	35	42
314911	Textile bag mills	34	34	28	29	42
314912	Canvas & related product mills	43	43	37	40	42
31499	All other textile product mills	42	47	53	54	52
314991	Rope, cordage, & twine mills	38	^{a47}	^{a50}	46	51
314992	Tire cord & tire fabric mills	81	79	83	88	64
314999	All other miscellaneous textile product mills	40	44	51	53	51
315	Apparel mfg	31	36	45	47	28
3151	Apparel knitting mills	52	52	49	59	50
31511	Hosiery & sock mills	50	49	64	65	63
315111	Sheer hosiery mills	46	46	60	64	54
315119	Other hosiery & sock mills	52	50	66	65	69
31519	Other apparel knitting mills	^{a54}	57	37	54	43
315191	Outerwear knitting mills	^{a49}	54	35	54	41
315192	Underwear & nightwear knitting mills	^{a91}	^{a76}	51	55	56
3152	Cut & sew apparel mfg	^{a29}	^{a35}	^{a46}	^{a47}	26
31521	Cut & sew apparel contractors	11	40	^{a37}	40	27
315211	Men's & boys' cut & sew apparel contractors	43	^{a51}	^{a40}	40	25
315212	Women's, girls', & infants' cut & sew apparel contractors	8	36	^{a36}	^{a40}	28
31522	Men's & boys' cut & sew apparel mfg	3	47	^{a54}	^{a51}	25
315221	Men's & boys' cut & sew underwear & nightwear mfg	^{a48}	^{a38}	^{a50}	^{a50}	^{a28}
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	^{a35}	41	^{a47}	61	38
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	^{a54}	45	^{a52}	60	^{a28}
315224	Men's & boys' cut & sew trouser, slack, & jean mfg	27	69	^{a82}	^{a63}	20
315225	Men's & boys' cut & sew work clothing mfg	37	36	45	38	32
315228	Men's & boys' cut & sew other outerwear mfg	25	^{a30}	^{a25}	24	33
31523	Women's & girls' cut & sew apparel mfg	^{a43}	^{a27}	^{a43}	^{a51}	^{a25}
315231	Women's & girls' cut/ sew lingerie & nightwear mfg	^{a42}	29	41	39	37
315232	Women's & girls' cut & sew blouse & shirt mfg	53	^{a58}	^{a48}	^{a57}	29
315233	Women's & girls' cut & sew dress mfg	^{a48}	^{a45}	^{a61}	^{a65}	^{a21}
315234	Women's & girls' cut & sew suit, coat, skirt mfg	^{a30}	^{a30}	^{a37}	^{a26}	^{a30}
315239	Women's & girls' cut & sew other outerwear mfg	^{a42}	^{a19}	^{a38}	^{a78}	22
31529	Other cut & sew apparel mfg	^{a31}	39	39	29	26
315291	Infants' cut & sew apparel mfg	(NA)	^{a49}	^{a43}	41	42
315292	Fur & leather apparel mfg	^{a44}	^{a40}	50	^{a50}	40
315299	All other cut & sew apparel mfg	^{a21}	35	34	23	19
3159	Apparel accessories & other apparel mfg	35	^{a31}	35	37	37
31599	Apparel accessories & other apparel mfg	35	^{a31}	35	37	37
315991	Hat, cap, & millinery mfg	31	^{a30}	42	40	40
315992	Glove & mitten mfg	^{a20}	22	36	38	30
315993	Men's & boys' neckwear mfg	47	39	40	38	30
315999	Other apparel accessories & other apparel mfg	40	32	31	35	39

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
316	Leather & allied product mfg	27	27	35	41	38
3161	Leather & hide tanning & finishing	52	^a 50	58	59	57
31611	Leather & hide tanning & finishing	52	^a 50	58	59	57
316110	Leather & hide tanning & finishing	52	^a 50	58	59	57
3162	Footwear mfg	^a 26	^a 25	30	34	33
31621	Footwear mfg	^a 26	^a 25	30	34	33
316211	Rubber & plastics footwear mfg	^a 30	^a 29	33	36	37
316212	House slipper mfg	19	27	36	33	28
316213	Men's footwear (except athletic) mfg	35	37	29	34	30
316214	Women's footwear (except athletic) mfg	^a 10	^a 8	^a 25	27	37
316219	Other footwear mfg	^a 65	^a 50	^a 43	44	38
3169	Other leather & allied product mfg	20	22	33	^a 43	^a 36
31699	Other leather & allied product mfg	20	22	33	^a 43	^a 36
316991	Luggage mfg	24	24	33	^a 42	^a 34
316992	Women's handbag & purse mfg	29	^a 47	50	^a 53	^a 35
316993	Personal leather good (except women's handbag & purse) mfg	^a 9	^a 9	19	34	^a 36
316999	All other leather good mfg	27	33	42	46	40
321	Wood product mfg	42	41	41	48	49
3211	Sawmills & wood preservation	50	46	42	52	50
32111	Sawmills & wood preservation	50	46	42	52	50
321113	Sawmills	52	46	42	52	50
321114	Wood preservation	41	44	47	57	43
3212	Veneer, plywood, & engineered wood product mfg	43	46	52	62	67
32121	Veneer, plywood, & engineered wood product mfg	43	46	52	62	67
321211	Hardwood veneer & plywood mfg	43	44	61	73	52
321212	Softwood veneer & plywood mfg	81	79	66	74	92
321213	Engineered wood member (except truss) mfg	51	53	57	60	72
321214	Truss mfg	33	39	48	55	53
321219	Reconstituted wood product mfg	42	42	45	59	79
3219	Other wood product mfg	39	38	37	42	43
32191	Millwork	49	47	50	54	53
321911	Wood window & door mfg	59	61	59	59	55
321912	Cut stock, resawing lumber, & planing	46	46	48	51	66
321918	Other millwork (including flooring)	37	32	40	48	41
32192	Wood container & pallet mfg	39	35	45	45	47
321920	Wood container & pallet mfg	39	35	45	45	47
32199	All other wood product mfg	30	30	28	34	36
321991	Manufactured home (mobile home) mfg	25	26	22	29	34
321992	Prefabricated wood building mfg	37	31	35	35	39
321999	All other miscellaneous wood product mfg	37	39	50	52	40
322	Paper mfg	71	67	71	74	74
3221	Pulp, paper, & paperboard mills	87	78	84	89	90
32211	Pulp mills	78	88	86	90	90
322110	Pulp mills	78	88	86	90	90
32212	Paper mills	87	75	84	89	93
322121	Paper (except newsprint) mills	87	75	83	88	92
322122	Newsprint mills	85	85	96	97	(D)
32213	Paperboard mills	87	81	84	91	84
322130	Paperboard mills	87	81	84	91	84
3222	Converted paper product mfg	60	59	61	64	63
32221	Paperboard container mfg	64	57	59	62	62
322211	Corrugated & solid fiber box mfg	68	57	59	62	67
322212	Folding paperboard box mfg	70	62	62	66	61
322213	Setup paperboard box mfg	45	45	48	51	34
322214	Fiber can, tube, drum, & similar products mfg	^a 32	39	46	54	52
322215	Nonfolding sanitary food container mfg	62	62	61	62	60
32222	Paper bag & coated & treated paper mfg	58	61	62	63	64
322221	Coated & laminated packaging paper & plastics film mfg	51	50	55	58	60
322222	Coated & laminated packaging paper & plastics film mfg	56	62	64	66	62
322223	Plastics, foil, & coated paper bag mfg	53	43	55	44	(D)
322224	Uncoated paper & multiwall bag mfg	63	61	65	62	68
322225	Laminated aluminum foil mfg for flexible packaging uses	71	70	69	70	68
322226	Surface-coated paperboard mfg	69	55	44	44	74
32223	Stationery product mfg	51	56	55	57	55
322231	Die-cut paper & paperboard office supplies mfg	58	58	54	56	70
322232	Envelope mfg	62	62	66	66	60
322233	Stationery, tablet, & related product mfg	35	46	^a 43	46	39
32229	Other converted paper product mfg	59	64	71	74	69
322291	Sanitary paper product mfg	71	74	84	87	78
322299	All other converted paper product mfg	45	52	55	52	53
323	Printing & related support activities	52	50	54	58	57
3231	Printing & related support activities	52	50	54	58	57
32311	Printing	53	51	55	59	57
323110	Commercial lithographic printing	61	59	66	64	59
323111	Commercial gravure printing	73	72	63	76	66
323112	Commercial flexographic printing	61	54	59	64	55
323113	Commercial screen printing	^a 36	38	37	44	50
323114	Quick printing	32	26	33	48	54
323115	Digital printing	^a 56	50	43	48	59
323116	Manifold business form printing	53	57	52	50	54
323117	Book printing	58	44	55	54	60
323118	Blankbook, looseleaf binder, & device mfg	31	34	39	49	50
323119	Other commercial printing	46	52	50	59	51
32312	Support activities for printing	42	40	46	56	56
323121	Tradebinding & related work	30	32	39	55	48
323122	Prepress services	51	45	50	57	59

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
324	Petroleum & coal products mfg	68	67	71	68	61
3241	Petroleum & coal products mfg	68	67	71	68	61
32411	Petroleum refineries	89	89	92	91	85
324110	Petroleum refineries	89	89	92	91	85
32412	Asphalt paving, roofing, & saturated materials mfg	25	24	29	33	28
324121	Asphalt paving mixture & block mfg	17	16	18	24	19
324122	Asphalt shingle & coating materials mfg	50	54	^{a63}	^{a59}	63
32419	Other petroleum & coal products mfg	43	41	50	51	45
324191	Petroleum lubricating oil & grease mfg	43	41	45	47	41
324199	All other petroleum & coal products mfg	44	43	79	79	75
325	Chemical mfg	46	55	58	62	57
3251	Basic chemical mfg	64	65	73	77	75
32511	Petrochemical mfg	75	77	92	92	88
325110	Petrochemical mfg	75	77	92	92	88
32512	Industrial gas mfg	62	57	^{a65}	64	79
325120	Industrial gas mfg	62	57	^{a65}	64	79
32513	Dye & pigment mfg	74	61	69	75	77
325131	Inorganic dye & pigment mfg	78	71	83	86	89
325132	Synthetic organic dye & pigment mfg	70	53	57	63	64
32518	Other basic inorganic chemical mfg	50	61	64	68	68
325181	Alkalies & chlorine mfg	76	70	78	85	74
325182	Carbon black mfg	^{a72}	67	75	83	87
325188	All other basic inorganic chemical mfg	47	59	63	66	67
32519	Other basic organic chemical mfg	74	66	80	86	78
325191	Gum & wood chemical mfg	78	74	77	72	81
325192	Cyclic crude & intermediate mfg	^{a72}	^{a65}	76	76	65
325193	Ethyl alcohol mfg	62	64	84	85	(D)
325199	All other basic organic chemical mfg	74	66	81	88	80
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg	71	68	76	85	77
32521	Resin & synthetic rubber mfg	71	68	75	85	77
325211	Plastics material & resin mfg	75	73	77	88	79
325212	Synthetic rubber mfg	52	48	62	70	62
32522	Artificial & synthetic fibers & filaments mfg	73	68	78	86	78
325221	Cellulosic organic fiber mfg	73	76	^{a77}	^{a70}	70
325222	Noncellulosic organic fiber mfg	73	68	78	87	78
3253	Pesticide, fertilizer, & other agricultural chemical mfg	39	48	56	57	69
32531	Fertilizer mfg	53	59	65	73	73
325311	Nitrogenous fertilizer mfg	85	87	80	93	91
325312	Phosphatic fertilizer mfg	81	91	87	87	91
325314	Fertilizer (mixing only) mfg	30	34	^{a42}	^{a45}	44
32532	Pesticide & other agricultural chemical mfg	34	44	52	50	66
325320	Pesticide & other agricultural chemical mfg	34	44	52	50	66
3254	Pharmaceutical & medicine mfg	38	56	53	60	47
32541	Pharmaceutical & medicine mfg	38	56	53	60	47
325411	Medicinal & botanical mfg	61	68	^{a56}	^{a61}	53
325412	Pharmaceutical preparation mfg	44	53	52	58	45
325413	In-vitro diagnostic substance mfg	^{a14}	^{a63}	^{a63}	^{a69}	^{a52}
325414	Biological product (except diagnostic) mfg	68	75	64	65	53
3255	Paint, coating, & adhesive mfg	42	40	51	44	42
32551	Paint & coating mfg	42	40	52	48	45
325510	Paint & coating mfg	42	40	52	48	45
32552	Adhesive mfg	41	41	48	36	37
325520	Adhesive mfg	41	41	48	36	37
3256	Soap, cleaning compound, & toilet preparation mfg	54	49	51	54	49
32561	Soap & cleaning compound mfg	51	50	53	58	49
325611	Soap & other detergent mfg	54	50	59	55	45
325612	Polish & other sanitation good mfg	43	44	41	52	48
325613	Surface active agent mfg	72	71	72	81	60
32562	Toilet preparation mfg	57	49	48	50	50
325620	Toilet preparation mfg	57	49	48	50	50
3259	Other chemical product mfg	44	44	49	52	59
32591	Printing ink mfg	25	27	^{a29}	33	34
325910	Printing ink mfg	25	27	^{a29}	33	34
32592	Explosives mfg	37	36	30	32	41
325920	Explosives mfg	37	36	30	32	41
32599	All other chemical product & preparation mfg	49	47	54	57	65
325991	Custom compounding of purchased resin	62	51	69	73	57
325992	Photographic film, paper, plate, & chemical mfg	64	58	70	75	72
325998	All other miscellaneous chemical product & preparation mfg	38	38	40	43	65
326	Plastics & rubber products mfg	57	53	59	65	60
3261	Plastics product mfg	56	52	58	63	58
32611	Unsupported plastics film, sheet, & bag mfg	65	62	67	74	66
326111	Unsupported plastics bag mfg	63	66	^{a66}	74	77
326112	Unsupported plastics packaging film & sheet mfg	61	61	^{a63}	65	77
326113	Unsupported plastics film & sheet (except packaging) mfg	67	60	69	75	59
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg	66	58	61	65	58
326121	Unsupported plastics profile shape mfg	67	63	62	56	66
326122	Plastics pipe & pipe fitting mfg	64	52	60	81	51
32613	Laminated plastics plate, sheet, & shape mfg	44	44	48	50	64
326130	Laminated plastics plate, sheet, & shape mfg	44	44	48	50	64
32614	Polystyrene foam product mfg	63	47	76	74	50
326140	Polystyrene foam product mfg	63	47	76	74	50
32615	Urethane & other foam product (except polystyrene) mfg	50	50	52	51	61
326150	Urethane & other foam product (except polystyrene) mfg	50	50	52	51	61
32616	Plastics bottle mfg	73	62	74	77	72
326160	Plastics bottle mfg	73	62	74	77	72
32619	Other plastics product mfg	53	49	54	61	56
326191	Plastics plumbing fixture mfg	35	34	35	51	19
326192	Resilient floor covering mfg	54	63	65	64	63
326199	All other plastics product mfg	54	49	55	61	60

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
326	Plastics & rubber products mfg—Con.					
3262	Rubber product mfg	60	60	65	70	70
32621	Tire mfg	75	73	78	82	76
326211	Tire mfg (except retreading)	82	77	83	88	83
326212	Tire retreading	34	35	36	38	32
32622	Rubber & plastics hoses & belting mfg	47	53	55	62	66
326220	Rubber & plastics hoses & belting mfg	47	53	55	62	66
32629	Other rubber product mfg	54	52	60	64	66
326291	Rubber product mfg for mechanical use	60	56	67	71	68
326299	All other rubber product mfg	49	49	54	58	64
327	Nonmetallic mineral product mfg	41	45	48	57	46
3271	Clay product & refractory mfg	61	57	60	62	61
32711	Pottery, ceramics, & plumbing fixture mfg	62	60	64	63	60
327111	Vitreous china plumbing fixture & bathroom accessories mfg	91	80	89	90	89
327112	Vitreous china, fine earthenware, & other pottery product mfg	54	54	53	53	56
327113	Porcelain electrical supply mfg	52	55	65	61	49
32712	Clay building material & refractories mfg	61	55	57	61	62
327121	Brick & structural clay tile mfg	84	84	88	90	92
327122	Ceramic wall & floor tile mfg	57	38	42	47	70
327123	Other structural clay product mfg	72	60	63	57	67
327124	Clay refractory mfg	39	37	39	49	39
327125	Nonclay refractory mfg	^a 53	56	58	59	55
3272	Glass & glass product mfg	62	56	68	78	73
32721	Glass & glass product mfg	62	56	68	78	73
327211	Flat glass mfg	70	72	77	85	83
327212	Other pressed & blown glass & glassware mfg	59	52	72	78	83
327213	Glass container mfg	93	91	88	87	91
327215	Glass product mfg made of purchased glass	54	48	58	72	59
3273	Cement & concrete product mfg	29	34	35	44	31
32731	Cement mfg	62	64	66	74	81
327310	Cement mfg	62	64	66	74	81
32732	Ready-mix concrete mfg	19	24	24	33	20
327320	Ready-mix concrete mfg	19	24	24	33	20
32733	Concrete pipe, brick, & block mfg	49	49	48	47	42
327331	Concrete block & brick mfg	46	51	50	44	50
327332	Concrete pipe mfg	53	47	46	50	36
32739	Other concrete product mfg	44	44	51	60	48
327390	Other concrete product mfg	44	44	51	60	48
3274	Lime & gypsum product mfg	72	70	75	82	83
32741	Lime mfg	72	69	69	71	69
327410	Lime mfg	72	69	69	71	69
32742	Gypsum product mfg	72	71	77	85	87
327420	Gypsum product mfg	72	71	77	85	87
3279	Other nonmetallic mineral product mfg	56	51	57	60	63
32791	Abrasive product mfg	47	37	45	48	55
327910	Abrasive product mfg	47	37	45	48	55
32799	All other nonmetallic mineral product mfg	60	61	66	69	67
327991	Cut stone & stone product mfg	43	44	45	46	^a 53
327992	Ground or treated mineral & earth mfg	59	54	77	86	61
327993	Mineral wool mfg	81	80	76	77	88
327999	All other miscellaneous nonmetallic mineral product mfg	52	56	60	59	54
331	Primary metal mfg	58	59	61	70	68
3311	Iron & steel mills & ferroalloy mfg	85	76	64	86	76
33111	Iron & steel mills & ferroalloy mfg	85	76	64	86	76
331111	Iron & steel mills	86	77	64	87	76
331112	Electrometallurgical ferroalloy product mfg	70	56	68	73	69
3312	Steel product mfg from purchased steel	56	54	62	70	65
33121	Iron & steel pipes & tubes mfg from purchased steel	53	54	58	65	59
331210	Iron & steel pipes & tubes mfg from purchased steel	53	54	58	65	59
33122	Rolling & drawing of purchased steel	58	54	66	75	70
331221	Cold-rolled steel shape mfg	58	50	64	73	67
331222	Steel wire drawing	57	58	68	76	72
3313	Alumina & aluminum production & processing	65	^a 63	73	78	79
33131	Alumina & aluminum production & processing	65	^a 63	73	78	79
331311	Alumina refining	^a 79	^a 84	^a 72	71	80
331312	Primary aluminum production	^a 67	^a 64	79	86	87
331314	Secondary smelting & alloying of aluminum	63	65	69	83	81
331315	Aluminum sheet, plate, & foil mfg	^a 80	^a 67	77	85	78
331316	Aluminum extruded product mfg	52	55	64	63	75
331319	Other aluminum rolling & drawing	61	55	70	77	69
3314	Nonferrous metal (except aluminum) production & processing	57	61	64	68	66
33141	Nonferrous metal (except aluminum) smelting & refining	59	58	54	70	64
331411	Primary smelting & refining of copper	65	50	41	75	89
331419	Other nonferrous metal primary smelting & refining	55	71	66	66	55
33142	Copper rolling, drawing, extruding, & alloying	68	66	80	84	80
331421	Copper rolling, drawing, & extruding	71	68	83	89	84
331422	Copper wire (except mechanical) drawing	71	69	72	81	74
331423	Secondary smelting, refining, & alloying of copper	^a 44	46	64	62	^a 62
33149	Other nonferrous metal rolling, drawing, extruding, & alloying	50	59	62	59	60
331491	Other nonferrous metal rolling, drawing, & extruding	53	61	64	59	58
331492	Other nonferrous metal secondary smelting, refining, & alloying	^a 45	54	56	59	63
3315	Foundries	44	46	51	54	58
33151	Ferrous metal foundries	43	45	52	52	59
331511	Iron foundries	43	45	51	53	60
331512	Steel investment foundries	43	52	56	50	52
331513	Steel foundries (except investment)	46	39	51	49	63
33152	Nonferrous metal foundries	45	47	50	57	57
331521	Aluminum die-casting foundries	40	50	56	72	65
331522	Nonferrous (except aluminum) die-casting foundries	52	40	46	58	56
331524	Aluminum foundries (except die-casting)	45	49	47	50	54
331525	Copper foundries (except die-casting)	34	36	40	43	43
331528	Other nonferrous foundries (except die-casting)	59	^a 65	70	70	61

