Industry Wage Survey: Electric and Gas Utilities February 1978

U.S. Department of Labor
Bureau of Labor Statistics
1979

Bulletin 2040

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, GPO Bookstores, or
BLS Regional Offices listed on inside back cover. Price $2.75
Make checks payable to Superintendent of Documents
Stock No. 029–001–02419–3

Industry Wage Survey: Electric and Gas Utilities February 1978

U.S. Department of Labor
Ray Marshall, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
November 1979

Bulletin 2040

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, GPO Bookstores, or BLS Regional Offices listed on inside back cover. Price $2.75
Make checks payable to Superintendent of Documents

Preface

This bulletin summarizes the results of a Bureau of Labor Statistics survey of wages and supplementary benefits in privately operated electric and gas utility systems in February 1978. A similar study was conducted in November 1972.

A summary tabulation, providing nationwide and regional information, was issued in February 1979. Copies are available from the Bureau of Labor Statistics, Washington, D.C. 20212, or any of its regional offices.

This study was conducted in the Bureau's Office of Wages and Industrial Relations. Carl Barsky of the Division of Occupational Wage Structures prepared the analysis. Field work for the survey was directed by the Assistant Regional Commissioners for Operations.

Contents

Contents—Continued

Electric and Gas Utilities, February 1978

Summary

Occupational pay levels in the Nation's privately operated electric and gas utilities typically increased between 45 and 55 percent between November 1972 and February 1978.[1] Average straight-time hourly earnings among the 56 physical (plant) worker occupations covered by the February 1978 survey ranged from $10.81 for watch engineers to $5.02 for janitors. Journeyman line workers, numerically the most important classification, averaged $8.58. Virtually all physical jobs were held by men.

Among the 24 office clerical and 19 professional and technical job classifications studied, average earnings ranged from $10.96 an hour for systems analysts working independently or under general supervision (class A) to $3.93 for messengers. Class B accounting clerks, the most populous white-collar category, averaged $5.08.

Among occupations for which data were available for all nine regions studied separately, earnings were usually highest in the Pacific States and lowest in the Southwest. The interregional spread in average earnings varied by occupation and was generally greater for the lower paid than for the relatively high-paid jobs.

Virtually all physical and office workers were employed by utility systems with provisions for paid holidays, paid vacations, and at least part of the cost of life, hospitalization, surgical, basic and major medical insurance, and retirement pensions covering a majority of their employees. Nine to twelve paid holidays a year and between 2 and 5 weeks of vacation annually, depending on an employee's length of service, were typical for the industry.

Industry characteristics

Employment. Electric and gas utility systems within the scope of the Bureau's survey employed about 477,000 nonsupervisory employees in February 1978–down slightly from November 1972. Employment was virtually unchanged in six regions; elsewhere, it fell 23 percent in New England, rose by 16 percent in the Mountain States, and increased by 17 percent in the Southeast. By type of system, employment grew 26 percent in gas transmission systems, declined 18 percent in other gas systems, and remained stable in electric and in combination electric and gas systems.

Productivity and technology. From 1973 through 1977, output per nonsupervisory employee hour rose 8 percent in electric and gas utilities. This reflected an 8-percent increase in output for nonsupervisory employees coupled with a 3-percent drop in nonsupervisory employee hours.[2] Among the factors contributing to productivity gains were technological innovations in the generation of power and increased use of electronic data processing for services such as customer billing, internal accounting, and data logging.

The impact of recent technological changes on occupational staffing in the industry can be seen, to a limited extent, by comparing occupational employment levels between the Bureau's 1972 and 1978 wage surveys. Although the two surveys do not measure precisely the magnitude of changes in occupational employment, some observations on the direction of the changes can be made. For example, employment in three laborer categories fell between 28 and 65 percent. On the other hand, employment of nuclear control room operators and computer-related workers rose sharply.

Location and type of service. The Great Lakes and Middle Atlantic regions each accounted for approximately 20 percent of the industry's work force in February 1978; the proportions in the other regions ranged from 4 percent in the Mountain region to 14 percent in the Southwest (table B-1).

Utilities providing a combination of electric and gas services[3] accounted for one-third of the nonsupervisory workers covered by the survey; two-fifths were em-

[1] See appendix B for scope and method of survey. In this survey, working foremen and other nonsupervisory workers engaged in nonoffice functions are referred to as physical workers, according to industry nomenclature. Descriptions used to classify workers in the occupations surveyed are presented in appendix C. Wage data contained in this bulletin exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

For an account of the earlier study, see *Industry Wage Survey: Electric and Gas Utilities, November 1972*, Bulletin 1834 (Bureau of Labor Statistics, 1975).

[2] *Productivity Indexes for Selected Industries, 1978 Edition*, Bulletin 2002 (Bureau of Labor Statistics, 1978). Data for 1977 are preliminary.

[3] Under the system of classification used for this study, utilities were considered as providing both electric and gas services if either service did not constitute 95 percent or more of revenues obtained from electric and gas services. If one service constituted 95 percent or more of such revenues, the utility was considered as exclusively engaged in that service. Only the electric and gas operations of combination systems were included.

ployed in utilities exclusively engaged in generating, transmitting, and/or distributing electric energy. About one-sixth of the workers were employed in companies engaged in the distribution of natural gas; the production or distribution, or both, of manufactured, mixed, or liquefied petroleum gas; or any combination of these services, including the transmission of natural gas. Systems solely engaged in the transmission or storage of natural gas, or both, employed 8 percent of the workers.

The proportions of workers in different types of utilities varied substantially among regions. For example, combination electric and gas systems employed approximately two-thirds of the workers in the Middle Atlantic States and about one-half in the Mountain and Pacific regions. By contrast, they employed less than one-tenth in the Southeast and Southwest. Electric systems accounted for four-fifths of the Southeast work force but only one-fifth in the Middle Atlantic. Nearly three-fifths of the natural gas transmission workers were in the Southwest; most of the remainder were in the Great Lakes region.

About three-fourths of the electric systems and the electrical operations of combination systems visited were engaged in all three aspects of the industry–the generation, transmission, and distribution of electrical energy. Most of the remaining systems performed two of these functions.

One-fourth of the 130 electric and combination systems producing electricity used only one source of power in most cases, fossil fuel. The remaining systems relied on a combination of power sources, including fossil fuel, nuclear energy, hydroelectric power, gas turbines, and internal combustion. The use of nuclear fuel, which has increased dramatically in the 1970s,[4] was most prevalent in the Middle Atlantic and Southeast regions.

Text table 1. Percent of physical and office workers in utility systems having collective bargaining agreements covering a majority of their workers, February 1978

Region and type of system	Physical workers	Office workers
All systems	75-79	30-34
New England	95+	40-44
Middle Atlantic	90-94	60-64
Border States	80-84	60-64
Southeast	50-54	[1]
Southwest	35-39	[2]
Great Lakes	90-94	30-34
Middle West	90-94	30-34
Mountain	75-79	15-19
Pacific	95+	55-59
Electric systems	75-79	25-29
Gas transmission systems	10-14	[2]
Gas, except separate transmission, systems	75-79	35-39
Combination systems	95+	45-49

[1] None of the establishments visited had union contracts covering a majority of their workers.
[2] Less than 5 percent.

Unionization. Slightly less than four-fifths of the physical workers, and slightly more than one-third of the office clerical workers were in systems that had labor-management agreements covering a majority of these worker groups. As illustrated in text table 1, the extent of collective bargaining agreement coverage varied by region and type of system for both physical and office workers. Among the systems in which both office and physical workers were covered by agreements, the contracts in effect were usually with the same union. The major union for both physical and office workers was the International Brotherhood of Electrical Workers (AFL-CIO). Other national and international unions having a number of contracts in the industry included the Utility Workers Union of America (AFL-CIO); the United Mine Workers of America (Ind.); and, for office workers, the Office and Professional Employees International Union (AFL-CIO).

Occupational staffing. Physical workers made up seven-tenths of the nonsuperviosry employment in February 1978. Most of these workers were men; only for one occupational group—janitors—did women account for at least 10 percent of the workers. On the other hand, women constituted at least three-fourths of all the office clerical jobs studied except messengers, nine-tenths of the industrial nurses, and seven-tenths of the computer data librarians. Men made up at least seven-tenths of all other professional and technical occupations.

Method of wage payment. Virtually all physical and office employees were paid on a time-rate basis. Formal wage payment plans, incorporating ranges of rates for specified occupations, applied to two-thirds of the physical and nine-tenths of the office workers (table 23). Plans providing a single rate for individual occupations applied to three-tenths of the physical workers and to a small proportion (less than 5 percent) of the office workers. The remaining nonsupervisory employees had their pay rates determined primarily on the basis of their individual qualifications. Pay systems varied somewhat by region, and within regions by type of utility. For example, rate range plans accounted for nearly all of the physical workers in gas, except separate transmission systems in the Southwest; but less than half of the gas transmission workers and only three-fifths of the electric systems workers in that region were paid on a rate-range basis.

Apprenticeship and training programs. Utility systems having apprenticeship or training programs, or both,

[4] Between 1970 and 1975 (the latest year for which data are available) net nuclear generation of electricity by privately owned utilties increased nearly eightfold, from 19.1 to 152.0 billion kilowatt-hours. this resulted in nuclear power's share of total generation increasing from 1.6 to 10.2 percent. See *Statistics of Privately Owned Electric Utilities in the United States, 1975,* (Federal Power Commission, 1977).

Text table 2. Percent of physical workers in utility systems with formal apprenticeship and training programs, February 1978

Region	All apprenticeship and training programs	Formal apprenticeship programs	Formal training programs	Both apprenticeship and training programs
All systems	55-59	15-19	30-34	10-14
New England	25-29	5-9	20-24	[1]
Middle Atlantic	60-64	[2]	45-49	15-19
Border States	30-34	[2]	30-34	[2]
Southeast	50-54	15-19	30-34	5-9
Southwest	35-39	10-14	15-19	[1]
Great Lakes	60-64	20-24	30-34	5-9
Middle West	70-74	10-14	30-34	25-29
Mountain	80-84	15-19	25-29	40-44
Pacific	85-89	55-59	20-24	5-9

[1] Less than 5 percent.
[2] None of the establishments visited had union contracts covering a majority of their workers.

employed slightly less than three-fifths of the physical workers in February 1978. Slightly less than one-fifth of the workers were in systems with only formal apprenticeship programs registered with Federal or State governments; nearly one-third were in systems having formal training programs not registered with any government agency, but involving both classroom and workplace experience. Utilities operating both apprenticeship and training programs accounted for about one-tenth of the physical workers. As illustrated in text table 2, the extent of apprenticeship and training programs varied widely among the regions.

Occupational earnings

Among the 56 physical occupations selected to represent utility systems' wage structures, average earnings ranged from $10.81 an hour for watch engineers and $10.71 for load dispatchers to $5.11 for gas plant laborers and $5.02 for janitors (table 1). The occupations studied separately accounted for nearly one-half of the 336,000 physical workers within the scope of the February 1978 survey. The 23,500 journeyman line workers, the largest occupational group studied, averaged $8.58 an hour.

The 24 office clerical occupations studied made up slightly more than one-fifth of the 141,000 office workers within the scope of the survey. Among these jobs, average hourly earnings ranged from $8.26 an hour for class A secretaries to $3.93 for messengers. Class B accounting clerks, the largest clerical category, averaged $5.08 (table 12). Among the 19 professional and technical categories studied, average earnings ranged from $10.96 for class A systems analysts to $5.12 for drafter-tracers.

Nationwide, increases in average hourly earnings between November 1972 and February 1978 ranged from 45 to 55 percent for most jobs common to both studies. During the same period, average hourly earnings of all workers in the private nonfarm economy rose 47 percent, as measured by the Bureau's Hourly Earnings Index. Occupational shifts had little impact on the overall average increase for either physical or office jobs. For example, weighting 1978 occupational averages of physical workers by 1972 employment produced an overall increase of 50 percent in average earnings, rather than 52 percent when current employment weights were used.

Text table 3. Regional wage levels[1] for selected occupational groups in utility systems as a percent of national averages, February 1978

(U.S. average=100)

Region	Physical workers	Office workers	Professional and technical workers
New England	96	103	98
Middle Atlantic	106	113	110
Border States	94	92	96
Southeast	92	96	91
Southwest	88	91	89
Great Lakes	103	102	102
Middle West	101	89	100
Mountain	100	92	99
Pacific	111	120	113

[1] Based on 17 physical, 11 office, and 9 professional and technical occupations for which earnings data were tabulated for each region. In each region, average hourly earnings were multiplied by the nationwide employment in the respective occupations and the products were totaled. The totals are expressed as percentages of the similar total for the Nation.

Regional variation. Average hourly earnings were usually highest in the Pacific States and lowest in the Southwest, among the occupations which could be compared in all nine regions (text table 3). The interregional spread in average earnings varied by occupation, but was generally greater for the lower paid than for the relatively high-paid jobs–a pattern commonly found in BLS surveys. For example, load dispatchers in the Pacific averaged 30 percent more than their counterparts in the Southwest. The corresponding spread for the relatively low-paid janitor occupation was 53 percent.

Occupational pay relationships within regions varied across the country. Ground truckdrivers, for example, averaged 9 percent more than janitors in New England, but 59 percent more in the Southwest and 62 percent more in the Southeast. By contrast, the intraregional

spread between the highest and lowest paying maintenance jobs studied was 15 percent or less in all regions.

Type of system. Occupational averages also varied by type of utility system (tables 2-5 and 13-16). Where comparisons were possible, workers in combination systems usually had the highest average earnings. Their advantage over electric systems, however, typically was less than 10 percent. Gas transmission workers in the Southwest usually averaged at least 10 percent more than their counterparts in other types of gas systems.

Sex of worker. Where comparisons could be made for workers in the same job and region, men usually averaged more than women. The differentials, however, usually amounted to less than 10 percent for professional and technical categories, and 15 to 20 percent for office clerical jobs.

Average earnings of men and women in the same region and job may differ for several reasons, including the unequal distribution of sexes in systems with different occupational pay levels and duties. For instance, job descriptions in wage surveys are more generalized than those in use in individual utility systems to allow for variations in duties among systems. Also, to the extent that individual pay rates are adjusted for length of service, longer average service for one sex can result in higher average pay for that sex.

Regression analysis. The preceding discussion did not indicate the independent influence of wage-determining variables such as system type and sex on wage levels. Appendix A, however, presents a brief technical note on the results of a multiple regression of 13 physical and 7 office jobs, in which the singular effects of certain characteristics were isolated to a considerable degree. The characteristics that were examined include type of system, region, and sex–for which cross tabulations were developed–as well as size of system and unionizaton.

In some cases, there were considerable differences between published earnings averages and those generated by the multiple regression. For example, class B accounting clerks in the Pacific region averaged $1.50 more than their counterparts in the Southeast, but apparently only half of this differential (75 cents) can be attributed solely to regional differences (appendix table A-3).[5]

Dispersion of earnings. Earnings of individual workers varied widely within the same job and region (tables 6-11 and 17-22). Thus, a number of workers in comparatively low paying occupations earned as much as, or more than, some workers in jobs with significantly higher averages. As illustrated in text table 4, there was a considerable overlap of earnings for class B computer programmers and class D secretaries in the Middle Atlantic region, despite a 22-percent difference in hourly averages. Such variations in individual earnings largely reflect the predominant use of rate ranges for specific occupations within systems and the differences in pay levels among systems.

Text table 4. Earnings distribution of class B computer programmers and class D secretaries, Middle Atlantic region, February 1978

Hourly earnings	Computer programmers, class B	Secretaries, class D
Under $6.00	11	108
$6.00 and under $6.40	1	26
$6.40 and under $6.80	23	89
$6.80 and under $7.20	11	20
$7.20 and under $7.60	24	44
$7.60 and under $8.00	29	28
$8.00 and under $8.40	7	23
$8.40 and under $8.80	18	5
$8.80 and over	46	4
Number of workers	170	347
Average hourly earnings	$7.98	$6.54

System practices and supplementary wage provisions

Information also was obtained on shift differentials for physical workers; and, for both physical and office workers, data were obtained on work schedules and the incidence of selected supplementary benefits, including paid holidays, paid vacations, and health, insurance, and retirement plans.

Scheduled weekly hours. Work schedules of 40 hours per week were in effect for nearly all of the physical employees and slightly more than seven-eighths of the office workers at the time of the survey (table 24). Schedules of 37 1/2 hours applied to most of the remaining office employees and were found primarily in the New England, Middle Atlantic, and Southeast regions.

Shift differential practices. Seven percent of the physical workers were employed on second shifts and 5 percent were on third or other late shifts in February 1978 (table 25). Most of these workers received differential pay—usually cents per hour premiums above day-shift rates. Both nationwide and regionally, differentials varied considerably for second and third shifts; the most common differentials were 15, 20, and 30 cents for second shifts and 20, 30, and 33 cents for third shifts.

Paid holidays. Paid holidays, ranging from 5 to 13 days annually, were provided by all systems studied (table 26). Most physical workers in the New England, Middle Atlantic, Great Lakes, and Pacific regions received at least 11 days per year. Typical provisions in the other four regions were for 9 or 10 days. Holiday provi-

[5]See appendix A for a description of the methodology used in the regression analyses.

sions for office workers were generally similar to those for physical workers in the same region.

Variation in typical holiday provisions among the four types of utilities was slight (table 27). Most workers in each type of utility system received 9 to 11 days annually.

Paid vacations. All physical and office workers received paid vacations after qualifying periods of service (table 28). Most workers in each group received 2 weeks' pay after 1 year of service, and 3 weeks' pay after 10 years. About half the physical and office workers received 4 weeks after 15 years of service; four-fifths received this benefit after 20 years. Three-fourths were eligible for 5 weeks after 25 years. Vacation provisions varied somewhat by region. After 15 years of service, for example, all physical workers in New England could receive 4 weeks of vacation pay; such provisions applied to less than one-tenth in the Southeast. Variations by type of system are indicated in table 29.

Health, insurance and retirement plans. Virtually all of the physical and office workers were covered by the following types of health or insurance plans: Life, hospitalization, surgical, basic medical, and major medical (table 30). Accidental death and dismemberment insurance was available to nearly two-thirds of the workers in each group; sickness and accident insurance, to about one-third; long-term disability insurance, to slightly less than one-half; sick leave (typically at full pay with no waiting period), to approximately nine-tenths; and dental insurance, to slightly more than one-third. Except for dental and sickness and accident insurance, a majority of covered employees did not contribute to the cost of these health and insurance plans.

The incidence of most health and insurance plans surveyed varied somewhat by type of system, as did the extent to which the plans were financed wholly by the employer (table 31).

Pension plans, providing regular payments for the remainder of the retiree's life (in addition to Federal social security), were found in utility systems employing virtually all of the physical and office employees. Almost all of the pension plans were financed wholly by the employers. Retirement severance pay plans were rarely provided.

Other selected benefits. Provisions for paid funeral leave applied to nine-tenths of the physical and office workers; paid jury-duty leave was available to slightly higher proportions in each group (table 32). Both benefits covered at least four-fifths of the workers in each region and each type of system (table 33).

Technological severance pay applied to one-sixth of the physical and one-tenth of the office workers.

Table 1. Occupational averages: Physical workers—all systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Department and occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Electricity																				
Generation:																				
Auxiliary-equipment operators, electric	5,329	$6.92	314	$6.81	677	$7.67	224	$6.61	697	$6.24	761	$6.06	1,595	$7.10	295	$7.38	405	$6.99	361	$7.64
Boiler operators	1,984	8.05	133	7.63	385	8.30	179	7.66	220	7.91	68	6.75	654	8.41	218	7.40	–	–	–	–
Control-room operators, conventional	3,879	8.82	185	8.47	566	9.49	268	8.28	421	8.13	585	7.92	1,010	9.19	350	8.96	202	8.54	292	9.82
Control-room operators, nuclear	436	9.56	–	–	103	9.78	–	–	101	8.69	–	–	140	10.21	–	–	–	–	–	–
Control-room operator assistants, conventional	2,399	8.02	63	7.06	269	8.88	169	6.89	450	7.48	160	6.94	783	8.27	–	–	33	7.04	223	8.99
Control-room operator assistants, nuclear	179	8.57	–	–	24	9.52	–	–	64	7.79	–	–	40	9.69	–	–	–	–	–	–
Radiation monitors	242	8.59	–	–	60	8.58	–	–	45	7.30	–	–	114	9.25	–	–	–	–	–	–
Switchboard operators, class A	1,108	8.37	144	7.64	96	8.80	99	7.91	113	8.04	82	7.61	270	8.75	53	9.48	119	7.25	132	9.72
Switchboard operators, class B	231	7.53	46	7.00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Turbine operators	894	7.99	129	7.29	92	8.35	–	–	188	7.71	–	–	248	8.55	96	7.84	–	–	15	8.45
Watch engineers	2,899	10.81	224	11.66	524	11.72	200	10.27	274	9.83	505	9.05	617	11.57	165	9.67	149	11.15	241	11.85
Transmission and distribution:																				
Ground helpers	3,133	5.47	43	6.20	164	5.84	–	–	569	4.94	765	4.96	340	6.22	164	6.17	182	5.56	453	6.74
Line workers, journeyman	23,471	8.58	1,208	7.90	4,636	9.05	1,369	7.85	3,157	7.88	2,161	7.77	5,524	8.71	1,627	8.60	956	8.59	2,833	9.59
Load dispatchers	1,343	10.71	111	10.64	237	11.87	117	10.04	120	9.46	139	9.19	337	11.17	124	10.08	69	10.47	89	11.94
Patrol	309	8.19	–	–	44	8.54	–	–	–	–	162	8.26	31	7.29	–	–	–	–	–	–
Substation operators	1,531	8.65	77	7.51	–	–	–	–	146	7.20	30	7.61	427	8.42	72	8.83	–	–	–	–
Trouble shooters	5,671	8.60	75	8.72	831	9.43	642	8.01	770	8.10	1,162	7.57	1,072	8.83	300	9.14	176	8.67	643	9.90
Truckdrivers, ground	3,754	6.78	43	6.13	1,033	7.19	112	6.16	800	6.01	313	5.91	505	6.80	195	6.80	39	6.88	714	7.54
Installation and servicing:																				
District representatives	1,632	7.62	47	5.94	148	7.52	–	–	361	7.09	108	7.21	–	–	253	7.70	–	–	–	–
Meter repairers, class A	2,813	8.34	163	7.38	526	8.74	235	8.16	289	7.89	414	7.74	559	8.36	175	7.99	116	8.17	336	9.59
Meter repairers, class B	1,269	7.22	95	6.58	390	7.24	77	7.10	80	6.52	89	6.59	367	7.51	51	7.28	–	–	–	–
Service technicians, electrical appliances	981	7.85	–	–	–	–	14	7.60	186	7.76	61	7.08	–	–	157	7.59	–	–	–	–
Gas																				
Transmission:																				
Auxiliary equipment operators, gas transmission	837	7.27	–	–	–	–	–	–	–	–	–	–	111	7.69	–	–	96	7.35	–	–
Compressor operators	3,053	7.39	–	–	45	7.84	470	7.16	–	–	1,740	7.35	364	7.70	–	–	–	–	–	–
Compressor station operators—multiplant stations	1,071	7.70	–	–	–	–	88	7.42	–	–	418	7.65	342	7.80	–	–	–	–	–	–
Corrosion technicians	683	7.47	–	–	99	7.65	35	7.24	68	6.14	245	6.94	82	7.90	27	7.94	33	7.71	–	–
Meter repair technicians (gas transmission)	1,241	7.78	–	–	29	6.98	174	7.55	97	7.41	588	7.74	102	8.31	70	8.28	–	–	–	–
Oilers	2,147	6.77	–	–	–	–	–	–	–	–	916	6.69	–	–	–	–	–	–	–	–
Pipeline lead persons	1,075	8.53	–	–	–	–	–	–	–	–	262	7.72	321	9.08	–	–	–	–	–	–
Pipeline repairers	6,110	6.48	–	–	–	–	–	–	–	–	2,878	6.22	1,375	6.80	–	–	–	–	–	–
Roustabouts	1,186	6.04	–	–	–	–	372	5.88	–	–	263	5.64	49	6.08	–	–	84	5.78	–	–
Welders	1,704	8.01	52	7.54	276	8.67	137	7.82	106	7.65	349	7.45	375	8.30	203	7.96	48	7.85	158	8.11

See footnotes at end of table.

Table 1. Occupational averages: Physical workers—all systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Department and occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Gas—Continued																				
Manufacture, storage, and pumping:																				
Auxiliary-equipment operators, gas production	412	$7.46	69	$6.99	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Boiler operators	78	8.16	–	–	57	$8.60	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gas dispatchers	735	8.09	33	7.84	134	9.75	50	$7.94	46	$6.26	148	$7.38	55	$8.15	–	–	40	$7.53	30	$9.89
Laborers, gas plant	119	5.11	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Installation and servicing—gas mains, gas lines, meters, and appliances:																				
Gas-main fitters	6,628	7.50	286	7.09	1,949	7.92	330	7.26	316	5.60	406	4.57	2,142	7.85	604	$7.52	157	7.87	–	–
Gas-main fitters' helpers	2,852	5.85	–	–	562	6.42	160	5.30	233	4.07	–	–	345	6.80	105	6.33	90	5.77	955	6.36
Inspectors	564	7.25	–	–	137	7.43	–	–	82	6.99	–	–	–	–	–	–	–	–	–	–
Installers, gas meter	3,235	7.48	76	6.88	–	–	87	6.38	–	–	172	5.28	323	7.31	–	–	89	7.18	–	–
Laborers, main installation and service	2,574	5.32	107	6.83	323	5.71	306	5.53	599	4.30	–	–	503	6.58	–	–	–	–	–	–
Leak locators, gas	457	7.11	–	–	129	7.88	–	–	24	5.17	55	6.04	130	7.25	–	–	7	7.19	–	–
Repairers, gas meter	1,116	7.12	54	7.32	222	7.51	90	7.18	123	6.12	72	5.38	250	7.60	124	6.89	56	6.85	125	7.66
Repair helpers, gas meter	283	5.91	10	6.68	31	6.63	–	–	21	5.74	–	–	66	6.56	–	–	–	–	60	5.66
Service technicians, gas appliances	11,509	7.47	787	7.42	2,936	7.86	558	7.70	889	6.14	805	5.32	2,587	8.05	1,303	7.20	314	7.42	–	–
Service technicians, regulator	663	7.89	13	7.24	115	7.65	55	6.47	–	–	–	–	202	8.21	51	7.65	–	–	–	–
Electricty and/or gas																				
Maintenance:																				
Electricians, maintenance	6,125	8.50	474	7.62	839	8.80	409	7.83	567	7.75	709	7.99	1,642	8.74	481	8.72	278	8.72	726	9.39
Machinists, maintenance	1,672	8.72	–	–	226	8.89	68	7.87	–	–	152	7.66	379	8.84	246	8.58	128	8.79	347	9.41
Mechanics, automotive (maintenance)	4,677	7.90	239	7.28	1,065	8.30	279	7.60	426	7.42	576	6.92	1,116	8.00	268	7.91	149	8.15	559	8.66
Mechanics, maintenance	5,699	8.18	395	7.53	707	8.58	492	7.89	800	8.06	923	7.90	1,487	8.29	460	8.25	199	8.29	236	9.39
Pipefitters, maintenance	347	8.61	–	–	–	–	–	–	–	–	–	–	85	8.84	–	–	–	–	24	8.57
Miscellaneous:																				
Guards	662	6.00	–	–	154	6.13	–	–	–	–	59	4.90	137	6.12	–	–	–	–	–	–
Janitors, porters, or cleaners	4,495	5.02	205	5.61	845	5.47	473	4.77	334	3.70	663	3.72	1,273	5.50	375	5.42	136	5.20	191	5.70
Meter readers	16,075	6.20	696	6.39	3,997	6.53	1,180	5.92	2,090	5.65	1,344	4.58	3,323	6.56	961	6.51	554	5.99	1,930	6.59
Stock clerks	3,872	6.86	312	6.53	890	7.48	213	6.36	258	6.06	456	5.91	1,059	6.87	179	6.92	109	6.62	–	–
Truckdrivers[2]	3,039	6.91	95	6.75	512	7.35	348	6.53	247	6.10	759	6.68	433	7.18	147	6.78	236	7.09	262	7.53
Light (under 1 1/2 tons)	415	6.57	–	–	–	–	–	–	–	–	156	6.88	16	6.45	–	–	–	–	–	–
Medium (1 1/2 to and including 4 tons)	1,091	6.62	–	–	–	–	150	6.40	61	5.71	363	6.45	123	6.60	–	–	–	–	–	–
Tractor-trailor	800	7.39	–	–	144	7.88	40	6.79	–	–	197	7.02	168	7.65	–	–	30	7.37	–	–
Heavy (straight, over 4 tons, usually 10 wheels)	234	7.11	–	–	–	–	–	–	–	–	–	–	24	7.04	–	–	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 2. Occupational averages: Physical workers—electric systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Department and occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Generation:																				
Auxiliary-equipment operators, electric	3,960	$6.69	306	$6.81	215	$7.33	192	$6.29	697	$6.24	725	$6.01	1,283	$7.00	230	$7.35	–	–	–	–
Boiler operators	1,308	7.99	103	7.60	183	8.06	107	7.51	213	7.93	60	6.72	460	8.49	126	7.08	15	$6.86	–	–
Control-room operators, conventional	2,627	8.66	173	8.44	188	8.99	70	8.19	377	8.13	529	7.87	739	9.15	265	9.20	–	–	164	$9.72
Control-room operators, nuclear	332	9.38	–	–	61	9.41	–	–	101	8.69	–	–	–	–	–	–	–	–	–	–
Control-room operator assistants, conventional	1,544	7.72	–	–	–	–	107	7.31	430	7.49	116	7.14	496	7.80	–	–	33	7.04	–	–
Control-room operator assistants, nuclear	125	8.09	–	–	–	–	–	–	64	7.79	–	–	–	–	–	–	–	–	–	–
Radiation monitors	184	8.54	–	–	–	–	–	–	45	7.30	–	–	–	–	–	–	–	–	–	–
Switchboard operators, class A	840	8.19	–	–	30	8.77	95	7.94	109	8.07	68	7.48	202	8.80	49	9.47	105	7.12	–	–
Switchboard operators, class B	177	7.43	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Turbine operators	675	7.89	111	7.24	43	8.24	–	–	184	7.72	–	–	162	8.69	96	7.84	–	–	–	–
Watch engineers	1,934	10.65	208	11.77	127	11.04	138	9.81	245	9.83	441	8.98	493	11.62	73	10.65	70	10.93	139	12.68
Transmission and distribution:																				
Ground helpers	2,311	5.20	–	–	109	5.70	–	–	543	4.96	709	5.00	129	5.89	67	5.81	112	5.36	209	6.75
Line workers, journeyman	14,685	8.33	689	7.46	1,833	8.69	1,112	7.78	2,945	7.89	1,980	7.80	3,358	8.59	783	8.81	534	8.28	1,451	9.54
Load dispatchers	946	10.42	111	10.64	84	10.56	91	9.91	114	9.44	129	9.10	262	11.24	54	10.49	30	9.26	71	11.95
Patrol	225	8.29	–	–	–	–	–	–	–	–	162	8.26	15	7.68	–	–	–	–	–	–
Substation operators	702	8.36	–	–	18	8.47	–	–	145	7.21	–	–	–	–	70	8.84	–	–	62	10.16
Trouble shooters	3,780	8.29	–	–	213	8.82	585	7.89	762	8.11	938	7.63	709	8.69	–	–	–	–	227	9.97
Truckdrivers, ground	2,315	6.62	28	5.85	178	6.90	90	6.12	792	6.02	254	5.94	211	6.75	–	–	–	–	697	7.53
Installation and servicing:																				
District representatives	1,152	7.45	47	5.94	–	–	–	–	327	7.18	–	–	–	–	136	7.38	26	8.75	–	–
Meter repairers, class A	1,671	8.14	94	7.11	123	8.25	152	7.67	278	7.90	361	7.78	343	8.27	84	8.45	60	8.03	176	9.72
Meter repairers, class B	782	7.08	93	6.59	121	7.10	47	6.46	80	6.52	85	6.67	275	7.40	–	–	–	–	–	–
Service technicians, electrical appliances	610	7.73	–	–	–	–	14	7.60	186	7.76	61	7.08	–	–	55	7.15	–	–	–	–
Maintenance:																				
Electricians, maintenance	3,873	8.34	327	7.33	366	8.46	–	–	505	7.75	501	8.11	1,143	8.73	331	8.77	91	8.15	–	–
Machinists, maintenance	793	8.57	–	–	92	8.54	–	–	–	–	60	7.72	175	8.71	–	–	–	–	–	–
Mechanics, automotive (maintenance)	1,766	7.75	120	7.02	205	7.71	152	7.28	339	7.54	214	7.38	425	7.97	98	8.55	24	7.30	189	8.55
Mechanics, maintenance	3,533	8.30	361	7.55	309	8.36	273	7.93	689	8.18	407	8.02	899	8.58	307	8.49	119	8.31	–	–
Miscellaneous:																				
Guards	467	6.03	–	–	–	–	–	–	–	–	–	–	108	6.12	–	–	–	–	–	–
Janitors, porters, or cleaners	2,093	4.77	126	5.48	212	5.23	249	4.23	263	3.63	370	4.13	534	5.22	185	5.53	50	4.81	–	–
Meter readers	6,307	5.87	282	6.27	566	6.52	802	5.78	1,538	5.84	780	4.58	1,282	6.25	–	–	214	5.33	628	5.98
Stock clerks	1,529	6.37	169	6.29	137	6.64	133	6.01	195	6.05	239	5.55	497	6.79	64	6.94	44	5.55	51	7.85
Truckdrivers[2]	763	6.41	–	–	38	6.44	33	6.02	–	–	231	6.03	116	6.85	–	–	11	6.42	15	7.97
Light (under 1 1/2 tons)	–	–	–	–	–	–	–	–	–	–	–	–	14	6.41	–	–	–	–	–	–
Medium (1 1/2 to and including 4 tons)	256	6.13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tractor-trailor	173	6.97	–	–	13	6.79	–	–	–	–	39	6.96	28	7.00	–	–	–	–	–	–
Heavy (straight, over 4 tons, usually 10 wheels)	81	6.63	–	–	–	–	–	–	–	–	–	–	18	6.79	–	–	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 3. Occupational averages: Physical workers—gas transmission systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and Southwest, February 1978)

Department and occupation	United States[2]		Southwest	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Transmission:				
Auxiliary equipment operators, gas transmission	508	$7.09	-	-
Compressor operators	2,487	7.47	1,688	$7.42
Compressor station operators—multiplant stations	892	7.78	405	7.69
Corrosion technicians	212	7.95	140	7.93
Meter repair technicians (gas transmission)	816	8.04	539	7.96
Oilers	1,930	6.83	887	6.77
Pipeline lead persons	464	8.86	182	8.11
Pipeline repairers	4,863	6.51	2,586	6.40
Roustabouts	500	5.76	243	5.74
Welders	545	8.11	258	8.12
Manufacture, storage, and pumping:				
Gas dispatchers	119	8.05	87	8.15
Maintenance:				
Electricians, maintenance	185	7.92	141	7.97
Machinists, maintenance	123	7.77	67	7.88
Mechanics, automotive (maintenance)	133	7.33	-	-
Mechanics, maintenance	555	7.94	434	7.90
Miscellaneous:				
Janitors, porters, or cleaners	154	3.91	110	3.45
Truckdrivers[3]	772	7.20	462	7.17
Medium (1 1/2 to and including 4 tons)	261	6.93	203	7.00
Tractor-trailor	211	7.58	124	7.42

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to the Southwest.

[3] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 4. Occupational averages: Physical workers—gas, except separate transmission systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Department and occupation	United States[2]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Transmission:																
Auxiliary equipment operators, gas transmission	–	–	–	–	–	–	–	–	–	–	–	–	30	$6.41	–	–
Compressor operators	472	$6.92	–	–	31	$7.55	–	–	–	–	50	$5.01	71	7.32	–	–
Compressor station operators—multiplant stations	126	7.50	–	–	–	–	–	–	–	–	–	–	22	6.77	–	–
Corrosion technicians	303	6.73	–	–	47	8.03	–	–	58	$5.98	85	5.43	44	7.47	–	–
Meter repair technicians (gas transmission)	342	7.16	–	–	29	6.98	–	–	–	–	–	–	–	–	–	–
Pipeline lead persons	–	–	–	–	–	–	–	–	–	–	66	6.39	–	–	–	–
Pipeline repairers	728	5.87	–	–	–	–	–	–	–	–	276	4.58	133	6.59	–	–
Roustabouts	613	6.31	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Welders	566	7.59	40	$7.31	53	7.82	–	–	–	–	–	–	101	8.74	–	–
Manufacture, storage, and pumping:																
Auxiliary-equipment operators, gas production	156	7.37	69	6.99	–	–	–	–	–	–	–	–	–	–	–	–
Boiler operators	44	8.22	–	–	23	9.33	–	–	–	–	–	–	–	–	–	–
Gas dispatchers	471	7.54	29	7.83	76	8.45	22	$6.79	40	6.05	47	6.22	30	7.31	–	–
Laborers, gas plant	60	4.70	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Installation and servicing—gas mains, gas lines, meters, and appliances:																
Gas-main fitters	2,975	6.91	195	6.88	737	7.44	150	6.77	285	5.47	356	4.34	896	7.85	–	–
Gas-main fitters' helpers	1,811	5.44	–	–	303	6.44	–	–	215	4.00	–	–	132	6.51	–	–
Inspectors	419	7.20	–	–	73	7.73	–	–	–	–	–	–	–	–	–	–
Installers, gas meter	1,522	6.27	68	6.90	–	–	74	6.47	–	–	–	–	197	6.62	–	–
Laborers, main installation and service	1,895	5.15	107	6.83	229	5.49	–	–	571	4.30	–	–	375	6.28	–	–
Leak locators, gas	369	6.94	–	–	93	7.55	–	–	24	5.17	27	4.83	122	7.27	–	–
Repairers, gas meter	732	6.89	46	7.26	137	7.37	57	6.84	115	6.06	57	5.03	159	7.65	79	$6.72
Repair helpers, gas meter	179	5.91	10	6.68	–	–	–	–	21	5.74	–	–	–	–	–	–
Service technicians, gas appliances	8,838	7.31	746	7.40	1,670	7.67	558	7.70	845	6.13	758	5.21	1,703	7.99	1,091	7.19
Service technicians, regulator	357	7.50	13	7.24	65	7.75	25	6.43	–	–	–	–	–	–	–	–
Maintenance:																
Electricians, maintenance	63	7.69	–	–	24	7.74	–	–	–	–	–	–	18	7.60	–	–
Machinists, maintenance	54	7.70	–	–	22	7.64	–	–	–	–	–	–	9	7.82	–	–
Mechanics, automotive (maintenance)	702	7.47	38	7.27	110	7.42	–	–	31	6.45	65	5.90	224	7.94	–	–
Mechanics, maintenance	281	7.38	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Pipefitters, maintenance	32	7.30	–	–	–	–	–	–	–	–	–	–	12	7.30	–	–

See footnotes at end of table.

Table 4. Occupational averages: Physical workers—gas, except separate transmission systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Department and occupation	United States[2]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Miscellaneous:																
Guards	16	6.74	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Janitors, porters, or cleaners	625	4.60	–	–	82	5.53	48	4.92	71	3.95	–	–	155	4.95	–	–
Meter readers	3,437	5.93	243	6.62	517	6.22	190	6.17	480	5.06	504	4.42	732	6.50	327	6.54
Stock clerks	555	6.58	56	6.84	119	7.01	40	6.42	40	6.02	55	4.88	149	6.83	37	6.80
Truckdrivers[3]	687	6.67	–	–	196	7.36	189	6.52	–	–	–	–	95	6.70	–	–
Light (under 1 1/2 tons)	90	6.27	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Medium (1 1/2 to and including 4 tons)	277	6.39	–	–	–	–	–	–	–	–	–	–	63	6.36	–	–
Tractor-trailor	178	$7.27	–	–	–	–	–	–	–	–	–	–	15	$7.83	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Includes data for regions in addition to those shown separately.
[3] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 5. Occupational averages: Physical workers—combination systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Department and occupation	United States[2]		Middle Atlantic		Great Lakes		Middle West		Mountain	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Electricity										
Generation:										
Auxiliary-equipment operators, electric	1,365	$7.57	458	$7.82	312	$7.49	65	$7.50	202	$7.46
Boiler operators	676	8.19	202	8.52	194	8.23	92	7.84	-	-
Control-room operators, conventional	1,252	9.17	378	9.73	271	9.30	85	8.20	-	-
Control-room operators, nuclear	104	10.15	42	10.33	43	10.31	-	-	-	-
Control-room operator assistants, conventional	855	8.58	223	9.15	287	9.09	64	7.44	-	-
Control-room operator assistants, nuclear	54	9.68	-	-	38	9.67	-	-	-	-
Radiation monitors	58	8.77	-	-	32	8.69	-	-	-	-
Switchboard operators, class A	268	8.94	66	8.81	68	8.60	-	-	-	-
Switchboard operators, class B	54	7.87	-	-	-	-	-	-	-	-
Turbine operators	219	8.29	49	8.44	86	8.27	-	-	-	-
Watch engineers	965	11.11	397	11.94	124	11.39	92	8.89	79	11.35
Transmission and distribution:										
Ground helpers	822	6.23	-	-	211	6.42	-	-	70	5.88
Line workers, journeyman	8,786	8.99	2,803	9.29	2,166	8.89	844	8.41	422	8.97
Load dispatchers	397	11.39	153	12.59	75	10.93	70	9.77	39	11.40
Patrol	84	7.92	-	-	-	-	-	-	-	-
Substation operators	829	8.91	-	-	-	-	-	-	-	-
Trouble shooters	1,891	9.21	618	9.64	363	9.12	-	-	76	9.33
Truckdrivers, ground	1,439	7.04	-	-	294	6.84	166	6.87	-	-
Installation and servicing:										
District representatives	428	8.08	124	7.54	31	9.45	117	8.09	-	-
Meter repairers, class A	1,133	8.65	403	8.90	216	8.50	91	7.57	47	8.77
Meter repairers, class B	479	7.48	269	7.30	92	7.84	22	6.63	-	-
Service technicians, electrical appliances	371	8.04	-	-	-	-	-	-	-	-
Gas										
Transmission:										
Compressor operators	94	7.44	-	-	-	-	-	-	-	-
Compressor station operators—multiplant stations	53	6.93	-	-	-	-	-	-	-	-
Corrosion technicians	168	8.20	52	7.31	10	7.88	-	-	-	-
Meter repair technicians (gas transmission)	83	7.70	-	-	55	7.96	14	7.38	-	-
Pipeline lead persons	167	8.89	-	-	57	7.72	-	-	-	-
Pipeline repairers	519	7.00	-	-	315	6.58	-	-	-	-
Roustabouts	73	5.62	-	-	39	5.99	-	-	-	-
Welders	545	8.33	178	9.00	-	-	100	8.06	-	-
Manufacture, storage, and pumping:										
Auxiliary-equipment operators, gas production	10	7.18	-	-	-	-	-	-	-	-
Gas dispatchers	145	9.91	-	-	21	9.00	-	-	-	-

See footnotes at end of table.

Table 5. Occupational averages: Physical workers—combination systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Department and occupation	United States[2]		Middle Atlantic		Great Lakes		Middle West		Mountain	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Gas—Continued										
Installation and servicing—gas mains, gas lines, meters, and appliances:										
Gas-main fitters	3,642	$7.98	1,212	$8.21	1,246	$7.85	452	$7.75	–	–
Gas-main fitters' helpers	1,041	6.56	–	–	–	–	26	6.29	–	–
Inspectors	108	7.28	64	7.10	30	8.00	–	–	–	–
Installers, gas meter	1,713	8.56	–	–	–	–	–	–	–	–
Laborers, main installation and service	679	5.79	94	6.22	–	–	–	–	–	–
Leak locators, gas	88	7.83	–	–	–	–	–	–	–	–
Repairers, gas meter	381	7.55	85	7.75	91	7.50	43	7.11	21	$7.63
Repair helpers, gas meter	104	5.90	12	7.01	–	–	–	–	–	–
Service technicians, gas appliances	2,661	8.02	1,266	8.10	884	8.18	–	–	–	–
Service technicians, regulator	306	8.35	50	7.53	76	7.96	–	–	–	–
Electricty and/or gas										
Maintenance:										
Electricians, maintenance	2,004	8.88	449	9.15	480	8.81	144	8.64	–	–
Machinists, maintenance	702	9.14	–	–	193	9.01	–	–	–	–
Mechanics, automotive (maintenance)	2,076	8.22	750	8.60	467	8.05	42	7.50	115	8.40
Mechanics, maintenance	1,330	8.16	–	–	521	7.94	84	7.50	–	–
Pipefitters, maintenance	126	8.68	–	–	–	–	–	–	–	–
Miscellaneous:										
Guards	149	6.11	–	–	–	–	–	–	–	–
Janitors, porters, or cleaners	1,623	5.61	551	5.55	584	5.89	86	5.42	–	–
Meter readers	6,331	6.67	2,914	6.59	1,309	6.90	419	6.37	306	6.51
Stock clerks	1,672	7.38	634	7.75	413	6.98	78	6.95	–	–
Truckdrivers[3]	817	7.32	–	–	77	7.23	–	–	–	–
Medium (1 1/2 to and including 4 tons)	297	7.00	–	–	–	–	–	–	–	–
Tractor-trailor	238	7.60	51	7.73	–	–	–	–	–	–
Heavy (straight, over 4 tons, usually 10 wheels)	132	7.46	–	–	–	–	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 6. Occupational earnings: Auxiliary equipment operators, electric

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	5,329	314	677	224	697	761	1,595	295	405	361
Average hourly earnings[1]	$6.92	$6.81	$7.67	$6.61	$6.24	$6.06	$7.10	$7.38	$6.99	$7.64
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $5.00	1.1	–	–	1.8	–	7.1	–	–	–	–
$5.00 and under $5.10	.7	–	–	5.4	.9	2.4	–	–	–	–
$5.10 and under $5.20	.5	–	–	9.4	–	1.1	–	–	–	–
$5.20 and under $5.30	2.8	–	–	4.5	5.0	13.5	–	–	–	–
$5.30 and under $5.40	.4	–	–	–	.6	2.1	–	–	.5	–
$5.40 and under $5.50	1.2	–	.7	–	7.3	.5	.2	–	–	–
$5.50 and under $5.60	.5	–	–	.9	.4	2.0	.1	–	1.0	–
$5.60 and under $5.70	1.3	–	.9	.9	4.9	.1	1.0	.3	1.7	–
$5.70 and under $5.80	3.4	5.7	–	–	–	21.3	.1	–	–	–
$5.80 and under $5.90	4.1	19.7	–	6.7	6.6	.3	5.6	–	.5	–
$5.90 and under $6.00	2.0	1.9	–	–	7.6	2.0	2.0	–	.5	–
$6.00 and under $6.10	2.2	–	.1	17.0	–	2.6	3.3	–	1.2	–
$6.10 and under $6.20	3.2	5.7	–	–	9.0	–	4.1	4.7	2.0	–
$6.20 and under $6.30	2.4	–	1.0	–	6.2	.5	3.5	5.1	1.0	–
$6.30 and under $6.40	5.7	–	.1	–	5.6	10.9	11.3	–	–	.8
$6.40 and under $6.50	7.6	–	–	–	25.3	2.4	1.4	6.8	31.6	11.1
$6.50 and under $6.60	1.5	7.0	1.2	–	.7	1.2	.6	5.8	2.0	–
$6.60 and under $6.70	4.1	1.9	–	7.1	6.2	6.3	–	12.9	5.4	12.5
$6.70 and under $6.80	3.1	–	6.6	–	.6	3.0	3.2	5.4	5.9	–
$6.80 and under $6.90	2.3	–	1.9	–	2.9	10.1	.8	–	–	–
$6.90 and under $7.00	3.3	6.4	3.4	12.5	3.4	.5	1.8	5.4	7.7	–
$7.00 and under $7.10	3.4	2.5	2.1	–	3.3	3.4	3.9	3.7	1.0	8.6
$7.10 and under $7.20	4.1	20.1	5.6	–	–	.1	6.9	2.7	–	–
$7.20 and under $7.30	2.9	7.6	5.0	9.4	–	3.0	.1	–	12.3	–
$7.30 and under $7.40	2.3	1.3	7.2	4.0	–	–	2.9	–	–	3.9
$7.40 and under $7.50	1.8	–	3.0	1.8	–	.5	3.6	3.4	–	.6
$7.50 and under $7.60	2.9	–	–	1.8	1.0	–	8.1	2.0	–	2.5
$7.60 and under $7.70	6.4	6.4	1.8	.4	2.6	.3	14.2	8.5	1.0	8.3
$7.70 and under $7.80	4.0	10.2	.6	2.2	–	–	9.8	4.7	–	–
$7.80 and under $7.90	4.7	–	36.8	–	–	.1	.1	–	–	–
$7.90 and under $8.00	2.5	–	10.0	–	–	–	.9	–	–	13.9
$8.00 and under $8.10	3.4	–	–	–	–	–	2.6	–	24.7	10.2
$8.10 and under $8.20	2.0	–	.1	–	–	2.6	5.3	–	–	–
$8.20 and under $8.30	.3	–	–	–	–	–	.5	3.4	–	–
$8.30 and under $8.40	1.2	–	–	–	–	–	–	–	–	17.2
$8.40 and under $8.50	.6	–	1.5	–	–	–	.9	3.1	–	–
$8.50 and under $8.60	1.5	–	.6	14.3	–	–	–	10.2	–	4.4

See footnotes at end of table.

Table 6. Occupational earnings: Auxiliary equipment operators, electric—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
$8.70 and under $8.80	0.2	3.5	-	-	-	-	-	-	-	-
$8.80 and under $8.90	.6	-	-	-	-	-	-	11.2	-	-
$8.90 and under $9.00	.4	-	-	-	-	-	0.1	-	-	6.1
$9.00 and over	1.6	-	9.6	-	-	-	1.0	.7	-	-

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 7. Occupational earnings: Gas dispatchers

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Mountain	Pacific
Number of workers	735	33	134	50	46	148	55	40	30
Average hourly earnings[1]	$8.09	$7.84	$9.75	$7.94	$6.26	$7.38	$8.15	$7.53	$9.89
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $5.00	2.4	-	-	8.0	8.7	4.1	3.6	-	-
$5.00 and under $5.10	1.9	-	-	-	-	9.5	-	-	-
$5.10 and under $5.20	1.0	-	.7	-	-	.7	1.8	10.0	-
$5.20 and under $5.30	.4	-	-	-	-	1.4	-	-	-
$5.30 and under $5.40	.8	-	-	-	8.7	-	-	5.0	-
$5.40 and under $5.50	1.6	-	-	-	8.7	5.4	-	-	-
$5.50 and under $5.60	1.0	-	.7	-	13.0	-	-	-	-
$5.60 and under $5.70	1.5	-	-	18.0	-	1.4	-	-	-
$5.70 and under $5.80	.4	-	1.5	-	-	-	-	-	-
$5.90 and under $6.00	.1	-	-	2.0	-	-	-	-	-
$6.00 and under $6.10	.4	-	.7	-	4.3	-	-	-	-
$6.20 and under $6.30	3.0	-	-	2.0	-	12.8	-	5.0	-
$6.30 and under $6.40	1.4	-	-	2.0	-	.7	14.5	-	-
$6.40 and under $6.50	2.3	-	-	-	32.6	-	-	-	-
$6.60 and under $6.70	1.0	6.1	-	2.0	-	-	-	5.0	-
$6.70 and under $6.80	.3	-	-	4.0	-	-	-	-	-
$6.80 and under $6.90	3.1	54.5	-	-	-	-	1.8	5.0	-
$7.00 and under $7.10	1.6	-	-	-	-	1.4	-	5.0	-
$7.10 and under $7.20	.4	-	-	-	-	-	5.5	-	-
$7.20 and under $7.30	1.1	-	-	-	2.2	1.4	1.8	2.5	-
$7.30 and under $7.40	1.2	-	-	-	4.3	2.0	-	5.0	-
$7.40 and under $7.50	2.6	-	.7	-	-	-	3.6	12.5	-
$7.50 and under $7.60	1.4	-	-	2.0	-	-	-	-	-
$7.60 and under $7.70	12.0	-	-	-	-	5.4	10.9	5.0	-
$7.70 and under $7.80	1.6	-	1.5	-	-	4.1	3.6	5.0	-
$7.80 and under $7.90	1.4	-	-	-	4.3	-	1.8	7.5	-
$7.90 and under $8.00	3.9	12.1	3.0	10.0	-	.7	1.8	-	-
$8.00 and under $8.20	6.8	-	.7	4.0	10.9	18.2	5.5	7.5	-
$8.20 and under $8.40	5.9	-	9.0	2.0	-	3.4	7.3	2.5	3.3
$8.40 and under $8.60	6.9	-	13.4	2.0	2.2	8.1	-	2.5	-
$8.60 and under $8.80	5.3	-	9.0	2.0	-	1.4	10.9	-	16.7
$8.80 and under $9.00	3.1	-	5.2	-	-	2.7	-	-	16.7
$9.00 and under $9.20	1.1	-	4.5	-	-	1.4	-	-	-
$9.20 and under $9.40	3.3	3.0	3.0	2.0	-	8.8	7.3	2.5	-
$9.40 and under $9.60	1.9	-	.7	4.0	-	.7	-	-	33.3
$9.60 and under $9.80	1.9	12.1	6.0	2.0	-	.7	-	-	-
$9.80 and under $10.00	1.0	3.0	-	-	-	4.1	-	-	-
$10.00 and under $10.40	3.4	-	4.5	32.0	-	-	-	7.5	-

See footnotes at end of table.

Table 7. Occupational earnings: Gas dispatchers—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Mountain	Pacific
$10.40 and under $10.80	1.0	6.1	-	-	-	-	7.3	2.5	-
$10.80 and under $11.20	1.2	3.0	-	-	-	-	9.1	-	10.0
$11.20 and under $11.60	5.2	-	26.1	-	-	-	1.8	2.5	3.3
$11.60 and over	2.3	-	9.0	-	-	-	-	-	16.7

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 8. Occupational earnings: Electricians, maintenance

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	6,125	474	839	409	567	709	1,642	481	278	726
Average hourly earnings[1]	$8.50	$7.62	$8.80	$7.83	$7.75	$7.99	$8.74	$8.72	$8.72	$9.39
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $7.00	3.0	[2] 12.7	.2	6.4	6.2	5.6	.3	1.2	4.3	-
$7.00 and under $7.10	1.0	1.5	-	5.1	1.2	2.0	.5	.4	-	-
$7.10 and under $7.20	1.3	11.8	.6	-	-	.3	.5	1.7	-	-
$7.20 and under $7.30	2.3	3.0	.2	-	1.2	2.7	5.8	.8	-	-
$7.30 and under $7.40	2.0	18.4	.1	3.7	1.8	1.1	.1	-	-	-
$7.40 and under $7.50	1.3	10.1	.2	1.0	1.1	1.1	.4	.4	.4	-
$7.50 and under $7.60	1.0	.4	.5	.2	3.4	.7	.5	3.7	1.1	-
$7.60 and under $7.70	1.9	-	-	3.4	10.2	5.1	.2	1.2	-	-
$7.70 and under $7.80	4.6	1.5	-	10.5	33.7	5.1	.4	-	-	-
$7.80 and under $7.90	6.5	.6	4.8	20.8	26.8	2.4	4.9	4.8	-	-
$7.90 and under $8.00	6.4	7.8	.2	39.9	6.5	7.3	6.2	.4	-	-
$8.00 and under $8.10	2.7	1.9	3.7	-	-	6.9	3.3	-	8.6	-
$8.10 and under $8.20	1.6	-	2.1	.5	-	5.8	2.4	-	-	-
$8.20 and under $8.30	6.5	1.9	.5	-	-	43.9	2.4	3.3	6.1	-
$8.30 and under $8.40	3.7	27.0	8.0	.7	-	-	1.8	-	-	-
$8.40 and under $8.50	1.8	.2	7.5	-	.5	-	2.3	1.2	.4	-
$8.50 and under $8.60	3.4	-	.2	-	4.1	9.9	6.6	.8	-	-
$8.60 and under $8.70	2.8	-	5.1	-	.9	-	7.0	1.2	.7	-
$8.70 and under $8.80	3.9	-	10.0	7.8	1.1	-	3.7	10.8	1.1	.4
$8.80 and under $8.90	9.8	-	8.6	-	1.4	-	4.3	25.6	30.6	33.3
$8.90 and under $9.00	2.5	1.3	.4	-	-	-	.4	13.5	-	10.2
$9.00 and under $9.10	5.7	-	3.3	-	-	-	7.2	16.0	45.0	-
$9.10 and under $9.20	4.3	-	25.4	-	-	-	2.1	2.7	.7	-
$9.20 and under $9.30	3.1	-	5.4	-	-	-	8.2	-	.7	1.2
$9.30 and under $9.40	5.7	-	-	-	-	-	18.3	10.0	-	-
$9.40 and under $9.50	2.4	-	12.9	-	-	-	1.4	-	-	1.9
$9.50 and under $9.60	.6	-	-	-	-	-	2.2	-	.4	-
$9.60 and under $9.70	.8	-	-	-	-	-	2.8	-	-	-
$9.70 and under $9.80	.7	-	-	-	-	-	-	-	-	6.1
$9.80 and under $9.90	5.5	-	-	-	-	-	.3	-	-	45.7
$9.90 and under $10.00	[3]	-	-	-	-	.1	-	-	-	-
$10.00 and over	1.1	-	-	-	-	-	3.7	-	-	1.1

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Workers were distributed as follows: 1.3 percent under $6.70; 10.5 percent at $6.70 to $6.80; and 0.8 percent at $6.90 to $7.00.