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
332	Fabricated metal product mfg	36	40	48	50	49
3321	Forging & stamping	42	43	50	52	41
33211	Forging & stamping	42	43	50	52	41
332111	Iron & steel forging	43	37	48	51	54
332112	Nonferrous forging	44	54	54	57	61
332114	Custom roll forming	41	44	46	47	40
332115	Crown & closure mfg	42	41	49	37	49
332116	Metal stamping	40	43	49	53	36
332117	Powder metallurgy part mfg	54	54	65	70	37
3322	Cutlery & handtool mfg	44	49	56	56	49
33221	Cutlery & handtool mfg	44	49	56	56	49
332211	Cutlery & flatware (except precious) mfg	44	46	61	62	66
332212	Hand & edge tool mfg	41	48	54	53	47
332213	Saw blade & handsaw mfg	54	53	61	66	57
332214	Kitchen utensil, pot, & pan mfg	58	57	56	56	31
3323	Architectural & structural metals mfg	29	38	44	45	45
33231	Plate work & fabricated structural product mfg	34	37	45	46	44
332311	Prefabricated metal building & component mfg	43	50	53	52	40
332312	Fabricated structural metal mfg	33	36	44	47	48
332313	Plate work mfg	30	32	39	38	36
33232	Ornamental & architectural metal products mfg	27	38	43	44	45
332321	Metal window & door mfg	35	40	44	49	44
332322	Sheet metal work mfg	22	37	43	42	46
332323	Ornamental & architectural metal work mfg	38	38	44	46	45
3324	Boiler, tank, & shipping container mfg	50	51	52	53	56
33241	Power boiler & heat exchanger mfg	40	46	43	42	48
332410	Power boiler & heat exchanger mfg	40	46	43	42	48
33242	Metal tank (heavy gauge) mfg	42	42	44	49	51
332420	Metal tank (heavy gauge) mfg	42	42	44	49	51
33243	Metal can, box, & other metal container (light gauge) mfg	62	61	63	63	63
332431	Metal can mfg	70	68	72	73	73
332439	Other metal container mfg	43	45	43	45	45
3325	Hardware mfg	48	47	49	47	50
33251	Hardware mfg	48	47	49	47	50
332510	Hardware mfg	48	47	49	47	50
3326	Spring & wire product mfg	45	45	53	54	57
33261	Spring & wire product mfg	45	45	53	54	57
332611	Spring (heavy gauge) mfg	57	50	50	52	53
332612	Spring (light gauge) mfg	49	41	56	61	55
332618	Other fabricated wire product mfg	42	48	53	51	59
3327	Machine shops, turned product, & screw, nut, & bolt mfg	28	31	43	46	51
33271	Machine shops	25	29	44	47	52
332710	Machine shops	25	29	44	47	52
33272	Turned product & screw, nut, & bolt mfg	35	36	42	45	50
332721	Precision turned product mfg	30	31	40	41	44
332722	Bolt, nut, screw, rivet, & washer mfg	42	44	45	50	57
3328	Coating, engraving, heat treating, & allied activities	47	46	51	57	56
33281	Coating, engraving, heat treating, & allied activities	47	46	51	57	56
332811	Metal heat treating	54	53	52	62	63
332812	Metal coating/engraving (exc jewelry/silverware)/allied services	59	58	55	60	64
332813	Electroplating, plating, polishing, anodizing, & coloring	37	36	46	53	47
3329	Other fabricated metal product mfg	45	47	53	54	48
33291	Metal valve mfg	45	46	51	53	53
332911	Industrial valve mfg	42	44	49	48	54
332912	Fluid power valve & hose fitting mfg	44	44	51	55	53
332913	Plumbing fixture fitting & trim mfg	52	52	53	55	50
332919	Other metal valve & pipe fitting mfg	49	50	58	62	53
33299	All other fabricated metal product mfg	44	49	54	55	45
332991	Ball & roller bearing mfg	51	58	61	75	68
332992	Small arms ammunition mfg	55	46	51	56	45
332993	Ammunition (except small arms) mfg	28	36	29	31	17
332994	Small arms mfg	52	44	55	56	49
332995	Other ordnance & accessories mfg	58	57	56	59	38
332996	Fabricated pipe & pipe fitting mfg	39	52	56	41	38
332997	Industrial pattern mfg	43	38	49	52	50
332998	Enameled iron & metal sanitary ware mfg	37	54	59	64	39
332999	All other miscellaneous fabricated metal product mfg	43	45	56	57	51
333	Machinery mfg	37	29	45	46	47
3331	Agriculture, construction, & mining machinery mfg	36	41	46	46	51
33311	Agricultural implement mfg	33	36	46	42	48
333111	Farm machinery & equipment mfg	33	36	48	42	52
333112	Lawn & garden tractor & home lawn & garden equipment mfg	34	34	43	42	39
33312	Construction machinery mfg	39	45	47	50	56
333120	Construction machinery mfg	39	45	47	50	56
33313	Mining & oil & gas field machinery mfg	40	46	45	47	49
333131	Mining machinery & equipment mfg	41	44	39	47	31
333132	Oil & gas field machinery & equipment mfg	39	47	49	47	63
3332	Industrial machinery mfg	29	14	46	39	41
33321	Sawmill & woodworking machinery mfg	28	32	32	35	46
333210	Sawmill & woodworking machinery mfg	28	32	32	35	46
33322	Plastics & rubber industry machinery mfg	32	33	51	53	44
333220	Plastics & rubber industry machinery mfg	32	33	51	53	44
33329	Other industrial machinery mfg	13	13	46	38	41
333291	Paper industry machinery mfg	29	35	43	38	^a 48
333292	Textile machinery mfg	^a 31	^a 25	^a 35	29	34
333293	Printing machinery & equipment mfg	29	30	41	42	41
333294	Food product machinery mfg	35	40	41	43	46
333295	Semiconductor machinery mfg	34	18	^a 60	^a 37	^a 37
333298	All other industrial machinery mfg	23	6	39	38	42

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
333	Machinery mfg—Con.					
3333	Commercial & service industry machinery mfg	33	34	41	45	46
33331	Commercial & service industry machinery mfg	33	34	41	45	46
333311	Automatic vending machine mfg	30	^{a26} 34	34	36	71
333312	Commercial laundry, drycleaning, & pressing machine mfg	^{a25} 25	29	50	59	51
333313	Office machinery mfg	^{a30} 30	^{a30} 30	44	47	42
333314	Optical instrument & lens mfg	34	32	42	45	28
333315	Photographic & photocopying equipment mfg	46	41	38	43	62
333319	Other commercial & service industry machinery mfg	32	30	45	47	46
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg	42	37	44	46	47
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg	42	37	44	46	47
333411	Air purification equipment mfg	37	34	40	42	43
333412	Industrial & commercial fan & blower mfg	38	39	44	43	40
333414	Heating equipment (except warm air furnaces) mfg	46	45	48	49	44
333415	AC & warm air heating & commercial/industrial refig equip mfg	42	36	43	47	49
3335	Metalworking machinery mfg	35	32	45	49	49
33351	Metalworking machinery mfg	35	32	45	49	49
333511	Industrial mold mfg	39	26	40	46	47
333512	Machine tool (metal cutting types) mfg	34	33	43	49	50
333513	Machine tool (metal forming types) mfg	28	30	45	48	57
333514	Special die & tool, die set, jig, & fixture mfg	35	34	44	47	48
333515	Cutting tool & machine tool accessory mfg	41	41	59	57	55
333516	Rolling mill machinery & equipment mfg	28	30	35	45	52
333518	Other metalworking machinery mfg	31	31	46	48	37
3336	Engine, turbine, & power transmission equipment mfg	45	46	52	53	54
33361	Engine, turbine, & power transmission equipment mfg	45	46	52	53	54
333611	Turbine & turbine generator set unit mfg	^{a70} 70	70	61	49	55
333612	Speed changer, industrial high-speed drive, & gear mfg	29	41	50	53	50
333613	Mechanical power transmission equipment mfg	38	43	43	45	55
333618	Other engine equipment mfg	41	41	52	57	54
3339	Other general-purpose machinery mfg	38	38	43	45	45
33391	Pump & compressor mfg	44	42	44	46	52
333911	Pump & pumping equipment mfg	50	42	44	47	55
333912	Air & gas compressor mfg	39	42	44	44	47
333913	Measuring & dispensing pump mfg	^{a37} 37	^{a45} 45	^{a44} 44	50	57
33392	Material handling equipment mfg	33	33	43	45	45
333921	Elevator & moving stairway mfg	50	50	51	56	62
333922	Conveyor & conveying equipment mfg	28	29	41	42	43
333923	Overhead traveling crane, hoist, & monorail system mfg	34	34	40	44	49
333924	Industrial truck, tractor, trailer, & stacker machinery mfg	38	35	46	45	42
33399	All other general-purpose machinery mfg	38	39	43	45	43
333991	Power-driven handtool mfg	59	52	59	68	65
333992	Welding & soldering equipment mfg	36	40	46	47	52
333993	Packaging machinery mfg	39	34	34	41	49
333994	Industrial process furnace & oven mfg	30	34	46	42	39
333995	Fluid power cylinder & actuator mfg	39	41	40	43	51
333996	Fluid power pump & motor mfg	41	42	47	46	60
333997	Scale & balance (except laboratory) mfg	20	20	22	44	44
333999	All other miscellaneous general-purpose machinery mfg	37	39	44	43	31
334	Computer & electronic product mfg	38	40	53	56	54
3341	Computer & peripheral equipment mfg	43	^{a40} 40	47	50	^{a51} 51
33411	Computer & peripheral equipment mfg	43	^{a40} 40	47	50	^{a51} 51
334111	Electronic computer mfg	44	^{a42} 42	^{a48} 48	49	^{a50} 50
334112	Computer storage device mfg	^{a36} 36	^{a29} 29	36	43	51
334113	Computer terminal mfg	50	^{a30} 30	29	^{a33} 33	^{a51} 51
334119	Other computer peripheral equipment mfg	^{a51} 51	50	61	59	53
3342	Communications equipment mfg	^{a39} 39	^{a39} 39	56	61	60
33421	Telephone apparatus mfg	^{a21} 21	^{a36} 36	59	70	65
334210	Telephone apparatus mfg	^{a21} 21	^{a36} 36	59	70	65
33422	Radio & TV broadcasting & wireless communications equipment mfg	^{a38} 38	^{a42} 42	^{a54} 54	54	57
334220	Radio & TV broadcasting & wireless communications equipment mfg	^{a38} 38	^{a42} 42	^{a54} 54	54	57
33429	Other communications equipment mfg	39	43	47	53	45
334290	Other communications equipment mfg	39	43	47	53	45
3343	Audio & video equipment mfg	40	42	37	39	44
33431	Audio & video equipment mfg	40	42	37	39	44
334310	Audio & video equipment mfg	40	42	37	39	44
3344	Semiconductor & other electronic component mfg	46	^{a40} 40	64	69	^{a57} 57
33441	Semiconductor & other electronic component mfg	46	^{a40} 40	64	69	^{a57} 57
334411	Electron tube mfg	55	58	70	63	69
334412	Bare printed circuit board mfg	38	^{a34} 34	53	60	48
334413	Semiconductor & related device mfg	56	^{a41} 41	^{a69} 69	^{a84} 84	^{a58} 58
334414	Electronic capacitor mfg	36	^{a35} 35	78	77	67
334415	Electronic resistor mfg	29	28	45	40	44
334416	Electronic coil, transformer, & other inductor mfg	29	34	47	46	42
334417	Electronic connector mfg	40	47	54	50	^{a55} 55
334418	Printed circuit assembly (electronic assembly) mfg	39	^{a51} 51	64	54	^{a56} 56
334419	Other electronic component mfg	26	27	42	37	65
3345	Navigational, measuring, medical, & control instruments mfg	40	40	42	45	45
33451	Navigational, measuring, medical, & control instruments mfg	40	40	42	45	45
334510	Electromedical & electrotherapeutic apparatus mfg	57	49	54	54	49
334511	Search, detection, navigation, & guidance instrument mfg	43	43	40	46	46
334512	Automatic environmental control mfg	37	47	51	56	51
334513	Industrial process control instrument mfg	29	31	38	42	37
334514	Totalizing fluid meter & counting device mfg	47	52	52	53	42
334515	Electricity measuring & testing instrument mfg	36	35	47	45	(NA)
334516	Analytical laboratory instrument mfg	32	33	31	34	38
334517	Irradiation apparatus mfg	49	49	47	44	54
334518	Watch, clock, & part mfg	27	^{a24} 24	30	31	33
334519	Other measuring & controlling device mfg	32	36	43	37	43
3346	Mfg & reproducing magnetic & optical media	55	64	58	62	78
33461	Mfg & reproducing magnetic & optical media	55	64	58	62	78
334611	Software reproducing	69	68	48	^{a47} 47	82
334612	Prerecorded CD (except software), tape, & record reproducing	50	58	59	63	80
334613	Magnetic & optical recording media mfg	75	77	64	71	73

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
335	Electrical equipment, appliance, & component mfg	44	45	53	56	53
3351	Electric lighting equipment mfg	37	39	47	49	48
33511	Electric lamp bulb & part mfg	53	53	62	59	52
335110	Electric lamp bulb & part mfg	53	53	62	59	52
33512	Lighting fixture mfg	35	36	43	45	46
335121	Residential electric lighting fixture mfg	^{a24} 27	27	35	39	42
335122	Commercial/industrial/institutional electric lighting fixture mfg	35	38	46	47	50
335129	Other lighting equipment mfg	44	40	46	49	45
3352	Household appliance mfg	52	51	52	57	57
33521	Small electrical appliance mfg	43	47	47	51	51
335211	Electric housewares & household fan mfg	45	44	43	55	45
335212	Household vacuum cleaner mfg	41	49	51	48	60
33522	Major appliance mfg	56	53	54	59	60
335221	Household cooking appliance mfg	43	38	41	43	51
335222	Household refrigerator & home freezer mfg	58	58	53	59	56
335224	Household laundry equipment mfg	71	77	75	75	68
335228	Other major household appliance mfg	52	54	54	64	67
3353	Electrical equipment mfg	43	42	51	54	48
33531	Electrical equipment mfg	43	42	51	54	48
335311	Power, distribution, & specialty transformer mfg	46	52	61	63	55
335312	Motor & generator mfg	46	45	49	61	45
335313	Switchgear & switchboard apparatus mfg	45	41	59	58	58
335314	Relay & industrial control mfg	38	38	45	44	44
3359	Other electrical equipment & component mfg	44	47	57	61	57
33591	Battery mfg	49	52	59	68	69
335911	Storage battery mfg	^{a45} 54	^{a51} 63	63	67	68
335912	Primary battery mfg	54	54	54	69	70
33592	Communication & energy wire & cable mfg	41	53	67	73	72
335921	Fiber optic cable mfg	^{a34} 47	^{a54} 78	78	73	73
335929	Other communication & energy wire mfg	47	53	64	72	72
33593	Wiring device mfg	51	51	56	58	55
335931	Current-carrying wiring device mfg	50	51	55	55	57
335932	Noncurrent-carrying wiring device mfg	51	51	57	63	54
33599	All other electrical equipment & component mfg	37	36	48	50	44
335991	Carbon & graphite product mfg	43	44	54	63	70
335999	All other miscellaneous electrical equipment & component mfg	36	^{a35} 47	47	47	40
336	Transportation equipment mfg	45	45	48	54	55
3361	Motor vehicle mfg	52	51	55	62	58
33611	Automobile & light duty motor vehicle mfg	53	54	55	61	59
336111	Automobile mfg	48	49	55	57	54
336112	Light truck & utility vehicle mfg	59	61	56	64	63
33612	Heavy duty truck mfg	35	29	44	70	49
336120	Heavy duty truck mfg	35	29	44	70	49
3362	Motor vehicle body & trailer mfg	36	30	34	43	44
33621	Motor vehicle body & trailer mfg	36	30	34	43	44
336211	Motor vehicle body mfg	35	37	43	46	42
336212	Truck trailer mfg	36	26	36	54	56
336213	Motor home mfg	33	26	27	34	38
336214	Travel trailer & camper mfg	38	28	29	38	41
3363	Motor vehicle parts mfg	54	52	57	64	58
33631	Motor vehicle gasoline engine & engine parts mfg	56	56	59	66	58
336311	Carburetor, piston, piston ring, & valve mfg	68	50	61	64	80
336312	Gasoline engine & engine parts mfg	54	57	59	66	56
33632	Motor vehicle electrical & electronic equipment mfg	43	44	55	65	60
336321	Vehicular lighting equipment mfg	59	56	56	66	56
336322	Other motor vehicle electrical & electronic equipment mfg	41	43	55	64	60
33633	Motor vehicle steering & suspension component (except spring) mfg ..	59	57	60	69	74
336330	Motor vehicle steering & suspension component (except spring) mfg	59	57	60	69	74
33634	Motor vehicle brake system mfg	60	48	50	59	47
336340	Motor vehicle brake system mfg	60	48	50	59	47
33635	Motor vehicle transmission & power train parts mfg	66	63	60	75	49
336350	Motor vehicle transmission & power train parts mfg	66	63	60	75	49
33636	Motor vehicle seating & interior trim mfg	48	51	55	58	49
336360	Motor vehicle seating & interior trim mfg	48	51	55	58	49
33637	Motor vehicle metal stamping	57	56	58	65	67
336370	Motor vehicle metal stamping	57	56	58	65	67
33639	Other motor vehicle parts mfg	53	46	56	59	64
336391	Motor vehicle air-conditioning mfg	62	60	53	61	64
336399	All other motor vehicle parts mfg	52	45	56	59	64
3364	Aerospace product & parts mfg	38	39	40	45	53
33641	Aerospace product & parts mfg	38	39	40	45	53
336411	Aircraft mfg	35	47	44	51	54
336412	Aircraft engine & engine parts mfg	42	39	42	41	52
336413	Other aircraft part & auxiliary equipment mfg	44	47	51	53	57
336414	Guided missile & space vehicle mfg	^{a38} 27	^{a21} 22	^{a27} 23	^{a32} 25	53
336415	Guided missile & space vehicle propulsion unit & parts mfg	27	22	23	25	28
336419	Other guided missile & space vehicle parts & auxiliary equip mfg	37	36	50	45	53
3365	Railroad rolling stock mfg	37	^{a44} 37	57	64	66
33651	Railroad rolling stock mfg	37	^{a44} 37	57	64	66
336510	Railroad rolling stock mfg	37	^{a44} 37	57	64	66
3366	Ship & boat building	37	36	39	40	43
33661	Ship & boat building	37	36	39	40	43
336611	Ship building & repairing	40	38	40	42	46
336612	Boat building	34	^{a33} 37	37	38	38
3369	Other transportation equipment mfg	29	34	40	48	42
33699	Other transportation equipment mfg	29	34	40	48	42
336991	Motorcycle, bicycle, & parts mfg	^{a18} 37	^{a24} 36	^{a40} 26	54	59
336992	Military armored vehicle, tank, & tank component mfg	37	36	26	37	34
336999	All other transportation equipment mfg	47	47	50	49	36

See footnotes at end of table.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1998 Through 2002—Con.**

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	National emergency rate				
		2002	2001	2000	1999	1998
337	Furniture & related product mfg	36	36	41	46	45
3371	Household & institutional furniture & kitchen cabinet mfg	34	35	40	49	41
33711	Wood kitchen cabinet & counter top mfg	43	48	48	56	48
337110	Wood kitchen cabinet & counter top mfg	43	48	48	56	48
33712	Household & institutional furniture mfg	31	31	38	47	39
337121	Upholstered household furniture mfg	39	44	45	48	38
337122	Nonupholstered wood household furniture mfg	28	30	35	50	39
337124	Metal household furniture mfg	^{a24} 24	27	35	40	36
337125	Household furniture (except wood & metal) mfg	32	35	42	46	40
337127	Institutional furniture mfg	32	24	37	41	45
337129	Wood television, radio, & sewing machine cabinet mfg	44	46	46	46	38
3372	Office furniture (including fixtures) mfg	39	38	43	45	54
33721	Office furniture (including fixtures) mfg	39	38	43	45	54
337211	Wood office furniture mfg	31	34	37	41	60
337212	Custom architectural woodwork & millwork mfg	40	34	35	39	67
337214	Office furniture (except wood) mfg	39	43	53	50	52
337215	Showcase, partition, shelving, & locker mfg	42	37	40	42	50
3379	Other furniture related product mfg	40	36	38	42	44
33791	Mattress mfg	40	37	43	40	41
337910	Mattress mfg	40	37	43	40	41
33792	Blind & shade mfg	40	35	32	46	50
337920	Blind & shade mfg	40	35	32	46	50
339	Miscellaneous mfg	40	43	47	44	43
3391	Medical equipment & supplies mfg	44	49	53	45	46
33911	Medical equipment & supplies mfg	44	49	53	45	46
339111	Laboratory apparatus & furniture mfg	38	43	43	39	48
339112	Surgical & medical instrument mfg	40	46	51	46	51
339113	Surgical appliance & supplies mfg	48	51	60	63	36
339114	Dental equipment & supplies mfg	48	49	50	53	53
339115	Ophthalmic goods mfg	43	53	49	17	74
339116	Dental laboratories	66	55	56	61	45
3399	Other miscellaneous mfg	36	37	42	43	40
33991	Jewelry & silverware mfg	33	34	39	41	49
339911	Jewelry (except costume) mfg	35	35	42	42	52
339912	Silverware & plated ware mfg	27	30	45	51	50
339913	Jewelers' material & lapidary work mfg	50	46	30	40	49
339914	Costume jewelry & novelty mfg	28	^{a30} 30	31	33	40
33992	Sporting & athletic goods mfg	30	34	35	39	26
339920	Sporting & athletic goods mfg	30	34	35	39	26
33993	Doll, toy, & game mfg	45	34	40	47	45
339931	Doll & stuffed toy mfg	^{a24} 24	^{a51} 51	^{a44} 44	56	20
339932	Game, toy, & children's vehicle mfg	50	33	40	46	51
33994	Office supplies (except paper) mfg	43	45	48	49	48
339941	Pen & mechanical pencil mfg	41	38	48	53	50
339942	Lead pencil & art good mfg	64	75	68	53	50
339943	Marking device mfg	^{a31} 31	32	33	46	41
339944	Carbon paper & inked ribbon mfg	40	55	52	42	46
33995	Sign mfg	41	41	48	53	46
339950	Sign mfg	41	41	48	53	46
33999	All other miscellaneous mfg	36	38	43	42	46
339991	Gasket, packing, & sealing device mfg	45	49	57	49	62
339992	Musical instrument mfg	14	17	31	29	37
339993	Fastener, button, needle, & pin mfg	39	39	48	60	55
339994	Broom, brush, & mop mfg	35	36	39	38	52
339995	Burial casket mfg	45	50	53	49	42
339999	All other miscellaneous mfg	^{a45} 45	^{a43} 43	38	40	41
5111	Newspaper, periodical, book, and database publishers	69	(NA)	(NA)	(NA)	(NA)

¹Excluding NAICS 5111, Newspaper, periodical, book, and database publishers.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production			National emergency production			
						Level		2001 to 2002 change	Level		2001 to 2002 change	
						2002	2001		2002	2001		
31-33	Manufacturing²	63	64	45	45	1	1	1	1	1	1	1
	Durable goods industries²	59	61	40	40	1	1	1	1	1	1	1
	Nondurable goods industries² ..	69	70	52	55	1	1	1	1	1	1	1
	Advanced processing industries²	61	63	43	43	1	1	1	1	1	1	1
	Primary processing industries² ..	68	68	50	52	1	1	1	1	1	1	1
311	Food mfg	73	72	58	55	2	2	2	2	2	2	3
3111	Animal food mfg	73	69	59	59	5	4	3	4	4	4	7
31111	Animal food mfg	73	69	59	59	5	4	3	4	4	4	7
311111	Dog & cat food mfg	80	75	73	68	4	2	3	4	2	4	4
311119	Other animal food mfg	68	63	48	50	8	7	4	6	6	6	3
3112	Grain & oilseed milling	79	79	73	73	2	2	2	2	2	2	2
31121	Flour milling & malt mfg	78	77	68	68	4	4	4	6	6	6	7
311211	Flour milling	79	75	71	67	5	5	2	7	7	7	2
311212	Rice milling	74	89	70	81	2	2	2	2	3	2	2
311213	Malt mfg	75	75	44	45	12	12	2	20	20	1	1
31122	Starch & vegetable fats & oils mfg	91	89	90	88	2	2	3	2	2	2	3
311221	Wet corn milling	93	94	93	94	2	2	1	2	2	2	1
311222	Soybean processing	96	92	96	91	2	2	3	2	2	2	3
311223	Other oilseed processing	70	80	70	73	7	6	3	7	8	7	7
311225	Fats & oils refining & blending	84	81	83	78	5	5	2	5	5	5	2
31123	Breakfast cereal mfg	^{a2} 72	73	^{a6} 65	66	^{a3} 3	3	^{a3} 3	^{a2} 2	^{a2} 2	^{a2} 2	^{a2} 2
311230	Breakfast cereal mfg	^{a7} 72	73	^{a6} 65	66	^{a3} 3	3	^{a1} 3	^{a2} 2	^{a2} 2	^{a1} 2	^{a1} 1
3113	Sugar & confectionery product mfg	69	71	56	58	2	2	2	3	3	3	3
31131	Sugar mfg	93	90	85	78	1	1	2	1	1	2	2
311311	Sugarcane mills	93	98	92	94	2	2	4	2	2	2	2
311312	Cane sugar refining	^{a7} 99	^{a7} 96	^{a5} 93	^{a5} 93	^{a1} 1	^{a1} 1	^{a1} 1	^{a1} 1	^{a1} 1	^{a1} 1	^{a1} 1
311313	Beet sugar mfg	97	97	97	97	1	2	1	1	2	1	1
31132	Chocolate & confectionery mfg from cacao beans	81	76	76	71	1	1	1	1	1	1	1
311320	Chocolate & confectionery mfg from cacao beans	81	76	76	71	1	1	1	1	1	1	1
31133	Confectionery mfg from purchased chocolate	63	65	45	48	2	2	4	4	4	4	5
311330	Confectionery mfg from purchased chocolate	63	65	45	48	2	2	2	4	4	4	2
31134	Nonchocolate confectionery mfg	63	70	55	61	4	5	3	5	5	5	3
311340	Nonchocolate confectionery mfg	63	70	55	61	4	5	5	5	5	5	6
3114	Fruit & vegetable preserving & specialty food mfg	64	63	52	46	6	5	6	5	7	7	9
31141	Frozen food mfg	77	77	67	68	4	4	4	4	4	4	4
311411	Frozen fruit, juice, & vegetable mfg ..	79	81	72	73	3	3	2	2	3	2	2
311412	Frozen specialty food mfg	76	74	64	64	6	7	2	5	6	6	3
31142	Fruit & vegetable canning, pickling, & drying	57	55	45	37	8	6	8	7	8	8	10
311421	Fruit & vegetable canning	51	52	38	30	10	8	5	8	9	10	10
311422	Specialty canning	66	63	59	58	10	9	3	8	7	3	3
311423	Dried & dehydrated food mfg	68	50	53	36	5	7	7	5	7	7	7
3115	Dairy product mfg	77	78	67	69	3	2	3	3	3	3	3
31151	Dairy product (except frozen) mfg	78	78	70	70	3	3	3	3	3	3	3
311511	Fluid milk mfg	82	82	72	71	4	3	2	5	5	5	2
311512	Creamery butter mfg	72	71	62	57	3	4	5	2	6	6	6
311513	Cheese mfg	81	80	74	77	3	3	2	3	3	3	2
311514	Dry, condensed, & evaporated dairy product mfg	69	71	63	64	6	6	3	6	5	3	3
31152	Ice cream & frozen dessert mfg	69	79	54	64	4	4	5	3	4	4	4
311520	Ice cream & frozen dessert mfg	69	79	54	64	4	4	4	3	4	4	3
3116	Meat product mfg	83	83	63	59	2	2	2	3	6	6	6
31161	Animal slaughtering & processing	83	83	63	59	2	2	2	3	6	6	6
311611	Animal (except poultry) slaughtering ..	88	88	70	53	1	2	1	4	14	13	13
311612	Meat processed from carcasses	77	77	62	60	3	3	3	3	4	3	3
311613	Rendering & meat byproduct processing	76	75	59	59	4	5	2	8	9	2	2
311615	Poultry processing	86	86	61	63	4	4	1	6	6	6	2
3117	Seafood product preparation & packaging	56	60	35	37	8	7	10	6	6	6	9
31171	Seafood product preparation & packaging	56	60	35	37	8	7	10	6	6	6	9
311711	Seafood canning	64	64	56	53	3	5	4	2	4	4	4
311712	Fresh & frozen seafood processing ..	55	60	34	36	8	8	2	6	6	6	3
3118	Bakeries & tortilla mfg	73	69	55	44	2	3	4	5	2	4	4
31181	Bread & bakery product mfg	76	68	62	55	3	4	4	4	4	4	4
311811	Retail bakeries	^{a6} 76	^{a6} 66	^{a3} 63	25	^{a4} 3	4	^{a2} 6	^{a9} 4	6	^{a4} 6	^{a4} 6
311812	Commercial bakeries	76	68	68	62	3	5	6	4	4	4	6
311813	Frozen cakes, pies, & other pastries mfg	78	79	61	61	4	5	1	5	4	4	2
31182	Cookie, cracker, & pasta mfg	68	69	44	30	3	3	6	9	2	5	5
311821	Cookie & cracker mfg	66	69	40	25	3	4	3	10	2	9	9
311822	Flour mixes & dough mfg from purchased flour	72	72	60	60	6	5	2	6	6	6	2
311823	Dry pasta mfg	77	68	73	66	5	5	6	5	5	5	5
31183	Tortilla mfg	79	76	66	63	3	3	4	3	3	3	4
311830	Tortilla mfg	79	76	66	63	3	3	2	3	3	3	2

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹					
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change
						Level			2002	2001	
						2002	2001				
311	Food mfg—Con.										
3119	Other food mfg	73	71	55	57	2	2	3	3	2	3
31191	Snack food mfg	80	77	66	64	2	2	5	3	2	5
311911	Roasted nuts & peanut butter mfg	76	71	64	60	6	6	2	6	6	3
311919	Other snack food mfg	81	78	67	65	2	2	2	3	2	2
31192	Coffee & tea mfg	71	71	39	57	3	3	4	11	2	4
311920	Coffee & tea mfg	71	71	39	57	3	3	3	11	2	11
31193	Flavoring syrup & concentrate mfg	70	69	54	55	3	3	9	6	3	6
311930	Flavoring syrup & concentrate mfg ..	70	69	54	55	3	3	1	6	3	3
31194	Seasoning & dressing mfg	67	64	57	55	5	4	5	5	4	5
311941	Mayonnaise, dressing, & other prepared sauce mfg	74	69	65	58	6	6	3	5	5	4
311942	Spice & extract mfg	62	59	50	51	7	6	2	7	6	3
31199	All other food mfg	71	71	51	53	4	4	4	5	5	5
311991	Perishable prepared food mfg	67	66	61	57	7	7	2	6	6	2
311999	All other miscellaneous food mfg	72	73	49	52	5	4	2	6	6	2
312	Beverage & tobacco product mfg	65	68	50	58	1	1	2	1	1	3
3121	Beverage mfg	65	66	53	57	2	2	3	3	2	5
31211	Soft drink & ice mfg	57	56	44	48	3	3	5	3	3	6
312111	Soft drink mfg	60	58	47	51	4	4	2	4	3	3
312112	Bottled water mfg	50	51	30	31	6	7	2	3	3	2
312113	Ice mfg	23	27	20	23	4	5	2	3	4	1
31212	Breweries	81	82	80	82	2	2	3	3	2	4
312120	Breweries	81	82	80	82	2	2	1	3	2	2
31213	Wineries	66	69	55	59	4	7	12	6	6	13
312130	Wineries	66	69	55	59	4	7	5	6	6	4
31214	Distilleries	66	68	43	45	3	4	7	6	6	7
312140	Distilleries	66	68	43	45	3	4	2	6	6	1
3122	Tobacco mfg	65	69	48	59	1	1	1	1	1	1
31221	Tobacco stemming & redrying	59	75	45	64	1	1	1	1	1	1
312210	Tobacco stemming & redrying	59	75	45	64	1	1	1	1	1	1
31222	Tobacco product mfg	65	69	48	59	1	1	1	1	1	1
312221	Cigarette mfg	65	70	48	60	1	1	1	1	1	1
312229	Other tobacco product mfg	66	60	54	49	7	8	2	8	9	1
313	Textile mills	66	68	56	58	2	2	2	2	2	2
3131	Fiber, yarn, & thread mills	74	69	65	61	4	4	3	5	4	5
31311	Fiber, yarn, & thread mills	74	69	65	61	4	4	3	5	4	5
313111	Yarn spinning mills	78	70	71	62	5	5	6	6	4	5
313112	Yarn texturing, throwing, & twisting mills	69	68	58	61	5	6	4	8	8	2
313113	Thread mills	66	69	53	55	3	3	1	3	3	1
3132	Fabric mills	65	70	56	63	3	2	3	3	2	3
31321	Broadwoven fabric mills	66	72	60	70	4	3	4	4	3	4
313210	Broadwoven fabric mills	66	72	60	70	4	3	3	4	3	4
31322	Narrow fabric mills & schiffli machine embroidery	68	63	54	49	3	3	4	3	2	4
313221	Narrow fabric mills	69	63	56	51	3	3	4	3	2	4
313222	Schiffli machine embroidery	66	62	46	41	3	3	4	3	5	3
31323	Nonwoven fabric mills	62	74	52	63	4	5	6	5	5	9
313230	Nonwoven fabric mills	62	74	52	63	4	5	4	5	7	4
31324	Knit fabric mills	63	61	50	53	3	5	3	3	4	3
313241	Weft knit fabric mills	71	60	53	51	7	9	8	7	7	7
313249	Other knit fabric & lace mills	59	63	48	55	3	2	2	3	2	3
3133	Textile & fabric finishing & fabric coating mills	64	64	52	50	3	2	3	3	3	4
31331	Textile & fabric finishing mills	65	65	52	50	3	3	3	4	3	5
313311	Broadwoven fabric finishing mills	71	67	54	50	4	4	2	5	4	2
313312	Textile & fabric finishing mills	55	^{a59} 59	49	^{a50} 50	4	^{a3} 3	3	4	^{a3} 3	3
31332	Fabric coating mills	59	58	48	52	4	4	5	3	3	5
313320	Fabric coating mills	59	58	48	52	4	4	1	3	3	2
314	Textile product mills	66	70	46	50	2	2	4	2	2	3
3141	Textile furnishings mills	73	78	49	54	3	2	2	3	3	4
31411	Carpet & rug mills	75	77	61	62	2	3	4	3	3	5
314110	Carpet & rug mills	75	77	61	62	2	3	3	3	3	2
31412	Curtain & linen mills	72	79	40	49	4	2	2	4	4	5
314121	Curtain & drapery mills	77	76	44	38	3	3	3	6	5	6
314129	Other household textile product mills	70	80	39	55	5	1	5	5	6	3
3149	Other textile product mills	57	61	41	45	3	2	8	3	3	5
31491	Textile bag & canvas mills	61	61	40	39	5	4	5	4	4	4
314911	Textile bag mills	67	60	34	34	5	6	5	4	5	2
314912	Canvas & related product mills	59	61	43	43	6	5	4	6	5	3
31499	All other textile product mills	55	61	42	47	3	2	10	4	3	8
314991	Rope, cordage, & twine mills	61	^{a56} 61	38	^{a47} 47	5	^{a5} 5	3	7	^{a4} 4	9
314992	Tire cord & tire fabric mills	83	80	81	79	4	2	3	4	2	3
314999	All other miscellaneous textile product mills	53	60	40	44	4	3	3	4	3	2
315	Apparel mfg	72	69	31	36	2	2	2	3	2	3
3151	Apparel knitting mills	78	78	52	52	2	2	4	4	4	4
31511	Hosiery & sock mills	78	77	50	49	2	2	3	5	4	4
315111	Sheer hosiery mills	77	67	46	46	3	4	3	6	4	4
315119	Other hosiery & sock mills	78	81	52	50	2	2	2	6	5	2
31519	Other apparel knitting mills	^{a77} 77	80	^{a54} 54	57	^{a4} 4	4	^{a7} 7	^{a7} 7	6	^{a5} 5
315191	Outerwear knitting mills	^{a75} 75	78	^{a49} 49	54	^{a5} 5	4	^{a2} 2	^{a8} 8	7	^{a2} 2
315192	Underwear & nightwear knitting mills	^{a91} 91	^{a88} 88	^{a91} 91	^{a76} 76	^{a1} 1	^{a1} 1	^{a1} 1	^{a1} 1	^{a3} 3	^{a3} 3