[3] Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 9. Occupational earnings: Janitors, porters, or cleaners

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	4,495	205	845	473	334	663	1,273	375	136	191
Average hourly earnings[1]	$5.02	$5.61	$5.47	$4.77	$3.70	$3.72	$5.50	$5.42	$5.20	$5.70
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
$2.65 and under $2.70	3.9	–	–	.6	3.3	22.0	–	3.7	–	–
$2.70 and under $2.80	.6	–	–	2.3	.9	2.0	–	–	–	–
$2.80 and under $2.90	.5	–	–	1.5	.9	2.1	–	–	–	–
$2.90 and under $3.00	.7	–	.1	1.3	4.8	1.5	–	–	–	–
$3.00 and under $3.10	.6	–	–	1.7	3.9	.5	–	–	.7	–
$3.10 and under $3.20	.7	–	–	1.3	1.8	2.7	–	–	–	–
$3.20 and under $3.30	1.8	–	–	.8	3.0	7.2	1.3	.3	–	–
$3.30 and under $3.40	1.8	–	–	1.7	9.9	5.6	–	1.3	–	–
$3.40 and under $3.50	1.1	–	–	.4	5.7	2.6	.5	1.6	–	–
$3.50 and under $3.60	.6	–	–	1.5	1.8	1.5	.2	.3	1.5	–
$3.60 and under $3.70	1.5	–	.4	1.9	3.9	4.8	.8	.5	–	–
$3.70 and under $3.80	2.3	.5	–	.6	22.2	2.9	.5	.3	.7	–
$3.80 and under $3.90	4.3	2.0	2.1	.8	5.4	5.7	7.6	4.0	–	–
$3.90 and under $4.00	1.6	–	.9	1.5	3.6	3.0	1.0	.5	5.9	–
$4.00 and under $4.10	2.3	1.0	2.2	1.5	14.1	1.7	1.1	.5	–	–
$4.10 and under $4.20	1.6	–	.8	3.0	3.0	3.5	.2	1.9	5.1	–
$4.20 and under $4.30	1.7	2.0	.2	5.1	5.4	.6	1.3	.5	.7	2.6
$4.30 and under $4.40	2.4	1.0	6.7	1.7	1.8	.5	1.7	1.1	2.9	–
$4.40 and under $4.50	2.0	1.0	.6	1.7	.6	7.1	.3	2.1	8.1	1.6
$4.50 and under $4.60	2.0	.5	2.7	.4	–	5.9	.6	3.2	–	1.6
$4.60 and under $4.70	2.6	1.0	.7	16.1	.3	2.1	.9	.8	.7	.5
$4.70 and under $4.80	1.3	.5	1.5	3.2	–	.6	.8	3.5	–	2.1
$4.80 and under $4.90	1.2	1.5	.2	–	–	6.9	–	–	2.9	–
$4.90 and under $5.00	1.5	1.0	.4	2.3	2.7	1.4	1.0	.3	8.8	4.7
$5.00 and under $5.10	5.4	17.6	.9	5.7	1.2	.9	9.8	2.7	5.1	11.0
$5.10 and under $5.20	4.8	8.8	.6	7.8	–	–	11.5	–	5.9	.5
$5.20 and under $5.30	2.2	–	3.0	3.2	–	–	3.2	2.1	5.9	–
$5.30 and under $5.40	3.5	8.8	12.3	4.2	–	.3	.3	1.1	–	2.1
$5.40 and under $5.50	2.9	3.9	7.8	–	–	–	3.9	.3	2.9	–
$5.50 and under $5.60	2.1	.5	8.3	.2	–	–	1.2	1.6	1.5	–
$5.60 and under $5.70	5.7	–	4.4	–	–	4.5	6.8	16.0	5.1	19.9
$5.70 and under $5.80	5.6	–	21.1	1.3	–	–	3.4	6.9	–	–
$5.80 and under $5.90	3.1	2.4	.1	23.9	–	–	.6	–	–	6.3
$5.90 and under $6.00	2.7	11.2	.5	.6	–	–	3.1	.3	35.3	1.0
$6.00 and under $6.10	3.8	–	.5	.2	–	–	8.2	–	–	31.4
$6.10 and under $6.20	4.4	15.6	9.5	–	–	–	2.8	12.8	–	–
$6.20 and under $6.30	3.5	6.3	2.4	–	–	–	2.0	26.1	–	–
$6.30 and under $6.40	1.3	5.4	1.1	–	–	–	2.0	3.7	–	–
$6.40 and under $6.50	1.0	1.0	–	–	–	–	3.3	–	–	–

See footnotes at end of table.

Table 9. Occupational earnings: Janitors, porters, or cleaners—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
$6.50 and under $6.60	3.1	–	–	–	–	–	8.6	–	–	14.7
$6.60 and under $6.70	.4	4.9	1.1	–	–	–	–	–	–	–
$6.70 and under $6.80	1.2	–	3.7	–	–	–	1.6	–	–	–
$6.80 and under $6.90	1.3	–	2.8	–	–	–	2.6	–	–	–
$6.90 and under $7.00	1.2	–	–	–	–	–	4.2	–	–	–
$7.00 and over	.4	2.0	.4	–	–	–	.9	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 10. Occupational earnings: Service technicians, gas appliances

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain
Number of workers	11,509	787	2,936	558	889	805	2,587	1,303	314
Average hourly earnings[1]	$7.47	$7.42	$7.86	$7.70	$6.14	$5.32	$8.05	$7.20	$7.42
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $4.00	.4	–	–	–	1.0	4.5	–	–	–
$4.00 and under $4.10	.2	–	–	–	.3	2.2	–	–	–
$4.10 and under $4.20	.2	–	–	–	.3	1.9	–	–	–
$4.20 and under $4.30	.1	–	–	–	.3	.5	–	–	–
$4.30 and under $4.40	.2	–	–	–	.6	2.1	–	–	–
$4.40 and under $4.50	.5	–	–	–	1.3	5.1	–	.1	–
$4.50 and under $4.60	.4	–	–	–	.1	5.0	–	–	–
$4.60 and under $4.70	.6	–	–	–	4.4	3.6	–	–	–
$4.70 and under $4.80	.4	–	.1	.2	1.1	3.7	–	–	–
$4.80 and under $4.90	.3	–	.2	–	1.3	2.5	–	.1	–
$4.90 and under $5.00	.4	–	–	.2	2.0	2.9	–	–	–
$5.00 and under $5.10	1.3	–	1.0	.4	.9	12.4	–	–	2.5
$5.10 and under $5.20	1.3	–	.7	–	.8	15.0	–	–	–
$5.20 and under $5.30	.9	–	.4	.4	3.0	7.0	–	.1	–
$5.30 and under $5.40	.3	–	–	.4	2.2	1.5	–	.2	–
$5.40 and under $5.50	.4	–	–	–	1.5	4.5	–	–	–
$5.50 and under $5.60	1.4	.3	.1	.5	15.0	1.2	–	.1	1.3
$5.60 and under $5.70	.8	.5	.4	4.5	–	.4	–	3.6	–
$5.70 and under $5.80	.4	–	–	.2	3.7	.5	–	.1	.6
$5.80 and under $5.90	.6	–	1.2	–	2.2	.4	–	–	2.5
$5.90 and under $6.00	.3	.8	–	1.1	.4	.7	–	.5	1.9
$6.00 and under $6.10	1.0	–	1.1	–	6.1	.4	.4	.4	–
$6.10 and under $6.20	.9	–	3.0	–	.2	.5	–	.2	.6
$6.20 and under $6.30	1.0	2.5	2.5	–	.2	.5	–	.2	–
$6.30 and under $6.40	.8	.3	.2	–	4.9	.1	.4	–	7.3
$6.40 and under $6.50	1.9	1.0	1.2	1.1	10.6	9.2	–	–	–
$6.50 and under $6.60	1.2	7.1	1.2	.4	4.8	–	–	.2	–
$6.60 and under $6.70	.4	2.0	–	–	.2	–	.3	.1	4.8
$6.70 and under $6.80	6.7	8.1	.7	8.1	3.8	–	7.8	27.2	15.9
$6.80 and under $6.90	1.3	.5	4.0	2.3	–	–	.7	.1	–
$6.90 and under $7.00	.9	6.6	([3])	1.4	–	1.0	1.4	.1	–
$7.00 and under $7.10	3.2	.5	5.9	9.1	5.3	5.8	.3	1.4	4.5
$7.10 and under $7.20	2.0	–	2.5	3.8	–	–	2.0	6.4	–
$7.20 and under $7.30	1.7	1.0	1.9	1.3	10.7	.2	.3	1.3	–
$7.30 and under $7.40	3.5	1.3	4.4	–	8.5	.2	.5	10.9	10.2
$7.40 and under $7.50	5.0	23.1	.6	–	–	1.2	1.9	20.9	–
$7.50 and under $7.60	4.0	6.7	–	–	–	2.0	10.6	7.2	–

See footnotes at end of table.

Table 10. Occupational earnings: Service technicians, gas appliances—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain
$7.60 and under $7.70	1.0	9.9	–	5.2	–	–	0.3	0.1	–
$7.70 and under $7.80	4.8	1.9	11.6	4.1	–	–	5.3	–	7.0
$7.80 and under $7.90	2.3	–	.4	–	–	–	.6	17.8	–
$7.90 and under $8.00	13.6	10.3	.3	–	–	1.2	14.9	–	–
$8.00 and under $8.10	3.0	–	.9	–	–	–	11.2	.8	4.8
$8.10 and under $8.20	3.5	–	12.2	–	–	–	1.9	–	–
$8.20 and under $8.30	4.4	15.5	.2	39.4	1.8	–	–	–	–
$8.30 and under $8.40	.7	–	.3	–	–	–	–	–	21.7
$8.40 and under $8.50	3.6	–	–	–	–	–	16.0	–	–
$8.50 and under $8.60	2.8	–	9.3	–	–	–	–	–	14.3
$8.60 and under $8.70	1.0	–	.1	16.1	–	–	.5	.3	–
$8.70 and under $8.80	1.9	–	7.4	–	–	–	–	–	–
$8.80 and under $8.90	2.8	–	10.6	–	–	–	–	.1	–
$8.90 and under $9.00	6.8	–	13.3	–	–	–	15.3	–	–
$9.00 and over	1.7	–	–	–	–	–	7.4	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 11. Occupational earnings: Watch engineers

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	2,899	224	524	200	274	505	617	165	149	241
Average hourly earnings[1]	$10.81	$11.66	$11.72	$10.27	$9.83	$9.05	$11.57	$9.67	$11.15	$11.85
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $8.00	3.5	3.6	–	–	–	[2] 18.4	–	–	–	–
$8.00 and under $8.10	.1	–	–	2.0	–	–	–	–	–	–
$8.10 and under $8.20	.8	1.8	–	–	–	–	–	12.1	–	–
$8.20 and under $8.30	1.2	.9	–	–	.7	5.1	.6	–	.7	–
$8.30 and under $8.40	.3	.9	–	–	–	.2	–	–	3.4	–
$8.40 and under $8.50	1.0	4.5	–	3.0	.4	–	.2	6.1	–	–
$8.50 and under $8.60	1.1	–	–	2.0	.4	5.5	–	–	–	–
$8.60 and under $8.70	1.5	.9	–	–	.7	3.6	–	13.3	–	–
$8.70 and under $8.80	1.3	.9	–	16.0	.4	–	.2	1.2	–	–
$8.80 and under $8.90	2.9	–	–	–	.7	6.9	1.0	24.2	–	–
$8.90 and under $9.00	2.0	.9	–	1.0	.4	8.5	.3	4.8	–	–
$9.00 and under $9.10	.9	2.2	.8	–	2.2	.4	1.1	1.8	–	–
$9.10 and under $9.20	2.0	.4	.4	.5	1.8	7.9	1.3	–	–	–
$9.20 and under $9.30	1.0	–	.4	3.5	1.1	–	2.4	–	1.3	–
$9.30 and under $9.40	1.3	3.1	–	1.5	3.3	1.6	1.8	–	–	–
$9.40 and under $9.50	3.7	–	.2	–	23.4	7.1	1.0	–	–	–
$9.50 and under $9.60	2.6	–	–	2.5	15.3	2.4	2.4	–	.7	–
$9.60 and under $9.70	1.2	–	.6	2.0	4.0	1.6	1.3	–	–	–
$9.70 and under $9.80	1.8	–	.4	12.5	1.8	1.0	1.6	.6	3.4	–
$9.80 and under $9.90	2.1	–	.2	2.0	1.8	6.5	2.4	.6	–	.8
$9.90 and under $10.00	2.1	3.1	.4	13.5	5.5	–	1.5	–	1.3	–
$10.00 and under $10.20	4.4	2.2	4.0	2.0	10.9	6.1	4.1	1.2	3.4	2.1
$10.20 and under $10.40	6.0	4.0	16.0	2.5	5.8	8.5	1.8	1.2	–	2.1
$10.40 and under $10.60	5.0	3.1	.2	.5	4.7	5.3	2.9	–	5.4	29.5
$10.60 and under $10.80	2.0	–	.2	2.0	4.7	.4	2.9	2.4	9.4	.4
$10.80 and under $11.00	6.1	3.6	14.9	.5	9.9	2.8	3.7	6.1	9.4	.4
$11.00 and under $11.20	2.9	1.8	4.0	.5	–	–	6.5	6.1	5.4	–
$11.20 and under $11.40	3.2	1.8	5.7	1.5	–	–	5.0	1.8	9.4	3.3
$11.40 and under $11.60	4.8	13.8	5.9	3.5	–	–	4.5	1.2	12.1	9.1
$11.60 and under $11.80	2.6	2.2	3.4	1.5	–	–	2.3	1.2	10.1	7.1
$11.80 and under $12.00	4.4	.9	7.4	10.5	–	–	6.5	2.4	10.7	2.9
$12.00 and under $12.40	5.8	1.8	2.9	6.0	–	–	14.1	11.5	9.4	7.5
$12.40 and under $12.80	3.2	2.7	4.8	1.0	–	–	5.5	–	3.4	8.7
$12.80 and under $13.20	4.4	5.8	12.8	–	–	–	5.7	–	1.3	5.0
$13.20 and under $13.60	3.3	7.1	3.8	2.0	–	–	5.2	–	–	9.5
$13.60 and under $14.00	2.8	15.2	.4	2.0	–	–	3.6	–	–	7.5
$14.00 and under $14.40	2.9	2.7	10.3	–	–	–	2.4	–	–	4.1
$14.40 and over	1.7	8.0	–	2.0	–	–	4.2	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Workers were distributed as follows: 9.5 percent under $7.40; 3.8 percent at $7.50 to $7.60; 1.2 percent at $7.50 to $7.60; 1.6 percent at $7.60 to $7.70; 0.4 percent at $7.70 to $7.80; and 2.0 percent at $7.90 to $8.00.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 12. Occupational averages: Office clerical, professional, and technical workers—all systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations																				
Accounting clerks	6,590	$5.70	678	$5.83	742	$6.47	614	$4.88	809	$5.73	1,254	$5.31	1,377	$5.71	455	$4.59	123	$4.84	538	$7.35
Men	1,321	6.44	–	–	191	6.90	111	5.86	179	6.49	–	–	229	7.44	–	–	36	5.60	84	7.83
Women	5,113	5.51	570	5.85	551	6.32	503	4.66	630	5.51	742	5.05	1,148	5.36	428	4.52	87	4.52	454	7.26
Class A	3,084	6.40	319	6.31	349	7.41	274	5.66	272	6.37	631	6.05	729	6.40	212	5.56	65	5.37	233	7.93
Men	903	6.94	–	–	122	7.56	74	6.32	69	7.18	–	–	202	7.69	–	–	32	5.65	73	8.01
Women	2,106	6.19	257	6.34	227	7.33	200	5.42	203	6.09	–	–	527	5.91	192	5.50	33	5.10	160	7.89
Class B	3,506	5.08	359	5.40	393	5.63	340	4.25	537	5.41	623	4.56	648	4.93	243	3.75	58	4.24	305	6.91
Men	418	5.34	46	5.14	69	5.71	37	4.95	110	6.06	–	–	27	5.63	7	4.64	–	–	11	6.62
Women	3,007	5.03	313	5.44	324	5.61	303	4.17	427	5.24	435	4.44	621	4.90	236	3.72	54	4.17	294	6.92
Bookkeeping-machine operators[2]	22	4.55	–	–	–	–	–	–	–	–	–	–	7	5.46	–	–	–	–	–	–
Women	19	4.57	–	–	–	–	–	–	–	–	–	–	7	5.46	–	–	–	–	–	–
Class B	17	4.29	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	14	4.28	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cashiers	2,801	4.69	98	4.97	312	5.68	197	4.38	710	4.42	521	4.29	183	5.01	398	4.56	112	4.89	270	5.05
Men	229	5.46	–	–	69	6.64	8	4.45	–	–	–	–	–	–	–	–	–	–	–	–
Women	2,562	4.62	91	4.82	243	5.41	189	4.38	704	4.42	477	4.26	183	5.01	314	4.37	112	4.89	249	5.12
File clerks	608	4.47	–	–	52	5.42	57	5.26	84	3.43	138	3.92	154	4.71	34	4.45	–	–	37	5.75
Men	–	–	–	–	10	5.44	–	–	–	–	–	–	22	4.85	–	–	–	–	–	–
Women	524	4.49	–	–	42	5.41	54	5.30	76	3.45	110	4.00	132	4.69	–	–	–	–	33	5.76
Class A	92	5.19	–	–	9	6.50	–	–	–	–	21	4.41	26	5.43	7	4.72	–	–	8	6.92
Class B	277	4.42	–	–	38	5.26	8	4.12	35	3.56	71	4.09	79	4.56	17	4.33	–	–	21	5.32
Men	–	–	–	–	–	–	–	–	–	–	–	–	12	5.17	–	–	–	–	–	–
Women	223	4.43	–	–	29	5.22	7	4.19	32	3.58	–	–	67	4.45	–	–	–	–	19	5.32
Class C	239	4.25	–	–	–	–	–	–	–	–	46	3.43	49	4.57	–	–	–	–	–	–
Men	26	4.10	–	–	–	–	–	–	–	–	–	–	10	4.47	–	–	–	–	–	–
Women	213	4.26	–	–	–	–	–	–	–	–	40	3.41	39	4.60	–	–	–	–	–	–
Key entry operators[3]	2,931	5.31	244	5.03	511	6.23	167	4.76	326	4.42	346	4.42	535	4.98	185	4.70	118	5.11	–	–
Class A	1,372	5.78	113	5.36	278	6.92	68	5.57	153	4.84	126	4.97	337	5.24	63	4.92	56	5.55	–	–
Class B	1,559	4.89	131	4.76	233	5.41	99	4.20	173	4.06	220	4.10	198	4.53	122	4.59	62	4.72	–	–
Messengers	640	3.93	20	4.56	125	4.48	48	3.97	68	3.96	149	3.42	108	4.04	27	3.78	57	3.43	38	4.20
Men	303	3.97	14	4.79	37	4.37	14	4.43	49	4.27	–	–	55	4.12	10	3.86	32	3.20	–	–
Women	321	3.90	–	–	88	4.53	34	3.78	19	3.18	–	–	53	3.96	15	3.77	25	3.73	13	3.75
Order clerks[2]	42	5.12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	36	5.07	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	16	4.79	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	15	4.75	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Payroll clerks	523	6.01	56	6.04	87	6.89	40	5.96	58	5.16	65	5.42	99	5.96	67	5.95	19	5.57	32	6.89
Men	68	6.98	–	–	19	7.82	–	–	8	5.44	12	6.24	9	7.80	–	–	–	–	–	–
Women	453	5.86	48	5.92	68	6.63	33	5.69	50	5.12	53	5.24	90	5.78	65	5.96	19	5.57	27	6.94
Secretaries[2,3]	8,617	6.37	643	6.68	1,325	7.41	755	5.96	1,066	5.97	1,597	5.74	1,369	6.50	633	5.69	482	5.54	747	7.48
Class A	501	8.26	66	8.00	105	9.31	28	7.54	78	7.39	49	7.26	73	8.18	28	7.33	11	7.90	63	9.50
Class B	1,771	7.17	132	7.10	365	7.91	108	7.20	334	6.71	264	6.65	214	7.42	155	6.50	63	6.93	136	7.89
Class C	2,216	6.46	245	6.45	277	7.69	171	6.24	254	5.65	341	6.01	409	6.71	247	5.64	130	6.16	–	–
Class D	2,545	5.88	200	6.25	347	6.54	292	5.79	189	5.51	452	5.37	388	5.97	179	5.03	191	5.08	307	6.84
Class E	1,513	5.41	–	–	160	6.02	156	4.81	211	5.09	491	5.26	285	5.81	24	3.84	–	–	–	–
Stenographers[3]	4,831	5.19	139	5.08	872	5.90	256	4.18	698	4.76	1,007	4.58	1,092	5.46	285	5.19	149	5.30	333	5.96
General	2,521	4.81	47	4.84	312	5.02	179	3.99	392	4.41	454	4.22	633	5.15	157	4.75	116	5.07	231	5.93

See footnotes at end of table.

Table 12. Occupational averages: Office clerical, professional, and technical workers—all systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations																				
Senior	2,310	$5.61	92	$5.21	560	$6.40	77	$4.62	306	$5.21	553	$4.89	459	$5.89	128	$5.73	33	$6.10	–	–
Switchboard operators[3]	822	5.12	69	5.27	132	5.86	58	4.59	105	4.62	162	4.50	159	5.37	51	4.90	27	5.19	59	$5.82
Switchboard operators-receptionists[3]	201	4.46	14	4.87	28	4.04	25	5.19	38	4.19	22	4.06	33	5.15	26	4.01	8	3.59	7	4.93
Transcribing-machine typists[3]	43	4.77	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Typists	2,338	4.48	78	4.34	449	5.26	276	3.78	156	4.00	480	4.18	570	4.54	60	4.49	135	4.29	134	4.87
Women	2,186	4.49	78	4.34	441	5.25	276	3.78	156	4.00	–	–	566	4.54	52	4.64	135	4.29	131	4.85
Class A[3]	1,002	4.98	–	–	247	5.85	58	4.30	50	4.64	186	4.43	294	4.90	17	4.92	43	4.52	–	–
Class B	1,336	4.10	23	3.67	202	4.54	–	–	106	3.69	294	4.03	276	4.15	43	4.32	92	4.18	82	4.69
Women	1,202	4.08	23	3.67	198	4.53	–	–	106	3.69	–	–	272	4.15	37	4.47	92	4.18	79	4.65
Selected professional and technical occupations																				
Computer data librarians	94	6.12	–	–	25	6.68	8	5.96	7	4.88	31	5.22	6	7.28	–	–	–	–	6	6.97
Men	22	5.68	–	–	9	5.01	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	69	6.35	–	–	16	7.63	8	5.96	7	4.88	18	5.05	–	–	–	–	–	–	–	–
Computer operators[2]	1,357	6.62	123	6.68	253	7.89	111	5.96	151	5.87	203	5.50	253	6.78	93	6.70	81	6.40	89	7.25
Men	1,073	6.80	91	7.09	226	7.97	79	6.03	118	5.92	160	5.67	195	6.85	62	7.27	68	6.45	74	7.29
Women	264	5.96	32	5.51	27	7.18	32	5.81	33	5.69	–	–	58	6.56	–	–	13	6.16	15	7.02
Class A	429	7.70	29	7.37	126	8.57	30	6.08	43	6.75	46	6.82	83	8.01	42	7.71	13	7.43	17	8.00
Men	376	7.80	25	7.59	116	8.55	24	6.06	36	6.90	–	–	75	8.05	34	7.88	13	7.43	16	8.11
Women	–	–	–	–	–	–	6	6.18	7	6.01	–	–	8	7.62	–	–	–	–	–	–
Class B	631	6.50	74	6.87	95	7.87	45	6.39	83	5.66	99	5.56	107	6.54	45	6.08	43	6.48	40	7.09
Men	501	6.59	63	6.94	86	7.88	35	6.59	65	5.65	89	5.56	72	6.56	–	–	35	6.46	32	7.18
Women	124	6.16	11	6.48	–	–	10	5.70	18	5.73	10	5.52	35	6.50	–	–	8	6.55	8	6.73
Class C	295	5.33	20	4.95	32	5.26	36	5.34	25	5.04	58	4.36	61	5.58	6	4.26	25	5.73	32	7.05
Men	196	5.40	–	–	24	5.53	20	5.02	17	4.91	34	4.48	48	5.40	–	–	20	5.79	26	6.93
Women	99	5.20	–	–	–	–	–	–	–	–	24	4.19	13	6.23	–	–	–	–	6	7.56
Computer programmers (business)	2,093	8.00	154	8.23	355	8.27	111	7.41	338	7.49	279	7.78	419	7.98	119	7.86	113	7.90	205	9.02
Men	1,494	8.12	114	8.27	273	8.45	83	7.77	228	7.65	–	–	318	8.14	–	–	94	7.93	167	9.05
Women	–	–	40	8.12	82	7.67	28	6.36	110	7.17	–	–	101	7.49	–	–	19	7.75	38	8.88
Class A	639	9.21	–	–	114	9.65	28	9.34	80	8.35	112	9.08	157	8.89	27	8.47	28	8.92	–	–
Men	473	9.28	32	9.48	96	9.78	24	9.60	64	8.43	–	–	131	8.91	–	–	25	9.01	–	–
Women	–	–	–	–	–	–	–	–	16	8.05	–	–	26	8.75	–	–	–	–	6	10.63
Class B	1,065	7.78	–	–	170	7.98	72	6.91	190	7.70	102	7.41	207	7.56	76	8.10	57	7.92	96	8.60
Men	763	7.86	68	7.94	130	8.02	52	7.18	126	7.80	–	–	149	7.73	–	–	44	7.92	77	8.51
Women	270	7.54	–	–	40	7.86	20	6.21	64	7.51	–	–	58	7.13	–	–	13	7.92	19	8.94
Class C	389	6.65	20	7.26	71	6.75	11	5.83	68	5.90	65	6.11	55	7.01	16	5.71	28	6.86	55	7.80
Men	258	6.76	–	–	47	6.95	7	5.90	38	5.84	–	–	38	7.09	14	5.82	25	6.89	42	7.74
Women	119	6.42	6	7.57	24	6.37	–	–	30	5.97	–	–	17	6.82	–	–	–	–	13	7.99
Computer systems analysts (business)	1,927	9.69	194	9.76	299	10.84	148	9.15	159	8.89	259	8.73	513	9.61	103	9.43	97	9.85	155	10.66
Men	1,566	9.84	162	9.92	261	10.90	123	9.22	134	8.99	170	8.66	428	9.75	77	9.61	84	10.01	127	10.96
Women	336	9.00	32	8.97	38	10.42	25	8.78	25	8.34	–	–	85	8.90	–	–	–	–	28	9.30
Class A	748	10.96	94	10.69	155	11.68	38	10.04	48	10.47	85	10.20	205	10.93	41	10.41	36	11.06	46	12.26
Men	642	11.04	87	10.71	143	11.64	34	10.01	48	10.47	–	–	175	11.09	28	10.71	35	11.12	43	12.36
Women	91	10.39	7	10.41	12	12.11	–	–	–	–	–	–	30	10.00	11	9.60	–	–	–	–
Class B	874	9.20	90	9.16	105	9.95	77	9.07	64	8.73	136	8.24	224	9.08	41	9.27	46	9.46	91	10.43

See footnotes at end of table.

Table 12. Occupational averages: Office clerical, professional, and technical workers—all systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations—Continued																				
Men	710	$9.29	67	$9.31	93	$9.98	65	$9.07	48	$8.70	100	$8.32	192	$9.11	32	$9.49	40	$9.47	73	$10.62
Women	159	8.82	23	8.71	12	9.73	–	–	16	8.79	35	8.00	32	8.90	–	–	–	–	18	9.65
Class C	305	7.98	–	–	–	–	33	8.29	–	–	38	7.25	84	7.79	–	–	–	–	–	–
Men	214	8.04	–	–	–	–	24	8.51	–	–	–	–	61	7.92	–	–	–	–	–	–
Women	86	7.88	–	–	14	9.55	–	–	–	–	16	7.36	23	7.47	–	–	–	–	–	–
Drafters	3,885	6.87	165	7.40	480	7.86	370	6.65	538	5.70	669	6.29	751	6.99	227	7.23	245	6.61	440	7.87
Men	3,291	7.03	153	7.47	426	8.02	322	6.82	481	5.80	486	6.46	689	7.12	–	–	210	6.78	357	8.01
Women	–	–	12	6.45	54	6.62	48	5.48	57	4.84	–	–	62	5.53	–	–	35	5.61	83	7.27
Class A	1,089	8.34	64	7.74	175	9.30	125	8.25	123	7.60	202	7.58	154	8.64	63	9.41	85	7.85	98	8.91
Men	1,003	8.38	63	7.76	167	9.30	115	8.26	115	7.66	164	7.68	153	8.64	53	9.40	83	7.85	90	8.93
Women	–	–	–	–	–	–	10	8.17	–	–	–	–	–	–	–	–	–	–	8	8.74
Class B	1,471	7.02	78	7.52	119	7.84	68	6.66	174	5.81	305	6.26	342	7.26	95	7.18	75	6.71	–	–
Men	1,273	7.10	72	7.59	104	8.01	65	6.76	166	5.83	217	6.36	317	7.32	83	7.24	67	6.78	–	–
Women	–	–	6	6.72	15	6.70	–	–	8	5.41	–	–	25	6.53	–	–	8	6.16	–	–
Class C	1,093	5.59	20	5.91	162	6.74	91	5.91	234	4.64	143	4.71	204	5.91	57	5.37	85	5.29	97	6.54
Men	849	5.68	16	5.92	137	6.83	79	6.03	194	4.71	94	4.75	181	6.01	–	–	60	5.31	62	6.67
Women	208	5.28	–	–	25	6.21	12	5.12	–	–	–	–	23	5.19	–	–	25	5.25	35	6.32
Drafters-tracers	232	5.12	–	–	24	5.06	86	5.09	7	4.88	–	–	51	4.56	–	–	–	–	–	–
Men	166	5.27	–	–	–	–	63	5.26	6	4.77	–	–	38	4.73	–	–	–	–	–	–
Women	66	4.76	–	–	6	4.70	23	4.62	–	–	–	–	13	4.04	–	–	–	–	–	–
Electronics technicians[2,4]	1,638	8.36	–	–	252	8.97	182	7.75	154	7.40	266	7.73	292	8.46	180	8.86	103	8.58	110	9.90
Class A	720	8.83	–	–	148	9.61	103	8.36	44	8.07	153	8.22	63	9.03	61	9.12	47	9.32	–	–
Class B	741	8.24	11	7.18	69	8.20	57	7.62	90	7.40	77	7.42	194	8.31	117	8.80	42	8.16	84	9.60
Class C	154	6.72	7	5.78	–	–	22	5.23	–	–	36	6.30	–	–	–	–	–	–	–	–
Peripheral equipment operators	65	6.76	–	–	32	7.32	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	50	6.94	–	–	25	7.39	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	15	6.14	–	–	7	7.06	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Registered industrial nurses	146	7.39	12	6.79	38	7.50	15	6.89	8	6.99	18	6.70	32	8.08	–	–	–	–	–	–
Women	133	7.46	12	6.79	36	7.55	15	6.89	8	6.99	–	–	31	8.07	–	–	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Includes data for workers in classification in addition to those shown separately.
[3] Virtually all women.
[4] Virtually all men.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria. Overall occupation may include workers not classified by sex.