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change	
						Level			2002	2001		
						2002	2001					
315	Apparel mfg—Con.											
3152	Cut & sew apparel mfg	^a 72	^a 68	^a 29	^a 35	^a 2	^a 2	^a 2	^a 3	^a 2	^a 3	^a 3
31521	Cut & sew apparel contractors	69	71	11	40	3	2	4	3	3	3	3
315211	Men's & boys' cut & sew apparel contractors	75	^a 77	43	^a 51	6	^a 5	3	7	^a 5	3	3
315212	Women's, girls', & infants' cut & sew apparel contractors	66	68	8	36	2	3	3	3	3	3	3
31522	Men's & boys' cut & sew apparel mfg ..	75	71	33	47	3	3	4	3	3	3	3
315221	Men's & boys' cut & sew underwear & nightwear mfg	^a 60	^a 54	^a 48	^a 38	^a 1	^a 1	^a 1	^a 1	^a 1	^a 1	^a 1
315222	Men's & boys' cut & sew suit, coat, & overcoat mfg	^a 60	71	^a 35	41	^a 5	6	^a 6	^a 5	5	^a 4	^a 4
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg	^a 73	65	^a 54	45	^a 10	7	^a 6	^a 6	6	^a 4	^a 4
315224	Men's & boys' cut & sew trouser, slack, & jean mfg	80	76	27	69	4	6	9	4	6	4	4
315225	Men's & boys' cut & sew work clothing mfg	88	89	27	36	2	2	2	2	6	5	5
315228	Men's & boys' cut & sew other outerwear mfg	77	^a 75	35	^a 30	7	^a 5	4	2	^a 4	4	4
31523	Women's & girls' cut & sew apparel mfg	^a 70	^a 65	^a 43	^a 27	^a 2	^a 2	^a 3	^a 2	^a 2	^a 6	^a 6
315231	Women's & girls' cut/sew lingerie & nightwear mfg	^a 63	53	^a 42	29	^a 3	6	^a 4	^a 6	6	^a 7	^a 7
315232	Women's & girls' cut & sew blouse & shirt mfg	83	^a 78	53	^a 58	3	^a 1	3	2	^a 2	2	2
315233	Women's & girls' cut & sew dress mfg	^a 58	^a 49	^a 48	^a 45	^a 6	^a 3	^a 4	^a 3	^a 3	^a 3	^a 1
315234	Women's & girls' cut & sew suit, coat, skirt mfg	^a 61	^a 75	^a 30	^a 30	^a 2	^a 1	^a 2	^a 2	^a 2	^a 2	^a 2
315239	Women's & girls' cut & sew other outerwear mfg	^a 78	^a 76	^a 42	^a 19	^a 4	^a 3	^a 2	^a 3	^a 2	^a 3	^a 3
31529	Other cut & sew apparel mfg	^a 78	74	^a 31	39	^a 5	4	^a 6	^a 5	4	^a 5	^a 5
315291	Infants' cut & sew apparel mfg	(NA)	^a 91	(NA)	^a 49	(NA)	^a 1	(NA)	(NA)	^a 2	(NA)	(NA)
315292	Fur & leather apparel mfg	^a 61	^a 68	^a 44	^a 40	^a 2	^a 3	^a 1	^a 3	^a 3	^a 3	^a 1
315299	All other cut & sew apparel mfg	^a 60	68	^a 21	35	^a 4	^a 3	^a 3	^a 4	6	^a 7	^a 7
3159	Apparel accessories & other apparel mfg	64	^a 62	35	^a 31	2	^a 3	3	2	^a 3	4	4
31599	Apparel accessories & other apparel mfg	64	^a 62	35	^a 31	2	^a 3	3	2	^a 3	4	4
315991	Hat, cap, & millinery mfg	59	^a 59	31	^a 30	3	^a 4	3	2	^a 2	2	2
315992	Glove & mitten mfg	^a 51	56	^a 20	22	^a 4	3	^a 6	^a 3	5	^a 6	^a 6
315993	Men's & boys' neckwear mfg	76	70	47	39	3	6	5	5	6	4	4
315999	Other apparel accessories & other apparel mfg	68	64	40	32	4	4	4	4	4	5	5
316	Leather & allied product mfg	54	56	27	27	2	2	3	2	2	3	3
3161	Leather & hide tanning & finishing	63	^a 57	52	50	3	^a 4	5	3	^a 4	5	5
31611	Leather & hide tanning & finishing	63	^a 57	52	^a 50	3	^a 4	5	3	^a 4	5	5
316110	Leather & hide tanning & finishing	63	^a 57	52	^a 50	3	^a 4	3	3	^a 4	4	4
3162	Footwear mfg	^a 48	^a 56	^a 26	^a 25	^a 1	^a 2	^a 3	^a 2	^a 2	^a 4	^a 4
31621	Footwear mfg	^a 48	^a 56	^a 26	^a 25	^a 1	^a 2	^a 3	^a 2	^a 2	^a 4	^a 4
316211	Rubber & plastics footwear mfg	^a 41	^a 55	^a 30	^a 29	^a 1	^a 5	^a 5	^a 3	^a 3	^a 3	^a 3
316212	House slipper mfg	57	62	19	27	1	2	2	2	1	3	3
316213	Men's footwear (except athletic) mfg	61	61	35	37	2	2	1	4	3	2	2
316214	Women's footwear (except athletic) mfg	^a 26	^a 37	^a 10	^a 8	^a 2	^a 3	^a 3	^a 1	^a 1	^a 1	^a 1
316219	Other footwear mfg	^a 79	^a 69	^a 65	^a 50	^a 3	^a 3	^a 3	^a 4	^a 4	^a 5	^a 5
3169	Other leather & allied product mfg	56	54	20	22	4	3	5	3	2	3	3
31699	Other leather & allied product mfg	56	54	20	22	4	3	5	3	2	3	3
316991	Luggage mfg	48	45	24	24	6	4	3	4	3	3	3
316992	Women's handbag & purse mfg	62	^a 77	29	^a 47	7	^a 4	7	7	^a 7	4	4
316993	Personal leather good (except women's handbag & purse) mfg	^a 55	^a 53	^a 9	^a 9	^a 3	^a 2	^a 2	^a 4	^a 2	^a 2	^a 2
316999	All other leather good mfg	78	79	27	33	4	3	2	3	3	3	3
321	Wood product mfg	67	66	42	41	2	2	2	2	2	3	3
3211	Sawmills & wood preservation	75	69	50	46	4	4	4	5	4	7	7
32111	Sawmills & wood preservation	75	69	50	46	4	4	4	5	4	7	7
321113	Sawmills	75	70	52	46	4	4	4	6	5	4	4
321114	Wood preservation	71	64	41	44	6	5	3	9	5	6	6
3212	Veneer, plywood, & engineered wood product mfg	66	66	43	46	4	3	3	5	5	8	8
32121	Veneer, plywood, & engineered wood product mfg	66	66	43	46	4	3	3	5	5	8	8
321211	Hardwood veneer & plywood mfg	67	62	43	44	4	4	3	5	4	5	5
321212	Softwood veneer & plywood mfg	86	84	81	79	4	5	3	4	5	3	3
321213	Engineered wood member (except truss) mfg	64	63	51	53	6	5	3	6	5	2	2
321214	Truss mfg	54	55	33	39	8	5	4	4	3	4	4
321219	Reconstituted wood product mfg	72	69	42	42	5	5	3	12	12	2	2
3219	Other wood product mfg	65	65	39	38	2	2	3	2	2	3	3
32191	Millwork	73	73	49	47	2	3	4	3	3	4	4
321911	Wood window & door mfg	72	74	59	61	3	3	3	3	3	3	3
321912	Cut stock, resawing lumber, & planing	77	77	46	46	4	3	2	5	4	3	3
321918	Other millwork (including flooring) ..	73	68	37	32	4	5	2	6	5	3	3
32192	Wood container & pallet mfg	59	57	39	35	6	7	7	5	4	5	5
321920	Wood container & pallet mfg	59	57	39	35	6	7	5	5	4	2	2
32199	All other wood product mfg	58	59	30	30	2	2	3	2	2	3	3
321991	Manufactured home (mobile home) mfg	54	58	25	26	3	3	2	3	3	2	2
321992	Prefabricated wood building mfg	65	56	37	31	5	6	6	4	4	3	3
321999	All other miscellaneous wood product mfg	59	64	37	39	3	3	3	4	3	1	1

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production			National emergency production			
						Level		2001 to 2002 change	Level		2001 to 2002 change	
						2002	2001		2002	2001		
322	Paper mfg	81	76	71	67	2	2	2	2	2	2	2
3221	Pulp, paper, & paperboard mills	90	83	87	78	2	3	3	3	4	3	3
32211	Pulp mills	87	90	78	88	4	2	4	6	2	4	4
322110	Pulp mills	87	90	78	88	4	2	4	6	2	5	5
32212	Paper mills	89	81	87	75	3	4	4	4	5	4	4
322121	Paper (except newsprint) mills	90	80	87	75	3	4	4	4	5	6	6
322122	Newsprint mills	86	88	85	85	3	2	3	3	3	2	2
32213	Paperboard mills	93	87	87	81	3	4	3	2	3	3	3
322130	Paperboard mills	93	87	87	81	3	4	2	2	3	3	2
3222	Converted paper product mfg	73	70	60	59	2	2	2	3	2	3	3
32221	Paperboard container mfg	74	69	64	57	3	4	4	3	3	4	4
322211	Corrugated & solid fiber box mfg	78	70	68	57	4	5	6	5	5	7	7
322212	Folding paperboard box mfg	79	73	70	62	3	4	3	4	3	4	4
322213	Setup paperboard box mfg	68	69	45	45	6	6	4	4	4	2	2
322214	Fiber can, tube, drum, & similar products mfg	^{a44}	51	^{a32}	39	^{a5}	6	^{a4}	^{a4}	4	4	^{a3}
322215	Nonfolding sanitary food container mfg	69	71	62	62	5	5	3	4	4	4	3
32222	Paper bag & coated & treated paper mfg	71	73	58	61	4	3	5	5	3	5	5
322221	Coated & laminated packaging paper & plastics film mfg	65	63	51	50	5	4	2	6	6	2	2
322222	Coated & laminated paper mfg	69	72	56	62	5	4	3	6	4	5	5
322223	Plastics, foil, & coated paper bag mfg	73	71	53	43	7	9	4	10	2	10	10
322224	Uncoated paper & multiwall bag mfg	79	79	63	61	3	4	2	5	5	2	2
322225	Laminated aluminum foil mfg for flexible packaging uses	81	82	71	70	1	2	1	1	1	1	1
322226	Surface-coated paperboard mfg	84	82	69	55	3	2	2	5	4	6	6
32223	Stationery product mfg	65	66	51	56	6	3	4	6	4	5	5
322231	Die-cut paper & paperboard office supplies mfg	79	76	58	58	2	3	2	10	10	2	2
322232	Envelope mfg	75	69	62	62	3	5	4	4	4	3	3
322233	Stationery, tablet, & related product mfg	44	55	35	46	11	6	8	10	6	7	7
32229	Other converted paper product mfg	76	70	59	64	4	4	4	5	3	5	5
322291	Sanitary paper product mfg	79	76	71	74	5	5	3	7	5	4	4
322299	All other converted paper product mfg	73	63	45	52	6	5	6	6	4	6	6
323	Printing & related support activities	69	71	52	50	2	2	2	2	2	2	3
3231	Printing & related support activities	69	71	52	50	2	2	2	2	2	2	3
32311	Printing	69	71	53	51	2	2	2	2	2	3	3
323110	Commercial lithographic printing	72	76	61	59	4	4	4	3	2	2	2
323111	Commercial gravure printing	84	78	73	72	4	6	4	6	6	2	2
323112	Commercial flexographic printing	74	70	61	54	4	4	4	3	4	3	3
323113	Commercial screen printing	^{a57}	63	^{a36}	38	^{a3}	3	^{a3}	^{a4}	4	^{a3}	^{a3}
323114	Quick printing	69	66	32	26	4	3	2	10	7	4	4
323115	Digital printing	^{a71}	70	^{a56}	50	^{a6}	4	^{a5}	^{a7}	4	^{a6}	^{a6}
323116	Manifold business form printing	64	68	53	57	3	3	2	3	3	2	2
323117	Book printing	64	58	58	44	5	4	2	5	4	6	6
323118	Blankbook, looseleaf binder, & device mfg	58	52	31	34	4	3	2	4	3	3	3
323119	Other commercial printing	70	71	46	52	3	3	2	5	4	5	5
32312	Support activities for printing	69	68	42	40	3	3	3	4	4	5	5
323121	Tradebinding & related work	66	65	30	32	4	4	3	5	6	2	2
323122	Prepress services	71	69	51	45	3	3	2	4	4	3	3
324	Petroleum & coal products mfg	80	80	68	67	2	2	2	2	3	3	3
3241	Petroleum & coal products mfg	80	80	68	67	2	2	2	2	3	3	3
32411	Petroleum refineries	91	91	89	89	1	2	3	2	2	3	3
324110	Petroleum refineries	91	91	89	89	1	2	1	2	2	1	1
32412	Asphalt paving, roofing, & saturated materials mfg	43	44	25	24	3	4	4	2	3	4	4
324121	Asphalt paving mixture & block mfg	32	31	17	16	4	4	3	2	2	2	2
324122	Asphalt shingle & coating materials mfg	66	72	50	54	3	3	3	6	6	3	3
32419	Other petroleum & coal products mfg ..	59	57	43	41	3	2	4	3	2	4	4
324191	Petroleum lubricating oil & grease mfg	59	57	43	41	3	2	3	3	2	2	2
324199	All other petroleum & coal products mfg	60	58	44	43	6	5	1	7	6	1	1
325	Chemical mfg	63	68	46	55	2	2	2	2	2	2	2
3251	Basic chemical mfg	72	69	64	65	2	2	3	2	2	3	3
32511	Petrochemical mfg	75	77	75	77	10	5	3	10	5	3	3
325110	Petrochemical mfg	75	77	75	77	10	5	9	10	5	9	9
32512	Industrial gas mfg	75	67	62	57	3	3	5	8	6	9	9
325120	Industrial gas mfg	75	67	62	57	3	3	3	8	6	4	4
32513	Dye & pigment mfg	81	71	74	61	2	4	4	3	5	6	6
325131	Inorganic dye & pigment mfg	86	78	78	71	2	3	4	4	4	5	5
325132	Synthetic organic dye & pigment mfg	76	64	70	53	4	5	7	3	7	7	7
32518	Other basic inorganic chemical mfg	64	66	50	61	3	4	6	3	3	5	5
325181	Alkalies & chlorine mfg	76	70	76	70	7	2	7	7	2	6	6
325182	Carbon black mfg	^{a78}	74	^{a72}	67	^{a2}	2	^{a1}	^{a1}	1	^{a1}	^{a1}
325188	All other basic inorganic chemical mfg	62	65	47	59	3	4	3	3	3	3	3
32519	Other basic organic chemical mfg	76	69	74	66	3	3	3	3	3	3	3
325191	Gum & wood chemical mfg	80	78	78	74	1	2	2	1	2	2	2
325192	Cyclic crude & intermediate mfg	^{a83}	^{a72}	^{a72}	^{a65}	^{a2}	^{a2}	^{a2}	^{a5}	^{a4}	^{a2}	^{a2}
325193	Ethyl alcohol mfg	86	90	62	64	4	2	3	10	9	2	2
325199	All other basic organic chemical mfg ..	75	67	74	66	3	3	3	3	3	3	3

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change	
						Level			2002	2001		
						2002	2001					
325	Chemical mfg—Con.											
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg	75	72	71	68	3	2	2	3	3	3	3
32521	Resin & synthetic rubber mfg	75	72	71	68	3	3	3	3	3	4	4
325211	Plastics material & resin mfg	79	77	75	73	3	3	2	4	3	3	3
325212	Synthetic rubber mfg	54	51	52	48	3	6	3	7	5	3	3
32522	Artificial & synthetic fibers & filaments mfg	77	72	73	68	2	3	2	2	2	2	2
325221	Cellulosic organic fiber mfg	84	78	73	76	1	1	2	1	1	2	2
325222	Noncellulosic organic fiber mfg	76	72	73	68	2	3	2	2	3	2	2
3253	Pesticide, fertilizer, & other agricultural chemical mfg	60	69	39	48	3	4	5	7	7	4	4
32531	Fertilizer mfg	66	74	53	59	4	5	3	4	5	5	5
325311	Nitrogenous fertilizer mfg	86	89	85	87	4	4	4	4	4	4	4
325312	Phosphatic fertilizer mfg	83	94	81	91	2	2	3	2	1	3	3
325314	Fertilizer (mixing only) mfg	45	51	30	34	5	7	5	4	5	4	4
32532	Pesticide & other agricultural chemical mfg	57	66	34	44	5	5	7	9	8	5	5
325320	Pesticide & other agricultural chemical mfg	57	66	34	44	5	5	3	9	8	2	2
3254	Pharmaceutical & medicine mfg	58	70	38	56	4	3	5	3	3	4	4
32541	Pharmaceutical & medicine mfg	58	70	38	56	4	3	5	3	3	4	4
325411	Medicinal & botanical mfg	80	88	61	68	5	3	3	8	7	3	3
325412	Pharmaceutical preparation mfg	54	66	44	53	4	4	5	4	3	5	5
325413	In-vitro diagnostic substance mfg	^a 84	^a 85	^a 14	^a 63	^a 1	^a 2	^a 1	^a 1	^a 1	^a 2	^a 2
325414	Biological product (except diagnostic) mfg	72	86	68	75	7	3	7	6	7	9	9
3255	Paint, coating, & adhesive mfg	58	56	42	40	3	3	5	3	3	6	6
32551	Paint & coating mfg	61	55	42	40	4	3	6	4	4	6	6
325510	Paint & coating mfg	61	55	42	40	4	3	3	4	4	2	2
32552	Adhesive mfg	53	57	41	41	5	4	7	5	6	9	9
325520	Adhesive mfg	53	57	41	41	5	4	3	5	6	2	2
3256	Soap, cleaning compound, & toilet preparation mfg	67	64	54	49	3	2	3	3	2	4	4
32561	Soap & cleaning compound mfg	66	67	51	50	4	2	3	4	4	5	5
325611	Soap & other detergent mfg	68	66	54	50	3	3	1	3	4	2	2
325612	Polish & other sanitation good mfg	61	66	43	44	8	4	8	6	7	5	5
325613	Surface active agent mfg	76	75	72	71	3	3	3	2	3	2	2
32562	Toilet preparation mfg	68	62	57	49	4	3	5	4	3	6	6
325620	Toilet preparation mfg	68	62	57	49	4	3	3	4	3	3	3
3259	Other chemical product mfg	66	64	44	44	2	2	2	4	4	6	6
32591	Printing ink mfg	60	60	25	27	5	6	7	9	9	13	13
325910	Printing ink mfg	60	60	25	27	5	6	4	9	9	2	2
32592	Explosives mfg	69	71	37	36	2	3	4	2	2	2	2
325920	Explosives mfg	69	71	37	36	2	3	2	2	2	1	1
32599	All other chemical product & preparation mfg	67	65	49	47	2	3	3	3	3	7	7
325991	Custom compounding of purchased resin	69	66	62	51	3	4	3	3	6	5	5
325992	Photographic film, paper, plate, & chemical mfg	69	65	64	58	3	5	4	3	4	3	3
325998	All other miscellaneous chemical product & preparation mfg	63	64	38	38	4	3	3	4	4	2	2
326	Plastics & rubber products mfg	68	66	57	53	2	2	3	2	3	3	3
3261	Plastics product mfg	66	65	56	52	3	2	4	3	3	3	3
32611	Unsupported plastics film, sheet, & bag mfg	70	67	65	62	3	3	4	3	4	5	5
326111	Unsupported plastics bag mfg	65	69	63	66	2	3	2	3	3	2	2
326112	Unsupported plastics packaging film & sheet mfg	70	70	61	61	6	6	3	7	8	3	3
326113	Unsupported plastics film & sheet (except packaging) mfg	73	66	67	60	4	4	4	5	5	4	4
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg	69	66	66	58	3	2	4	3	3	10	10
326121	Unsupported plastics profile shape mfg	69	69	67	63	4	2	4	4	3	3	3
326122	Plastics pipe & pipe fitting mfg	69	64	64	52	4	4	3	4	5	4	4
32613	Laminated plastics plate, sheet, & shape mfg	62	64	44	44	5	5	17	6	5	12	12
326130	Laminated plastics plate, sheet, & shape mfg	62	64	44	44	5	5	3	6	5	3	3
32614	Polystyrene foam product mfg	78	76	63	47	3	3	4	6	13	4	4
326140	Polystyrene foam product mfg	78	76	63	47	3	3	2	6	13	9	9
32615	Urethane & other foam product (except polystyrene) mfg	71	66	50	50	4	6	9	3	5	8	8
326150	Urethane & other foam product (except polystyrene) mfg	71	66	50	50	4	6	6	3	5	3	3
32616	Plastics bottle mfg	79	67	73	62	5	5	5	5	7	5	5
326160	Plastics bottle mfg	79	67	73	62	5	5	5	5	7	7	7
32619	Other plastics product mfg	63	63	53	49	4	4	5	3	4	5	5
326191	Plastics plumbing fixture mfg	54	57	35	34	4	4	3	9	9	2	2
326192	Resilient floor covering mfg	62	69	54	63	2	1	2	2	2	2	2
326199	All other plastics product mfg	63	64	54	49	4	4	2	4	5	4	4
3262	Rubber product mfg	74	72	60	60	2	2	2	2	2	3	3
32621	Tire mfg	85	81	75	73	1	2	3	2	2	3	3
326211	Tire mfg (except retreading)	87	82	82	77	2	2	2	2	2	2	2
326212	Tire retreading	61	67	34	35	2	3	3	2	2	2	2
32622	Rubber & plastics hoses & belting mfg	61	66	47	53	3	4	5	5	5	7	7
326220	Rubber & plastics hoses & belting mfg	61	66	47	53	3	4	4	5	5	2	2
32629	Other rubber product mfg	70	67	54	52	3	2	3	3	3	4	4
326291	Rubber product mfg for mechanical use	74	68	60	56	2	3	2	3	2	2	2
326299	All other rubber product mfg	66	67	49	49	4	4	3	4	4	2	2

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹					
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change
						Level			2002	2001	
						2002	2001				
327	Nonmetallic mineral product mfg	66	66	41	45	2	2	2	2	2	4
3271	Clay product & refractory mfg	70	69	61	57	2	2	3	2	4	6
32711	Pottery, ceramics, & plumbing fixture mfg	66	68	62	60	4	3	4	4	3	8
327111	Vitreous china plumbing fixture & bathroom accessories mfg	92	82	91	80	2	5	5	2	4	4
327112	Vitreous china, fine earthenware, & other pottery product mfg	58	64	54	54	6	5	6	6	4	6
327113	Porcelain electrical supply mfg	59	60	52	55	5	3	5	5	3	4
32712	Clay building material & refractories mfg	74	70	61	55	2	2	4	3	6	8
327121	Brick & structural clay tile mfg	88	88	84	84	4	3	4	3	4	4
327122	Ceramic wall & floor tile mfg	65	62	57	38	3	5	3	5	13	12
327123	Other structural clay product mfg	85	77	72	60	4	4	2	9	8	3
327124	Clay refractory mfg	64	52	39	37	4	3	4	5	3	3
327125	Nonclay refractory mfg	^{a67} 69	^{a67} 69	^{a53} 56	^{a53} 56	^{a5} 6	^{a5} 6	^{a3} 6	^{a5} 5	^{a3} 5	^{a3} 3
3272	Glass & glass product mfg	73	65	62	56	3	3	3	4	3	4
32721	Glass & glass product mfg	73	65	62	56	3	3	3	4	3	4
327211	Flat glass mfg	79	76	70	72	4	3	3	5	4	4
327212	Other pressed & blown glass & glassware mfg	68	57	59	52	5	5	3	5	5	3
327213	Glass container mfg	95	94	93	91	1	1	1	1	1	1
327215	Glass product mfg made of purchased glass	68	59	54	48	4	4	2	5	5	3
3273	Cement & concrete product mfg	59	63	29	34	2	2	3	2	2	5
32731	Cement mfg	84	83	62	64	3	5	6	11	11	13
327310	Cement mfg	84	83	62	64	3	5	3	11	11	2
32732	Ready-mix concrete mfg	47	52	19	24	3	3	5	2	2	5
327320	Ready-mix concrete mfg	47	52	19	24	3	3	2	2	2	2
32733	Concrete pipe, brick, & block mfg	77	71	49	49	4	4	5	5	4	6
327331	Concrete block & brick mfg	79	73	46	51	5	6	5	6	5	4
327332	Concrete pipe mfg	75	70	53	47	7	4	7	9	5	8
32739	Other concrete product mfg	63	71	44	44	3	3	6	3	5	7
327390	Other concrete product mfg	63	71	44	44	3	3	3	3	5	5
3274	Lime & gypsum product mfg	76	76	72	70	4	4	4	4	4	7
32741	Lime mfg	75	71	72	69	5	3	5	5	4	5
327410	Lime mfg	75	71	72	69	5	3	4	5	4	5
32742	Gypsum product mfg	77	77	72	71	4	5	4	5	5	9
327420	Gypsum product mfg	77	77	72	71	4	5	2	5	5	3
3279	Other nonmetallic mineral product mfg	71	71	56	51	2	3	4	3	4	6
32791	Abrasive product mfg	67	66	47	37	4	4	6	5	6	10
327910	Abrasive product mfg	67	66	47	37	4	4	3	5	6	5
32799	All other nonmetallic mineral product mfg	73	74	60	61	3	3	4	3	3	4
327991	Cut stone & stone product mfg	69	76	43	44	3	4	3	5	6	6
327992	Ground or treated mineral & earth mfg	70	59	59	54	6	7	9	4	5	5
327993	Mineral wool mfg	85	86	81	80	4	3	3	4	3	3
327999	All other miscellaneous nonmetallic mineral product mfg	59	70	52	56	5	4	5	5	4	5
331	Primary metal mfg	71	70	58	59	1	1	2	1	2	3
3311	Iron & steel mills & ferroalloy mfg	88	79	85	76	3	4	4	4	4	8
33111	Iron & steel mills & ferroalloy mfg	88	79	85	76	3	4	4	4	4	8
331111	Iron & steel mills	89	79	86	77	3	4	3	4	4	3
331112	Electrometallurgical ferroalloy product mfg	77	68	70	56	2	2	2	2	4	4
3312	Steel product mfg from purchased steel	65	61	56	54	2	2	2	2	2	3
33121	Iron & steel pipes & tubes mfg from purchased steel	65	63	53	54	3	3	3	2	2	3
331210	Iron & steel pipes & tubes mfg from purchased steel	65	63	53	54	3	3	2	2	2	2
33122	Rolling & drawing of purchased steel	66	59	58	54	2	2	3	3	2	4
331221	Cold-rolled steel shape mfg	66	53	58	50	4	2	3	5	2	5
331222	Steel wire drawing	66	66	57	58	3	3	3	3	3	3
3313	Alumina & aluminum production & processing	74	^{a70} 70	65	^{a63} 63	2	^{a2} 2	2	2	^{a2} 2	2
33131	Alumina & aluminum production & processing	74	^{a70} 70	65	^{a63} 63	2	^{a2} 2	2	2	^{a2} 2	2
331311	Alumina refining	^{a79} 74	^{a84} 74	^{a79} 65	^{a84} 63	^{a1} 2	^{a1} 2	^{a2} 2	^{a1} 2	^{a1} 2	^{a2} 2
331312	Primary aluminum production	^{a70} 74	^{a64} 74	^{a67} 65	^{a64} 63	^{a3} 2	^{a4} 2	^{a4} 2	^{a3} 2	^{a4} 2	^{a3} 2
331314	Secondary smelting & alloying of aluminum	75	74	63	65	2	2	2	3	3	2
331315	Aluminum sheet, plate, & foil mfg	^{a87} 75	^{a75} 74	^{a80} 63	^{a67} 65	^{a2} 2	^{a2} 2	^{a1} 2	^{a2} 2	^{a2} 2	^{a1} 2
331316	Aluminum extruded product mfg	66	67	52	55	2	2	3	3	3	2
331319	Other aluminum rolling & drawing	65	59	61	55	3	1	2	3	2	2
3314	Nonferrous metal (except aluminum) production & processing	67	71	57	61	2	1	2	2	2	2
33141	Nonferrous metal (except aluminum) smelting & refining	73	73	59	58	2	2	2	2	2	2
331411	Primary smelting & refining of copper	68	73	65	70	1	1	1	1	1	1
331419	Other nonferrous metal primary smelting & refining	78	73	55	51	3	3	2	3	2	2
33142	Copper rolling, drawing, extruding, & alloying	76	74	68	66	3	2	3	4	2	3
331421	Copper rolling, drawing, & extruding	78	73	71	68	4	2	3	5	3	3
331422	Copper wire (except mechanical) drawing	80	82	71	69	2	2	2	2	2	1
331423	Secondary smelting, refining, & alloying of copper	^{a60} 76	67	^{a44} 68	46	^{a4} 3	3	^{a2} 2	^{a5} 4	4	^{a4} 4

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change	
						Level			2002	2001		
						2002	2001					
331	Primary metal mfg—Con.											
3314	Nonferrous metal (except aluminum) production & processing—Con.											
33149	Other nonferrous metal rolling, drawing, extruding, & alloying	60	69	50	59	2	2	2	2	3	4	
331491	Other nonferrous metal rolling, drawing, & extruding	61	71	53	61	2	2	3	2	4	4	
331492	Other nonferrous metal secondary smelting, refining, & alloying	^a 56	64	^a 45	54	^a 4	3	^a 2	^a 2	4	^a 3	
3315	Foundries	63	64	44	46	2	1	2	2	2	3	
33151	Ferrous metal foundries	62	65	43	45	2	2	3	3	3	4	
331511	Iron foundries	65	68	43	45	3	2	3	4	4	1	
331512	Steel investment foundries	54	64	43	52	2	1	2	2	3	2	
331513	Steel foundries (except investment)	58	55	46	39	2	2	2	3	4	3	
33152	Nonferrous metal foundries	65	62	45	47	2	2	2	2	2	4	
331521	Aluminum die-casting foundries	67	65	50	50	3	3	2	4	3	2	
331522	Nonferrous (except aluminum) die-casting foundries	61	59	42	40	3	3	2	4	4	1	
331524	Aluminum foundries (except die-casting)	64	62	45	49	3	4	3	4	3	5	
331525	Copper foundries (except die-casting)	58	56	34	36	2	2	2	3	3	2	
331528	Other nonferrous foundries (except die-casting)	75	^a 75	59	^a 65	2	^a 2	3	3	^a 3	2	
332	Fabricated metal product mfg	59	60	36	40	1	1	1	2	1	1	
3321	Forging & stamping	56	57	42	43	2	2	2	2	2	2	
33211	Forging & stamping	56	57	42	43	2	2	2	2	2	2	
332111	Iron & steel forging	57	57	43	37	2	2	2	3	3	2	
332112	Nonferrous forging	60	65	44	54	4	3	5	3	3	4	
332114	Custom roll forming	53	54	41	44	2	2	1	2	2	2	
332115	Crown & closure mfg	53	57	42	41	2	2	2	2	2	2	
332116	Metal stamping	55	57	40	43	3	3	2	3	3	3	
332117	Powder metallurgy part mfg	68	66	54	54	2	2	3	3	2	3	
3322	Cutlery & handtool mfg	62	63	44	49	2	2	3	2	2	3	
33221	Cutlery & handtool mfg	62	63	44	49	2	2	3	2	2	3	
332211	Cutlery & flatware (except precious) mfg	65	57	44	46	5	5	5	4	3	3	
332212	Hand & edge tool mfg	58	63	41	48	3	2	3	2	2	2	
332213	Saw blade & handsaw mfg	72	69	54	53	3	3	3	3	3	2	
332214	Kitchen utensil, pot, & pan mfg	67	63	58	57	2	3	3	2	3	3	
3323	Architectural & structural metals mfg	57	60	29	38	2	2	2	4	1	2	
33231	Plate work & fabricated structural product mfg	58	65	34	37	3	3	3	2	2	3	
332311	Prefabricated metal building & component mfg	60	64	43	50	2	2	2	2	3	1	
332312	Fabricated structural metal mfg	58	67	33	36	5	4	2	2	2	1	
332313	Plate work mfg	53	58	30	32	3	2	3	3	3	3	
33232	Ornamental & architectural metal products mfg	56	58	27	38	2	2	3	6	2	2	
332321	Metal window & door mfg	60	58	35	40	3	3	2	4	3	4	
332322	Sheet metal work mfg	53	56	22	37	2	2	2	7	2	7	
332323	Ornamental & architectural metal work mfg	59	61	38	38	2	3	2	2	2	2	
3324	Boiler, tank, & shipping container mfg	64	66	50	51	2	2	2	2	2	2	
33241	Power boiler & heat exchanger mfg	54	60	40	46	2	2	2	2	2	5	
332410	Power boiler & heat exchanger mfg	54	60	40	46	2	2	2	2	2	2	
33242	Metal tank (heavy gauge) mfg	58	57	42	42	3	3	3	3	3	3	
332420	Metal tank (heavy gauge) mfg	58	57	42	42	3	3	2	3	3	1	
33243	Metal can, box, & other metal container (light gauge) mfg	75	74	62	61	2	2	3	2	2	3	
332431	Metal can mfg	77	76	70	68	3	3	2	3	3	2	
332439	Other metal container mfg	66	68	43	45	2	3	2	2	3	2	
3325	Hardware mfg	67	69	48	47	3	3	3	4	4	6	
33251	Hardware mfg	67	69	48	47	3	3	3	4	4	6	
332510	Hardware mfg	67	69	48	47	3	3	2	4	4	2	
3326	Spring & wire product mfg	65	62	45	45	2	2	3	3	3	3	
33261	Spring & wire product mfg	65	62	45	45	2	2	3	3	3	3	
332611	Spring (heavy gauge) mfg	71	66	57	50	2	2	2	3	4	3	
332612	Spring (light gauge) mfg	64	61	49	41	3	3	2	4	6	5	
332618	Other fabricated wire product mfg	65	62	42	48	2	3	3	4	3	4	
3327	Machine shops, turned product, & screw, nut, & bolt mfg	53	53	28	31	2	2	2	3	2	3	
33271	Machine shops	50	51	25	29	2	2	3	4	2	4	
332710	Machine shops	50	51	25	29	2	2	2	4	2	4	
33272	Turned product & screw, nut, & bolt mfg	59	59	35	36	2	2	3	2	2	4	
332721	Precision turned product mfg	54	55	30	31	3	3	2	3	3	2	
332722	Bolt, nut, screw, rivet, & washer mfg	65	65	42	44	2	2	2	3	3	3	
3328	Coating, engraving, heat treating, & allied activities	61	63	47	46	2	2	3	3	2	3	
33281	Coating, engraving, heat treating, & allied activities	61	63	47	46	2	2	3	3	2	3	
332811	Metal heat treating	65	65	54	53	5	3	3	4	3	3	
332812	Metal coating/engraving (exc jewelry/silverware)/allied services	71	71	59	58	4	4	4	4	4	4	
332813	Electroplating, plating, polishing, anodizing, & coloring	52	55	37	36	3	2	3	3	3	2	

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹								
		2002	2001	2002	2001	Full production			National emergency production					
						Level		2001 to 2002 change	Level		2001 to 2002 change			
						2002	2001		2002	2001				
332	Fabricated metal product mfg—Con.													
3329	Other fabricated metal product mfg.....	64	65	45	47	1	1	2	1	1	2			2
33291	Metal valve mfg.....	64	64	45	46	2	2	2	2	2	2			2
332911	Industrial valve mfg.....	63	63	42	44	3	2	2	2	2	2			2
332912	Fluid power valve & hose fitting mfg.	64	65	46	44	2	2	1	3	2	2			2
332913	Plumbing fixture fitting & trim mfg...	66	67	52	52	2	4	4	2	3	3			3
332919	Other metal valve & pipe fitting mfg.	62	62	49	50	4	4	2	3	3	3			2
33299	All other fabricated metal product mfg.	64	66	44	49	2	1	2	2	2	2			2
332991	Ball & roller bearing mfg.....	68	69	51	58	5	3	4	5	4	4			4
332992	Small arms ammunition mfg.....	69	66	55	46	1	1	1	1	3	3			3
332993	Ammunition (except small arms) mfg.....	52	65	28	36	4	2	3	4	5	2			2
332994	Small arms mfg.....	72	66	52	44	4	4	2	6	5	2			2
332995	Other ordnance & accessories mfg..	67	69	58	57	3	2	4	3	1	2			2
332996	Fabricated pipe & pipe fitting mfg...	63	67	39	52	2	3	2	2	2	2			2
332997	Industrial pattern mfg.....	69	61	43	38	7	3	9	6	2	6			6
332998	Enameled iron & metal sanitary ware mfg.....	68	81	37	54	3	5	3	2	5	4			4
332999	All other miscellaneous fabricated metal product mfg.....	62	62	43	45	3	2	2	4	3	3			3
333	Machinery mfg.....	57	54	37	29	1	1	1	1	3	1			1
3331	Agriculture, construction, & mining machinery mfg.....	55	58	36	41	2	2	2	2	2	2			2
33311	Agricultural implement mfg.....	52	53	33	36	2	2	3	2	2	2			2
333111	Farm machinery & equipment mfg...	53	54	33	36	3	3	3	2	3	3			3
333112	Lawn & garden tractor & home lawn & garden equipment mfg.....	50	51	34	34	4	3	3	4	2	2			2
33312	Construction machinery mfg.....	57	62	39	45	3	5	3	4	5	4			4
333120	Construction machinery mfg.....	57	62	39	45	3	5	3	4	5	4			4
33313	Mining & oil & gas field machinery mfg.	54	61	40	46	2	2	2	2	2	3			3
333131	Mining machinery & equipment mfg..	53	59	41	44	3	3	3	3	3	3			3
333132	Oil & gas field machinery & equipment mfg.....	54	62	39	47	2	2	1	2	2	2			2
3332	Industrial machinery mfg.....	51	45	29	14	2	2	2	2	4	2			2
33321	Sawmill & woodworking machinery mfg.....	49	53	28	32	3	3	5	3	2	8			8
333210	Sawmill & woodworking machinery mfg.....	49	53	28	32	3	3	2	3	2	2			2
33322	Plastics & rubber industry machinery mfg.....	56	60	32	33	3	2	3	4	3	6			6
333220	Plastics & rubber industry machinery mfg.....	56	60	32	33	3	2	2	4	3	3			3
33329	Other industrial machinery mfg.....	50	44	29	13	2	2	2	3	3	2			2
333291	Paper industry machinery mfg.....	62	58	34	35	5	6	4	4	4	3			3
333292	Textile machinery mfg.....	^{a57}	^{a51}	^{a31}	^{a25}	^{a2}	^{a2}	^{a2}	^{a1}	^{a1}	^{a2}			2
333293	Printing machinery & equipment mfg.....	58	55	29	30	3	3	3	3	3	2			2
333294	Food product machinery mfg.....	52	62	35	40	4	5	5	3	3	3			3
333295	Semiconductor machinery mfg.....	44	36	34	18	3	2	2	3	1	3			3
333298	All other industrial machinery mfg...	54	58	23	6	3	3	3	5	3	5			5
3333	Commercial & service industry machinery mfg.....	55	54	33	34	2	1	2	2	1	2			2
33331	Commercial & service industry machinery mfg.....	55	54	33	34	2	1	2	2	1	2			2
333311	Automatic vending machine mfg....	41	^{a40}	30	^{a26}	1	^{a1}	1	1	^{a1}	1			1
333312	Commercial laundry, drycleaning, & pressing machine mfg.....	^{a28}	33	^{a25}	29	^{a4}	4	^{a1}	^{a3}	3	^{a1}			3
333313	Office machinery mfg.....	^{a56}	^{a51}	^{a30}	^{a30}	^{a4}	^{a3}	^{a1}	^{a2}	^{a2}	^{a1}			1
333314	Optical instrument & lens mfg.....	66	64	34	32	3	3	2	3	3	2			2
333315	Photographic & photocopying equipment mfg.....	59	54	46	41	1	2	2	1	2	2			2
333319	Other commercial & service industry machinery mfg.....	55	56	32	30	3	2	3	3	2	3			3
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg.....	60	59	42	37	3	3	5	3	3	4			4
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg.....	60	59	42	37	3	3	5	3	3	4			4
333411	Air purification equipment mfg.....	59	60	37	34	3	3	2	2	2	2			2
333412	Industrial & commercial fan & blower mfg.....	55	57	38	39	3	3	2	2	2	2			2
333414	Heating equipment (except warm air furnaces) mfg.....	59	58	46	45	2	2	2	2	2	1			1
333415	AC & warm air heating & commercial/industrial refig equip mfg.....	60	59	42	36	4	4	3	4	4	3			3
3335	Metalworking machinery mfg.....	57	51	35	32	1	4	2	2	3	3			3
33351	Metalworking machinery mfg.....	57	51	35	32	1	4	2	2	3	3			3
333511	Industrial mold mfg.....	64	38	39	26	3	11	11	4	7	7			7
333512	Machine tool (metal cutting types) mfg.....	47	47	34	33	3	2	2	2	2	2			2
333513	Machine tool (metal forming types) mfg.....	46	50	28	30	2	1	2	4	3	2			2
333514	Special die & tool, die set, jig, & fixture mfg.....	57	58	35	34	2	2	2	2	2	2			2
333515	Cutting tool & machine tool accessory mfg.....	60	60	41	41	3	3	2	5	5	1			1
333516	Rolling mill machinery & equipment mfg.....	58	55	28	30	12	13	2	11	16	5			5
333518	Other metalworking machinery mfg.	58	58	31	31	3	3	2	2	2	2			2