Table 13. Occupational averages: Office clerical, professional, and technical workers—electric systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations																				
Accounting clerks	2,860	$5.61	–	–	157	$6.76	393	$4.51	525	$6.11	435	$5.62	582	$5.17	103	$5.52	58	$4.62	121	$7.06
Men	537	6.38	–	–	54	7.07	47	5.89	–	–	–	–	43	6.29	–	–	13	5.47	36	7.33
Women	2,242	5.44	–	–	103	6.60	–	–	416	5.86	–	–	–	–	93	5.50	45	4.37	85	6.95
Class A	1,395	6.26	–	–	84	7.44	168	5.48	172	6.89	208	6.46	–	–	51	6.59	31	5.34	71	7.33
Men	330	6.82	–	–	34	7.57	39	5.96	–	–	93	6.71	28	6.94	–	–	13	5.47	27	7.49
Women	1,065	6.09	208	$6.46	50	7.36	129	5.33	131	6.64	115	6.25	–	–	47	6.55	18	5.25	44	7.24
Class B	1,465	4.99	–	–	73	5.97	–	–	353	5.73	227	4.85	231	4.47	52	4.47	27	3.79	50	6.68
Men	–	–	–	–	20	6.21	8	5.55	–	–	–	–	15	5.08	6	4.85	–	–	–	–
Women	1,177	4.84	–	–	53	5.88	–	–	285	5.50	–	–	216	4.43	46	4.42	27	3.79	41	6.64
Bookkeeping-machine operators	10	3.84	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	10	3.84	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cashiers	928	4.63	–	–	28	5.60	106	4.43	285	4.19	138	4.18	65	5.68	75	5.51	48	5.20	139	4.91
Women	876	4.64	–	–	28	5.60	101	4.41	280	4.19	126	4.12	65	5.68	65	5.61	48	5.20	119	5.05
File clerks	290	4.21	–	–	13	4.57	15	4.50	–	–	51	3.81	66	4.51	–	–	–	–	25	5.94
Women	248	4.24	–	–	–	–	15	4.50	56	3.41	–	–	58	4.49	–	–	–	–	–	–
Class A	34	5.12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	32	5.07	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	110	4.13	–	–	10	4.48	–	–	–	–	–	–	25	4.10	–	–	–	–	10	5.53
Women	–	–	–	–	–	–	–	–	–	–	–	–	25	4.10	–	–	–	–	10	5.53
Class C	146	4.06	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	16	4.22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	130	4.03	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Key entry operators[2]	987	4.90	96	5.30	70	5.33	100	4.51	201	4.63	129	4.49	217	4.88	56	5.02	34	4.89	84	5.75
Class A	478	5.25	66	5.48	32	5.98	25	5.21	120	4.80	44	5.07	110	5.06	16	5.40	–	–	56	6.10
Class B	509	4.56	30	4.90	38	4.79	75	4.28	81	4.37	85	4.19	107	4.69	40	4.87	25	4.97	–	–
Messengers	216	3.93	12	4.04	28	3.84	–	–	43	3.97	–	–	48	4.28	13	3.97	16	3.74	–	–
Men	94	4.04	8	3.97	7	4.04	–	–	29	4.27	–	–	19	4.40	7	3.97	–	–	–	–
Women	108	3.86	–	–	21	3.78	–	–	14	3.33	–	–	29	4.20	–	–	–	–	–	–
Payroll clerks	212	5.77	36	6.03	12	6.52	18	5.54	37	5.31	27	4.78	34	5.36	24	7.09	–	–	10	7.20
Men	21	6.27	–	–	–	–	–	–	–	–	7	6.22	–	–	–	–	–	–	–	–
Women	191	5.72	30	5.95	12	6.52	18	5.54	33	5.25	20	4.28	32	5.30	24	7.09	–	–	8	7.25
Secretaries[2]	3,237	6.38	287	6.77	223	6.80	331	5.90	754	6.26	507	5.73	564	6.83	170	6.43	130	5.40	–	–
Class A	190	8.02	–	–	–	–	7	7.77	61	7.67	21	7.21	23	8.37	–	–	7	7.29	–	–
Class B	729	7.11	72	7.29	69	7.33	41	7.26	239	7.00	97	6.12	96	7.52	48	7.16	15	6.84	52	8.07
Class C	1,004	6.28	–	–	53	6.64	96	6.01	170	5.94	176	5.91	227	6.93	60	6.33	45	5.34	–	–
Class D	840	5.81	50	6.38	40	5.76	148	5.58	133	5.89	126	5.15	162	6.09	54	6.00	57	5.01	70	6.79
Class E	474	5.85	–	–	–	–	39	5.07	151	5.19	87	5.39	–	–	–	–	–	–	–	–
Stenographers[2]	2,511	5.20	48	5.74	364	5.58	158	4.14	638	4.82	370	4.73	595	5.52	–	–	52	5.23	–	–
General	1,430	4.87	11	5.54	165	4.88	–	–	341	4.44	210	4.31	352	5.35	–	–	–	–	–	–
Senior	1,081	5.63	37	5.79	199	6.16	–	–	297	5.25	160	5.28	243	5.77	–	–	–	–	–	–
Switchboard operators[2]	373	4.98	45	5.28	40	5.45	43	4.40	66	4.83	60	4.48	86	5.32	20	5.54	7	4.45	–	–
Women	345	5.01	39	5.44	39	5.44	43	4.40	66	4.83	–	–	80	5.27	20	5.54	7	4.45	–	–
Switchboard operators-receptionists[2]	103	4.47	7	4.10	–	–	11	4.40	26	4.39	11	3.87	22	5.24	11	4.06	–	–	–	–
Transcribing-machine typists[2]	29	4.78	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Typists	1,238	4.28	10	4.13	–	–	–	–	145	4.01	263	4.23	342	4.55	21	4.18	53	4.04	36	4.57
Women	1,104	4.28	10	4.13	–	–	–	–	145	4.01	–	–	338	4.55	21	4.18	53	4.04	36	4.57
Class A[2]	458	4.82	–	–	–	–	–	–	47	4.60	75	4.52	156	4.98	–	–	33	4.18	–	–

See footnotes at end of table.

Table 13. Occupational averages: Office clerical, professional, and technical workers—electric systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations																				
Class B	780	$3.96	–	–	71	$4.27	–	–	98	$3.73	–	–	186	$4.18	12	$3.31	20	$3.80	30	$4.26
Women	658	3.92	–	–	70	4.26	–	–	98	3.73	–	–	182	4.18	12	3.31	20	3.80	30	4.26
Selected professional and technical occupations																				
Computer data librarians	25	5.92	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	20	6.12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators[3]	530	6.45	47	$7.28	37	7.68	53	$5.62	97	6.02	85	$5.41	115	6.82	21	7.30	35	6.43	40	7.21
Men	400	6.60	37	7.68	34	7.82	39	5.58	73	6.10	64	5.57	81	6.80	11	8.93	30	6.46	31	7.27
Women	130	6.01	10	5.81	–	–	14	5.73	24	5.78	21	4.91	34	6.87	10	5.52	–	–	9	6.98
Class A	129	7.49	8	6.99	–	–	19	5.63	24	7.24	15	7.38	36	8.31	8	9.22	6	7.74	6	8.22
Men	113	7.59	–	–	–	–	–	–	21	7.29	14	7.31	33	8.41	7	9.13	6	7.74	6	8.22
Women	16	6.84	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	274	6.51	–	–	–	–	20	6.42	52	5.82	47	5.45	45	6.52	12	6.17	17	6.19	21	6.87
Men	205	6.60	31	7.78	–	–	12	6.83	39	5.83	39	5.38	26	6.14	–	–	13	6.18	15	6.96
Women	69	6.23	–	–	–	–	8	5.79	13	5.80	–	–	19	7.05	8	4.97	–	–	–	–
Class C	125	5.27	–	–	–	–	–	–	21	5.13	23	4.05	32	5.64	–	–	–	–	–	–
Men	82	5.22	–	–	–	–	–	–	–	–	11	4.05	22	5.17	–	–	–	–	–	–
Women	43	5.36	–	–	–	–	–	–	–	–	12	4.05	–	–	–	–	–	–	–	–
Computer programmers (business)	880	7.97	–	–	10	9.06	–	–	253	7.54	110	6.98	169	8.15	55	8.63	60	7.52	–	–
Men	625	8.18	–	–	–	–	–	–	165	7.70	–	–	120	8.34	50	8.48	55	7.53	–	–
Women	215	7.51	–	–	–	–	–	–	88	7.24	–	–	49	7.70	–	–	–	–	–	–
Class A	259	9.10	–	–	–	–	–	–	56	8.05	–	–	83	8.89	–	–	19	8.64	–	–
Men	194	9.29	–	–	–	–	–	–	45	8.08	–	–	63	8.96	–	–	17	8.69	–	–
Women	–	–	–	–	–	–	–	–	11	7.96	–	–	20	8.68	–	–	–	–	–	–
Class B	435	7.97	–	–	9	9.19	–	–	149	7.82	34	7.11	59	7.80	43	9.06	30	7.19	–	–
Men	317	8.08	–	–	–	–	–	–	97	7.90	–	–	39	8.01	38	8.91	27	7.23	–	–
Women	109	7.76	–	–	–	–	–	–	52	7.66	–	–	20	7.41	–	–	–	–	–	–
Class C	186	6.41	–	–	–	–	–	–	–	–	47	6.04	27	6.64	8	5.84	–	–	–	–
Men	114	6.57	–	–	–	–	–	–	23	6.13	–	–	18	6.87	8	5.84	–	–	–	–
Women	60	6.11	–	–	–	–	–	–	–	–	–	–	9	6.19	–	–	–	–	–	–
Computer systems analysts (business)	656	9.65	76	9.71	–	–	–	–	113	8.80	41	9.03	154	10.01	22	10.03	22	9.97	107	10.55
Men	540	9.82	62	9.89	–	–	–	–	98	8.89	–	–	130	10.19	22	10.03	20	10.11	83	10.97
Women	106	8.78	14	8.93	–	–	–	–	–	–	–	–	24	9.03	–	–	–	–	24	9.10
Class A	237	11.04	–	–	–	–	19	9.55	43	10.41	16	10.04	69	11.26	–	–	12	10.78	26	12.90
Men	217	11.09	–	–	–	–	18	9.50	43	10.41	–	–	65	11.27	–	–	11	10.92	24	13.07
Class B	302	9.45	33	9.05	–	–	–	–	–	–	22	8.49	63	9.46	17	9.89	10	9.01	63	10.37
Men	241	9.52	25	9.23	–	–	–	–	–	–	17	8.59	51	9.50	17	9.89	9	9.12	48	10.65
Women	60	9.17	8	8.49	–	–	–	–	8	9.48	–	–	12	9.31	–	–	–	–	–	–
Class C	117	7.35	–	–	–	–	–	–	–	–	–	–	22	7.63	–	–	–	–	–	–
Men	82	7.32	–	–	–	–	–	–	–	–	–	–	14	7.67	–	–	–	–	–	–
Women	34	7.42	–	–	–	–	–	–	–	–	–	–	8	7.57	–	–	–	–	–	–
Drafters	1,881	6.68	86	7.41	202	7.72	178	6.16	429	5.77	223	6.21	420	6.79	–	–	91	6.43	148	7.47
Men	1,630	6.82	83	7.43	178	7.95	152	6.40	384	5.87	–	–	379	6.92	–	–	82	6.46	118	7.62
Women	–	–	–	–	24	5.98	26	4.76	–	–	–	–	41	5.64	–	–	–	–	30	6.88
Class A	523	8.33	43	7.92	70	9.25	44	7.87	99	7.89	81	7.48	71	8.77	–	–	35	7.13	50	8.76

See footnotes at end of table.

Table 13. Occupational averages: Office clerical, professional, and technical workers—electric systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and regions, February 1978)

Occupation	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations—Continued																				
Men	492	$8.38	43	$7.92	70	$9.25	40	$7.98	93	$7.91	67	$7.50	70	$8.79	–	–	34	$7.09	45	$8.82
Class B	669	6.83	–	–	51	8.32	53	6.65	124	5.83	89	5.91	182	7.09	–	–	29	6.44	54	7.67
Men	602	6.87	–	–	50	8.32	52	6.69	119	5.84	–	–	164	7.15	–	–	27	6.52	44	7.68
Women	–	–	–	–	–	–	–	–	–	–	–	–	18	6.50	–	–	–	–	10	7.58
Class C	579	5.37	–	–	62	6.23	56	5.40	–	–	49	4.73	134	5.91	–	–	–	–	30	5.89
Men	461	5.42	–	–	42	6.37	46	5.54	–	–	–	–	122	5.97	–	–	–	–	19	5.79
Women	102	5.22	–	–	–	–	–	–	–	–	–	–	12	5.32	–	–	–	–	11	6.07
Drafters-tracers	110	4.78	–	–	–	–	25	3.85	7	4.88	–	–	–	–	–	–	–	–	–	–
Men	75	4.78	–	–	–	–	–	–	6	4.77	–	–	23	4.55	–	–	–	–	–	–
Women	35	4.77	–	–	–	–	11	4.06	–	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians[4]	936	8.19	–	–	142	8.66	89	7.26	143	7.36	172	7.44	–	–	76	$9.35	34	8.44	75	9.78
Class A	391	8.75	–	–	56	9.64	36	8.57	–	–	101	7.98	–	–	–	–	–	–	–	–
Class B	419	8.16	10	7.10	53	8.13	31	7.18	85	7.42	35	7.09	80	8.68	43	9.01	27	8.20	–	–
Class C	126	6.58	7	5.78	–	–	22	5.23	–	–	36	6.30	–	–	–	–	–	–	–	–
Peripheral equipment operators	28	6.68	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	22	6.87	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	6	5.98	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Registered industrial nurses	71	7.44	9	6.77	–	–	–	–	8	6.99	–	–	20	8.35	–	–	–	–	–	–
Women	60	7.58	9	6.77	–	–	–	–	8	6.99	–	–	19	8.36	–	–	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Virtually all women.
[3] Includes data for workers in classification in addition to those shown separately.
[4] Virtually all men.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria. Overall occupation may include workers not classified by sex.

Table 14. Occupational averages: Office clerical, professional, and technical workers—gas transmission systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and Southwest, February 1978)

Occupation	United States[2]		Southwest	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations				
Accounting clerks	339	$5.50	221	
Class A	203	6.03	138	
Class B	136	4.70	–	–
Women	103	4.71	62	4.61
File clerks	116	4.02	64	4.10
Women	96	4.04	58	4.16
Class A	19	4.64	11	4.67
Women	17	4.63	11	4.67
Class B	61	4.02	–	–
Women	51	4.01	–	–
Class C	36	3.70	26	3.63
Women	28	3.72	–	–
Key entry operators	127	4.48	80	4.61
Women	117	4.51	80	4.61
Class A	50	4.76	32	4.94
Women	–	–	32	4.94
Class B[3]	77	4.31	48	4.39
Messengers	129	3.35	103	3.35
Men	65	3.31	51	3.33
Women	62	3.39	52	3.37
Payroll clerks	40	6.08	26	5.77
Women	32	5.85	24	5.84
Secretaries[3]	1,371	5.75	705	5.87
Class A	33	7.93	–	–
Class B	158	6.94	85	7.13
Class C	226	5.84	84	6.36
Class D	361	5.71	144	6.08
Class E	593	5.29	376	5.32
Stenographers	591	4.55	432	4.49
Women	512	4.61	407	4.50
General	314	4.20	193	4.16
Women	253	4.23	168	4.14
Senior	277	4.94	239	4.76
Women	259	4.99	239	4.76
Switchboard operators	80	4.50	56	4.41
Women	76	4.50	56	4.41
Typists[3]	254	4.17	201	4.16
Class A	130	4.46	109	4.37
Class B	124	3.87	92	3.92
Computer data librarians	20	$5.37	20	$5.37
Men	10	5.87	10	5.87
Women	10	4.87	10	4.87
Computer operators	97	5.86	64	5.72
Men	–	–	52	5.79
Class A	28	6.37	16	6.27
Class B	54	5.91	38	5.77
Men	45	6.04	–	–
Class C	15	4.70	–	–
Men	12	4.71	–	–
Computer programmers (business)	199	8.53	85	9.40
Class A	87	9.73	62	9.79
Class B	94	7.78	–	–
Class C	18	6.61	–	–
Men	12	6.71	–	–
Women	6	6.42	–	–
Computer systems analysts (business)	291	8.84	188	8.64
Men	211	8.88	120	8.55
Women	–	–	63	8.58
Class A	86	10.38	51	10.50
Men	60	10.22	27	10.29
Class B	166	8.43	–	–
Men	131	8.53	73	8.29
Class C	39	7.19	–	–
Women	–	–	15	7.35
Drafters	424	6.81	293	6.80
Men	–	–	212	7.04
Class A	135	8.25	87	8.09
Class B	183	6.75	143	6.83
Men	131	6.92	100	7.05
Class C	90	5.12	48	4.97
Men	–	–	35	4.95
Women	–	–	13	5.02
Electronics technicians[4]	139	8.58	46	8.71
Class B	65	8.78	34	8.04
Registered industrial nurses[3]	6	7.29	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Includes data for regions in addition to the Southwest.
[3] Virtually all women.
[4] Virtually all men.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria. Overall occupation may include workers not classified by sex.

Table 15. Occupational averages: Office clerical, professional, and technical workers—gas, except separate transmission systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations																
Accounting clerks	1,473	$5.35	115	$5.86	129	$6.46	61	$5.33	241	$5.02	–	–	175	$6.08	79	$5.23
Men	355	6.03	–	–	40	7.38	–	–	65	5.55	–	–	44	7.17	–	–
Women	1,118	5.14	111	5.86	89	6.05	43	5.11	176	4.82	–	–	131	5.72	77	5.23
Class A	634	6.04	11	5.89	48	7.93	25	5.58	82	5.44	–	–	103	6.63	57	5.80
Men	247	6.39	–	–	26	7.90	–	–	–	–	–	–	39	7.18	–	–
Women	387	5.81	8	5.85	22	7.97	–	–	59	5.02	–	–	64	6.29	55	5.82
Class B	839	4.84	104	5.86	81	5.59	–	–	159	4.80	–	–	72	5.31	–	–
Men	108	5.20	–	–	14	6.42	–	–	42	5.01	–	–	–	–	–	–
Women	731	4.78	103	5.86	67	5.42	–	–	117	4.72	–	–	67	5.17	–	–
Bookkeeping-machine operators	6	5.02	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cashiers[3]	1,045	4.44	43	5.72	–	–	76	4.15	375	4.58	–	–	–	–	–	–
File clerks	30	4.59	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	8	4.38	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	22	4.67	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	22	4.63	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	6	4.18	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	16	4.81	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Key entry operators[3]	625	4.74	53	5.48	44	5.36	28	5.25	99	3.95	107	$3.99	153	4.83	58	5.12
Class A	243	5.27	–	–	–	–	–	–	25	4.74	–	–	108	5.15	18	5.43
Class B	382	4.41	41	5.51	28	4.37	–	–	74	3.68	74	3.67	45	4.05	40	4.98
Messengers	90	4.21	–	–	–	–	–	–	13	4.07	–	–	33	3.89	–	–
Men	63	4.34	–	–	–	–	–	–	–	–	–	–	27	4.01	–	–
Women	27	3.92	–	–	–	–	–	–	–	–	–	–	6	3.35	–	–
Payroll clerks	118	5.81	14	6.23	13	5.22	8	6.38	19	4.89	11	5.98	20	6.10	19	5.76
Men	17	6.99	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	101	5.62	12	5.96	10	4.47	–	–	15	4.83	9	5.75	17	5.85	19	5.76
Secretaries[3]	1,560	6.24	124	6.88	196	6.98	–	–	152	5.16	223	5.48	279	6.27	184	5.59
Class A	89	7.32	9	7.06	6	7.10	–	–	11	6.31	9	6.23	17	7.71	–	–
Class B	415	6.85	48	6.98	46	7.36	–	–	66	5.62	–	–	72	7.26	49	6.17
Class C	329	6.02	–	–	38	7.21	–	–	–	–	62	5.86	97	5.88	55	5.61
Class D	657	6.05	–	–	96	6.98	–	–	15	4.86	–	–	93	5.64	66	4.79
Class E	70	4.20	–	–	–	–	–	–	31	4.36	–	–	–	–	–	–
Stenographers[3]	438	5.12	–	–	42	5.47	–	–	49	4.27	126	4.77	102	6.05	–	–
General	248	4.81	–	–	36	5.18	–	–	40	4.31	–	–	56	4.94	–	–
Senior	190	5.51	–	–	–	–	–	–	–	–	98	4.89	–	–	–	–
Switchboard operators[3]	150	4.80	12	5.29	–	–	–	–	26	3.99	40	4.53	34	5.06	–	–
Switchboard operators-receptionists[3]	54	4.14	–	–	17	3.77	–	–	10	3.62	–	–	8	4.62	–	–
Transcribing-machine typists[3]	14	4.76	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Typists	223	4.68	–	–	34	4.78	–	–	–	–	–	–	116	4.57	–	–
Class A	89	5.06	–	–	–	–	–	–	–	–	–	–	52	5.18	–	–
Class B	134	4.42	–	–	–	–	–	–	–	–	–	–	64	4.07	–	–
Selected professional and technical occupations																
Computer data librarians[3]	8	5.95	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer operators[4]	304	6.32	35	6.67	30	7.12	18	6.51	43	5.55	52	5.34	54	6.69	32	6.63
Men	265	6.49	27	6.77	24	7.86	17	6.61	39	5.57	42	5.60	49	6.81	30	6.77
Women	39	5.14	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class A[4]	101	7.43	9	8.10	17	8.29	–	–	16	6.02	–	–	–	–	–	–

See footnotes at end of table.

Table 15. Occupational averages: Office clerical, professional, and technical workers—gas, except separate transmission systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations—Continued																
Class B	138	$6.11	25	$6.19	7	$6.81	14	$6.19	25	$5.36	14	$5.37	26	$6.77	11	$5.39
Men	126	6.10	18	6.11	7	6.81	14	6.19	25	5.36	14	5.37	24	6.77	–	–
Women	12	6.23	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class C	65	5.04	–	–	–	–	–	–	–	–	25	4.54	12	5.54	–	–
Men	42	5.32	–	–	–	–	–	–	–	–	15	4.73	9	5.80	–	–
Women	23	4.52	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer programmers (business)	327	7.54	27	8.36	62	7.63	11	6.68	41	6.45	71	7.33	56	7.83	–	–
Men	240	7.66	23	8.29	49	7.79	8	6.38	31	6.60	49	7.43	30	8.50	–	–
Women	87	7.21	–	–	13	7.02	–	–	10	6.00	22	7.10	26	7.06	–	–
Class A	54	8.72	12	8.39	6	8.82	–	–	8	7.69	16	8.28	–	–	–	–
Men	47	8.93	12	8.39	6	8.82	–	–	6	8.15	12	8.68	–	–	–	–
Women	7	7.25	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	179	7.52	–	–	41	7.87	–	–	18	6.79	37	7.43	47	7.74	–	–
Men	125	7.62	–	–	33	7.92	–	–	–	–	25	7.39	26	8.39	–	–
Women	54	7.29	–	–	8	7.67	–	–	–	–	12	7.50	21	6.94	–	–
Class C	94	6.90	–	–	15	6.47	–	–	–	–	–	–	–	–	–	–
Men	68	6.86	–	–	–	–	–	–	12	5.32	–	–	–	–	–	–
Women	26	7.02	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Computer systems analysts (business)	331	9.50	16	9.17	–	–	–	–	–	–	–	–	154	9.60	–	–
Men	261	9.63	12	9.44	–	–	–	–	22	8.32	–	–	115	9.78	–	–
Women	70	9.03	–	–	–	–	–	–	–	–	–	–	39	9.08	–	–
Class A	141	10.58	–	–	–	–	–	–	–	–	16	9.46	65	11.03	–	–
Men	108	10.80	–	–	–	–	–	–	–	–	12	9.37	45	11.52	–	–
Women	33	9.87	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	145	8.88	–	–	–	–	–	–	–	–	–	–	57	8.81	–	–
Men	119	8.95	–	–	–	–	–	–	20	8.17	–	–	48	8.82	–	–
Women	26	8.54	–	–	–	–	–	–	–	–	–	–	9	8.77	–	–
Class C	45	8.14	–	–	–	–	–	–	–	–	–	–	32	8.13	–	–
Men	34	8.29	–	–	–	–	–	–	–	–	–	–	22	8.34	–	–
Women	11	7.68	–	–	–	–	–	–	–	–	–	–	10	7.68	–	–
Drafters	555	6.45	45	7.78	82	7.53	64	6.33	61	4.81	102	5.36	97	6.52	–	–
Men	465	6.66	42	7.86	75	7.67	55	6.44	53	4.94	64	5.51	87	6.73	–	–
Women	90	5.37	–	–	7	6.06	–	–	8	3.98	38	5.11	–	–	–	–
Class A	87	6.99	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	79	7.09	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class B	246	6.82	34	8.02	32	8.11	–	–	–	–	47	5.46	70	6.97	–	–
Men	216	6.99	34	8.02	28	8.19	–	–	–	–	27	5.53	68	6.99	–	–
Women	30	5.59	–	–	–	–	–	–	–	–	20	5.36	–	–	–	–
Class C	175	5.75	–	–	35	7.04	–	–	–	–	32	4.40	18	5.07	–	–
Men	135	5.96	–	–	35	7.04	–	–	20	3.88	–	–	11	5.49	–	–
Women	40	5.03	–	–	–	–	–	–	–	–	13	4.15	–	–	–	–
Drafters-tracers	47	6.12	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Men	35	6.34	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Women	12	5.48	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Electronics technicians[4]	90	7.89	–	–	–	–	–	–	–	–	–	–	37	7.94	–	–
Class A	39	8.13	–	–	–	–	–	–	–	–	–	–	–	–	–	–

See footnotes at end of table.

Table 15. Occupational averages: Office clerical, professional, and technical workers—gas, except separate transmission systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations—Continued																
Class B	36	$7.91	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Class C	15	7.21	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Registered industrial nurses[3]	15	7.44	–	–	–	–	–	–	–	–	–	–	8	$7.56	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
[2] Includes data for regions in addition to those shown separately.
[3] Virtually all women.
[4] Virtually all men.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria. Overall occupation may include workers not classified by sex.

Table 16. Occupational averages: Office clerical, professional, and technical workers—combination systems

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		Middle Atlantic		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected office occupations								
Accounting clerks	1,918	$6.12	456	$6.37	–	–	265	$3.98
Men	360	7.09	97	6.60	–	–	–	–
Women	1,558	5.90	359	6.31	–	–	258	3.95
Class A	852	6.99	217	7.29	263	$7.38	96	4.80
Men	290	7.63	62	7.42	–	–	–	–
Women	562	6.67	155	7.23	129	6.75	90	4.75
Class B	1,066	5.43	239	5.54	–	–	169	3.52
Men	70	4.86	35	5.15	–	–	–	–
Women	996	5.47	204	5.61	–	–	168	3.52
Cashiers	827	5.07	221	6.20	–	–	204	4.37
Men	165	5.75	68	6.64	–	–	–	–
Women	662	4.90	153	6.00	–	–	–	–
File clerks	172	5.18	39	5.70	67	5.08	–	–
Men	14	5.68	–	–	–	–	–	–
Women	158	5.14	33	5.68	59	5.01	–	–
Class A[3]	33	5.74	7	6.81	19	5.55	–	–
Class B	84	5.03	28	5.54	44	4.88	–	–
Men	14	5.68	–	–	–	–	–	–
Women	70	4.89	22	5.47	36	4.73	–	–
Class C[3]	55	5.08	–	–	–	–	–	–
Key entry operators	1,192	6.03	397	6.49	161	5.28	61	4.11
Women	1,127	5.97	394	6.49	161	5.28	61	4.11
Class A[3]	601	6.50	230	7.04	119	5.50	–	–
Class B	591	5.55	167	5.73	42	4.67	42	3.95
Women	543	5.44	166	5.73	42	4.67	42	3.95
Messengers	205	4.16	91	4.60	15	3.98	–	–
Men	81	4.13	–	–	–	–	–	–
Women	124	4.18	64	4.70	11	3.88	–	–
Payroll clerks	153	6.46	62	7.31	41	6.12	22	4.91
Men	24	7.47	16	7.83	–	–	–	–
Women	129	6.27	46	7.12	41	6.12	22	4.91
Secretaries[3,4]	2,449	6.79	906	7.66	227	6.76	219	5.32
Class A	189	9.00	78	9.83	27	7.88	11	7.12
Class B	469	7.63	250	8.17	25	7.28	50	6.22
Class C	657	7.18	–	–	65	7.00	80	5.53
Class D	687	5.90	211	6.49	–	–	59	4.41
Class E	376	5.26	110	6.02	–	–	–	–
Stenographers[3]	1,291	5.51	466	6.20	352	5.10	71	4.85
General	529	5.00	111	5.19	199	4.91	32	4.35
Senior	762	5.86	355	6.52	153	5.35	–	–
Switchboard operators	219	5.78	88	6.07	38	5.75	20	4.68
Switchboard operators-receptionists	39	4.82	–	–	–	–	10	3.63
Women	35	4.70	–	–	–	–	10	3.63
Typists[3]	623	4.91	–	–	85	4.42	–	–
Class A	325	5.39	–	–	69	4.49	–	–
Class B	298	4.39	–	–	16	4.12	–	–

See footnotes at end of table.