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change	
						Level			2002	2001		
						2002	2001					
333	Machinery mfg—Con.											
3336	Engine, turbine, & power transmission equipment mfg	61	59	45	46	2	2	3	2	2	2	2
33361	Engine, turbine, & power transmission equipment mfg	61	59	45	46	2	2	3	2	2	2	2
333611	Turbine & turbine generator set unit mfg	^a 88	88	^a 70	70	^a 3	2	^a 2	^a 3	2	^a 2	^a 2
333612	Speed changer, industrial high-speed drive, & gear mfg	53	53	29	41	2	2	1	1	3	2	2
333613	Mechanical power transmission equipment mfg	50	51	38	41	4	5	5	3	4	4	4
333618	Other engine equipment mfg	53	55	41	43	2	2	2	3	2	2	2
3339	Other general-purpose machinery mfg	58	60	38	38	1	1	2	1	1	2	2
33391	Pump & compressor mfg	63	62	44	42	2	2	3	3	3	4	4
333911	Pump & pumping equipment mfg	67	62	50	42	2	2	2	4	4	3	3
333912	Air & gas compressor mfg	56	62	39	42	3	3	3	4	4	2	2
333913	Measuring & dispensing pump mfg	^a 70	^a 63	^a 37	^a 45	^a 1	^a 2	^a 2	^a 2	^a 2	^a 2	^a 2
33392	Material handling equipment mfg	55	55	33	33	2	2	2	2	2	3	3
333921	Elevator & moving stairway mfg	70	73	50	53	3	2	2	2	2	2	2
333922	Conveyor & conveying equipment mfg	55	57	28	29	3	2	2	3	3	1	1
333923	Overhead traveling crane, hoist, & monorail system mfg	49	50	34	34	4	4	2	2	2	1	1
333924	Industrial truck, tractor, trailer, & stacker machinery mfg	52	51	38	35	3	2	2	3	2	2	2
33399	All other general-purpose machinery mfg	58	61	38	39	2	1	2	2	2	2	2
333991	Power-driven handtool mfg	75	75	59	52	2	2	3	4	7	8	8
333992	Welding & soldering equipment mfg	50	57	36	40	6	4	4	7	5	3	3
333993	Packaging machinery mfg	62	60	39	34	3	3	3	2	2	3	3
333994	Industrial process furnace & oven mfg	49	51	30	34	2	2	2	2	2	1	1
333995	Fluid power cylinder & actuator mfg	62	66	39	41	2	2	1	3	3	1	1
333996	Fluid power pump & motor mfg	62	63	41	42	3	3	1	3	4	1	1
333997	Scale & balance (except laboratory) mfg	50	49	20	20	3	3	1	9	9	2	2
333999	All other miscellaneous general-purpose machinery mfg	55	61	37	39	3	2	3	3	2	2	2
334	Computer & electronic product mfg	52	57	38	40	2	2	1	1	3	3	3
3341	Computer & peripheral equipment mfg	62	^a 62	43	^a 40	2	^a 2	2	2	^a 2	3	3
33411	Computer & peripheral equipment mfg	62	^a 62	43	^a 40	2	^a 2	2	2	^a 2	3	3
334111	Electronic computer mfg	65	^a 66	44	^a 42	1	^a 1	2	3	^a 2	3	3
334112	Computer storage device mfg	^a 51	^a 49	^a 36	^a 29	^a 3	^a 4	^a 2	^a 3	^a 5	^a 4	^a 4
334113	Computer terminal mfg	51	^a 38	50	^a 30	1	^a 1	1	1	^a 1	1	1
334119	Other computer peripheral equipment mfg	^a 66	69	^a 51	50	^a 4	3	^a 5	^a 4	2	^a 4	^a 4
3342	Communications equipment mfg	^a 35	^a 52	^a 26	^a 39	^a 3	^a 4	^a 2	^a 2	^a 2	^a 2	^a 2
33421	Telephone apparatus mfg	^a 27	^a 46	^a 21	^a 36	^a 3	^a 5	^a 3	^a 2	^a 3	^a 2	^a 2
334210	Telephone apparatus mfg	^a 27	^a 46	^a 21	^a 36	^a 3	^a 5	^a 3	^a 2	^a 3	^a 2	^a 2
33422	Radio & TV broadcasting & wireless communications equipment mfg	^a 56	^a 65	^a 38	^a 42	^a 2	^a 2	^a 3	^a 2	^a 3	^a 4	^a 4
334220	Radio & TV broadcasting & wireless communications equipment mfg	^a 56	^a 65	^a 38	^a 42	^a 2	^a 2	^a 2	^a 2	^a 3	^a 2	^a 2
33429	Other communications equipment mfg	66	66	39	43	2	2	3	2	1	3	3
334290	Other communications equipment mfg	66	66	39	43	2	2	1	2	1	2	2
3343	Audio & video equipment mfg	54	58	40	42	5	5	6	4	4	5	5
33431	Audio & video equipment mfg	54	58	40	42	5	5	6	4	4	5	5
334310	Audio & video equipment mfg	54	58	40	42	5	5	4	4	4	3	3
3344	Semiconductor & other electronic component mfg	58	^a 56	46	^a 40	2	^a 2	3	2	^a 6	7	7
33441	Semiconductor & other electronic component mfg	58	^a 56	46	^a 40	2	^a 2	3	2	^a 6	7	7
334411	Electron tube mfg	73	64	55	58	1	1	1	5	1	5	5
334412	Bare printed circuit board mfg	51	^a 49	38	^a 34	3	^a 2	2	3	^a 2	3	3
334413	Semiconductor & related device mfg	65	^a 57	56	^a 41	3	^a 2	3	3	^a 9	9	9
334414	Electronic capacitor mfg	51	^a 44	36	^a 35	4	^a 5	6	4	^a 5	5	5
334415	Electronic resistor mfg	47	45	29	28	3	3	2	3	3	1	1
334416	Electronic coil, transformer, & other inductor mfg	45	51	29	34	2	2	2	2	1	2	2
334417	Electronic connector mfg	53	64	40	47	3	2	2	3	3	2	2
334418	Printed circuit assembly (electronic assembly) mfg	47	^a 62	39	^a 51	2	^a 6	5	2	^a 6	5	5
334419	Other electronic component mfg	48	48	26	27	3	3	3	2	3	2	2
3345	Navigational, measuring, medical, & control instruments mfg	60	61	40	40	2	2	3	2	2	3	3
33451	Navigational, measuring, medical, & control instruments mfg	60	61	40	40	2	2	3	2	2	3	3
334510	Electromedical & electrotherapeutic apparatus mfg	79	75	57	49	2	3	3	5	6	3	3
334511	Search, detection, navigation, & guidance instrument mfg	59	59	43	43	3	4	4	4	4	3	3
334512	Automatic environmental control mfg	49	67	37	47	2	2	1	1	2	1	1
334513	Industrial process control instrument mfg	58	58	29	31	2	2	1	3	3	1	1
334514	Totalizing fluid meter & counting device mfg	60	70	47	52	7	2	7	5	2	4	4
334515	Electricity measuring & testing instrument mfg	51	55	36	35	3	2	3	2	2	2	2
334516	Analytical laboratory instrument mfg	62	63	32	33	8	8	1	4	3	2	2
334517	Irradiation apparatus mfg	79	71	49	49	2	3	2	4	6	3	3
334518	Watch, clock, & part mfg	51	^a 55	27	^a 24	2	^a 2	1	1	^a 1	1	1

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹					
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change
						Level			2002	2001	
						2002	2001				
334	Computer & electronic product mfg—Con.										
3345	Navigational, measuring, medical, & control instruments mfg—Con.										
33451	Navigational, measuring, medical, & control instruments mfg—Con.										
334519	Other measuring & controlling device mfg	59	57	32	36	2	2	2	2	2	2
3346	Mfg & reproducing magnetic & optical media	73	79	55	64	4	3	5	4	3	6
33461	Mfg & reproducing magnetic & optical media	73	79	55	64	4	3	5	4	3	6
334611	Software reproducing	81	75	69	68	6	10	8	2	8	7
334612	Prerecorded CD (except software), tape, & record reproducing	72	78	50	58	4	3	2	5	4	3
334613	Magnetic & optical recording media mfg	77	80	75	77	7	8	2	7	8	2
335	Electrical equipment, appliance, & component mfg	60	62	44	45	1	1	1	1	1	2
3351	Electric lighting equipment mfg	58	59	37	39	3	2	2	2	2	4
33511	Electric lamp bulb & part mfg	67	63	53	53	1	1	3	3	1	4
335110	Electric lamp bulb & part mfg	67	63	53	53	1	1	1	3	1	3
33512	Lighting fixture mfg	56	57	35	36	3	2	2	2	3	4
335121	Residential electric lighting fixture mfg	^a 52	46	^a 24	27	^a 2	2	^a 2	^a 3	2	^a 3
335122	Commercial/industrial/institutional electric lighting fixture mfg	54	58	35	38	5	4	3	4	5	2
335129	Other lighting equipment mfg	62	66	44	40	3	2	2	3	5	5
3352	Household appliance mfg	72	70	52	51	2	2	2	2	2	2
33521	Small electrical appliance mfg	68	69	43	47	3	3	5	3	3	4
335211	Electric housewares & household fan mfg	65	64	45	44	6	5	1	4	4	1
335212	Household vacuum cleaner mfg	71	74	41	49	3	1	3	3	2	2
33522	Major appliance mfg	74	71	56	53	3	2	3	2	2	2
335221	Household cooking appliance mfg	56	50	43	38	2	2	1	2	3	1
335222	Household refrigerator & home freezer mfg	81	83	58	58	1	2	2	3	3	1
335224	Household laundry equipment mfg	87	90	71	77	1	1	1	1	1	1
335228	Other major household appliance mfg	74	71	52	54	8	8	1	4	4	1
3353	Electrical equipment mfg	59	61	43	42	2	2	2	2	2	2
33531	Electrical equipment mfg	59	61	43	42	2	2	2	2	2	2
335311	Power, distribution, & specialty transformer mfg	63	71	46	52	2	2	1	2	2	1
335312	Motor & generator mfg	60	61	46	45	2	2	2	2	2	1
335313	Switchgear & switchboard apparatus mfg	64	66	45	41	2	2	2	2	5	4
335314	Relay & industrial control mfg	54	54	38	38	3	3	3	3	3	3
3359	Other electrical equipment & component mfg	58	62	44	47	1	1	1	1	1	2
33591	Battery mfg	57	64	49	52	2	2	3	2	2	2
335911	Storage battery mfg	^a 52	^a 62	^a 45	^a 51	^a 3	^a 3	^a 1	^a 2	^a 2	^a 1
335912	Primary battery mfg	64	67	54	54	1	1	1	1	1	1
33592	Communication & energy wire & cable mfg	53	62	41	53	2	2	2	2	2	2
335921	Fiber optic cable mfg	^a 45	^a 60	^a 34	^a 54	^a 1	^a 1	^a 1	^a 1	^a 1	^a 1
335929	Other communication & energy wire mfg	58	63	47	53	3	3	2	3	3	2
33593	Wiring device mfg	66	68	51	51	2	2	3	2	2	4
335931	Current-carrying wiring device mfg	67	68	50	51	3	3	2	3	3	2
335932	Noncurrent-carrying wiring device mfg	64	67	51	51	3	3	2	3	3	2
33599	All other electrical equipment & component mfg	57	54	37	36	1	2	2	2	2	3
335991	Carbon & graphite product mfg	53	54	43	44	3	4	2	4	4	2
335999	All other miscellaneous electrical equipment & component mfg	57	^a 54	36	^a 35	1	^a 2	2	2	^a 2	3
336	Transportation equipment mfg	64	64	45	45	1	1	1	1	1	1
3361	Motor vehicle mfg	83	76	52	51	2	1	2	1	1	3
33611	Automobile & light duty motor vehicle mfg	85	81	53	54	2	2	2	1	2	3
336111	Automobile mfg	82	78	48	49	3	2	1	1	2	2
336112	Light truck & utility vehicle mfg	89	84	59	61	1	2	2	2	2	2
33612	Heavy duty truck mfg	52	43	35	29	2	2	2	2	1	2
336120	Heavy duty truck mfg	52	43	35	29	2	2	1	2	1	1
3362	Motor vehicle body & trailer mfg	61	54	36	30	2	2	2	1	1	2
33621	Motor vehicle body & trailer mfg	61	54	36	30	2	2	2	1	1	2
336211	Motor vehicle body mfg	65	68	35	37	2	3	2	2	3	1
336212	Truck trailer mfg	54	39	36	26	2	2	2	2	1	2
336213	Motor home mfg	55	71	33	26	1	10	2	1	2	2
336214	Travel trailer & camper mfg	64	50	38	28	3	3	1	2	1	1
3363	Motor vehicle parts mfg	72	71	54	52	2	2	1	2	2	2
33631	Motor vehicle gasoline engine & engine parts mfg	73	73	56	56	2	2	2	2	2	3
336311	Carburetor, piston, piston ring, & valve mfg	80	76	68	50	4	4	5	5	8	9
336312	Gasoline engine & engine parts mfg	71	73	54	57	2	2	1	2	2	1
33632	Motor vehicle electrical & electronic equipment mfg	60	59	43	44	6	5	2	5	4	3
336321	Vehicle lighting equipment mfg	71	66	59	56	3	3	1	3	3	1
336322	Other motor vehicle electrical & electronic equipment mfg	59	58	41	43	7	5	4	6	4	4

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹						
		2002	2001	2002	2001	Full production		2001 to 2002 change	National emergency production		2001 to 2002 change	
						Level			2002	2001		
						2002	2001					
336	Transportation equipment mfg—Con.											
3363	Motor vehicle parts mfg—Con.											
33633	Motor vehicle steering & suspension component (except spring) mfg	72	69	59	57	4	4	4	4	4	5	
336330	Motor vehicle steering & suspension component (except spring) mfg	72	69	59	57	4	4	2	4	4	2	
33634	Motor vehicle brake system mfg	75	70	60	48	3	2	2	5	3	4	
336340	Motor vehicle brake system mfg	75	70	60	48	3	2	3	5	3	4	
33635	Motor vehicle transmission & power train parts mfg	81	76	66	63	4	3	3	4	3	2	
336350	Motor vehicle transmission & power train parts mfg	81	76	66	63	4	3	2	4	3	2	
33636	Motor vehicle seating & interior trim mfg	83	80	48	51	3	3	3	5	3	4	
336360	Motor vehicle seating & interior trim mfg	83	80	48	51	3	3	3	5	3	5	
33637	Motor vehicle metal stamping	75	73	57	56	3	2	3	3	3	3	
336370	Motor vehicle metal stamping	75	73	57	56	3	2	3	3	3	3	
33639	Other motor vehicle parts mfg	71	70	53	46	2	2	2	3	3	5	
336391	Motor vehicle air-conditioning mfg	76	76	62	60	2	1	2	3	3	2	
336399	All other motor vehicle parts mfg	70	70	52	45	2	2	2	3	3	3	
3364	Aerospace product & parts mfg	52	54	38	39	1	1	1	1	1	1	
33641	Aerospace product & parts mfg	52	54	38	39	1	1	1	1	1	1	
336411	Aircraft mfg	50	64	35	47	1	2	2	1	1	1	
336412	Aircraft engine & engine parts mfg ..	61	63	42	39	2	2	2	3	2	2	
336413	Other aircraft part & auxiliary equipment mfg	58	64	44	47	2	2	2	2	2	2	
336414	Guided missile & space vehicle mfg .	^a 45	^a 25	^a 38	^a 21	^a 1	^a 1	^a 1	^a 1	^a 1	^a 1	
336415	Guided missile & space vehicle propulsion unit & parts mfg	45	36	27	22	3	1	2	2	1	1	
336419	Other guided missile & space vehicle parts & auxiliary equip mfg	46	47	37	36	2	1	1	2	2	1	
3365	Railroad rolling stock mfg	45	^a 54	37	^a 44	2	^a 2	3	2	^a 2	3	
33651	Railroad rolling stock mfg	45	^a 54	37	^a 44	2	^a 2	3	2	^a 2	3	
336510	Railroad rolling stock mfg	45	^a 54	37	^a 44	2	^a 2	1	2	^a 2	1	
3366	Ship & boat building	53	52	37	36	1	1	2	1	2	2	
33661	Ship & boat building	53	52	37	36	1	1	2	1	2	2	
336611	Ship building & repairing	51	49	40	38	2	1	1	2	2	1	
336612	Boat building	59	^a 56	34	^a 33	3	^a 2	2	2	^a 3	3	
3369	Other transportation equipment mfg	61	57	29	34	1	1	2	3	1	3	
33699	Other transportation equipment mfg	61	57	29	34	1	1	2	3	1	3	
336991	Motorcycle, bicycle, & parts mfg	^a 59	^a 54	^a 18	^a 24	^a 2	^a 3	^a 3	^a 3	^a 2	^a 2	
336992	Military armored vehicle, tank, & tank component mfg	42	42	37	36	1	1	1	1	1	1	
336999	All other transportation equipment mfg	74	70	47	47	1	1	2	2	2	1	
337	Furniture & related product mfg	61	62	36	36	2	2	3	2	2	3	
3371	Household & institutional furniture & kitchen cabinet mfg	66	67	34	35	2	2	3	3	3	4	
33711	Wood kitchen cabinet & counter top mfg	73	72	43	48	4	5	6	5	4	6	
337110	Wood kitchen cabinet & counter top mfg	73	72	43	48	4	5	5	5	4	4	
33712	Household & institutional furniture mfg .	63	66	31	31	2	2	3	3	3	5	
337121	Upholstered household furniture mfg	74	74	39	44	5	6	3	8	6	7	
337122	Nonupholstered wood household furniture mfg	65	67	28	30	4	4	3	5	6	3	
337124	Metal household furniture mfg	^a 47	50	^a 24	27	^a 3	3	^a 2	^a 2	3	^a 1	
337125	Household furniture (except wood & metal) mfg	42	48	32	35	9	10	4	6	3	3	
337127	Institutional furniture mfg	59	64	32	24	4	4	4	5	4	4	
337129	Wood television, radio, & sewing machine cabinet mfg	67	69	44	46	2	2	1	5	5	1	
3372	Office furniture (including fixtures) mfg ...	53	55	39	38	2	2	5	2	2	3	
33721	Office furniture (including fixtures) mfg .	53	55	39	38	2	2	5	2	2	3	
337211	Wood office furniture mfg	42	46	31	34	4	3	2	3	4	3	
337212	Custom architectural woodwork & millwork mfg	66	69	40	34	3	4	3	6	7	8	
337214	Office furniture (except wood) mfg ..	52	56	39	43	3	2	3	2	2	3	
337215	Showcase, partition, shelving, & locker mfg	60	56	42	37	3	4	2	4	3	2	
3379	Other furniture related product mfg	63	57	40	36	3	4	3	3	3	6	
33791	Mattress mfg	63	58	40	37	4	6	4	3	4	6	
337910	Mattress mfg	63	58	40	37	4	6	3	3	4	3	
33792	Blind & shade mfg	63	56	40	35	4	3	5	7	5	9	
337920	Blind & shade mfg	63	56	40	35	4	3	4	7	5	3	
339	Miscellaneous mfg	64	65	40	43	2	2	2	2	2	2	
3391	Medical equipment & supplies mfg	63	67	44	49	3	2	2	3	2	2	
33911	Medical equipment & supplies mfg	63	67	44	49	3	2	2	3	2	2	
339111	Laboratory apparatus & furniture mfg	68	66	38	43	4	5	3	2	3	2	
339112	Surgical & medical instrument mfg ..	58	67	40	46	5	3	5	5	4	4	
339113	Surgical appliance & supplies mfg ..	66	65	48	51	3	3	2	3	3	2	
339114	Dental equipment & supplies mfg	74	74	48	49	5	5	7	5	3	5	
339115	Ophthalmic goods mfg	52	63	43	53	4	5	2	5	5	2	
339116	Dental laboratories	88	85	66	55	2	3	3	3	3	3	

See footnotes at end of table.

Table 2. Capacity Utilization Rates by Industry: Fourth Quarters 2002 and 2001—Con.

[For meaning of abbreviations and symbols, see introductory text]

NAICS code	Industry	Full production		National emergency production		Standard errors ¹							
		2002	2001	2002	2001	Full production			National emergency production				
						Level		2001 to 2002 change	Level		2001 to 2002 change		
						2002	2001		2002	2001			
339	Miscellaneous mfg—Con.												
3399	Other miscellaneous mfg	65	63	36	37	2	2	3	2	2	3	2	3
33991	Jewelry & silverware mfg	59	63	33	34	4	4	4	3	3	3	3	3
339911	Jewelry (except costume) mfg	58	64	35	35	5	5	3	4	3	2	4	2
339912	Silverware & plated ware mfg.....	55	64	27	30	4	4	1	4	4	1	4	1
339913	Jewelers' material & lapidary work mfg	68	60	50	46	3	6	5	4	4	2	4	2
339914	Costume jewelry & novelty mfg	64	^{a60}	28	^{a30}	5	^{a4}	3	6	^{a5}	4	^{a5}	4
33992	Sporting & athletic goods mfg	65	64	30	34	4	4	8	5	6	8	6	8
339920	Sporting & athletic goods mfg	65	64	30	34	4	4	2	5	6	4	5	4
33993	Doll, toy, & game mfg	60	59	45	34	4	6	7	5	6	7	5	7
339931	Doll & stuffed toy mfg	^{a27}	^{a57}	^{a24}	^{a51}	^{a2}	^{a3}	^{a3}	^{a2}	^{a2}	^{a3}	^{a2}	^{a3}
339932	Game, toy, & children's vehicle mfg .	69	59	50	33	5	6	8	7	6	8	6	8
33994	Office supplies (except paper) mfg	63	63	43	45	2	2	2	3	2	5	2	5
339941	Pen & mechanical pencil mfg.....	63	58	41	38	1	1	1	4	3	1	4	1
339942	Lead pencil & art good mfg.....	69	78	64	75	4	2	3	5	2	4	2	4
339943	Marking device mfg	^{a56}	55	^{a31}	32	^{a4}	3	^{a2}	^{a2}	2	^{a1}	2	^{a1}
339944	Carbon paper & inked ribbon mfg ...	63	68	40	55	5	8	7	13	3	14	3	14
33995	Sign mfg.....	71	65	41	41	4	4	5	4	4	8	4	8
339950	Sign mfg.....	71	65	41	41	4	4	3	4	4	2	4	2
33999	All other miscellaneous mfg	65	63	36	38	2	2	3	2	2	6	2	6
339991	Gasket, packing, & sealing device mfg	70	68	45	49	3	3	2	6	5	4	6	4
339992	Musical instrument mfg	59	59	14	17	3	3	2	1	1	1	1	1
339993	Fastener, button, needle, & pin mfg .	60	60	39	39	5	3	3	11	8	3	11	3
339994	Broom, brush, & mop mfg	66	62	35	36	5	5	4	7	5	5	7	5
339995	Burial casket mfg	63	69	45	50	5	5	2	3	3	1	3	1
339999	All other miscellaneous mfg	^{a65}	^{a61}	^{a45}	^{a43}	^{a3}	^{a4}	^{a3}	^{a1}	^{a3}	^{a3}	^{a3}	^{a3}
5111	Newspaper, periodical, book, and database publishers.....	81	(NA)	69	(NA)	6	(NA)	—	13	(NA)	—	(NA)	—

¹A description of the standard error is given in Appendix B, "Qualifications of the Data" of the report.

²Excluding NAICS 5111, Newspaper, periodical, book, and database publishers.

Appendix A. MQ-C1 Report Form and Instructions

The MQ-C1 form and instructions are shown on the following pages.

**SURVEY OF PLANT CAPACITY UTILIZATION
FOURTH QUARTER 2002 (October–December)**

In correspondence pertaining to this report refer to the ID NUMBER (ID) (11 digits)

NOTICE – Response to this inquiry **is required by law (title 13, United States Code)**. By section 9 of the same law, your report to the Census Bureau is **confidential**. Only persons sworn to uphold confidentiality of Title 13 will see your information, and it will be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

IMPORTANT

PLEASE READ INSTRUCTIONS AND DEFINITIONS BEFORE COMPLETING FORM

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

NOTE — If you need a copy of the instructions, please visit www.census.gov/cir/www/mqc1pag2.html

Item 1 OPERATIONAL STATUS

Mark (X) ONE box which best describes this establishment at the end of 2002. See instructions for reporting.

- 12 In operation – Complete items 2 through 6.
- 13 Temporarily idle – See instruction sheet – Complete items 2–6.

- 14 Sold or leased to another company
See instruction sheet
- 15 Permanently ceased operations –
See instruction sheet.

Give ¹⁶ date sold or closed	Month	Year

Item 2 VALUE OF PRODUCTION

ACTUAL PRODUCTION

	4th QTR. 2002		4th QTR. 2001	
	\$ Mil.	Thou.	Mil.	Thou.
a. Report market value of actual production for the 4th quarter of 2002	23			

FULL PRODUCTION CAPABILITY

	4th QTR. 2002		4th QTR. 2001	
	\$ Mil.	Thou.	Mil.	Thou.
b. Estimate the market value of production of this plant as if it had been operating at full production capability in the 4th quarter of 2002. Assume:	34			

- only machinery and equipment **in place and ready to operate**.
- **normal** downtime.
- Labor, materials, utilities, etc. **ARE FULLY AVAILABLE**.
- the number of shifts, hours of operation, and overtime pay that can be **sustained** under **normal** conditions and a **realistic** work schedule in the long run.
- the **same product mix** as in the fourth quarter.

c. Divide your **actual production estimate** by your **full production estimate**. Multiply this ratio by 100 to get a percentage. Enter this percentage in the box.

Capacity Utilization:

Is this a reasonable estimate of your sustainable capacity use in the 4th quarter?

- Yes
- No – Please review your full production estimate

d. If your estimate of 2002 fourth quarter **full production capability** has changed compared to 2001, mark (X) the primary reasons.

- 35 Building capital expenditures
- 36 Machinery capital expenditures – Include new, replaced, or enhanced machinery
- 37 Building retirements
- 38 Machinery retirements
- 39 Price changed but product mix is the same
- 40 Revised estimation assumption with no change in plant or operations
- 41 Change in method of operation
- 42 Change in product mix or product specifications
- 43 Change in material input
- 48 Other – Specify
- 49

Item 3 WORK PATTERNS OF FOURTH QUARTER OPERATIONS 2002

Column (1-3) – Report work patterns for **each shift of actual operations** in the **4th quarter of 2002**.
If the plant did not operate a second or third shift, do not complete the corresponding columns.

Column (4) – Report work patterns as if the plant operated at **full production capability** as defined in item 2b.

	Actual Operations									Full Production Capability		
	Shift one			Shift two			Shift three			Number of shifts per day		
	(1)			(2)			(3)			(4)		
a. Days per week in operation	90			91			92			93		
b. Plant hours per week in operation	94			95			96			97		
c. Weeks in operation in the quarter	98			99			100			101		
d. Total number of production workers	102			103			104			105		
e. Temporary production workers included in line d (not on the payroll and hired through temporary agencies or as their own agent; see instructions)	106			107			108			109		
f. Total hours worked by production workers	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.
g. Hours worked by temporary production workers (included in line f)												
h. Overtime hours worked by production workers (included in line f)												

Item 4 FOURTH QUARTER ACTUAL OPERATIONS VS FULL PRODUCTION CAPABILITY FOR 2002

a. If this plant's **actual** production in the 4th quarter was **less** than **full production capability**, mark (X) the primary reasons:

- | | | |
|--|--|--|
| 51 <input type="checkbox"/> Not most profitable to operate at full production capability | 55 <input type="checkbox"/> Lack of sufficient fuel or electric energy | 60 <input type="checkbox"/> Strike or work stoppage |
| 52 <input type="checkbox"/> Insufficient supply of materials | 56 <input type="checkbox"/> Equipment limitations | 61 <input type="checkbox"/> Seasonal operations |
| 53 <input type="checkbox"/> Insufficient orders | 57 <input type="checkbox"/> Storage limitations | 62 <input type="checkbox"/> Environmental restrictions |
| 54 <input type="checkbox"/> Insufficient supply of local labor force/skills | 58 <input type="checkbox"/> Logistics/transportation constraints | 68 <input type="checkbox"/> Other – Specify ↘ |
| | 59 <input type="checkbox"/> Sufficient inventory of finished goods on hand | 69 <input type="text"/> |

b. If **actual** operations in the 4th quarter were **less** than **full production capability**, how quickly could you increase to that level, if necessary? Assume sufficient demand for your product. Mark (X) the shortest amount of time you would require.

- 71 Less than 3 months 72 3 to 6 months 73 7 to 12 months 74 More than one year

Item 5 NATIONAL EMERGENCY PRODUCTION

NATIONAL EMERGENCY PRODUCTION

	4th QTR. 2002		4th QTR. 2001		
	\$	Mil.	Thou.	Mil.	Thou.
99					

a. Estimate the value of production for this plant as if it had been operating under **national emergency** conditions in the 4th quarter of 2002.

Assume:

- full use of **all** your machinery and equipment, including that requiring reconditioning.
- plant production **as close to 168 hours per week as possible**, including extra shifts.
- **minimal** downtime.
- funding, labor, materials, components, utilities, etc., **are fully available to you and your suppliers.**
- your product mix **is** permitted to change.
- you can sell **all** of your output

See the instruction sheet for additional guidance.

b. If **actual** operations in the 4th quarter were **less** than **national emergency production**, how quickly could you increase to the national emergency production level if given emergency priority by the government? Mark (X) the shortest amount of time you would require.

- 82 Less than 3 months 83 3 to 6 months 84 7 to 12 months 85 More than one year

911 Remarks

Item 6 PERSON TO BE CONTACTED REGARDING THIS REPORT – Print name and telephone number.

Name	Telephone →	Area code	Number
	()		

RETURN COMPLETED FORM TO

**U.S. CENSUS BUREAU
1201 EAST 10TH STREET
JEFFERSONVILLE, IN 47132-0001**

INSTRUCTIONS FOR THE SURVEY OF PLANT CAPACITY UTILIZATION DURING THE FOURTH QUARTER 2002

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General Instructions	2
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Changes for the 2002 Survey

Reinstatement of Publishing Industries to the Survey of Plant Capacity for 2002

At the request of the Federal Reserve Board (FRB), we are again sampling Publishing Industries beginning with survey year 2002. These industries are a vital component of the FRB monthly measure of industrial production (IP), capacity, and capacity utilization for the industrial sector. While these industries are primarily publishing in nature, there may also be printing activities conducted at the location. It is this printing information that we are trying to capture. If you do not perform any printing activities, please indicate so in the remarks section of the form. If you have questions on how to report, please reference the special section for printing/publishers on page three, column two, of the instruction foldout.

AUTHORITY AND CONFIDENTIALITY – Response to this inquiry is required by law (Title 13, U.S. Code). By section 9, of Title 13, U.S. Code, your report to the Census Bureau is confidential. Only persons sworn to uphold confidentiality of Title 13 will see your information, and it will be used only for statistical purposes. Copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

PUBLIC REPORTING

Public reporting burden for this collection of information is estimated to average 2.25 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Associate Director for Administration/ Comptroller, Attn: Paperwork Reduction Project 0607-0175, Room 3104, FB-3, Bureau of the Census, Washington, DC 20233.

WHO SHOULD REPORT?

This report covers the manufacturing plant named in the address box of the form. If your company operates more than one location, **REPORT ONLY FOR THOSE PLANTS SELECTED FOR THIS SAMPLE SURVEY.** A report form and instruction sheet are enclosed for each plant selected.

Since some of the information necessary to complete this form may not be in your records, **CONSULT THE PLANT MANAGER** on questions regarding full production capability and emergency production.

WHAT TO REPORT?

This survey form primarily asks for 3 levels of operating capability of this plant in the fourth quarter of 2002:

- (1)** the market value of actual goods produced;
- (2)** the value of products that could have been produced if the plant was operating at full capacity in the fourth quarter; and
- (3)** the value of products that could have been produced if required in a national emergency.

If 2001 data are NOT printed on the form, you do not need to enter data for that period.

WHEN TO REPORT

Complete the survey form and return it in the enclosed return envelope by the date printed on the top of the form. If you have misplaced the return envelope, mail the completed form to:

U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132-0001

HOW TO REPORT

Answer all questions on the report form. Follow the instructions for each item given on this sheet.

Report market value of production figures in **thousands of dollars.** For example, if value of production is 1,125,788 dollars, enter the figure as follows:

Mil.	Thou.
1	126

NAME AND ADDRESS

Review the name and address of this plant printed in the top right corner of the report form. Line out any errors and make any necessary corrections or additions in the address box.

Item 1 – OPERATIONAL STATUS

Report the status of operations at this plant at the end of 2002 by marking the appropriate box. If:

In Operation – Complete items 2 through 6.

Idle Plants – Complete items 2 through 6.

- a.** If this plant was temporarily idle during the **entire fourth quarter** report actual operations as zero where appropriate.
- b.** If this plant was temporarily idle during **only part of the fourth quarter** report the actual operations for the time the plant was in operation.

Item 1 – OPERATIONAL STATUS – Continued

For both cases, report full production and emergency production capabilities based on the plant's **peak** quarterly production during 2002.

Sold or Leased Plant – If this plant was sold or leased to another company, indicate the month and year this action took place.

- a. If you still maintain records for this plant, complete items 2 through 6.
- b. If you do not have 4th quarter information about this plant, complete item 6 only and return the form.

Permanently Ceased Operations – Indicate the month and year when operations ceased at this plant. If the plant was in operation at ANY time during the fourth quarter of 2002, complete items 2 through 6. Report full production and emergency production capabilities, as if the plant operated the **entire** quarter.

SPECIAL NOTE:

Seasonal Operations

- a. If this plant is usually temporarily idle during the fourth quarter *due to seasonal factors*, report as instructed for idle plants.
- b. If this plant was not temporarily idle during the fourth quarter, but its operations vary substantially from quarter to quarter, *due to seasonal factors*, complete items 2 through 6, and report full production and national emergency production capabilities based on the plant's **peak** quarterly production during the year.

For both types of seasonal operations, check "Seasonal Operations" in item 4a if actual operations are less than full production capability.

Item 2 – VALUE OF PRODUCTION

Item 2a – MARKET VALUE OF PRODUCTION

Report the value of production based on estimated sales price(s) of what was produced during the fourth quarter, not fourth quarter sales. If production at this plant consists of only interplant transfers, use method (2) below to calculate market value of production.

Three methods – to estimate market value of goods produced during the fourth quarter:

- (1) Estimate the sales price(s) of item(s) produced, then multiply the sales price(s) by the total number of items produced during the fourth quarter.
- (2) Use book figures of actual production costs plus an estimate of markup to cover overhead and profit.

- (3) Use fourth quarter value of shipments f.o.b. (freight on board) from the plant (including the value of interplant transfers within a company, in addition to direct costs of production, but excluding resales and miscellaneous receipts) plus any additions or subtractions to the finished stock of inventories present before the fourth quarter (excluding materials and supplies). [Value of production = value of shipments + value of ending inventory – value of beginning inventory].

SPECIAL NOTE:

Do **not** include manufacturing contracted to others. If you contract out all of your manufacturing, please state this in the "Remarks" section, complete item 6, and return the form.

Job shops and custom orders: For actual production, report value of work done in the fourth quarter of 2002.

Publishing/printing plants: For actual production, report your printing sales only (NOT advertising sales) for the location named in the address box of the form. Do not include any printing that is contracted out. **If you do not perform any printing activities, please indicate so in the remarks section on the back of the form.**

Item 2b – FULL PRODUCTION CAPABILITY

Read the definition and assumptions regarding full production capability. Estimate your market value of products that would have been produced if the plant was operating at full capacity in the fourth quarter. Use one of the two methods suggested below or your own computations.

Full Production Capability – The maximum level of production that this establishment could reasonably expect to attain under **normal** and **realistic** operating conditions fully utilizing the machinery and equipment in place. In estimating market value at full production capability, consider the following:

- Assume **only** the machinery and equipment in place and ready to operate will be utilized. Do not include facilities or equipment that would require extensive reconditioning before they can be made operable.
- Assume **normal** downtime, maintenance, repair, and cleanup. If full production requires additional shifts or hours of operation, then appropriate downtime should be considered in the estimate.
- Assume number of shifts, hours of plant operations, and overtime pay that can be sustained under **normal** conditions and a **realistic** work schedule.
- Assume labor, materials, utilities, etc. are fully available.
- Assume a product mix that was **typical** or representative of your production during the fourth quarter. If your plant is subject to short-run variation assume the product mix of the current period.

Item 2b – FULL PRODUCTION CAPABILITY – Continued

- Do not assume increased use of productive facilities outside the plant for services (such as contracting out subassembly work) in excess of the proportion that would be normal during the fourth quarter.

SPECIAL NOTE:

Job shops and custom orders: For full production, estimate the market value of work that you could have accomplished under sustainable operating conditions and if you had sufficient orders.

Publishing/printing plants: For full production, report printing sales for this location as if it were running at peak circulation.

Two Methods to estimate market value of production when operating at full production capability:

- (1) If you have a reliable or accurate estimate of your plant's sustainable capacity utilization rate: **Divide** your market value of production at **actual** operations (item 2c) by your current **rate of capacity** utilization (in decimal form). For example, if your value of actual operations for the fourth quarter is \$1,200,000 and your plant is currently at 80% capacity, divide \$1,200,000 by 0.80 for a full production capability of \$1,500,000.

$$\frac{\text{Actual Value of Production}}{\text{Capacity Utilization Rate}} = \text{Market value of production at Full Capacity}$$

Your plant's capacity utilization rate should be based on a capacity output measure that your plant could have sustained under **normal**, not emergency, conditions.

- (2) For each product, estimate the number of items that could have been produced if operating at full production, as defined by the assumptions given. Multiply the number of items produced by its sales price (or market value). For example, if you can produce 25,000 items in the fourth quarter, under full production criteria, and the sales price (market value) for each item is \$4.50, then multiply 25,000 times \$4.50 for a full production capability of \$112,500.

$$\text{Number of items produced} \times \text{Sales price (Market Value)} = \text{Market value of production at Full Capacity}$$

If producing **more than one product**, **sum** the market values of production at full production estimated for each product (assuming the same product mix) for a **total** value of full production for the plant.

Enter your estimate for value of full production in item 2b.

Item 2c – CAPACITY UTILIZATION

- (1) Divide your estimate for actual production (Item 2a) by full production (Item 2b) capability. Multiply this number by 100. Enter this percentage in the box.
- (2) **Is this a reasonable percentage of your sustainable capacity use in the 4th quarter of 2002?** Mark (X) yes or no. If no, please review your full production capability estimate. If yes, continue with the next item.

Item 2d – Comparing full production capability between fourth quarters of 2001 and 2002

If the value of full production for the fourth quarter of 2002 differs from 2001, mark (X) the primary reasons for the change.

Item 3 – WORK PATTERNS OF FOURTH QUARTER OPERATIONS

Actual Operations – In columns 1 through 3, report work patterns for the following characteristics covering each *production shift* of actual operations in the 4th quarter of 2002. Report based on the average number of shifts per day in the fourth quarter. Do not consider maintenance, administrative, or support operations as additional shifts. Do not consider overtime hours as additional shifts. If the plant did not operate a second or third shift, do not complete the corresponding columns.

a. Days per week in operation – For each shift, report the typical number of days per week in operation for the fourth quarter. If your plant has departments or assembly lines that operate varied number of days *within a shift*, report days per week in operation for the department operating the greatest number of days per week for that shift. For example, if one production line operates 7 days per week during the first shift and a second production line operates 5 days per week during the first shift, report that the first shift operates 7 days per week.

b. Plant hours per week – For each shift, report the typical number of **hours the plant was in production** during a single week. If your plant has departments or assembly lines that operate at varied periods of time *within a shift*, report hours per week in operation for the production department operating the greatest number of hours per week for that shift. **Do not report the number of person hours worked (see below).**

c. Weeks in operation in the quarter – For each shift, report the total number of weeks the plant operated during the fourth quarter. NOTE: The fourth quarter of the year covers 13 weeks.

d. Total number of production workers – For each shift, report the total number of production workers at this establishment, including both permanent (payroll) and temporary employees who were paid during the pay period which included November 12. Include all persons on paid sick leave, paid holidays, paid vacation during this pay period.

NOTE: **Include** workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power plant), record keeping, and other closely associated services. Include truck drivers delivering ready-mixed concrete.

Item 3 – WORK PATTERNS OF FOURTH QUARTER OPERATIONS – Continued

Exclude nonproduction personnel, including those engaged in supervision above line-supervisor level, sales, sales delivery (truck drivers and helpers), advertising, credit, collection, installation and servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional and technical.

e. Number of temporary production workers –

For each shift, report the number of *temporary production workers* **not** on the payroll (hired through temporary help agencies or as their own agent) and working during the pay period including November 12. Include temporary production workers who perform the same tasks as listed above. **Do not include part-time workers.**

f. Total hours worked by production workers –

For each shift, report number of hours worked by all production workers in the fourth quarters (both those on the payroll and temporary production workers). Include overtime hours, but excluded paid vacations, holidays, and sick leave.

g. Hours worked by temporary production workers –

For each shift, report number of hours worked by temporary production workers included in the total hours worked by production workers (line f). Include overtime hours worked by temporary production workers.

h. Overtime hours worked by production workers –

For each shift, report number of overtime hours included in the total hours worked by production workers (line f).

Full production capability – In column 4, report work patterns for each characteristic as if the plant operated at full production capability in the 4th quarter of 2002. Use the criteria defined for Full Production Capability in item 2b.

Enter the number of shifts per day at full capacity in the box provided in the upper right hand corner. **See examples of responses to item 3 on page 6.**

Item 4 – FOURTH QUARTER ACTUAL OPERATIONS VS. FULL PRODUCTION CAPABILITY

Compare the actual value of production in the fourth quarter of 2002 to the estimated value of full production.

Item 4a – Mark (X) reasons why your actual operations were less than the estimated value of full production capability, if appropriate.

Item 4b – Select a time period that would have been reasonable to increase output to full production level.

Item 5 – NATIONAL EMERGENCY PRODUCTION

Read the definition and assumptions regarding national emergency production. Estimate your value of production under national emergency conditions for the fourth quarter of 2002. Use your own computations or methods similar to those described for estimating full production capability.

SPECIAL NOTE: Your value of production at national emergency levels should be **greater than or equal to** your value of full production capability. If it is less than your full production capability, please review your computations.

National Emergency Production – The maximum level of production that this plant could expect to attain and sustain for one year or more under national emergency conditions.

National emergency conditions are situations, such as a military mobilization or natural disaster, which are likely to create widespread excess demand requiring additional work shifts.

For example, military mobilization may require increased production of food, clothing, building supplies, and conversion of plants to produce alternative products in addition to traditional defense hardware. Devastation from natural disasters, such as hurricanes, floods, earthquakes, or fire, may require increased production of similar goods as well as increased production to compensate for plants damaged or destroyed.

In estimating national emergency production, consider the following:

- Assume full use of **all** machinery and equipment in place (including machinery and equipment that would require extensive reconditioning before they could be made operable).
- Assume minimal downtime and **multi-work shift** operations.
- Assume plant production as close to 168 hours per week as possible, including extra shifts (e.g., operating 7 days per week, 24 hours per day less minimal downtime).
- Assume overtime pay, availability of labor, materials, utilities, etc., are **fully available** to you and your suppliers.
- Assume you can sell all your output.
- Assume your product mix can change.
- Assume increased use of productive facilities outside the plant for services (such as contracting out subassembly work) in excess of the proportion that would be normal during the fourth quarter.

SPECIAL NOTE

Jobs shops and custom orders: For national emergency production, estimate the market value of work that could have been done if you received additional orders assuming maximum number of employees working multiple shifts that the facility can accommodate.