Table 16. Occupational averages: Office clerical, professional, and technical workers—combination systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		Middle Atlantic		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations								
Computer data librarians	41	$6.64	23	$6.65	–	–	–	–
Men	10	5.26	9	5.01	–	–	–	–
Women	31	7.08	14	7.70	–	–	–	–
Computer operators	426	7.22	186	8.05	84	$6.79	28	$6.62
Men	340	7.44	168	8.02	65	6.94	21	7.13
Women	86	6.35	–	–	19	6.28	–	–
Class A	171	8.22	102	8.71	31	7.96	–	–
Men	155	8.20	93	8.67	26	7.98	–	–
Women	16	8.43	–	–	–	–	–	–
Class B	165	7.00	61	7.84	36	6.39	16	6.67
Men	125	7.28	53	7.85	22	6.82	11	7.48
Women	40	6.12	–	–	14	5.72	–	–
Class C	90	5.74	–	–	17	5.49	–	–
Men	60	5.84	–	–	17	5.49	–	–
Women	30	5.55	–	–	–	–	–	–
Computer programmers (business)	687	8.11	283	8.39	140	7.95	35	6.24
Men	533	8.28	215	8.58	120	8.08	21	6.37
Women	154	7.54	68	7.77	20	7.12	14	6.04
Class A	239	9.24	108	9.69	72	8.78	–	–
Men	205	9.36	90	9.84	67	8.80	–	–
Women	34	8.55	–	–	–	–	–	–
Class B	357	7.67	120	7.93	60	7.15	21	6.28
Men	264	7.75	89	7.95	45	7.32	15	6.52
Women	93	7.45	31	7.87	15	6.66	6	5.68
Class C	91	6.88	55	6.81	–	–	–	–
Men	64	7.01	36	6.99	–	–	–	–
Women	27	6.57	19	6.47	–	–	–	–
Computer systems analysts (business)	649	10.21	236	11.18	–	–	–	–
Men	554	10.33	205	11.22	–	–	–	–
Women	95	9.53	31	10.89	–	–	10	8.74
Class A	284	11.25	133	11.84	48	10.69	12	10.60
Men	257	11.30	121	11.82	42	10.86	–	–
Women	27	10.77	12	12.11	6	9.54	–	–
Class B	261	9.59	73	10.17	–	–	–	–
Men	219	9.68	64	10.21	–	–	–	–
Women	42	9.13	–	–	11	8.55	–	–
Class C	104	8.91	–	–	–	–	–	–
Men	78	8.93	–	–	–	–	–	–
Women	26	8.87	–	–	–	–	–	–
Drafters	1,025	7.49	196	8.15	218	7.45	66	5.75
Men	901	7.60	173	8.24	207	7.54	55	5.98
Women	124	6.70	23	7.46	11	5.81	–	–
Class A[5]	344	8.74	95	9.35	68	8.48	–	–
Class B	373	7.63	36	6.93	84	7.87	28	6.23
Men	324	7.67	26	7.21	79	7.94	26	6.23
Women	49	7.36	10	6.19	–	–	–	–

See footnotes at end of table.

Table 16. Occupational averages: Office clerical, professional, and technical workers—combination systems—Continued

(Number and average straight-time hourly earnings[1] of workers in selected occupations, United States and selected regions, February 1978)

Occupation	United States[2]		Middle Atlantic		Great Lakes		Middle West	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Selected professional and technical occupations—Continued								
Class C	249	$6.13	–	–	51	$6.21	18	$4.55
Men	204	6.21	–	–	47	6.21	–	–
Women	45	5.77	–	–	–	–	–	–
Drafters-tracers	–	–	–	–	15	4.73	–	–
Electronics technicians[4,5]	473	8.73	106	$9.48	148	8.33	–	–
Class A	227	9.16	–	–	32	8.83	–	–
Class B	221	8.29	–	–	93	8.04	–	–
Peripheral equipment operators	22	5.99	–	–	–	–	–	–
Men	15	6.08	–	–	–	–	–	–
Women	7	5.80	–	–	–	–	–	–
Registered industrial nurses[3]	54	7.32	31	7.51	–	–	–	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] Virtually all women.

[4] Includes data for workers in classification in addition to those shown separately.

[5] Virtually all men.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria. Overall occupation may include workers not classified by sex.

Table 17. Occupational earnings: Cashiers

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	2,801	98	312	197	710	521	183	398	112	270
Average hourly earnings[1]	$4.69	$4.97	$5.68	$4.38	$4.42	$4.29	$5.01	$4.56	$4.89	$5.05
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
$2.65 and under $2.70	.2	-	1.9	-	.1	-	-	-	-	-
$2.70 and under $2.80	.4	-	-	-	1.7	-	-	-	-	-
$2.80 and under $2.90	.7	-	-	-	2.5	-	-	.8	-	-
$2.90 and under $3.00	1.1	-	6.7	-	.7	.8	-	.5	-	-
$3.00 and under $3.10	1.1	2.0	-	2.0	1.7	1.5	-	1.0	-	-
$3.10 and under $3.20	.8	4.1	-	1.0	.4	2.3	-	.5	-	-
$3.20 and under $3.30	3.2	2.0	1.0	6.6	1.3	5.4	16.9	.5	1.8	-
$3.30 and under $3.40	4.4	-	-	7.6	8.2	4.4	1.1	2.3	9.8	1.5
$3.40 and under $3.50	2.5	2.0	1.3	2.0	3.2	2.1	2.2	1.8	5.4	3.0
$3.50 and under $3.60	2.2	-	1.0	6.1	1.7	.4	1.6	6.5	1.8	.7
$3.60 and under $3.70	2.6	-	1.3	1.0	2.8	3.6	-	4.8	-	3.3
$3.70 and under $3.80	3.5	-	-	4.1	6.1	1.2	4.4	4.5	-	5.2
$3.80 and under $3.90	5.2	4.1	.3	4.6	10.1	4.2	2.7	2.0	8.9	5.9
$3.90 and under $4.00	3.0	13.3	1.3	3.6	1.5	1.9	-	8.8	1.8	.4
$4.00 and under $4.10	5.5	-	1.0	12.2	3.0	11.1	1.6	6.8	4.5	4.4
$4.10 and under $4.20	3.0	2.0	-	3.6	1.0	8.8	3.3	3.8	-	-
$4.20 and under $4.30	2.2	4.1	1.0	1.0	1.5	1.7	1.6	5.5	5.4	.4
$4.30 and under $4.40	2.7	2.0	-	.5	4.5	2.1	1.6	4.3	1.8	3.0
$4.40 and under $4.50	5.9	-	2.9	5.1	8.0	9.2	5.5	5.5	-	3.0
$4.50 and under $4.60	1.7	2.0	-	1.5	1.8	.8	4.4	3.5	.9	.7
$4.60 and under $4.70	4.6	4.1	.3	3.6	2.1	15.0	2.2	.8	-	5.9
$4.70 and under $4.80	3.1	5.1	-	6.6	1.8	7.1	-	1.0	4.5	3.3
$4.80 and under $4.90	1.8	2.0	1.0	1.0	3.5	1.5	1.6	-	1.8	1.9
$4.90 and under $5.00	2.9	10.2	5.8	1.0	2.8	.4	2.2	3.0	1.8	3.7
$5.00 and under $5.10	1.2	1.0	-	1.0	.6	.8	3.8	.5	4.5	3.0
$5.10 and under $5.20	1.3	2.0	1.3	-	1.3	1.0	4.4	.8	-	1.9
$5.20 and under $5.30	1.0	2.0	3.5	2.0	1.0	-	-	-	-	1.5
$5.30 and under $5.40	5.4	2.0	.6	.5	2.8	8.8	2.2	18.1	-	1.9
$5.40 and under $5.50	1.7	3.1	5.8	-	2.4	-	-	.8	1.8	1.5
$5.50 and under $5.60	2.5	2.0	1.0	7.1	4.2	.4	-	1.8	1.8	4.1
$5.60 and under $5.70	2.7	2.0	9.0	9.6	.7	-	.5	.8	2.7	5.2
$5.70 and under $5.80	1.5	2.0	-	1.5	.7	-	-	.3	21.4	3.0
$5.80 and under $5.90	6.0	1.0	1.3	-	9.6	.4	19.1	1.0	.9	19.6
$5.90 and under $6.00	1.2	-	6.7	-	.1	-	-	-	8.0	.7
$6.00 and under $6.10	.6	3.1	1.3	-	.8	.4	.5	-	.9	-
$6.10 and under $6.20	1.0	-	.6	.5	.1	2.7	1.1	.5	-	1.9
$6.20 and under $6.30	1.9	6.1	13.1	-	.3	-	2.2	-	.9	-
$6.30 and under $6.40	1.6	2.0	.3	-	3.1	-	3.3	1.5	-	3.0
$6.40 and under $6.50	1.1	6.1	.6	-	-	-	1.1	.5	-	6.7

See footnotes at end of table.

Table 17. Occupational earnings: Cashiers—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
$6.50 and under $6.60	0.8	–	4.8	1.0	–	–	0.5	0.8	1.8	–
$6.60 and under $6.70	.2	–	–	–	–	–	–	1.5	–	–
$6.70 and under $6.80	.1	–	.6	–	–	–	–	.3	.9	–
$6.80 and under $6.90	.2	–	.3	2.0	–	–	–	–	–	–
$6.90 and under $7.00	.2	–	1.6	–	–	–	–	–	1.8	–
$7.00 and over	3.6	6.1	[2] 20.8	–	–	–	8.2	3.0	2.7	–

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Workers were distributed as follows: 2.6 percent at $7.00 to $7.20; 14.7 percent at $7.20 to $7.40; 0.3 percent at $7.40 to $7.60; 2.2 percent at $7.80 to $8.00; and 1.0 percent at $8.00 and over.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 18. Occupational earnings: Computer programmers (business), class B

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	1,065	170	72	190	102	207	76	57	96
Average hourly earnings[1]	$7.78	$7.98	$6.91	$7.70	$7.41	$7.56	$8.10	$7.92	$8.60
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $5.50	2.8	4.1	6.9	1.6	2.9	1.0	[3] 13.2	-	-
$5.50 and under $5.60	1.3	.6	5.6	1.1	-	1.4	2.6	3.5	-
$5.60 and under $5.70	2.2	.6	5.6	-	2.0	1.0	-	-	14.6
$5.70 and under $5.80	1.1	.6	-	1.1	2.9	-	1.3	-	5.2
$5.80 and under $5.90	.5	-	4.2	1.1	-	-	-	-	-
$5.90 and under $6.00	1.0	.6	4.2	2.1	-	1.0	-	1.8	-
$6.00 and under $6.10	1.8	-	2.8	2.6	3.9	3.9	-	-	-
$6.10 and under $6.20	1.5	-	2.8	4.2	1.0	-	2.6	3.5	1.0
$6.20 and under $6.30	2.1	-	8.3	-	2.9	5.3	2.6	-	-
$6.30 and under $6.40	2.3	.6	4.2	1.1	-	8.7	-	-	-
$6.40 and under $6.50	2.7	8.8	-	2.1	2.9	3.4	-	-	-
$6.50 and under $6.60	2.1	-	2.8	5.8	-	1.4	2.6	1.8	3.1
$6.60 and under $6.70	2.3	-	2.8	2.1	4.9	4.8	2.6	1.8	-
$6.70 and under $6.80	5.1	4.7	2.8	9.5	7.8	6.8	-	7.0	-
$6.80 and under $6.90	1.6	1.2	1.4	2.1	2.0	2.4	-	-	1.0
$6.90 and under $7.00	3.8	2.4	2.8	8.9	9.8	1.0	1.3	5.3	1.0
$7.00 and under $7.10	2.8	1.8	1.4	2.6	1.0	3.4	-	-	-
$7.10 and under $7.20	1.7	1.2	2.8	.5	1.0	2.4	-	7.0	1.0
$7.20 and under $7.30	2.3	2.9	2.8	.5	4.9	1.9	2.6	1.8	-
$7.30 and under $7.40	3.1	.6	5.6	2.1	4.9	3.4	6.6	1.8	-
$7.40 and under $7.50	4.3	5.9	5.6	2.1	2.9	8.7	1.3	7.0	-
$7.50 and under $7.60	1.9	4.7	1.4	-	-	1.0	2.6	7.0	1.0
$7.60 and under $7.70	4.6	11.8	-	1.1	7.8	3.4	2.6	-	2.1
$7.70 and under $7.80	2.3	1.2	-	2.6	4.9	1.4	2.6	-	-
$7.80 and under $7.90	1.3	1.2	1.4	1.6	-	1.9	-	3.5	-
$7.90 and under $8.00	1.5	2.9	-	1.6	1.0	1.9	-	-	1.0
$8.00 and under $8.20	4.1	1.2	-	2.1	2.0	7.2	6.6	8.8	5.2
$8.20 and under $8.40	3.9	2.9	-	4.7	1.0	.5	6.6	7.0	1.0
$8.40 and under $8.60	3.8	5.9	-	2.6	9.8	1.9	-	1.8	1.0
$8.60 and under $8.80	3.6	4.7	22.2	3.2	1.0	1.0	-	1.8	2.1
$8.80 and under $9.00	3.5	2.9	-	5.3	7.8	-	-	5.3	5.2
$9.00 and under $9.20	2.4	2.4	-	2.1	2.0	1.4	3.9	1.8	9.4
$9.20 and under $9.40	3.2	8.2	-	5.3	1.0	.5	-	7.0	2.1
$9.40 and under $9.60	1.8	-	-	2.6	1.0	1.4	-	8.8	5.2
$9.60 and under $9.80	2.7	2.9	-	5.3	-	1.4	3.9	1.8	6.3
$9.80 and under $10.00	3.3	4.1	-	3.2	1.0	6.8	-	1.8	6.3
$10.00 and under $10.20	3.1	-	-	3.2	2.0	1.4	21.1	-	6.3

See footnotes at end of table.

Table 18. Occupational earnings: Computer programmers (business), class B—Continued

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
$10.20 and under $10.40	0.5	0.6	-	0.5	-	0.5	-	-	2.1
$10.40 and under $10.60	1.6	1.2	-	-	-	-	10.5	1.8	5.2
$10.60 and under $10.80	.6	.6	-	-	-	1.0	-	-	3.1
$10.80 and under $11.00	.9	1.2	-	-	-	1.0	-	-	6.3
$11.00 and over	1.1	2.9	-	-	-	2.4	-	-	2.1

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] Workers were distributed as follows: 5.3 percent under $5.20; 2.6 percent at $5.20 to $5.30; and 5.3 percent at $5.40 to $5.50.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 19. Occupational earnings: Computer systems analysts (business), class A

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	748	94	155	38	48	85	205	41	36	46
Average hourly earnings[1]	$10.96	$10.69	$11.68	$10.04	$10.47	$10.20	$10.93	$10.41	$11.06	$12.26
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $8.00	1.7	-	2.6	2.6	12.5	1.2	-	-	2.8	-
$8.00 and under $8.20	.7	-	-	-	-	4.7	-	-	2.8	-
$8.20 and under $8.40	.4	-	-	-	2.1	1.2	.5	-	-	-
$8.40 and under $8.60	1.2	2.1	1.3	2.6	-	4.7	-	-	-	-
$8.60 and under $8.80	1.6	-	.6	2.6	4.2	1.2	2.4	4.9	-	-
$8.80 and under $9.00	1.5	-	.6	7.9	-	-	2.0	7.3	-	-
$9.00 and under $9.20	3.7	-	5.2	10.5	-	7.1	3.4	7.3	-	-
$9.20 and under $9.40	2.4	-	-	2.6	-	2.4	4.9	2.4	8.3	2.2
$9.40 and under $9.60	3.2	4.3	1.3	2.6	2.1	5.9	2.9	7.3	2.8	2.2
$9.60 and under $9.80	6.1	6.4	6.5	13.2	2.1	9.4	4.4	12.2	2.8	2.2
$9.80 and under $10.00	5.7	11.7	1.3	5.3	4.2	8.2	7.8	2.4	2.8	2.2
$10.00 and under $10.20	5.3	11.7	2.6	5.3	6.3	3.5	6.3	4.9	-	4.3
$10.20 and under $10.40	5.5	2.1	5.8	7.9	4.2	7.1	6.8	9.8	2.8	-
$10.40 and under $10.60	6.3	8.5	5.2	13.2	10.4	10.6	4.4	-	-	6.5
$10.60 and under $10.80	4.4	6.4	3.9	-	4.2	1.2	7.3	7.3	-	-
$10.80 and under $11.00	5.1	8.5	.6	5.3	6.3	8.2	2.9	4.9	11.1	10.9
$11.00 and under $11.20	6.3	13.8	6.5	5.3	8.3	1.2	6.3	2.4	8.3	-
$11.20 and under $11.40	6.0	6.4	4.5	-	8.3	9.4	6.3	-	11.1	6.5
$11.40 and under $11.60	6.4	9.6	7.1	-	8.3	2.4	2.0	17.1	19.4	8.7
$11.60 and under $11.80	2.5	1.1	3.2	2.6	-	-	5.4	-	-	2.2
$11.80 and under $12.00	3.6	-	2.6	10.5	8.3	4.7	3.4	-	5.6	4.3
$12.00 and under $12.40	4.1	5.3	3.2	-	4.2	1.2	4.9	4.9	8.3	6.5
$12.40 and under $12.80	2.4	-	2.6	-	2.1	2.4	3.9	-	2.8	4.3
$12.80 and under $13.20	2.8	-	3.2	-	2.1	2.4	4.9	-	2.8	4.3
$13.20 and under $13.60	2.9	1.1	7.7	-	-	-	2.0	-	5.6	6.5
$13.60 and under $14.00	3.7	1.1	12.3	-	-	-	2.0	4.9	-	4.3
$14.00 and over	4.1	-	9.7	-	-	-	2.9	-	-	[2] 21.7

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Workers were distributed as follows: 10.9 percent at $14.00 and under $14.80; 8.7 percent at $14.80 to $15.60; and 2.2 percent at $15.60 to $16.40.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 20. Occupational earnings: Drafters, class B

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain
Number of workers	1,471	78	119	68	174	305	342	95	75
Average hourly earnings[1]	$7.02	$7.52	$7.84	$6.66	$5.81	$6.26	$7.26	$7.18	$6.71
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $4.50	1.8	-	1.7	5.9	7.5	2.0	-	1.1	-
$4.50 and under $4.60	.6	-	1.7	-	-	.7	.9	-	2.7
$4.60 and under $4.70	1.2	-	-	2.9	5.7	1.3	-	-	1.3
$4.70 and under $4.80	.7	-	1.7	8.8	-	.3	.3	-	-
$4.80 and under $4.90	1.2	-	1.7	-	3.4	1.6	.6	1.1	1.3
$4.90 and under $5.00	1.0	-	-	2.9	6.3	.3	-	-	-
$5.00 and under $5.10	2.0	-	-	1.5	2.9	6.6	-	2.1	1.3
$5.10 and under $5.20	1.6	-	-	2.9	1.7	3.0	2.3	-	1.3
$5.20 and under $5.30	1.1	-	-	1.5	1.7	3.0	.3	1.1	1.3
$5.30 and under $5.40	1.8	-	-	1.5	4.0	4.6	.6	1.1	1.3
$5.40 and under $5.50	1.4	-	-	1.5	2.3	3.3	1.5	-	1.3
$5.50 and under $5.60	1.9	-	-	1.5	4.0	3.3	.6	3.2	5.3
$5.60 and under $5.70	1.6	-	-	-	3.4	3.0	.9	3.2	4.0
$5.70 and under $5.80	2.3	-	.8	1.5	8.6	4.3	-	2.1	2.7
$5.80 and under $5.90	2.4	-	1.7	-	5.2	6.2	1.2	-	-
$5.90 and under $6.00	2.2	-	-	-	2.9	3.6	1.5	4.2	10.7
$6.00 and under $6.10	2.2	-	-	4.4	2.3	5.6	.9	2.1	4.0
$6.10 and under $6.20	3.9	-	-	5.9	13.8	4.6	2.0	6.3	2.7
$6.20 and under $6.30	1.4	-	-	2.9	4.0	2.3	.9	-	1.3
$6.30 and under $6.40	2.9	6.4	1.7	1.5	2.3	3.9	2.6	1.1	8.0
$6.40 and under $6.50	1.9	-	2.5	4.4	6.3	.7	2.3	-	-
$6.50 and under $6.60	1.8	2.6	1.7	2.9	1.1	2.3	2.6	2.1	-
$6.60 and under $6.70	2.7	2.6	-	-	.6	5.6	4.7	1.1	-
$6.70 and under $6.80	3.1	2.6	-	-	-	4.3	5.8	4.2	5.3
$6.80 and under $6.90	2.6	7.7	-	1.5	-	-	7.9	4.2	-
$6.90 and under $7.00	2.8	5.1	-	4.4	-	2.6	5.0	3.2	2.7
$7.00 and under $7.20	3.7	3.8	.8	4.4	.6	2.0	4.7	10.5	8.0
$7.20 and under $7.40	6.3	30.8	11.8	5.9	-	3.3	4.1	13.7	6.7
$7.40 and under $7.60	5.6	11.5	-	-	-	5.6	11.1	2.1	6.7
$7.60 and under $7.80	3.1	-	7.6	2.9	.6	1.0	5.6	2.1	-
$7.80 and under $8.00	2.2	-	-	-	1.1	-	3.2	-	1.3
$8.00 and under $8.20	3.4	-	11.8	-	2.9	.7	6.1	3.2	4.0
$8.20 and under $8.40	4.1	3.8	17.6	4.4	1.7	.7	.6	2.1	5.3
$8.40 and under $8.60	6.5	-	2.5	8.8	2.9	5.2	12.6	3.2	1.3
$8.60 and under $8.80	10.3	23.1	23.5	7.4	-	.7	1.2	-	1.3
$8.80 and under $9.00	1.4	-	5.9	-	-	.3	.9	4.2	4.0
$9.00 and over	3.6	-	3.4	5.9	-	2.0	4.7	[3] 15.8	2.7

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] All workers were at $9.00 to $9.10.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 21. Occupational earnings: Secretaries, class D

(Percent distribution of workers by straight-time hourly earnings,[1] United States and regions, February 1978)

Hourly earnings	United States	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	2,545	200	347	292	189	452	388	179	191	307
Average hourly earnings[1]	$5.88	$6.25	$6.54	$5.79	$5.51	$5.37	$5.97	$5.03	$5.08	$6.84
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $4.00	3.1	-	-	3.8	7.4	3.1	-	[2] 16.8	4.7	-
$4.00 and under $4.10	1.6	-	.9	3.8	.5	1.5	-	5.6	4.2	-
$4.10 and under $4.20	.9	-	.6	.7	2.1	1.8	.5	2.2	1.0	-
$4.20 and under $4.30	1.7	-	.6	1.4	1.1	1.5	3.4	5.6	2.6	-
$4.30 and under $4.40	1.4	.5	.9	1.0	4.8	1.3	.5	4.5	1.6	-
$4.40 and under $4.50	2.1	-	1.7	1.0	1.6	2.9	2.1	1.7	8.9	.3
$4.50 and under $4.60	1.3	.5	.3	.3	1.6	3.3	.5	2.2	2.6	-
$4.60 and under $4.70	2.2	2.5	.9	-	2.1	4.9	1.5	1.7	5.8	.7
$4.70 and under $4.80	2.1	1.0	.6	4.5	3.7	2.0	1.3	3.9	2.6	1.3
$4.80 and under $4.90	3.7	.5	.3	1.7	3.2	8.8	3.1	2.8	11.5	1.0
$4.90 and under $5.00	2.8	1.5	6.1	.3	3.2	2.9	2.3	3.4	2.1	2.3
$5.00 and under $5.10	2.8	1.0	.3	1.7	3.7	5.1	4.4	1.1	7.3	.3
$5.10 and under $5.20	2.7	.5	-	1.7	1.1	7.7	3.1	.6	4.2	1.3
$5.20 and under $5.30	2.8	3.0	4.0	5.1	2.6	2.7	1.5	3.9	2.6	-
$5.30 and under $5.40	5.1	4.5	.6	3.4	3.7	8.4	10.1	2.2	4.7	3.9
$5.40 and under $5.50	2.3	-	1.7	1.0	5.8	2.0	2.3	6.7	2.1	1.3
$5.50 and under $5.60	3.7	2.5	1.7	3.1	1.6	6.2	2.3	10.6	6.3	1.0
$5.60 and under $5.70	2.2	2.0	.3	2.1	3.2	3.1	2.1	3.4	4.7	.3
$5.70 and under $5.80	2.7	2.5	3.2	3.4	3.2	4.6	2.3	.6	2.1	.7
$5.80 and under $5.90	3.3	6.5	2.9	5.8	-	3.3	2.8	2.2	6.3	.3
$5.90 and under $6.00	3.1	3.5	3.7	3.8	9.5	2.4	1.8	2.8	1.6	1.3
$6.00 and under $6.10	2.7	8.5	1.4	5.1	2.1	2.2	3.9	-	1.0	.3
$6.10 and under $6.20	4.7	7.0	2.9	8.9	1.1	1.5	12.1	.6	5.8	.3
$6.20 and under $6.30	2.9	5.0	1.7	5.1	3.7	3.1	1.5	1.7	.5	4.2
$6.30 and under $6.40	3.1	8.5	1.4	12.0	1.6	2.0	2.6	.6	-	-
$6.40 and under $6.50	1.8	1.0	1.2	3.8	1.6	3.5	2.8	-	-	-
$6.50 and under $6.60	3.9	4.5	14.1	3.4	11.1	.4	.3	-	-	2.0
$6.60 and under $6.70	1.9	1.0	4.3	.3	3.2	.9	3.6	-	2.1	.7
$6.70 and under $6.80	4.6	18.0	6.1	.7	3.7	.4	12.1	.6	.5	-
$6.80 and under $6.90	.8	.5	.3	1.4	2.1	1.1	.8	1.1	.5	-
$6.90 and under $7.00	7.3	2.0	1.2	3.4	4.2	1.1	.5	-	-	49.8
$7.00 and under $7.20	2.2	2.0	4.3	1.4	-	.4	1.0	11.2	-	2.3
$7.20 and under $7.40	1.6	2.0	3.5	2.1	-	2.9	.5	-	-	1.0
$7.40 and under $7.60	3.0	2.0	9.2	2.1	-	-	4.9	-	-	5.2
$7.60 and under $7.80	.7	-	2.3	.3	-	-	1.0	-	-	1.3
$7.80 and under $8.00	3.6	3.5	5.8	-	-	.7	2.3	-	-	16.9
$8.00 and over	1.8	2.0	9.2	.3	-	-	2.1	-	-	-

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Workers were distributed as follows: 8.4 percent under $3.50; 1.1 percent at $3.50 to $3.60; 1.7 percent at $3.60 to $3.70; 1.7 percent at $3.70 to $3.80; 1.7 percent at $3.80 to $3.90; and 2.2 percent at $3.90 to $4.00.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 22. Occupational earnings: Typists, class B

(Percent distribution of workers by straight-time hourly earnings,[1] United States and selected regions, February 1978)

Hourly earnings	United States[2]	New England	Middle Atlantic	Southeast	Southwest	Great Lakes	Middle West	Mountain	Pacific
Number of workers	1,336	23	202	106	294	276	43	92	82
Average hourly earnings[1]	$4.10	$3.67	$4.54	$3.69	$4.03	$4.15	$4.32	$4.18	$4.69
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under $3.00	2.7	-	-	9.4	2.0	.7	7.0	1.1	-
$3.00 and under $3.10	2.2	-	-	1.9	-	.4	4.7	-	-
$3.10 and under $3.20	3.2	-	-	1.9	.3	-	4.7	5.4	-
$3.20 and under $3.30	3.7	-	1.0	-	2.0	6.9	9.3	4.3	-
$3.30 and under $3.40	5.4	17.4	1.0	10.4	4.1	1.4	9.3	6.5	1.2
$3.40 and under $3.50	4.4	-	2.5	5.7	3.4	1.1	4.7	7.6	1.2
$3.50 and under $3.60	4.8	17.4	5.0	13.2	3.4	2.5	-	-	1.2
$3.60 and under $3.70	6.5	26.1	6.9	12.3	2.4	9.1	4.7	16.3	6.1
$3.70 and under $3.80	6.4	17.4	5.4	6.6	4.1	15.6	4.7	-	8.5
$3.80 and under $3.90	4.5	4.3	.5	11.3	8.2	6.5	2.3	2.2	1.2
$3.90 and under $4.00	4.0	13.0	5.9	4.7	3.7	4.3	4.7	1.1	6.1
$4.00 and under $4.10	8.2	-	5.0	5.7	25.9	4.3	-	2.2	4.9
$4.10 and under $4.20	5.4	4.3	12.4	3.8	4.8	8.3	-	-	1.2
$4.20 and under $4.30	4.8	-	6.9	2.8	9.5	1.8	-	2.2	4.9
$4.30 and under $4.40	4.7	-	3.5	3.8	8.8	3.6	7.0	-	15.9
$4.40 and under $4.50	4.9	-	1.5	1.9	12.2	4.7	-	-	2.4
$4.50 and under $4.60	2.4	-	4.5	1.9	.3	2.9	-	6.5	1.2
$4.60 and under $4.70	5.2	-	5.0	1.9	3.4	6.5	4.7	21.7	1.2
$4.70 and under $4.80	3.3	-	2.0	-	-	10.1	-	7.6	6.1
$4.80 and under $4.90	1.2	-	1.0	-	-	.7	-	-	3.7
$4.90 and under $5.00	1.6	-	2.0	-	-	1.1	-	9.8	-
$5.00 and under $5.10	1.9	-	5.9	-	1.4	.7	-	1.1	2.4
$5.10 and under $5.20	1.1	-	2.5	.9	-	.7	4.7	-	1.2
$5.20 and under $5.30	.1	-	-	-	-	.4	-	-	-
$5.30 and under $5.40	1.1	-	.5	-	-	1.1	-	-	13.4
$5.40 and under $5.50	.6	-	3.0	-	-	-	-	1.1	-
$5.50 and under $5.60	.8	-	5.4	-	-	-	-	-	-
$5.60 and under $5.70	.4	-	-	-	-	.4	-	1.1	3.7
$5.70 and under $5.80	.4	-	1.0	-	-	.7	-	-	2.4
$5.80 and under $5.90	.4	-	.5	-	-	1.1	-	-	2.4
$5.90 and under $6.00	.2	-	-	-	-	.4	-	2.2	-
$6.00 and over	3.1	-	9.4	-	-	1.8	[3] 27.9	-	7.3

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately.

[3] All workers were at $6.00 to $6.10.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 23. Rate structure characteristics: All systems and by type of system

(Percent of physical and office workers in electric and gas utilities systems by type of system and type of rate structure,[1] United States and regions, February 1978)

Type of utility and rate structure	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
All systems:																				
All time-rated workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Formal plans	99	98	100	100	98	96	100	100	100	100	94	95	98	91	94	86	100	80	93	100
Range of rates	68	47	78	63	91	63	71	23	59	71	91	82	95	90	92	84	96	72	89	97
Single rates	31	51	22	37	7	34	28	77	41	29	4	12	3	1	1	2	4	8	4	3
Individual rates	1	2	–	–	2	4	(2)	–	–	–	6	5	2	9	6	14	(2)	20	7	–
Electric systems:																				
All time-rated workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Formal plans	99	96	100	100	100	92	100	100	100	100	94	100	91	83	99	81	100	90	98	100
Range of rates	74	23	59	93	96	60	83	26	74	67	89	73	71	81	97	76	100	90	98	95
Single rates	25	73	41	7	4	31	16	74	26	33	5	27	19	2	2	6	–	–	–	5
Individual rates	1	4	–	–	–	8	(2)	–	–	–	6	(2)	9	17	1	19	–	10	2	–
Gas transmission systems:																				
All time-rated workers	100	100	–	100	100	100	100	100	100	100	100	100	–	100	100	100	100	100	100	100
Formal plans	100	100	–	100	100	100	100	100	100	100	93	100	–	100	–	99	100	100	40	100
Range of rates	35	100	–	1	9	45	43	–	42	100	93	100	–	100	–	99	100	100	40	100
Single rates	65	–	–	99	91	55	57	100	58	–	–	–	–	–	–	–	–	–	–	–
Individual rates	–	–	–	–	–	–	–	–	–	–	7	–	–	–	100	1	–	–	60	–
Gas, except separate transmission systems:																				
All time-rated workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Formal plans	98	100	100	100	81	100	99	100	100	100	92	77	95	100	78	100	99	73	89	100
Range of rates	65	64	77	52	72	97	47	17	94	88	90	77	95	100	78	100	88	73	89	100
Single rates	33	36	23	48	9	3	52	83	6	12	3	–	–	–	–	–	11	–	–	–
Individual rates	2	–	–	–	19	–	1	–	–	–	8	23	5	–	22	–	1	27	11	–
Combination systems:																				
All time-rated workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Formal plans	100	100	100	100	100	100	100	100	100	100	96	98	100	100	100	33	100	72	100	100
Range of rates	70	93	85	38	100	91	69	33	41	68	92	97	100	100	100	33	95	47	93	98
Single rates	30	7	15	62	–	9	31	67	59	32	3	1	–	–	–	–	5	24	7	2
Individual rates	–	–	–	–	–	–	–	–	–	–	4	2	–	–	–	67	(2)	28	–	–

[1] For definition of method of wage payment, see appendix B.
[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 24. Scheduled weekly hours: All systems

(Percent of physical and office workers in electric and gas utilities systems by scheduled weekly hours,[1] United States and regions, February 1978)

Weekly hours	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers									
All workers	100	100	100	100	100	100	100	100	100	100
40 hours	100	100	100	100	100	97	100	100	100	100
42 hours	([2])	–	–	–	–	3	–	–	–	–
Other	–	–	–	–	–	–	–	–	–	–
	Office workers									
All workers	100	100	100	100	100	100	100	100	100	100
Under 37.5 hours	2	–	13	–	–	([2])	–	–	–	–
37.5 hours	8	19	20	3	20	4	–	–	–	2
38.75 hours	1	–	–	13	1	–	1	–	–	–
40 hours	88	81	67	85	79	95	99	100	100	98

[1] Data relate to the predominant schedule for full-time day-shift workers in each establishment.

[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal 100.

Table 25. Shift differential practices: All systems

(Percent of physical workers in electric and gas utilities systems employed on late shifts by amount of shift differential, United States and regions, February 1978)

Shift differential	United States		New England		Middle Atlantic		Border States		Southeast		Southwest		Great Lakes		Middle West		Mountain		Pacific	
	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift	2nd shift	3rd shift
Workers employed on second and third shifts	7.0	5.4	9.2	6.7	6.4	4.2	6.5	5.0	4.5	3.2	6.9	6.6	9.4	7.1	7.5	6.1	8.5	7.5	5.5	4.5
Receiving shift differential	6.5	4.9	9.2	6.7	6.4	4.2	6.5	5.0	4.5	3.1	4.9	4.6	9.4	7.1	6.4	5.0	7.2	6.4	4.1	3.0
Uniform cents per hour	5.9	4.6	9.0	6.5	4.8	3.4	6.5	5.0	4.5	3.1	4.9	4.6	8.4	6.5	5.7	4.9	6.4	5.6	3.9	2.9
Under 10 cents	.1	.1	–	–	–	–	–	–	.9	.7	–	–	–	–	–	–	–	–	–	–
10 cents	.3	.2	–	–	–	–	.1	.1	.3	–	1.2	1.2	.2	–	.2	.2	–	–	–	–
Over 10 and under 15 cents	.5	.1	–	–	–	–	1.4	–	1.6	.8	–	–	.8	([1])	.2	–	.1	–	–	–
15 cents	.7	([1])	–	–	.3	–	.8	.1	.5	.1	.5	([1])	.7	.1	2.1	–	–	–	1.5	–
Over 15 and under 20 cents	.6	.4	.2	.2	–	–	1.1	1.6	–	.6	–	([1])	1.5	.9	.2	.3	4.4	–	–	–
20 cents	.6	.5	1.1	1.1	.1	.3	.1	.1	1.2	.8	.2	–	1.2	.5	.4	.4	1.3	.1	.2	1.4
Over 20 cents	3.1	3.2	7.7	5.3	4.4	3.1	3.1	3.0	([1])	.1	3.0	3.4	3.9	5.1	2.6	4.0	.7	5.5	2.2	1.5
Uniform percentage	.3	.1	.1	.1	.4	.1	–	–	–	–	–	–	.6	.3	.7	.1	.8	.8	–	–
Under 10 percent	.3	([1])	.1	.1	.4	.1	–	–	–	–	–	–	.6	–	.7	.1	.8	–	–	–
10 percent	–	.1	–	–	–	–	–	–	–	–	–	–	–	.3	–	–	–	.8	–	–
Other formal paid differential	.3	.2	–	–	1.1	.6	–	–	–	–	–	–	.4	.3	–	–	–	–	.1	.1

[1] Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 26. Paid holidays: All systems

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid holidays, United States and regions, February 1978)

Number of paid holidays	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
All workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Workers in systems providing paid holidays	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Under 8 days	1	–	–	1	6	2	–	4	1	–	1	–	–	1	5	2	–	4	1	–
8 days	4	–	(1)	2	4	17	–	7	–	2	4	–	(1)	1	6	13	–	11	–	3
8 days plus 2 half days	(1)	–	–	1	–	3	(1)	–	–	–	1	–	–	1	–	6	(1)	–	–	–
9 days	24	–	–	12	75	66	(1)	39	47	1	23	–	–	6	65	66	(1)	40	40	(1)
9 days plus 1 or 2 half days	2	–	–	–	–	5	1	14	–	–	2	–	–	–	–	5	1	9	–	–
10 days	20	–	11	56	15	8	22	30	46	17	22	1	9	59	24	8	27	30	55	15
10 days plus 1 or 3 half days	(1)	–	–	–	–	–	(1)	–	–	–	(1)	–	–	–	–	–	1	–	–	–
11 days	23	50	12	11	–	–	38	7	6	79	21	53	8	11	–	–	35	6	4	82
11 days plus 1 or 2 half days	3	14	11	–	–	–	2	–	–	–	3	12	13	–	–	–	1	–	–	–
12 days	20	36	53	18	–	–	33	–	–	–	21	35	59	21	–	–	32	–	–	–
12 days plus 1 half day	2	–	9	–	–	–	–	–	–	–	1	–	7	–	–	–	–	–	–	–
13 days	1	–	4	–	–	–	4	–	–	–	1	–	4	–	–	–	3	–	–	–

[1] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 27. Paid holidays: By type of system

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid holidays, United States, February 1978)

Number of paid holidays	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems
	Physical workers				Office workers			
All workers	100	100	100	100	100	100	100	100
Workers in systems providing paid holidays	100	100	100	100	100	100	100	100
Under 8 days	2	–	2	1	2	–	2	1
8 days	3	–	11	1	4	–	9	2
8 days plus 2 half days	(1)	–	(1)	1	(1)	–	(1)	3
9 days	33	59	19	8	30	52	27	5
9 days plus 1 or 2 half days	1	7	5	(1)	(1)	9	3	1
10 days	22	30	25	13	25	35	24	14
10 days plus 1 or 3 half days	–	–	–	(1)	(1)	–	–	(1)
11 days	22	5	19	30	20	4	17	28
11 days plus 1 or 2 half days	2	–	7	3	2	–	6	4
12 days	14	–	7	38	15	–	8	39
12 days plus 1 half day	–	–	–	5	–	–	–	4
13 days	2	–	4	–	2	–	4	–

[1] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 28. Paid vacations: All systems

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid vacations after selected periods of service, United States and regions, February 1978)

Vacation policy	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
All workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Method of payment																				
Workers in systems providing paid vacations	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Length-of-time payment	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Amount of vacation pay[1]																				
After 6 months of service:																				
Under 1 week	4	–	–	–	2	5	7	6	–	6	2	–	–	–	1	5	4	5	–	–
1 week	26	33	36	14	27	22	11	44	84	19	33	32	43	31	32	29	20	46	83	26
Over 1 and under 2 weeks	10	14	28	8	11	10	3	2	3	2	12	16	30	8	19	10	6	1	2	1
2 weeks	2	20	–	8	–	–	2	–	–	–	3	31	–	13	–	–	2	–	–	–
After 1 year of service:																				
1 week	30	2	30	42	7	1	40	48	–	78	18	2	16	18	3	(2)	20	34	–	72
Over 1 and under 2 weeks	(2)	–	–	1	–	(2)	(2)	–	–	–	(2)	–	–	2	–	(2)	(2)	–	–	–
2 weeks	69	98	70	57	91	99	60	50	99	22	81	98	84	80	97	99	79	65	99	27
Over 2 weeks	(2)	–	–	–	2	–	–	2	1	(2)	(2)	–	–	–	1	–	–	1	1	(2)
3 weeks	(2)	–	–	–	–	–	–	–	–	(2)	(2)	–	–	–	–	–	–	–	–	(2)
After 2 years of service:																				
1 week	2	–	–	11	1	–	5	–	–	–	(2)	–	–	3	1	–	(2)	–	–	–
Over 1 and under 2 weeks	(2)	–	–	1	–	–	–	–	–	–	(2)	–	–	2	–	–	–	–	–	–
2 weeks	97	100	100	88	97	100	95	98	99	100	99	100	100	95	98	100	99	99	99	100
Over 2 weeks	1	–	–	–	2	(2)	(2)	2	1	(2)	(2)	–	–	–	1	(2)	(2)	1	1	(2)
After 5 years of service:																				
1 week	(2)	–	–	–	–	–	2	–	–	–	(2)	–	–	–	–	–	(2)	–	–	–
2 weeks	78	16	74	90	92	74	82	69	91	84	79	13	72	86	92	78	88	66	90	86
Over 2 and under 3 weeks	6	–	6	1	3	1	16	9	–	–	5	–	4	2	2	1	12	8	–	–
3 weeks	16	84	21	8	4	25	–	22	9	16	17	87	24	13	5	20	–	26	10	14
After 10 years of service:																				
Under 3 weeks	1	–	–	1	5	1	2	(2)	–	–	1	–	–	1	4	1	(2)	(2)	–	–
3 weeks	95	96	100	98	93	77	98	100	91	98	95	96	100	97	92	81	99	100	90	98
Over 3 and under 4 weeks	(2)	–	–	1	–	–	(2)	–	1	–	(2)	–	–	2	–	–	(2)	–	1	–
4 weeks	4	4	–	–	2	22	–	–	7	2	4	4	–	–	4	17	–	–	10	2
After 12 years of service:																				
Under 3 weeks	1	–	–	1	2	1	2	(2)	–	–	(2)	–	–	1	1	1	(2)	(2)	–	–
3 weeks	87	77	99	97	96	77	81	92	75	73	87	83	99	96	95	81	85	92	78	65
Over 3 and under 4 weeks	6	–	1	2	–	–	15	1	18	18	6	–	1	3	–	–	12	2	12	26
4 weeks	6	23	–	–	2	22	2	6	7	8	6	17	–	–	4	17	3	5	10	8
Over 4 and under 5 weeks	(2)	–	–	–	–	–	–	–	–	1	(2)	–	–	–	–	–	–	–	–	1
After 15 years of service:																				
Under 3 weeks	1	–	–	–	–	(2)	2	–	–	–	(2)	–	–	–	–	(2)	(2)	–	–	–
3 weeks	44	–	22	52	94	62	35	44	67	19	44	–	24	29	92	68	36	46	70	23
Over 3 and under 4 weeks	6	–	1	1	–	–	16	3	–	18	6	–	1	2	–	–	13	3	–	26
4 weeks	50	100	77	46	6	38	46	53	33	61	50	100	75	69	8	32	51	51	30	49
5 weeks	(2)	–	–	–	–	–	–	–	–	1	(2)	–	–	–	–	–	–	–	–	1
After 20 years of service:																				
Under 4 weeks	1	–	–	1	1	2	–	2	1	–	1	–	–	1	1	3	(2)	2	(2)	–
4 weeks	83	47	100	84	94	64	78	66	86	98	85	61	100	79	92	70	81	83	83	97
Over 4 and under 5 weeks	5	–	–	1	1	–	17	13	–	–	3	–	–	2	2	–	13	–	–	–
5 weeks	11	53	–	14	4	34	4	19	14	2	11	39	–	19	5	27	5	15	17	3

See footnotes at end of table.

Table 28. Paid vacations: All systems—Continued

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid vacations after selected periods of service, United States and regions, February 1978)

Vacation policy	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
Amount of vacation pay[1]—Continued																				
After 25 years of service:																				
Under 4 weeks	1	–	–	1	1	2	–	2	–	–	1	–	–	1	1	2	[2]	1	–	–
4 weeks	23	5	1	19	74	46	2	26	52	6	22	6	1	15	66	44	2	32	49	8
Over 4 and under 5 weeks	1	–	–	1	4	–	–	–	–	2	1	–	–	2	3	–	–	–	–	3
5 weeks	75	95	99	79	21	52	98	60	48	92	76	94	99	83	30	54	98	58	51	89
Over 5 and under 6 weeks	[2]	–	–	–	–	–	[2]	–	–	–	[2]	–	–	–	–	–	[2]	–	–	–
6 weeks	1	–	–	–	–	–	–	12	–	–	1	–	–	–	–	–	–	10	–	–
After 30 years of service:[3]																				
Under 4 weeks	1	–	–	1	1	2	–	2	–	–	1	–	–	1	1	2	[2]	1	–	–
4 weeks	8	1	1	3	11	31	[2]	13	27	[2]	7	3	1	3	11	24	1	15	17	[2]
Over 4 and under 5 weeks	[2]	–	–	–	2	–	–	–	–	–	[2]	–	–	–	2	–	–	–	–	–
5 weeks	70	99	74	82	86	42	60	63	64	85	74	97	81	76	86	54	66	67	67	87
Over 5 and under 6 weeks	2	–	10	1	–	–	2	–	–	–	3	–	13	2	–	–	2	–	–	–
6 weeks	19	–	16	14	–	26	37	22	8	14	15	–	6	19	–	20	31	17	16	12

[1] Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes that occurred between 5 and 10 years.

[2] Less than 0.5 percent.

[3] Vacation provisions were virtually the same after longer periods of service.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 29. Paid vacations: By type of system

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid vacations after selected periods of service, United States, February 1978)

Vacation policy	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems
	Physical workers				Office workers			
All workers	100	100	100	100	100	100	100	100
Method of payment								
Workers in systems providing paid vacations	100	100	100	100	100	100	100	100
Length-of-time payment	100	100	100	100	100	100	100	100
Amount of vacation pay[1]								
After 6 months of service:								
Under 1 week	5	–	2	4	3	–	1	2
1 week	17	34	47	27	22	33	57	33
Over 1 and under 2 weeks	9	7	2	17	14	9	2	16
2 weeks	3	([2])	–	2	3	([2])	–	4
After 1 year of service:								
1 week	29	–	24	42	18	–	21	22
Over 1 and under 2 weeks	([2])	–	([2])	–	([2])	–	([2])	–
2 weeks	70	100	76	58	82	100	79	78
Over 2 weeks	1	–	–	–	([2])	–	–	–
3 weeks	([2])	–	–	–	([2])	–	–	–
After 2 years of service:								
1 week	1	–	1	4	([2])	–	1	1
Over 1 and under 2 weeks	([2])	–	–	–	([2])	–	–	–
2 weeks	98	100	99	96	99	100	99	99
Over 2 weeks	1	–	([2])	–	1	–	([2])	–
After 5 years of service:								
1 week	1	–	–	–	([2])	–	–	–
2 weeks	80	33	79	86	83	38	79	82
Over 2 and under 3 weeks	9	4	8	–	8	3	6	–
3 weeks	10	63	13	14	9	58	15	18
After 10 years of service:								
Under 3 weeks	2	–	2	–	1	–	2	–
3 weeks	97	59	96	100	98	59	95	100
Over 3 and under 4 weeks	([2])	–	([2])	–	([2])	–	([2])	–
4 weeks	1	41	2	([2])	1	41	3	([2])
After 12 years of service:								
Under 3 weeks	2	–	1	–	1	–	1	–
3 weeks	82	59	93	97	82	59	91	97
Over 3 and under 4 weeks	12	–	1	2	13	–	2	2
4 weeks	4	41	5	1	4	41	7	([2])
Over 4 and under 5 weeks	–	–	–	([2])	–	–	–	([2])
After 15 years of service:								
Under 3 weeks	1	–	–	–	([2])	–	–	–
3 weeks	56	8	48	34	53	11	54	35
Over 3 and under 4 weeks	11	–	4	2	12	–	3	2
4 weeks	32	92	48	64	34	89	43	63
5 weeks	–	–	–	([2])	–	–	–	([2])

See footnotes at end of table.

Table 29. Paid vacations: By type of system—Continued

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for paid vacations after selected periods of service, United States, February 1978)

Vacation policy	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems
	Physical workers				Office workers			
Amount of vacation pay[1]—Continued								
After 20 years of service:								
Under 4 weeks	1	–	2	–	1	–	2	–
4 weeks	83	26	78	99	86	30	79	99
Over 4 and under 5 weeks	8	4	7	–	5	3	5	–
5 weeks	9	70	13	1	8	67	14	1
After 25 years of service:								
Under 4 weeks	1	–	1	–	1	–	2	–
4 weeks	34	–	20	14	32	–	19	16
Over 4 and under 5 weeks	1	–	3	–	1	–	2	–
5 weeks	64	89	76	86	66	92	78	84
Over 5 and under 6 weeks	([2])	–	–	–	([2])	–	–	–
6 weeks	–	11	–	–	–	8	–	–
After 30 years of service:[3]								
Under 4 weeks	1	–	1	–	1	–	2	–
4 weeks	11	–	19	1	9	–	17	1
Over 4 and under 5 weeks	([2])	–	1	–	([2])	–	1	–
5 weeks	72	46	62	78	73	50	69	83
Over 5 and under 6 weeks	([2])	–	3	6	([2])	–	2	7
6 weeks	16	54	14	15	16	50	10	9

[1] Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes that occurred between 5 and 10 years.

[2] Less than 0.5 percent.

[3] Vacation provisions were virtually the same after longer periods of service.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 30. Health, insurance, and retirement plans: All systems

(Percent of physical and office workers in electric and gas utilities systems with specified health, insurance, and retirement plans,[1] United States and regions, February 1978)

Type of plan	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
All workers	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Workers in establishments providing:																				
Life insurance	99	100	100	100	100	100	100	99	100	100	99	100	100	100	100	100	99	99	100	100
Noncontributory plans	51	55	45	23	51	49	71	88	19	28	51	53	38	26	61	47	69	89	24	34
Accidental death and dismemberment insurance	64	86	76	33	86	81	57	58	83	18	65	88	73	28	87	83	60	62	86	20
Noncontributory plans	38	51	33	20	71	46	28	57	19	17	39	49	28	21	68	46	36	62	24	19
Sickness and accident insurance or sick leave or both[2]	95	80	100	100	91	89	93	96	93	100	90	68	99	86	80	90	90	96	89	100
Sickness and accident insurance	33	35	64	15	27	17	26	8	10	55	31	21	69	15	34	15	22	10	7	44
Noncontributory plans	14	11	30	15	14	16	8	8	3	6	14	4	31	14	16	14	9	10	2	8
Sick leave (full pay, no waiting period)	79	70	98	74	83	75	57	75	93	93	81	63	99	68	72	77	74	82	85	94
Sick leave (partial pay or waiting period)	11	–	2	19	5	–	28	21	–	7	6	–	–	12	5	–	13	14	–	6
Long-term disability insurance	45	32	24	28	37	61	39	54	82	86	46	20	27	26	40	60	38	50	84	90
Noncontributory plans	29	32	24	18	21	24	33	54	65	22	29	20	27	16	23	21	31	50	79	29
Hospitalization insurance	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	99	100	100
Noncontributory plans	61	99	84	80	60	36	61	93	19	13	63	98	83	83	56	36	74	92	24	17
Surgical insurance	100	100	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	99	100	100
Noncontributory plans	61	99	84	80	60	36	61	93	19	13	63	98	83	83	56	36	74	92	24	17
Medical insurance	99	100	98	100	100	100	100	100	100	100	99	100	100	100	100	100	100	99	100	100
Noncontributory plans	60	99	83	80	60	36	61	93	19	13	63	98	83	83	56	36	74	92	24	17
Major medical insurance	98	100	98	82	100	99	100	100	100	100	98	100	100	79	100	99	100	99	100	100
Noncontributory plans	56	99	65	62	58	36	61	93	19	21	58	99	61	62	55	36	73	92	24	21
Dental insurance	36	50	60	23	13	12	18	24	44	93	37	60	63	27	16	10	24	20	46	90
Noncontributory plans	24	45	58	23	1	8	9	24	8	43	27	57	60	27	1	5	14	20	16	51
Retirement plans[3]	99	100	100	100	97	97	100	100	100	100	99	100	100	100	96	98	100	100	100	100
Pensions	99	100	100	100	97	97	100	100	100	100	99	100	100	100	96	98	100	100	100	100
Noncontributory plans	87	100	91	57	93	76	87	91	87	97	86	100	92	60	93	72	87	89	85	97
Severance pay	(4)	–	(4)	–	–	(4)	–	–	–	–	(4)	–	(4)	–	–	(4)	–	–	–	–
No plans	–	–	–	–	–	–	–	–	–	–	(4)	–	–	–	–	–	–	(4)	–	–

[1] Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and social security; however, plans required by State temporary disability laws are included if the employer contributes more than is legally required or the employees receive benefits over legal requirements. "Noncontributory plans" include only those plans financed entirely by the employer.

[2] Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

[3] Unduplicated total of workers covered by pension plans and severance pay shown separately.

[4] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 31. Health, insurance, and retirement plans: By type of system

(Percent of physical and office workers in electric and gas utilities systems with specified health, insurance, and retirement plans,[1] United States, February 1978)

Type of plan	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems
	Physical workers				Office workers			
All workers	100	100	100	100	100	100	100	100
Workers in establishments providing:								
Life insurance	99	100	100	100	99	100	100	99
Noncontributory plans	49	77	67	39	53	77	65	36
Accidental death and dismemberment insurance	66	76	66	57	68	80	68	58
Noncontributory plans	47	51	46	20	49	55	45	20
Sickness and accident insurance or sick leave or both[2]	96	95	95	93	88	97	96	88
Sickness and accident insurance	24	22	30	48	25	26	27	43
Noncontributory plans	11	22	27	11	11	26	24	11
Sick leave (full pay, no waiting period)	77	77	83	80	77	79	88	81
Sick leave (partial pay or waiting period)	13	4	8	10	7	3	6	5
Long-term disability insurance	40	75	55	42	38	79	59	42
Noncontributory plans	21	47	49	26	17	50	47	31
Hospitalization insurance	100	100	100	100	99	100	100	100
Noncontributory plans	55	63	65	66	57	65	63	69
Surgical insurance	100	100	100	100	99	100	100	100
Noncontributory plans	55	63	65	66	57	65	63	69
Medical insurance	99	100	100	100	99	100	100	100
Noncontributory plans	54	63	65	66	57	65	63	69
Major medical insurance	99	100	100	96	99	100	100	95
Noncontributory plans	55	63	65	51	58	65	63	53
Dental insurance	19	23	33	62	23	24	29	62
Noncontributory plans	11	15	29	43	12	14	24	48
Retirement plans[3]	99	100	100	99	99	100	100	99
Pensions	99	100	100	99	99	100	100	99
Noncontributory plans	78	99	92	92	78	100	86	93
Severance pay	–	1	([4])	–	–	1	([4])	–
No plans	–	–	–	–	([4])	–	–	–

[1] Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and social security; however, plans required by State temporary disability laws are included if the employer contributes more than is legally required or the employees receive benefits over legal requirements. "Noncontributory plans" include only those plans financed entirely by the employer.

[2] Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

[3] Unduplicated total of workers covered by pension plans and severance pay shown separately.

[4] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 32. Other selected benefits: All systems

(Percent of physical and office workers in electric and gas utilities systems with formal provisions for funeral leave pay, jury duty pay, technological severance pay, and cost-of-living adjustments,[1] United States and regions, February 1978)

Item	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific	United States	New England	Middle Atlantic	Border States	South-east	South-west	Great Lakes	Middle West	Mountain	Pacific
	Physical workers										Office workers									
Workers in establishments with provisions for:																				
Funeral leave	93	100	100	97	87	81	93	99	81	100	90	99	100	97	82	85	93	99	87	68
Jury-duty leave	95	100	100	90	88	92	93	99	99	100	92	100	100	88	84	94	95	99	99	68
Technological severance pay	15	35	26	3	15	7	8	42	12	–	12	24	23	3	13	6	5	46	7	–

[1] For definition of items; see appendix B.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 33. Other selected benefits: By type of system

(Percent of physical and office workers in electric and gas utilities systems manufacturing establishments with formal provisions for funeral leave pay, jury duty pay, technological severance pay, and cost-of-living adjustments,[1] United States, February 1978)

Item	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems	Electric systems	Gas transmission systems	Gas, except separate transmission systems	Combination systems
	Physical workers				Office workers			
Workers in establishments with provisions for:								
Funeral leave	90	85	99	97	89	88	99	87
Jury-duty leave	92	98	100	97	91	97	100	88
Technological severance pay	13	18	16	15	12	17	14	12

[1] For definition of items; see appendix B.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Appendix A. Regression Analysis

Conventional methods of analyzing wage variations using published averages typically stop short of measuring the independent influence on wage levels of such factors as size of establishment, location, and union contract status. The independent effect of employment size on earnings, for example, may be obscured by earnings differentials associated with regional location or unionization.

One method of isolating the independent effect on wages of various establishment and worker characteristics is multiple regression. By this method, the estimated wage differential for a given variable is determined independently. The variables included in tables A-1 and A-2 are defined, where necessary, in Appendix B–Scope and Method of Survey.

In the regression equation, one category of each of the variables is not shown explicitly, but its influence is embodied in the constant term. In tables A-1 and A-2, therefore, the categories represented by the constant term are small employment size (100-999), electric system,[1] nonunion, and female worker. The average wage level relating to this set of suppressed characteristics is represented by the value of the constant term. The coefficients of the explicit variables represent the differentials associated with categories of the characteristics which differ from the basic set embodied in the constant.

To determine the effects of the coefficients on average wage levels, the values of the new variables in tables A-1 and A-2 replace those suppressed in the constant term. For example, for journeymen line workers in large systems (5,000 workers or more), estimated earnings are higher by 82 cents when other factors are held constant. Further, if these workers are located in the Pacific region, another $1.37 is added to the constant term, which raises the average hourly earnings to $9.21. Wage differences found by simple comparison of published averages may be labeled gross differentials; those isolated by multiple regression techniques are net differentials. As illustrated in table A-3, net differentials are generally smaller than gross differentials. The smaller size of net wage differentials is to be expected, because of the aforementioned tendency for characteristics associated with higher wages, such as unionization and system size, to be found in combination. Regression techniques, thus, permit a more precise measurement of the impact of individual factors on the wage structure of an industry.