Publishing/printing plants: For national emergency production, report value of printing if operating machinery as close to 168 hours/week as possible.

Item 5b – Select a time period that would have been reasonable to increase output to emergency production level, if required.

If you have any questions concerning the definitions or instructions, please contact the Special Studies Branch of the Manufacturing and Construction Division on (301) 763-4667.

Example 1. A plant with one 8-hour shift operating 5 days/week

- a. Days per week in operation
- b. Plant hours per week in operation
- c. Weeks in operation in the quarter
- d. **Total number of production workers**
- e. **Temporary** production workers **included** in line d (not on the payroll and hired through temporary agencies or as their own agent; see instructions)
- f. **Total hours worked by production workers**
- g. Hours worked by temporary production workers (**included** in line f)
- h. Overtime hours worked by production workers (**included** in line f)

Actual Operations									Full Production Capability		
Shift one (1)			Shift two (2)			Shift three (3)			Number of shifts (4) ↘ 1		
5									7		
40									56		
13									13		
32									44		
2									4		
Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.
	15	880								17	680
		240									600
		0									0

Example 2. A plant with Two Production Shifts and One Maintenance Shift

- a. Days per week in operation
- b. Plant hours per week in operation
- c. Weeks in operation in the quarter
- d. **Total number of production workers**
- e. **Temporary** production workers **included** in line d (not on the payroll and hired through temporary agencies or as their own agent; see instructions)
- f. **Total hours worked by production workers**
- g. Hours worked by temporary production workers (**included** in line f)
- h. Overtime hours worked by production workers (**included** in line f)

Actual Operations									Full Production Capability		
Shift one (1)			Shift two (2)			Shift three (3)			Number of shifts (4) ↘ 2		
7			5						7		
56			40						112		
13			13						13		
110			50						210		
10			0						0		
Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.
	53	200		24	800					117	000
	1	200			0						0
		0			0						0

Example 3. A plant in Continuous Operation

- a. Days per week in operation
- b. Plant hours per week in operation
- c. Weeks in operation in the quarter
- d. **Total number of production workers**
- e. **Temporary** production workers **included** in line d (not on the payroll and hired through temporary agencies or as their own agent; see instructions)
- f. **Total hours worked by production workers**
- g. Hours worked by temporary production workers (**included** in line f)
- h. Overtime hours worked by production workers (**included** in line f)

Actual Operations									Full Production Capability		
Shift one (1)			Shift two (2)			Shift three (3)			Number of shifts (4) ↘ 3		
7			7			7			7		
56			56			56			168		
13			13			13			13		
360			360			200			1080		
0			0			0			0		
Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.	Mil.	Thou.	Hrs.
	168	480		168	480		104	000		505	440
		0			0			0			0
		200			200			0			0

Appendix B.

Qualifications of the Data

DEFINITIONS AND CONCEPTS

Although survey respondents were provided detailed instructions for estimating full production capacity and national emergency production capacity (see Appendix A), it is extremely difficult to translate the concept of plant capacity into a working definition which is applicable to all industries and situations. A host of problems are inherent in any attempt to measure capacity. Following are some of the more significant:

1. Telephone conversations with respondents have revealed that there are a variety of methods by which plants can measure their capacity. For example, it is customary for petroleum refineries to use an engineering concept of capacity based on maximum throughput during around-the-clock operations, with allowance made for maintenance or other necessary downtime. Other industries use different methods. They might base capacity on the maximum number of work hours of their labor force, on a past peak performance period, or on any number of other methods.

In order to improve the consistency of reporting across industries, the U.S. Census Bureau made an attempt to prescribe a standardized method for calculating levels of capacity and capacity utilization. Respondents across industries were asked to report production by the plant for actual, full production, and national emergency levels of production, in terms of market value of production, and given specific assumptions to follow in estimating each level of production (see Appendix A). The capacity utilization rates estimates produced in this report are calculated as a ratio of actual value of production to full production and national emergency values of production.

2. Full production limitations. Respondents were instructed as follows when estimating full production capacity: "Do not consider overtime pay, availability of labor, materials, utilities, etc., to be limiting factors." However, some respondents appear to be unrealistic in reporting their full production operations. For example, some establishments defined full production capacity as continuous operations (7 days a week, 24 hours a day) even though they were currently operating a single shift and admitted they could not expect realistically to operate continuously with their present plant and equipment or within their industry or locality. Census Bureau staff have discussed the most questionable estimates with respondents and adjusted the

reports where appropriate; however, there is a distinct element of subjectivity, and it is apparent that not all plants have defined full production capacity in realistic terms.

3. National emergency production limitations. Some individual plants do not differentiate between their full production capacity and national emergency capacity. Therefore, for some individual plants, the levels of capacity and capacity utilization rates calculated for full production and national emergency are the same. For these plants, no measurable difference between full production and national emergency capacity levels or capacity utilization can be obtained.

Census Bureau staff have discussed the most questionable estimates with respondents and adjusted the reports where appropriate; however, there is a distinct element of subjectivity, and it is apparent that not all plants have defined national emergency capacity in realistic terms.

4. Year-to-year variations in reported data. There is considerable year-to-year change in reported capacity and capacity utilization for individual plants. Some of this reflects real change in capacity due to additions or retirements of plant and equipment, change in product mix, or change in productivity. Other changes, however, are the result of response variations that are part of the nonsampling errors described in the following section on sampling and nonsampling errors. These variations, which often result from different personnel completing the form, include different judgmental decisions about work patterns and what plant and equipment to include in estimating capacity. At the summary levels, the individual establishment changes (either up or down) have a tendency to cancel each other.

SAMPLING AND NONSAMPLING ERRORS

The survey estimates presented in this report are subject to both sampling and nonsampling errors. Nonsampling errors include various response and operational errors; errors of collection, reporting, transcription, and bias due to nonresponse, etc. These errors would also occur if a complete canvass were conducted under the same conditions as this survey. Most of the important operational errors were detected and corrected in the course of the review of the data for reasonableness and consistency.

However, because of the definitional and conceptual problems associated with this survey, it is likely that the response errors are greater in magnitude than for other manufacturing surveys in which respondents are asked to report data that are generally kept as a matter of record. Explicit measures of the nonsampling errors are not available. As derived, the estimated standard error provides a measure of sampling error only. The total error will most likely exceed the standard errors shown.

The panel selected for this survey was sampled using probabilities proportionate to size (pps). Independent samples were chosen for each NAICS industry, except for the newly-added publishing industry group (5111), where the sample was controlled at the industry group only. Probabilities were assigned to control sampling allocation by industry subject to the constraint of a predetermined total sample size. These probabilities determined an expected sample size for each industry. The sampling procedure used ensured that this expected sample size was exactly realized. The particular sample selected was but one of the many probability samples of this size that could have resulted using this sampling methodology. Each of the possible samples would yield somewhat different sets of results. The sampling errors—the differences between the estimates obtained from the sample actually selected and the results theoretically obtainable from a comparable complete canvass of the same target universe—are unknown. However, the estimated standard errors of the utilization rates and the year-to-year changes are guides to the potential sizes of these sampling errors.

The estimated standard error of a utilization rate, or of a year-to-year change in a utilization rate, may be used to

define a confidence interval about that rate or change such that the complete coverage result will be included within that interval with known probability. As examples:

1. The interval defined by one standard error below the estimates rate or change to one standard error above contains the complete coverage result with approximately 67-percent confidence.
2. The interval defined by two standard errors below and above the estimates rate or change contains the complete coverage result with approximately 95-percent confidence.
3. The interval defined by three standard errors below and above the estimates rate or change contains the complete coverage result with approximately 99-percent confidence.

Thus, an inference that the complete coverage result lies within the indicated intervals would, with the prescribed confidences, be correct. For example, if an estimated utilization rate is shown as 80 percent, with an associated standard error of 3 percent, there is approximately 67-percent confidence that the interval 77 percent to 83 percent includes the complete coverage rate, about 95-percent confidence that the interval 74 percent to 86 percent would include the complete coverage rate, and approximately 99-percent confidence that the interval 71 percent to 89 percent would include the complete coverage rate.

Note that the estimates of the standard errors are derived from the sample and are also subject to sampling error.

Appendix C.

Description of Survey Sample and Estimating Procedure

SURVEY SAMPLE

The 2002 estimates presented in this report are derived from a probability sample of about 17,000 manufacturing establishments and about 250 publishing establishments. The 2002 panel is a continuation of a primary panel first selected in 1999. In each of the years subsequent to 1999, this primary panel was updated with a representative sample of manufacturing births for those years. The births for a given year were selected from plants that had come into existence in the year following the most recent survey. As with the primary panel, selected births in a given year that remained active continued into subsequent panels. For the 2002 survey, the manufacturing panel was supplemented with a panel of establishments selected from NAICS 5111, Newspaper, periodical, book, and database publishers. The printing activity of publishers had been omitted from the survey since the conversion to NAICS in 1999 because, under NAICS, publishing became a nonmanufacturing industry group. However, the Federal Reserve Board (FRB), one of the funding agencies for the Survey of Plant Capacity, requested that the collection of publishing data be reinstated to enable them to maintain the continuity of production and capacity measures that are featured in its statistical release, G.17 Industrial Production and Capacity Utilization, a principal federal economic indicator.

The primary panel drawn in 1999 was a newly-selected panel and was the first to be wholly selected using the North American Industry Classification System (NAICS).¹ Previous panels were designed to provide estimates by Standard Industrial Classifications (SIC). The sampling frame for the 1999 panel was created from the Manufacturing sector of the 1997 Economic Census and from a universe of new businesses that were identified subsequent to the census. The economic census manufacturing sector, which was also on a NAICS basis for the first time, contained almost 400,000 establishments. However, only about 230,000 establishments were mailed a census form; the remainder were imputed based on administrative data

¹In 1997 dental labs (SIC 8072) were sampled, and this panel was canvassed in both the 1997 and 1998 survey years. At the time, dental labs were the only new manufacturing activity under NAICS that could be completely identified by a unique SIC industry code. In 1998 the remaining 20 new manufacturing industries (under NAICS) were sampled and mailed as part of the 1998 survey. Data were collected for these respective industries in anticipation of the 1999 publication, which was the first to present NAICS-based estimates.

obtained from Internal Revenue Service and/or Social Security Administrative records. These small administrative record cases were not part of the sampling frame for the Survey of Plant Capacity Utilization. Thus, including new businesses starting after 1997, the final frame for the 1999 survey consisted of nearly 232,000 establishments. The birth frames for survey years 2000, 2001, and 2002 were approximately 7,100, 5,900, and 5,060 establishments, respectively. For all three frames, most of these establishments were “true” births, meaning they came into existence subsequent to the most recent survey. A small number from each frame, however, were existing plants that in earlier frame creation operations could not be coded to a NAICS-6 manufacturing code. These uncoded plants were not included in the original sampling frame. Approximately 1,600 births were sampled for the 2000 survey, about 600 for the 2001 survey, and about 1,000 for the 2002 survey. For the publishing supplement, about 250 establishments were selected from a universe frame of approximately 12,000 establishments.

The conversion to NAICS in 1999 resulted in two major differences from previous survey frames. Some activities were newly classified as manufacturing under NAICS and were in the scope of the survey for the first time. Similarly, some SIC manufacturing activities became nonmanufacturing under NAICS and were no longer in scope. The logging industry fell into the latter category. However, because of a special request to collect logging statistics for the 1999 survey, the panel cases from the previous survey panel were included with the 1999 mailing. In the years subsequent to 1999, however, logging statistics have not been collected.

For the 1999 sample operation, probabilities of selection were assigned to each sampling unit proportionate to its total value of shipments. For new businesses that started after 1997 total value of shipments (either reported or imputed) was obtained from the 1998 Annual Survey of Manufactures (ASM) and was used to assign probabilities of selection. Selected units were assigned sampling weights equal to the inverse of their probability of selection.

Sampling was conducted independently for each NAICS industry, so actual probabilities of selection were dependent on the final sample size determined for each industry. This determination was based upon a priority assigned to a given industry and the constraint that the total sample size was limited to about 17,000 establishments.

Industry priority was based upon the grouping of SIC industries provided by the Department of Defense (DOD) prior to the sampling operation for the 1994 survey.

The DOD identified 188 SIC industries as primary industries and the remainder as nonpriority. The Census Bureau further split each of these groups into five priority categories and allocated the sample accordingly. For the 1996 sampling operation these same categorical breaks were maintained, but the sampling allocation was modified based on the survey results observed for the 1994 panel. For 1999, the DOD partition and the categorical breaks within were again maintained to the extent possible by mapping the SIC-4 codes to NAICS-6 codes. However, this was not a one-to-one mapping, so the final allocation of the sample was modified to remain within the total sample size constraint. For the incoming (new) manufacturing industries (see footnote 1), the allocation parameters used in 1997 and 1998, respectively, were maintained.

The 1999 panel selection was accomplished using a probability proportionate to size (pps) sampling methodology that insured that the sample size desired for each industry was realized. In previous panel selections, sampling was conducted independently by unit, which meant that over repeated applications, the resultant sample size would vary about the expected size. This property results in larger variances for the survey estimates. The fixed sample size methodology was used in 1998 to select the incoming NAICS manufacturing industries but was not used for the overall sample selection that year. Prior to sampling, an adjustment was made to all assigned probabilities that fell below a certain minimum value. This adjustment, which reset the original probabilities to this minimum value, guarded against exceedingly large sample weights (the inverse of the probability of selection) being assigned for selected establishments. If sample establishments with large sample weights reported data in excess of what was anticipated based on the unit of measure of size, the survey estimates could be adversely affected. For the priority industries, the minimum probability value was set to 0.02 (maximum weight 50); for the nonpriority industries, the minimum probability was set to 0.01 (maximum weight 100). These minimum probability rules resulted in a slight increase in the originally-allocated industry sample sizes.

The birth frames in 2000, 2001, and 2002 and the publishing frame in 2002 were sampled in similar fashion. Probabilities of selection for the 2000 and 2001 birth frames were assigned based on total value of shipments obtained from the ASM. It was decided to use payroll in place of shipments for 2002 births because in the earlier years a significant proportion of the frame units did not have shipments available at the time of sampling. Payroll was also used to determine probabilities of selection for publishing. For year 2000, the birth universe was partitioned into three strata. The first stratum consisted of the

births in the 48 highest priority industries. The second stratum consisted of jobbers, while the third contained the remainder of the birth cases. In both 2001 and 2002, each birth universe was treated as a unique stratum. For all three years, the total number of births selected was a function of the total number of manufacturing plants identified in the previous panel as no longer in operation, and the desire to maintain the overall manufacturing panel size at approximately 17,000 establishments. The 2002 publishing universe was partitioned into two strata based on whether or not plants had performed printing-related activities in the past. This determination was made using product information reported for these plants in the 1997 Census. Approximately 900 of the 12,000 frame units had printing activity, and they defined the first stratum. The remaining frame units either had no printing activity in 1997 or did not match to the 1997 Census file. These units defined the second stratum. Sampling for both strata was controlled at the industry group level and was designed so that most of the sample cases were drawn from the first stratum. The total selected sample of about 250 publishing establishments resulted in an overall sample size of about 17,300 units for the survey.

The 1998 NAICS estimates presented in this report are based on the previous survey panel first selected for survey year 1996. That panel was designed to produce SIC-based estimates. In order to produce NAICS estimates, it was necessary to recode the sample establishments to NAICS industry codes. Since there is not a one-to-one correspondence between SIC and NAICS industry codes, this meant there was no control on the allocation of the sample by NAICS industry. Each industry sample is representative, but some of the resulting estimates may be of low reliability.

ESTIMATING PROCEDURE

The estimated full production rates shown in this report for the six-digit NAICS industries in Table 1a were computed in the following manner:

$$R_j = \frac{\sum_i WT_{ij} VPA_{ij}}{\sum_i WT_{ij} VPF_{ij}}$$

where R_j is the utilization rate for the j th six-digit NAICS industry, WT_{ij} is the sampling weight for establishment i in six-digit industry j ; VPA_{ij} is the actual value of production for establishment i in six-digit industry j ; VPF_{ij} is the value of production at the full production level; and the summations are for those establishments with reported or imputed value of production at both actual and full production level. (National emergency production rates in Table 1b are computed similarly, by substituting national emergency production (VPE) for VPF in the above formula.) Imputed nonrespondent data were included because the utilization rates for nonrespondents were not necessarily imputed at the average rate for respondents.

The estimated utilization rates for the higher level manufacturing industry groupings (total manufacturing sector, subsectors, industry groups, durable goods industries, nondurable goods industries, advance processing industries, and primary processing industries) were computed in the following manner:

$$R_{(K)} = \frac{\sum_j VA_j}{\sum_j \left(\frac{VA_j}{R_j} \right)}$$

where $R_{(K)}$ is the utilization rate for the Kth industry group, VA_j is the value added for the jth six-digit industry as published in the most recent ASM or economic census and VA_j/R_j represents the value added for the jth six-digit industry adjusted to full production or national emergency production levels of operation.

Value added is defined as the difference between sales values and the cost of merchandise sold without further manufacture, processing, or assembly.

Value added is used when aggregating to higher levels to avoid duplication in figures of production that result when products of some establishments are also input materials for other establishments.

Most users of industrial data consider value added to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas. Therefore, using value added in the methodology to derive utilization rate measures should provide better estimates.

In accord with the sample design, estimates for publishing are presented at the industry group level only. These estimates are not included in any of the aggregated manufacturing estimates. Since the value added concept is not applicable to the publishing industry, the industry group estimates are derived in the same manner as the six-digit industry estimates described above for manufacturing, except that the summations range over all establishments within the industry group.

The estimated variances for the 2002 sample estimates based on the fixed sample size methodology are calculated as shown below. The equations shown refer to full production utilization rate variances. Similar calculations for emergency utilization rate variances are computed by

substituting VPE for VPF. The variable γ_i is an establishment variable that arises from the use of the fixed sample size method. For the six-digit NAICS industries and publishing industry group, the variances were computed as:

$$\sigma^2(R_j) = \sigma^2(A_j/B_j) = \frac{1}{B_j^2} [\sigma^2(A_j) + R_j^2 \sigma^2(B_j) - 2R_j \sigma(A_j B_j)] \quad (1)$$

where $A_j = \sum_i WT_{ij} VPA_{ij}$

$B_j = \sum_i WT_{ij} VPF_{ij}$

$$\sigma^2(A_j) = \sum_i \gamma_i \left(i \sum_{l=1}^i (WT_{lj} VPA_{lj})^2 - \left(\sum_{l=1}^i WT_{lj} VPA_{lj} \right)^2 \right)$$

$$\sigma^2(B_j) = \sum_i \gamma_i \left(i \sum_{l=1}^i (WT_{lj} VPF_{lj})^2 - \left(\sum_{l=1}^i WT_{lj} VPF_{lj} \right)^2 \right)$$

$$\sigma^2(A_j B_j) = \sum_i \gamma_i \left(i \sum_{l=1}^i WT_{lj}^2 VPA_{lj} VPF_{lj} - \left(\sum_{l=1}^i WT_{lj} VPA_{lj} \right) \left(\sum_{l=1}^i WT_{lj} VPF_{lj} \right) \right)$$

Estimates of variances of higher level manufacturing aggregates $R_{(K)}$ were computed as follows:

$$\sigma^2(R_{(K)}) = \frac{1}{\left[\sum_j \frac{VA_j}{R_j} \right]^2} \left[\sum_j \sigma^2(VA_j) + R_{(K)}^2 \left(\sum_j \left[\left(\frac{1}{R_j^2} \right) \sigma^2(VA_j) + \left(\frac{VA_j^2}{R_j^4} \right) \sigma^2(R_j) \right] \right) - 2R_{(K)} \sum_j \left[\left(\frac{1}{R_j} \right) \sigma^2(VA_j) \right] \right] \quad (2)$$

where $\sigma^2(VA_j)$ is the ASM estimate of variance for value added in industry j, and where the summations range over the set of six-digit industries comprising the higher level industry group K. When census year value added data are utilized, then the variance terms $\sigma^2(VA_j)$ reduce to zero.

Table 2 shows standard errors of the utilization rates. Standard errors are the square root of the corresponding variances. Estimated standard errors of the changes in utilization rates from 2001 to 2002 are also presented in Table 2. For more information regarding these estimates, contact the Special Studies Branch at 301-763-7657.

IMPUTATION

A new imputation methodology was implemented beginning with the 1999 survey. The new methodology utilizes reported data from a plant in the previous survey to impute data for the current year if the plant's response was not received in time to meet publication deadlines. Prior to 1999, the estimates for these cases were derived using industry averages.

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