It should be emphasized that the regression technique is not sufficiently complete to measure with certainty the independent effect on wage levels of employee and establishment characteristics. As tables A-1 and A-2 show, the regression analysis failed to account for between 23 and 75 percent of the variation in average earnings levels for the selected occupations. (See coefficient of determination, R.) This could mean that other factors, beyond the scope of the survey, influenced the estimates. However, by holding constant the characteristics within the survey scope, estimates for differentials definitely were improved.

[1] For five jobs not found in electric systems, combination systems were embodied in the constant.

Table A-1. Regression analysis of straight-time hourly earnings, selected physical occupations, electric and gas utilities, February 1978

(Standard errors, cents per hour, shown in parentheses)

Item	Auxiliary equipment operators, electric	District representatives (electric)	Electricians maintenance	Gas dispatchers	Gas-main fitters	Janitors	Journeymen line workers (electric)	Laborers, main installation and service (gas)	Load dispatchers	Meter repairers, class A (electric)	Pipeline repairers (gas)	Service technicians, gas appliances	Watch engineers (electric)
Constant	$5.76	$5.61	$7.12	$6.51	$5.44	$3.03	$7.02	$4.61	$7.92	$7.20	$4.57	$5.83	$8.62
	(.50)	(.80)	(.23)	(1.42)	(.51)	(.23)	(.18)	(.36)	(.68)	(.28)	(1.23)	(.44)	(.63)
VARIABLE[1]													
Size of system:													
1,000-2,499 employees	−.01	.91	.17	1.32	.55	.06	.53	.56	1.02	.60	.02	.27	−.65
	(.24)	(.52)	(.18)	(.45)	(.30)	(.17)	(.17)	(.23)	(.41)	(.23)	(.29)	(.25)	(.46)
2,500-5,000 employees	.32	−.10	.26	1.11	.70	−.03	.57	.26	.29	.42	−.37	.95	.40
	(.22)	(.58)	(.17)	(.40)	(.28)	(.16)	(.17)	(.22)	(.46)	(.23)	(.33)	(.25)	(.48)
5,000 employees or more	.22	.80	.55	1.84	.59	.22	.82	−.11	1.57	.63	1.77	.94	.98
	(.22)	(.47)	(.16)	(.60)	(.32)	(.17)	(.16)	(.53)	(.45)	(.22)	(.70)	(.30)	(.48)
Type of system:													
Gas transmission	—	—	.14	−.14	—	.36	—	—	—	—	1.06	—	—
	—	—	(.30)	(.61)	—	(.28)	—	—	—	—	(.62)	—	—
Gas, except separate transmission	.31	.32	−.68	−1.22	.51	−.11	—	−.58	—	−1.89	.53	−.28	—
	(2.24)	(1.05)	(.43)	(.46)	(.21)	(.14)	—	(.22)	—	(1.05)	(.63)	(.25)	—
Combination	.49	.34	.33	—	—	.35	.27	—	.44	.16	—	—	−.10
	(.18)	(.40)	(.10)	—	—	(.11)	(.10)	—	(.34)	(.13)	—	—	(.30)
Region:													
New England	.78	−1.08	.01	1.47	1.37	1.66	−.06	2.56	1.87	−.63	−.18	1.16	2.64
	(.37)	(.94)	(.23)	(.79)	(.51)	(.29)	(.25)	(.38)	(.69)	(.32)	(1.52)	(.40)	(.70)
Middle Atlantic	1.22	−.29	.97	2.45	1.78	1.27	.79	1.24	2.27	.58	1.02	.94	2.14
	(.31)	(.66)	(.20)	(.62)	(.40)	(.23)	(.18)	(.27)	(.58)	(.25)	(.83)	(.34)	(.55)
Border States	.40	1.13	.10	.52	1.27	.94	−.10	.85	1.00	.20	.47	1.06	1.32
	(.36)	(.85)	(.23)	(.73)	(.49)	(.24)	(.22)	(.28)	(.64)	(.28)	(.59)	(.45)	(.64)
Southwest	(2)	.19	.39	−.33	−1.37	−.05	−.03	−.28	.33	−.14	−.06	−1.40	.35
	(.30)	(.83)	(.20)	(.66)	(.48)	(.23)	(.19)	(.30)	(.63)	(.24)	(.47)	(.42)	(.54)
Great Lakes	.83	1.24	.93	.98	1.73	1.42	.54	2.09	1.90	.33	.54	1.15	1.79
	(.24)	(.59)	(.18)	(.71)	(.39)	(.21)	(.17)	(.27)	(.52)	(.24)	(.48)	(.36)	(.51)
Middle West	1.19	−.01	.98	.73	1.33	1.48	.59	1.11	.59	.01	.95	.66	.80
	(.36)	(.64)	(.22)	(.73)	(.45)	(.24)	(.23)	(.33)	(.65)	(.31)	(.55)	(.37)	(.73)
Mountain	.53	1.88	.90	.17	2.16	1.15	.59	.57	1.26	.36	.10	.96	1.62
	(.33)	(.73)	(.26)	(.77)	(.59)	(.32)	(.26)	(.47)	(.75)	(.35)	(1.11)	(.54)	(.71)
Pacific	1.10	−.23	1.43	2.45	2.24	1.54	1.37	.27	2.82	1.52	.38	1.09	2.03
	(.34)	(.45)	(.20)	(.85)	(.48)	(.29)	(.19)	(.38)	(.68)	(.26)	(1.21)	(.40)	(.61)
Union[3]	−.07	1.30	.23	−.17	.30	.42	.39	.05	.44	.26	−.37	.57	.59
	(.23)	(.59)	(.18)	(.44)	(.34)	(.17)	(.17)	(.27)	(.51)	(.21)	(.33)	(.26)	(.43)
Male	.30	.11	—	.67	—	.51	—	—	—	—	.81	—	—
	(.35)	(.72)	—	(1.19)	—	(.11)	—	—	—	—	(.88)	—	—
Statistical information:													
Adjusted coefficient of determination ($\bar{R}^2$)	.39	.34	.57	.58	.64	.57	.61	.77	.38	.48	.37	.61	.49
Standard error of the estimate	$.66	$.96	$.50	$1.08	$.70	$.68	$.52	$.51	$1.29	$.64	$.56	$.67	$1.16
Mean ($\bar{Y}$)	6.92	7.62	8.50	8.09	7.50	5.02	8.58	5.32	10.71	8.34	6.48	7.47	10.81
Number of observations(N)	118	57	138	74	92	233	144	56	101	130	43	81	94
Number of establishments(S)	100	52	136	69	91	162	142	54	98	125	37	79	94

[1]The values embodied in the constant term were: 100 to 999 employees, Southeast region, nonunion, female, and, except for five jobs, electric systems. For gas dispatchers, gas-main fitters, main installation and service workers, pipeline repairs, and gas appliance technicians, combination systems are embodied in the constant.

[2]Less than $0.005.

[3]Refers to establishments where a majority of physical workers are covered by labor-management contracts.

NOTE: Since the regression coefficients are based on a sample, they may differ from the figures that would have been obtained from a complete census of the industry. Chances are about 2 out of 3 that an estimate from the sample would differ from those in a total census-derived value by less than the standard error, and 19 out of 20 that the difference would be less than twice the standard error. "$\bar{Y}$" is the mean of the earnings (dependent) variable weighted by production workers. "N" is the number of observations used in each regression equation; it exceeds the number of establishments (S) by the number of instances where men and women are employed in the same job. Dashes indicated that variable is not applicable for regression equation.

Table A-2. Regression analysis of straight-time hourly earnings, selected office, professional, and technical occupations, electric and gas utilities, February 1978.

(Standard error, cents per hour, shown in parentheses)

Item	Accounting clerks, class B	Cashiers	Computer programmers (business), class B	Computer systems analysts (business), class A	Drafters, class B	Electronics technicians, class B	Secretaries, class D	Typist, class B
Constant	$4.43	$4.10	$6.08	$8.78	$4.73	$7.86	$4.85	$3.24
	(.22)	(.18)	(.37)	(.65)	(.33)	(.39)	(.30)	(.28)
VARIABLE[1]								
Size of system:								
1,000-2,499 employees	.41	.14	.53	.24	−.20	.40	.09	.36
	(.20)	(.20)	(.33)	(.47)	(.25)	(.33)	(.23)	(.24)
2,500-5,000 employees	.60	.62	1.46	.80	.17	.50	.54	.31
	(.19)	(.18)	(.32)	(.45)	(.23)	(.30)	(.24)	(.21)
5,000 employees or more	.84	.79	1.57	1.90	.64	−.65	.56	.47
	(.21)	(.25)	(.32)	(.48)	(.24)	(.33)	(.27)	(.21)
Type of system:								
Gas transmission	.38	1.67	.87	.60	.97	.68	.56	−.11
	(.31)	(3.49)	(.37)	(.47)	(.25)	(.37)	(.22)	(.22)
Gas, except separate transmission	.12	−.03	−.10	.24	.15	−.74	−.07	.34
	(.16)	(.17)	(.31)	(.35)	(.20)	(.45)	(.18)	(.21)
Combination	.45	.16	−.09	−.04	.36	−.44	−.04	.26
	(.17)	(.21)	(.26)	(.32)	(.18)	(.29)	(.19)	(.17)
Region:								
New England	−.23	.62	.88	1.10	1.65	−1.29	.84	−.02
	(.26)	(.38)	(.43)	(.57)	(.38)	(.84)	(.34)	(.49)
Middle Atlantic	−.45	.33	−.04	.93	1.64	.03	.46	.54
	(.25)	(.29)	(.39)	(.57)	(.35)	(.45)	(.33)	(.32)
Border States	−1.74	−.37	−1.04	−.50	.66	−.52	−.21	−.19
	(.25)	(.31)	(.44)	(.66)	(.38)	(.53)	(.32)	(.29)
Southwest	−.61	.01	−.14	.03	.49	−1.02	.02	.43
	(.21)	(.22)	(.37)	(.59)	(.27)	(.45)	(.29)	(.24)
Great Lakes	−.39	.02	−.26	.56	1.24	.58	.34	.50
	(.22)	(.31)	(.32)	49)	(.25)	(.39)	(.29)	(.26)
Middle West	−1.57	−.40	.39	.58	1.21	.73	−.55	.61
	(.30)	(.26)	(.41)	(.65)	(.33)	(.45)	(.35)	(.40)
Mountain	−.90	.48	.36	.79	.81	−.34	−.29	.38
	(.46)	(.36)	(.46)	(.65)	(.36)	(.54)	(.34)	(.32)
Pacific	.75	.45	.83	1.82	1.58	1.56	.69	.77
	(.27)	(.26)	(.39)	(.61)	(.32)	(.44)	(.33)	(.34)
Union[2]	.96	.67	.56	.27	.70	.35	1.00	.18
	(.15)	(.22)	(.23)	(.27)	(.18)	(.28)	(.18)	(.18)
Male	.24	.45	.44	.46	.62	—	—	.57
	(.17)	(.26)	(.20)	(.32)	(.20)	—	—	(.61)
Statistical information:								
Adjusted coefficient of determination ($\bar{R}^2$)	.56	.31	.25	.31	.49	.50	.52	.25
Standard error of the estimate	$ .80	$ .83	$1.14	$ 1.17	$ .88	$ .73	$ .67	$ .53
Mean ($\bar{Y}$)	5.08	4.69	7.78	10.96	7.02	8.24	5.88	4.10
Number of observations (N)	218	161	172	127	183	70	115	96
Number of establishments (S)	157	136	136	98	136	69	113	88

[1]The variables embodied in the constant were: 100 to 999 employees, electric systems, Southeast region, nonunion, and female.

[2]Workers in systems with a majority of office workers covered by labor-management agreements.

NOTE: For an explanation of standard errors and statistical information, see the note to table A-1.

Table A-3. Hourly earnings differentials associated with selected characteristics, electric and gas utilities, February 1978

(Standard errors, cents per hour, shown in parentheses)

Occupational category	Combination vs. electric systems		Pacific to Southeast region		Male to female workers	
	Gross differentials	Net differentials	Gross differentials	Net differentials	Gross differentials	Net differentials
Physical:						
Auxiliary equipment operators, electric	$0.88	$0.49 (.18)	$1.40	$1.10 (.34)	—	—
District representatives (electric)	.63	.34 (.40)	–	– .23 (.45)	—	—
Electricians, maintenance	.54	.33 (.10)	1.64	1.43 (.20)	—	—
Janitors	.84	.35 (.11)	2.00	1.54 (.29)	—	—
Load dispatchers	.97	.44 (.34)	2.48	2.82 (.68)	—	—
Meter repairers, class A (electric)	.51	.16 (.13)	1.70	1.52 (.26)	—	—
Watch engineers (electric)	.46	–.10 (.30)	2.02	2.03 (.61)	—	—
Office, professional, and technical:						
Accounting clerks, class B	.44	.45 (.17)	1.50	.75 (.27)	$ .31	$ .24 (.17)
Cashiers	.44	.16 (.21)	.63	.45 (.26)	.84	.45 (.26)
Computer programmers (business), class B	–.30	–.09 (.26)	.90	.83 (.39)	.32	.44 (.20)
Computer systems analysts (business), class A	.21	–.04 (.32)	1.79	1.82 (.61)	.65	.46 (.32)

NOTE: Dashes indicate that data are not available or that they do not meet publication criteria.

Appendix B. Scope and Method of Survey

Scope of survey

The survey included privately operated utility systems engaged in the (1) generation, transmission, and/or distribution of electric energy; (2) transmission and/or storage of natural gas; (3) transmission and distribution of natural gas, and the manufacture and/or distribution of manufactured or mixed gas; and (4) production and/or distribution of both electricity and gas (industry groups 491, 492, and part of 493 as defined in the 1972 edition of the *Standard Industrial Classification Manual* prepared by the U.S. Office of Management and Budget). Allied services rendered by the systems (such as water, steam heat or power, telephone services, and transportation) were excluded. Separate auxiliary units such as separate central offices were included.

Systems studied were selected from those employing 100 workers or more at the time of reference of the data used in compiling the universe lists. Table B-1 shows the number of systems and workers estimated to be within the scope of the survey, as well as the number actually studied by the Bureau.

Method of study

Data were obtained by personal visits of the Bureau's field representatives to a sample of systems within the scope of the survey. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small systems was studied. All estimates are presented, therefore, as relating to all systems in the industry, excluding only those below the minimum size at the time of reference of the universe data.

Definitions

A *system*, for purposes of this study, includes the outlying as well as the central location (or locations) at which electricity is generated or from which gas is distributed, transmitted, and/or stored. If both a parent company and a subsidiary were operating systems, these were considered as separate units.

Nonsupervisory workers include employees such as line and cable workers, maintenance and repair workers, power dispatchers, electricians, meter readers, laborers, general office clerks, office-machine operators, janitors, guards, and other employees below the supervisory level whose services are closely associated with those of employees listed above. Administrative, executive, professional, and technical employees are excluded. Nonsupervisory workers are divided into two groups—physical workers and office workers.

In this survey, working foremen and other nonsupervisory workers engaged in nonoffice functions are called *physical workers* according to industry nomenclature. Temporary or force-account construction employees, who are utilized as a separate work force engaged in construction of major additions or alterations, are excluded. Permanent employees who are regularly employed on routine construction work, however, are included. Physical workers employed in services other than gas or electric services are excluded.

Office workers include all nonsupervisory office workers. Office workers who may have been employed in the operation of allied services are included.

Professional and technical workers include all full-time professional and technical employees, such as computer operators, programmers, and systems analysts, drafters, drafter-tracers, electronics technicians, and registered industrial nurses. Although such workers are not included in the "nonsupervisory workers" category, separate wage data were developed for selected professional and technical occupations. (See tables 12-22.)

Employment

Estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the industry's labor force, rather than as precise measures of employment.

Occupational classification

Occupational classification was based on a uniform set of job descriptions designed to take account of intersystem and interarea variations in duties within the

Table B-1. Number of establishments and workers within scope of survey and number studied, electric and gas utilities, February 1978

Region[1]	Number of establishments[2]		Workers in establishments			
	Within scope of study	Actually studied	Within scope of study			Actually studied
			Total[3]	Physical workers	Office workers	
All systems:						
United States	388	231	644,220	336,103	140,849	539,348
New England	46	24	31,948	14,781	7,016	21,573
Middle Atlantic	39	27	119,180	62,901	25,495	104,752
Border States	36	22	50,380	26,586	10,282	39,774
Southeast	64	27	82,154	44,411	17,913	72,600
Southwest	59	31	87,302	44,270	21,008	60,718
Great Lakes	65	42	139,075	70,276	30,545	121,447
Middle West	37	25	42,789	23,707	8,592	31,913
Mountain	23	18	24,792	12,763	5,855	24,127
Pacific	19	15	66,600	36,408	14,143	62,444
Electric systems:						
United States	188	101	281,842	149,024	57,557	244,361
New England	26	12	16,740	8,597	3,146	10,424
Middle Atlantic	9	8	26,102	14,317	4,329	24,827
Border States	21	11	25,505	12,756	5,544	22,307
Southeast	42	15	66,724	36,296	13,768	61,019
Southwest	30	15	37,009	19,745	8,474	28,173
Great Lakes	26	16	66,166	33,992	13,064	58,558
Middle West	15	10	12,622	7,161	2,361	11,272
Mountain	11	8	7,927	4,410	1,602	7,620
Pacific	8	6	23,047	11,750	5,269	20,161
Gas transmission systems:						
United States	31	20	49,661	25,768	10,268	34,028
Southwest	16	9	29,769	15,321	6,263	18,573
Gas, except separate transmission systems:						
United States	94	58	99,538	50,490	25,421	81,357
New England	13	6	5,856	2,742	1,405	3,589
Middle Atlantic	14	10	14,522	8,192	3,222	12,210
Border States	7	6	6,933	3,871	1,406	6,800
Southeast	18	9	10,535	5,444	3,065	6,947
Southwest	8	4	14,545	6,745	4,491	10,720
Great Lakes	17	11	22,345	10,614	5,945	19,917
Middle West	6	5	11,423	5,980	2,569	9,423
Combination systems:						
United States	75	52	213,179	110,821	47,603	179,602
New England	6	5	9,122	3,362	2,418	7,330
Middle Atlantic	16	9	78,556	40,392	17,944	67,715
Great Lakes	16	12	44,719	22,667	10,130	39,054
Middle West	14	9	13,724	7,706	2,844	8,708

[1] The regions used in this study include *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *Border States*—Delaware, District of Columbia, Kentucky, Maryland, Virginia, and West Virginia; *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee; *Southwest*—Arkansas, Louisiana, Oklahoma, and Texas; *Great Lakes*—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; *Middle West*—Iowa, Kansas, Missouri, North Dakota, and South Dakota; *Mountain*—Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming; and *Pacific*—California, Nevada, Oregon, and Washington.

[2] Includes only systems with 100 workers or more at the time of reference of the universe data.

[3] Includes executive, professional, and other workers in addition to the physical and office worker categories shown separately.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

same job. (See appendix C for these descriptions.) The criteria for selection of the occupations were: The number of workers in the occupation; the usefulness of the data in collective bargaining; and appropriate representation of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, and handicapped, part-time, temporary, and probationary workers were not reported in the data for selected occupations.

For occupations which present data separately by levels, the levels may not add to totals because (1) One or more levels did not meet publication criteria; or (2) information to subclassify workers was not available.

Wage data

Information on wages relates to straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living bonuses

were included as part of the workers' regular pay. Nonproduction bonus payments, such as Christmas or yearend bonuses, were excluded.

Average (mean) hourly rates or earnings for each occupation were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing straight-time salary by normal (or standard) hours to which the salary corresponds.

Rate structure characteristics

Tabulations of rate structure characteristics relate to the number of workers paid under the various time wage systems. Formal rate structures for time-rated workers provide single rates or a range of rates for individual job categories. In the absence of a formal rate structure, pay rates are determined primarily by the qualifications of the individual worker. A single rate structure is one in which the same rate is paid to all experienced workers in the same job classification. Learners, apprentices, or probationary workers may be paid according to rate schedules which start below the single rate and permit the workers to achieve the full job rate over a period of time. An experienced worker occasionally may be paid above or below the single rate for special reasons, but such payments are exceptions. Range-of-rate plans are those in which the minimum, maximum, or both of these rates paid experienced workers for the same job are specified. Specific rates of individual workers within the range may be determined by merit, length of service, or a combination of these.

Scheduled weekly hours

Data on weekly hours refer to the predominant work schedule for full-time physical workers (or office workers) employed on the day shift.

Shift practices and differentials

Data relate to shift practices of establishments during the payroll period studied and are presented in terms of the proportion of physical workers actually employed on the shifts indicated.

System practices and supplementary wage provisions

Supplementary benefits in a system were considered applicable to all physical workers (or office workers) if they applied to half or more of such workers in the system. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the system. Because of length-of-service and other eligibility requirements, the proportion of workers receiving the benefits may be smaller than estimated.

Paid holidays. Paid holiday provisions relate to full-day and half-day holidays provided annually.

Paid vacations. The summaries of vacation plans are limited to formal arrangements and exclude informal plans whereby time off with pay is granted at the discretion of the employer or supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented represent the most common practices, but they do not necessarily reflect individual system provisions for progression. For example, changes in proportions indicated at 10 years of service may include changes which occurred between 5 and 10 years.

Health, insurance, and retirement plans. Data are presented separately for health, insurance, pensions, and retirement severance plans for which the employer pays all or a part of the cost, excluding programs required by law such as workers' compensation and social security. Among plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability. Information is presented for all such plans to which the employer contributes at least a part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions,[1] plans are included only if the employer (1) contributes more than is legally required, or (2) provides the employees with benefits which exceed the requirements of the law.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided for (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration

1 The temporary disability laws in California and Rhode Island do not require employer contributions.

of sick leave, sickness and accident insurance, or both, or after a specified period of disability (typically 6 months). Payments are made until the end of disability, a maximum age, or eligibility for retirement benefits. Payments may be full or partial, but are almost always reduced by social security, workers' compensation, and private pension benefits payable to the disabled employee.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be a form of self-insurance.

Major medical insurance, sometimes referred to as extended medical or catastrophe insurance, includes plans designed to cover employees for sickness or injury involving an expense which exceeds the normal coverage of hospitalization, medical, and surgical plans.

Dental insurance, for purposes of this survey, usually covers fillings, extractions, and X-rays. Excluded are plans which cover only oral surgery or accident damage.

Tabulations of retirement pensions are limited to plans which provide regular payments for the remainder of the retiree's life. Data are presented separately for retirement severance pay (one payment or several over a specified period of time) made to employees on retirement. Systems providing both retirement severance payments and retirement pensions to employees were considered as having both retirement pensions and retirement severance plans; however, systems having optional plans providing employees a choice of either retirement severance payments or pensions were considered as having only retirement pension benefits.

Paid funeral and jury-duty leave. Data for paid funeral and jury-duty leave relate to formal plans which provide at least partial payment for time lost as a result of attending funerals of specified family members or serving as a juror.

Technological severance pay. Data relate to formal plans providing for payments to employees permanently separated from the company because of a technological change or plant closing.

Appendix C. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field representatives were instructed to exclude working supervisors, apprentices, learners, beginners, trainees, and handicapped, temporary, part-time, and probationary workers.

Physical Occupations

Auxiliary-equipment operator, electric

Operates such equipment (auxiliary to boilers or turbines) as pumps, condensers, evaporators, deaerators, water-treating equipment, blowers, compressors, and coal-pulverizers, in a generating plant; also, checks and reports or records instrument readings. Coal-conveyor operators are *excluded.*

Auxiliary-equipment operator, gas production

Operates one or more units of auxiliary equipment, such as exhausters, condensers, tar extractors, scrubbers, pressure regulators, and fuel handling, purifying or purging equipment in a gas production plant. Work involves: Controlling the flow of gas, water, steam, oil, tar, etc., between units; observing pressure gauges, thermometers, flow meters, and other instruments in order to operate equipment properly and to test gas for elimination of impurities; making necessary adjustments and minor repairs.

Auxiliary-equipment operator, gas transmission

(Auxiliary engineer, auxiliary operator, auxiliary plant operator)

Operates auxiliary engines, generators, motors, pumps, and other auxiliary equipment during the assigned shift. Maintains constant check of instrument control board to assure effective output. Increases or decreases facilities in operations as load needs change, requiring proper phasing of motors. Examines condition of equipment, observes oil level and pressure, lubricates moving parts, checks for water and oil leaks, knocks or engine misses. May make minor adjustments to auxiliary equipment when needed and record hourly pressure and temperature readings.

Boiler operator

Operates one or more boilers used to generate power. Work involves: Regulating rate of fuel, air and water supply, and ash disposal on boilers equipped with mechanical types of combustion equipment (stoker, pulverized fuel, oil, or gas); inspecting and observing boiler performance; using standard instruments in order to regulate and maintain proper steam pressure.

Compressor operator

(Engine-room operator, assistant shift engineer, booster-pump operator)

Operates internal combustion and/or turbine engine-driven compressor units and other related equipment during the assigned shift. Loads and unloads compressor, starts and stops engines, controls the speed of the engines to maintain designated operating pressures, temperatures, and lubrication. May make minor adjustments and repairs to compressor engines and equipment when needed.

Compressor station operator—multi-plant stations

(Main engineer, shift leader, plant operator)

Coordinates the operations and operational maintenance of internal combustion and/or turbine engine driven compressor units and related equipment in the various multi-plant buildings to maintain designated suction and discharge pressures during the assigned shift. Maintains direct communications with dispatcher, reporting pressures and temperatures and receiving operating orders. Translates orders into instructions to the multi-plant component operators in terms of combinations of units, unit speeds, etc., to balance unit loads. Directs and trains personnel in compressor operations and preparation of operating reports. Keeps informed of any overhaul work which may affect plant operation.

Control-room operator, conventional

(Mechanical operator; steam-plant operator)

Under general supervision, operates the control room switchboards of a steam generating station to

assure maximum efficiency of all equipment and switchgear which have their controls in the control room, including boilers, turbines, and generators. Work involves *most of the following:* Observing control board gauges and instruments which indicate load changes, temperatures, pressures, flow of steam and air, coal conditions, flow of water, etc.,; operating necessary controls to assure maximum efficiency of boilers and turbines; starting and stopping turbines and other machines as necessary; inspecting automatic controls, checking operation of auxiliary equipment; performing necessary operations in connection with regular inspection and cleaning of equipment.

Control-room operator, nuclear

Under general supervision, controls the operation of reactor, turbine-generator units, and other plant equipment of a steam generating nuclear station to assure maximum safety and efficiency of all equipment having their controls in the control room. Work involves *most of the following:* Observing and interpreting control board gauges and instruments which indicate reactor power level, load changes, temperatures, pressures, flow of steam, air, water, etc.; operating controls as necessary to start up and shut down reactor, to assure maximum safety and efficiency of the reactor, boilers, turbines, and generators; starting and stopping other machines as necessary; inspecting automatic controls, checking operation of auxiliary equipment (e.g., pumps, compressors, switchgear); and performing necessary operations in connection with regular inspection and cleaning of equipment. May assist in refueling operations. *Must be licensed by the U.S. Atomic Energy Commission as a reactor operator* at the station to which he is assigned.

Control-room operator assistant, conventional

Usually, under direct supervision, assists control-room operator or assistant engineer of a steam generating station in the operation of equipment and switchgear which have their controls in the control room, including boilers, turbines, and generators. Work involves *most of the following:* Operating controls to produce maximum boiler and turbine efficiency, subject to decision of supervisor; recording instrument readings as required; making routine inspections of equipment, noting temperatures, loading, and operating conditions and reporting conditions to supervisor; inspecting and cleaning sumps, pumps, gauges, intake screens, ignition burners, and oil torches, and lancing boiler tubes when necessary; occasionally, fires boilers from cold to full pressure and starts turbines, under supervision.

Control-room operator assistant, nuclear

Usually, under direct supervision, assists the control-room operator of a steam generating nuclear station in the operation of the reactor, turbine-generator units, and other plant equipment which have their controls in the control room. Work involves *most of the following:* Operating controls to produce maximum reactor, boiler, turbine, and generator efficiency, subject to decision of supervisor; recording instrument readings as required; making routine inspections of equipment, noting temperatures, loading, and operating conditions and reporting conditions to supervisor; inspecting the cleaning of sumps, pumps, gauges, and intake screens. May assist in refueling operations as directed. May relieve nuclear control-room operator for short periods of time. *Must be licensed by the U.S. Atomic Energy Commission as a reactor operator* at the station to which he is assigned.

Corrosion technician

(Cathodic engineer, senior; cathodic technician)

Conducts surface potential and pipe-to-soil surveys on the main lines, feeder lines, and dehydration equipment within the assigned area. Makes soil resistivity tests to effectively locate new cathodic protection installations. Installs and maintains electrical equipment associated with the prevention of corrosion requiring knowledge of power line distribution systems and electrical safety codes. Tests protected pipe-line to measure the efficiency of installed units.

District respresentative

(Utility person; service worker)

Usually serves as all-round company representative in outlying areas adjacent to central cities wherein work does not ordinarily justify employment of more specialized personnel. Work involves *most of the following:* Reading meters; connecting and disconnecting meters; collecting overdue bills; making minor repairs on meters and/or appliances; maintaining records of services performed.

Electrician, maintenance

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generating, distribution, or utilization of electric energy in an establishment. Work involves *most of the following:* Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layout, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; using a

variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Gas dispatcher

Insures adequate supply of gas of suitable pressure to meet consumer demands by directing control of volume of gas entering distribution system. Work involves: Determining pressure adjustments necessary to meet current conditions; issuing instructions to increase or decrease pressure in accordance with determined requirements; if mixed gas is used, determines if proper mixture is being maintained and instructs mixing station to correct deviations.

Gas-main fitter

(Gas fitter, street department; gas-street worker; pipe layer)

Performs laying, joining, and related tasks in installing, removing, or repairing gas mains, services and related equipment or in repairing leaks. May, in addition, do welding work, assist in excavation work, or direct helpers or laborers in this work.

Gas-main fitter's helper

Assists the gas-main fitter in laying, joining, removing, or repairing gas mains, services and related equipment. Work involves *a combination of the following:* Performing excavation work; cutting and threading gas pipe to size in preparation for connection; assisting fitter or welder in making welds; cutting out section of pipe to be replaced.

(See also laborer, main installation and service)

Ground helper

Serves as a helper to a line worker in the setting up of overhead lines for the transmission of electricity. Work involves: Handling and passing necessary materials, tools, and related equipment from the ground to poles within reach of lineman; digging holes; and hoisting poles.

(See also truckdriver, ground)

Guard

Performs routine police duties, either at fixed post or on tour, maintaining order using arms or force where necessary. *Includes gate-workers who are stationed at gate and check on identity of employees and other persons entering.*

Inspector

(Leak inspector; maintenance inspector)

Inspects installations and equipment of a gas utility company to insure safe and efficient operation of the installations. Work involves: Inspecting distribution mains and services to locate leaks by making flash tests or by taking samples, using a combustible indicator; making a report on the findings. May, in addition, perform other duties connected with the inspection and servicing of meters and regulators.

Installer, gas meter

Installs and removes gas meters and connects and disconnects gas supply to meters. May, in addition, make minor adjustments and repairs on customer's appliances, and may perform simple appliance installation work.

This classification does not include workers whose duties are primarily connected with the installation, servicing, and repairing of gas appliances. (See service technician, gas appliance)

Janitor, porter, or cleaner

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office or other establishment. Duties involve *a combination of the following:* Sweeping, mopping *or* scrubbing and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

Laborer, gas plant

(Clinker; gas-plant helper)

Performs various laboring tasks in gas making or gas purification plant, such as: Removing ashes and hard clinker material from the generator of a gas producer or water-gas set; loading coal or coke in hand trucks from storage pile or railway cars, transporting to generator and periodically charging fuel into generator; mixing purifying material and renewing mixtures in purification vats; cleaning tar separators; assisting maintenance workers or gas makers; performing miscellaneous cleanup work around plant.

Laborer, main installation and service

Performs such laboring tasks as digging ditches, backfilling, and lifting and carrying materials involved in the installation, removal or repair of gas mains.

(See also gas-main fitter's helper)

Leak locator, gas

(Gas-leak inspector)

Inspects gas pipe lines to locate leaks. Makes test holes in ground and operates combustible gas indicator to determine extent and approximate location of leakage.

Line worker, journeyman

(Line worker, first class)

A journeyman who performs individually, or with the assistance of helpers, construction and maintenance work related to the erection and repair of overhead transmission or underground residential distribution (URD) power lines of *all* classes and voltages, structures and other equipment to conduct electricity from power source to place of use. May be required to specialize on live primary lines of high voltage using hot line tools.

(See also trouble shooter)

Load dispatcher

(System operator)

Supervises on one or more shifts all station and substation operations in the production of electricity by issuing telephonic orders based upon the allocation of load (current production and demand) and the operation of high tension lines including interconnections with other companies. Uses his knowledge of generating equipment and operating setups in all stations on the system to direct in detail the handling of normal and emergency situations, proper loading of apparatus and circuits.

Machinist, maintenance

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves *most of the following:* Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for his work; fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

Mechanic, automotive (maintenance)

Repairs automobiles, buses, motortrucks, and tractors of an establishment. Work involves *most of the following:* Examining automotive equipment to diagnose source of trouble; disassembling equipment and performing repairs that involve the use of such handtools as wrenches, gauges, drills or specialized equipment in disassembling or fitting parts; replacing broken or defective parts from stock; grinding and adjusting valves; reassembling and installing the various assemblies in the vehicle and making necessary adjustments; alining wheels, adjusting brakes and lights, or tightening body bolts. In general, the work of the automotive mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Mechanic, maintenance

Repairs machinery or mechanical equipment of an establishment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending of the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shop; reassembling machines; and making all necessary adjustments for operation. In general, the work of a maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

Meter repairer

Tests, repairs, and may make installations of meters in company-owned plants and substations or on customer's premises.

Workers who specialize in the tasks of a meter installer or in routinized single phase testing are *excluded.*

For wage study purposes, meter repairers are classified as follows:

Class A - Tests, calibrates, repairs, and may *install all types of switchboards, portable, or other meters* (polyphase or instrument transformers).

Class B - Tests, repairs, and may install *single phase or self-contained polyphase meters.* May perform duties listed for class A meter repairer *under direct supervision.*

Meter reader

Reads meters consisting of recording dials to note consumption of electricity, gas, steam, or water during period elapsed since previous reading; records finding for billing purposes. Observes and reports changes in customer location, rate classification, leaks, grounds, meter tampering, power diversion, and other irregularities.

Meter technician, gas transmission

(Measurement technician; meter inspector)

Tests, calibrates, repairs, and adjusts positive and orifice meters and other measuring and regulating equipment used in recording volumes of gas. Dismantles equipment, examines parts and mechanisms, replaces worn or broken parts, reassembles and tests for proper operation. May inspect, repair, or adjust gas measurement and dehydration equipment in the maintenance shop or at the field location.

Oiler

Assists compressor operator in operation of the compressor engines and other related equipment, during the assigned shift. Operates by-pass valves, observes pressures, and assists compressor operator in loading and unloading compressors, starting and stopping engines. Lubricates all moving parts, wipes up excess oil and cleans engines. Periodically checks bearings, lubricating systems, and water temperatures. Performs plant housekeeping duties incidental to orderly station upkeep.

Patrol

(Line walker; line inspector)

Patrols electric transmission lines to inspect visually and report condition of transmission and distribution lines, substations and related equipment. Work involves: Searching for insulator or wire breakage or damage; preparing written report on condition of equipment and evidence of obstructions that might result in breakdown of electric service; ordinarily is not required to make repairs.

Pipefitter, maintenance

Installs or repairs water, steam, gas or other types of pipe and pipe fittings in an establishment. Work involves *most of the following:* Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machine; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.*

Pipeline lead person

(Crew chief, sub-crew leader, crew leader)

Acts in the capacity of lead person, directing pipeline maintenance crew. Installs and maintains main line, feeder line, and dehydration equipment. Repairs and services main line valves, assembles and disassembles purchase and sales meter installations. Instructs maintenance crew in facilities operating, repairing and safety procedures, use and care of tools and work equipment.

Pipeline repairer

Performs general duties to maintain pipeline right-of-way. As a member of pipeline crew, repairs and services main line valves, assists in installation and maintenance of main line, feeder line, and dehydration equipment. Repairs terraces and washouts, cuts weeds and plants grass, repairs and rebuilds fences, stencils mile post markers. May perform helper's duties to welder, operators of trucks, cranes and crawler-tread tractors.

Radiation monitor

(Radiation control technician; radiation protection technician)

Under general supervision, maintains radiation safety, monitoring equipment, and controlled release of radioactive materials in accordance with established procedures in a nuclear station. Work involves *most of the following:* Makes routine radiation surveys using detecting and counting instruments and recording the data; takes samples to determine radioactivity level of water, gases, and solid material, using portable and laboratory testing equipment; records test data and notifies supervisor of findings; services and calibrates radiation monitoring instruments and equipment; observes the receipt, storage, loading and unloading of fuel, shipments of irradiated materials, and controls the disposal of radioactive wastes; performs decontamination of personnel and equipment as required.

Repairman, gas meter

Cleans and repairs one or more types of gas meters. Work involves *a combination of the following:* Disassembling gear train, cleaning, and repairing or replacing corroded or worn parts; dismounting and

repairing or replacing cracked or broken bellows; removing, regrinding, and reinstalling valves; reassembling and adjusting meters, including indexes and prepayment devices; performing tests on meters.

Repair helper, gas meter

(Shop helper)

Assists the meter repair technician and testing crew by performing such tasks as: Unloading, sorting and cleaning meters brought in form repairs; dismantling or stripping meters; washing or removing paint from unassembled parts; oiling meter diaphragms; painting reassembled meters; storing repaired meters.

Roustabout

Performs manual duties in connection with compressor and pipeline operation and maintenance. Digs ditches, dopes and backfills *yard* piping, loads and unloads trucks, performs general *yard* clean-up. Acts as helper in maintenance crew, painting equipment and buildings, rough carpentry as needed. *Assists* in major or minor engine and pipeline repair operations under the direction of a skilled lead person.

Exclude workers whose duties are primarily concerned with maintaining pipelines and their right-of-ways. (See pipeline repairers)

Service technician, electrical appliance

Installs, services, or repairs one or more types of electrical appliances in the shop or on the customer's premises.

Service technician, gas appliance

Services, repairs, and installs gas appliances and controls in homes or commercial or industrial establishments. Work involves a *combination of the following:* Connecting and disconnecting customer's gas appliances or equipment; cleaning, regulating, and repairing one or more types of gas equipment and automatic devices such as thermostats, thermocouples, solenoid valves, pressure regulators, and such other devices as may be in use on stoves, water heaters, furnaces, air-conditioning units, refrigerators, and other gas-consuming appliances; checking for and repairing gas leads on customer's premises; making investigations incident to high bill complaints. May, in addition, install and remove gas meters and regulators and may turn gas on or off on customer's premises.

This classification does not include workers who specialize in meter installation work. (See installer, gas meter)

Service technician, regulator

(Regulator repairer)

Installs and removes, regulates, adjusts, inspects and repairs all types of gas regulator devices, located throughout the gas distribution system to control the pressure.

Stock clerk

Receives, stores, and issues equipment, material, merchandise, or tools in a stockroom or storeroom. Work involves *a combination of the following:* Checking incoming orders; storing supplies; applying identification to articles; issuing supplies; taking periodic inventory or keeping perpetual inventory; making up necessary reports; requesting or ordering supplies when needed. *Stockroom laborers, tool crib attendants, and employees who supervise stock clerks and laborers are excluded.*

Substation operator

Is in charge of and carries responsibility for substation to which assigned. Work involves *most of the following:* Directing, advising, and delegating tasks to all workers in the substation; responsibility for the operation of all equipment and for minor types of maintenance and repair; properly switching high and low voltage feeders associated with the station; carrying out orders issued by the load dispatcher; observing normal and emergency operating methods and regulations.

Switchboard operator

(Generator-switchboard operator; hydrostation operator)

Checks and carries out orders received from load dispatcher (system operator) relative to switching in either a steam or hydro-generating plant. Work involves: Distributing load on generating equipment; maintaining proper voltage and frequency; keeping a log of load conditions on machines, lines, and transformer banks. In hydro-generating plants, these switching duties may be combined with other plant operations (i.e., generator operating).

Operators of switchboards in substations are *excluded.*

For wage study purposes, switchboard operators are classified as follows:

Class A. Performs frequent switching and testing in a plant with high generating capacity having varied and complex equipment, wherein disturbances in the system might have far-reaching effects in causing interruptions to service over a large area which involves high voltage.

Class B. Performs less frequent switching and testing in a plant having a limited amount of varied equipment, wherein disturbances would have little effect upon the systems. Usually found in plants having low generating capacity.

Trouble shooter

A journeyman line worker with extensive knowledge of either transmission or distribution systems who performs the following duties *in an effort to assure customers continous electric service in cases of trouble:* Locates and reports sources of trouble; performs necessary construction, maintenance or repair to *restore* service in cases of line transformer or fuse failures. Ordinarily familiar with all circuits and switching points in order to safely cut circuit feeders in cases of "burn downs."

(See also line worker)

Truckdriver

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or men between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. *Sales route and over-the-road drivers are excluded.*

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

Truckdriver (combination of sizes)
Truckdriver, light truck (straight truck, under 1 1/2 tons, usually 4 wheels)
Truckdriver, medium truck (straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels)
Truckdriver, tractor-trailer
Truckdriver, heavy truck (straight truck, over 4 tons, usually 10 wheels)

Truckdriver, ground

Works as helper to line worker in the setting up of overhead lines for the transmission of electricity; duties include driving a truck which is generally equipped with a winch.

(See also ground worker and truckdriver)

Turbine operator

(Turbo-generator operator)

Controls operations of turbines and/or generators used in the production of electric power within steam and hydroelectric plants. Observes, records, and interprets readings of all standard indicators or instruments customarily used in a power plant to determine efficiency of operation; is responsible for starting and shutting down of turbines, generators, and/or auxiliary equipment, in accordance with local demands. May be assisted by helpers or auxiliary-equipment operators.

Watch engineer

(Shift engineer; plant operator)

Supervises employees responsible for the operation and maintenance of turbines, generators, boilers, switchboards, transformers, and other equipment or machinery in a steam power or lighting plant supplying mechanical or electrical power for distribution. In larger plants, may be found working under the general direction of the superintendent-in-charge.

Welder

(District welder, welder A or AA)

Performs electric and oxyacetylene welding required for pipeline district and compressor station operation and maintenance. Lays out, cuts, files, and prepares material for welding. Fabricates drip and valve assemblies, sets road casings, performs the welding required for pipeline repair and for maintenance of rolling stock and stationary equipment. May perform pipefitting duties necessary for pipeline installations. Must have a general knowledge of the working properties of metals and understand the hazards involved in welding high pressure vessels. May direct other maintenance personnel assigned to assist with welding operation.

Office Occupations

Accounting clerk

Performs one or more accounting clerical tasks such as posting to registers and ledgers; reconciling bank accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying for clerical accuracy various types of reports, lists, calculations, posting, etc.; or preparing simple, or assisting in preparing more complicated, journal vouchers. May work in either a manual or automated accounting system.

The work requires a knowledge of clerical methods and office practices and procedures which relates to the clerical processing and recording of transactions and accounting information. With experience, the worker typically becomes familiar with the bookkeeping and accounting terms and procedures used in the assigned work, but is not required to have a knowledge of the formal principles of bookkeeping and accounting.

Positions are classified into levels on the basis of the following definitions:

Class A. Under general supervision, performs accounting clerical operations which require the application of experience and judgment, for example, clerically processing complicated or nonrepetitive accounting transactions, selecting among a substantial variety of

prescribed accounting codes and classifications, or tracing transactions through previous accounting actions to determine source of discrepancies. May be assisted by one or more class B accounting clerks.

Class B. Under close supervision, following detailed instructions and standardized procedures, performs one or more routine accounting clerical operations, such as posting to ledgers, cards, or work sheets where identification of items and locations of postings are clearly indicated; checking accuracy and completeness of standardized and repetitive records or accounting documents; coding documents using a few prescribed accounting codes.

Bookkeeping-machine operator

Operates a bookkeeping machine (with or without a typewriter keyboard) to keep a record of business transactions.

Positions are classified into levels on the basis of the following definitions:

Class A. Keeps a set of records requiring a knowledge of and experience in basic bookkeeping principles and familiarity with the structure of the particular accounting system used. Determines proper records and distribution of debit and credit items to be used in each phase of the work. May prepare consolidated reports, balance sheets, and other records by hand.

Class B. Keeps a record of one or more phases or sections of a set of records usually requiring little knowledge of basic bookkeeping. Phases or sections include accounts payable, payroll, customers' accounts (not including a simple type of billing described under machine biller), cost distribution, expense distribution, inventory control, etc. May check or assist in preparation of trial balances and prepare control sheets for the accounting department.

Cashier

Receives money from customers in payment of accounts, bills, or sales tickets, gives receipts, makes necessary change, and balances cash received against cash register or other record of receipts. Additional duties may include: Cashing checks, authorizing disbursements, or making up payroll or bank deposits. Cashiers who do general bookkeeping are *excluded.*

File clerk

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files.

Positions are classified into levels on the basis of the following definitions:

Class A. Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

Class B. Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified materials by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards materials. May perform related clerical tasks required to maintain and service files.

Class C. Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards materials; may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

Key entry operator

Operates keyboard controlled data entry device such as keypunch machine or key operated magnetic tape or disk encoder to transcribe data into a form suitable for computer processing. Work requires skill in operating an alpha-numeric keyboard and an understanding of transcribing procedures and relevant data entry equipment.

Positions are classified into levels on the basis of the following definitions:

Class A. Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be entered from a variety of source documents. On occasion may also perform routine work as described for class B.

Note: Excluded are operators above class A using the key entry controls to access, read, and evaluate the substance of specific records to take substantive actions, or to make entries requiring a similar level of knowledge.

Class B. Work is routine and repetitive. Under close supervision or following specific procedures or detailed instructions, works from various standardized source documents which have been coded and require little or no selecting, coding, or interpreting of data to be entered. Refers to supervisor problems arising from erroneous items, codes, or missing information.

Messenger

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening and distributing mail and other minor clerical work. Exclude positions that require operation of a motor vehicle as a significant duty.

Order clerk

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgement of receipt of order; following-up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order.

Exclude workers paid on a commission basis or whose duties include any of the following: Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

Positions are classified into levels according to the following definitions:

Class A. Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satify the customer's needs, or determining the price to be quoted when pricing involves more than merely referencing a price list or making some simple mathematical calculations.

Class B. Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

Payroll clerk

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves most of the following: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a nonautomated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

Secretary

Assigned as a personal secretary, normally to one individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor. Works fairly independently receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and understanding of the organization, programs, and procedures related to the work of the supervisor.

Exclusions Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

a. Positions which do not meet the "personal" secretary concept described above;
b. Stenographers not fully trained in secretarial type duties;
c. Stenographers serving as office assistants to a group of professional, technical, or managerial persons;
d. Assistant type positions which entail more difficult or more responsible technical, administrative or supervisory duties which are not typical of secretarial work, e.g., Administrative Assistant, or Executive Assistant;
e. Positions which do not fit any of the situations listed in the sections below titled "Level of Supervisor," e.g., secretary to the president of a company that employs, in all, over 5,000 persons;
f. Trainees.

Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the four LS levels described below according to the level of the secretary's supervisor within the company organizational structure.

LS–1 a. Secretary to the supervisor or head of a small organizational unit (e.g., fewer than about 25 or 30 persons); or
b. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer or assistant, skilled technician or expert. (NOTE: Many companies assign stenographers, rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.)

LS–2. a. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the

definition for LS-3, but whose organizational unit normally numbers at least several dozen employees and is usually divided into organizational segments which are often, in turn, further subdivided. In some companies, this level includes a wide range of organizational echelons; in others, only one or two; or

b. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, fewer than 5,000 persons.

LS–3. a. Secretary to the chairman of the board or president of a company that employs, in all, fewer than 100 persons; or

b. Secretary to a corporate officer (other than chairman of the board or president) of a company that employs, in all, over 100 but fewer than 5,000 persons; or

c. Secretary to the head (immediately below the officer level) over either a major corporate-wide functional activity (e.g., marketing, research, operations, industrial relations, etc.) or a major geographic or organizational segment (e.g., a regional headquarters; a major division) of a company that employs, in all, over 5,000 but fewer than 25,000 employees; or

d. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, over 5,000 persons; or

e. Secretary to the head of a large and important organizational segment (e.g., a middle management supervisor of an organizational segment often involving as many as several hundred persons) of a company that employs, in all, over 25,000 persons.

LS–4. a. Secretary to the chairman of the board or president of a company that employs, in all, over 100 but fewer than 5,000 persons; or

b. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, over 5,000 but fewer than 25,000 persons; or

c. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a company that employs, in all, over 25,000 persons.

NOTE: The term "corporate officer," used in the above LS definition refers to those officials who have a significant corporate-wide policy-making role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all cases identify such positions. Vice presidents whose primary responsibility is to act personally on individual cases or transactions (e.g., approve or deny individual loan or credit action; administer individual trust accounts; directly supervise a clerical staff) are not considered to be "corporate officers" for purposes of applying the definition.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at LR–1 or LR–2, described below, according to their level of responsibility.

Level of Responsibility 1 (LR–1)

Performs varied secretarial duties including or comparable to most of the following:

a. Answers telephones, greets personal callers, and opens incoming mail.

b. Answers telephone requests which have standard answers. May reply to requests by sending a form letter.

c. Reviews correspondence, memoranda, and reports prepared by others for the supervisor's signature to ensure procedural and typographical accuracy.

d. Maintains supervisor's calendar and makes appointments as instructed.

e. Types, takes and transcribes dictation, and files.

Level of Responsibility 2 (LR–2)

Performs duties described under LR–1 and, *in addition* performs tasks requiring greater judgment, initiative, and knowledge of office functions including or comparable to most of the following:

a. Screens telephone and personal callers, determining which can be handled by the supervisor's subordinates or other offices.

b. Answers requests which require a detailed knowledge of office procedures or collection of information from files or other offices. *May* sign routine correspondence in own or supervisor's name.

c. Compiles or assists in compiling periodic reports on the basis of general instructions.

d. Schedules tentative appointments without prior clearance. Assembles necessary background material for scheduled meetings. Makes arrangements for meetings and conferences.

e. Explains supervisor's requirements to other employees in supervisor's unit. (Also types, takes dictation, and files.)

The following chart shows the level of the secretary for each LS and LR combination

Level of secretary's supervisor	Level of secretary's responsibility	
	LR-1	LR-2
LS-1	E	D
LS-2	D	C
LS-3	C	B
LS-4	B	A

Stenographer

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool May occasionally transcribe from voice recordings (if primary duty is transcribing from recordings, see Transcribing-Machine Typist).

NOTE: This job is distinguished from that of a secretary in that a secretary normally works in a confidential relationship with only one manager or executive and performs more responsible and discretionary tasks as described in the secretary job definition.

Stenographer, general

Dictation involves a normal routine vocabulary. May maintain files, keep simple records or perform other relatively routine clerical tasks.

Stenographer, senior

Dictation involves a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research. May also set up and maintain files, keep records, etc.

OR

Performs stenographic duties requiring significantly greater independence and responsibility than stenographer, general, as evidenced by the following: Work requires a high degree of stenographic speed and accuracy; a thorough working knowledge of general business and office procedures and of the specific business operations, organization, policies, procedures, work-flow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining followup files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; answering routine questions, etc.

Switchboard operator

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, *may* also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard operator-receptionist.

Switchboard operator-receptionist

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard Operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization, or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

Transcribing-machine typist

Primary duty is to type copy of voice recorded dictation which does *not* involve varied technical or specialized vocabulary such as that used in legal briefs or reports on scientific research. May also type from written copy. May maintain files, keep simple records, or perform other relatively routine clerical tasks. (See Stenographer definition for workers involved with shorthand dictation.)

Typist

Uses a typewriter to make copies of various materials or to make out bills after calculations have been made by another person. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Class A. Performs *one or more of the following:* Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., or technical or unusual words or foreign language material; or

planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

Class B. Performs *one or more of the following:* Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc., or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

Professional and Technical Occupations

Computer data librarian

Maintains library of media (tapes, disks, cards, cassettes) used for automatic data processing applications. The following or similar duties characterize the work of a computer data librarian: Classifying, cataloging, and storing media in accordance with a standardized system; upon proper requests, releasing media for processing; maintaining records of releases and returns; inspecting returned media for damage or excessive wear to determine whether or not they need replacing. May perform minor repairs to damaged tapes.

Computer operator

In accordance with operating instructions, monitors and operates the control console of a digital computer to process data. Executes runs by either serial processing (processes one program at a time) or multi-processing (processes two or more programs simultaneously). The following duties characterize the work of a computer operator:

- Studies operating instructions to determine equipment setup needed.
- Loads equipment with required items (tapes, cards, disks, paper, etc.).
- Switches necessary auxiliary equipment into system.
- Starts and operates computer.
- Responds to operating and computer output instructions.
- Reviews error messages and makes corrections during operation *or* refers problems.
- Maintains operating record.

May test-run new or modified programs. May assist in modifying systems or programs. The scope of this definition includes trainees working to become fully qualified computer operators, fully qualified computer operators, and lead operators providing technical assistance to lower level operators. It excludes workers who monitor and operate remote terminals.

For wage study purposes, computer operators are classified as follows:

Class A. In addition to work assignments described for a Class B operator (see below), the work of a Class A operator involves at least one of the following:

- Deviates from standard procedures to avoid the loss of information or to conserve computer time even though the procedures applied materially alter the computer unit's production plans.
- Tests new programs, applications, and procedures.
- Advises programmers and subject-matter experts on setup techniques.
- Assists in (1) maintaining, modifying, and developing operating systems or programs; (2) developing operating instructions and techniques to cover problem situations; and/or (3) switching to emergency backup procedures (such assistance requires a working knowledge of program language, computer features, and software systems).

An operator at this level typically guides lower level operators.

Class B. In addition to established production runs, work assignments include runs involving new programs, applications, and procedures (i.e., situations which require the operator to adapt to a variety of problems). At this level, the operator has the training and experience to work fairly independently in carrying out most assignments. Assignments may require the operator to select from a variety of standard setup and operating procedures. In responding to computer output instructions or error conditions, applies standard operating or corrective procedures, but may deviate from standard procedures when standard procedures fail if deviation does not materially alter the computer unit's production plans. Refers the problem or aborts the program when procedures applied do not provide a solution. May guide lower level operators.

Class C. Work assignments are limited to established production runs (i.e., programs which present few operating problems). Assignments may consist primarily of on-the-job training (sometimes augmented by classroom instruction). When learning to run programs, the supervisor or a higher level operator provides detailed written or oral guidance to the operator before and during the run. After the operator has gained experience with a program, however, the operator works fairly independently in applying standard operating or corrective procedures in responding to computer output instructions or error conditions, but refers problems to a higher level operator or the supervisor when standard procedures fail.

Computer programmer (business)

Converts statements of business problems, typically prepared by a systems analyst, into a sequence of detailed instructions which are required to solve the

problems by automatic data processing equipment. Working from charts or diagrams, the programmer develops the precise instructions which, when entered into the computer system in coded language, cause the manipulation of data to achieve desired results. Work involves *most of the following*: Applies knowledge of computer capabilities, mathematics, logic employed by computers, and particular subject matter involved to analyze charts and diagrams of the problem to be programmed; develops sequence of program steps; writes detailed flow charts to show order in which data will be processed; converts these charts to coded instructions for machine to follow; tests and corrects programs; prepares instructions for operating personnel during production run; analyzes, reviews and alters programs to increase operating efficiency or adapt to new requirements; maintains records of program development and revisions.

(*NOTE*: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or programmers primarily concerned with scientific and/or engineering problems.

For wage study purposes, programmers are classified as follows:

Class A. Works independently or under only general direction on complex problems which require competence in all phases of programming concepts and practices. Working from diagrams and charts which identify the nature of desired results, major processing steps to be accomplished, and the relationships between various steps of the problem solving routine, plans the full range of programming actions needed to efficiently utilize the computer system in achieving desired end products.

At this level, programming is difficult because computer equipment must be organized to produce several interrelated but diverse products from numerous and diverse data elements. A wide variety and extensive number of internal processing actions must occur. This requires such actions as development of common operations which can be reused, establishment of linkage points between operations, adjustments to data when program requirements exceed computer storage capacity, and substantial manipulation and resequencing of data elements to form a highly integrated program.

May provide functional direction to lower level programmers who are assigned to assist.

Class B. Works independently or under only general direction on relatively simple programs, or on simple segments of complex programs. Programs (or segments) usually process information to produce data in two or three varied sequences or formats. Reports and listings are produced by refining, adapting, arraying, or making minor additions to or deletions from input data which are readily available. While numerous records may be processed, the data have been refined in prior actions so that the accuracy and sequencing of data can be tested by using a few routine checks. Typically, the program deals with routine record-keeping type operations.

OR

Works on complex programs (as described for Class A) under close direction of a higher level programmer or supervisor. May assist higher lever programmer by independently performing less difficult tasks assigned, and performing more difficult tasks under fairly close direction.

May guide or instruct lower level programmers.

Class C. Makes practical applications of programming practices and concepts usually learned in formal training courses. Assignments are designed to develop competence in the application of standard procedures to routine problems. Receives close supervision of new aspects of assignments, and work is reviewed to verify its accuracy and conformance with required procedures.

Computer systems analyst (business)

Analyzes business problems to formulate procedures for solving them by use of electronic data processing equipment. Develops a complete description of all specifications needed to enable programmers to prepare required digital computer programs. Work involves most of the following: Analyzes subject-matter operations to be automated and identifies conditions and criteria required to achieve satisfactory results; specifies number and types of records, files and documents to be used; outlines actions to be performed by personnel and computers in sufficient detail for presentation to management and for programming (typically this involves preparation of work and data flow charts); coordinates the development of test problems and participates in trial runs of new and revised systems; and recommends equipment changes to obtain more effective overall operations. (*NOTE*: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic

data processing employees, or systems analysts primarily concerned with scientific or engineering problems.

For wage study purposes, systems analysts are classified as follows:

Class A. Works independently or under only general direction on complex problems involving all phases of systems analysis. Problems are complex because of diverse sources of input data and multiple-use requirements of output data. (For example, develops an integrated production scheduling, inventory control, cost analysis, and sales analysis record in which every item of each type is automatically processed through the full system of records and appropriate followup actions are initiated by the computer.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of new or revised systems of data processing operations. Makes recommendations, if needed, for approval of major system installations or changes and for obtaining equipment.

May provide functional direction to lower level systems analysts who are assigned to assist.

Class B. Works independently or under only general direction on problems that are relatively uncomplicated to analyze, plan, program, and operate. Problems are of limited complexity because sources of input data are homogeneous and the output data are closely related. (For example, develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, or maintaining inventory accounts in a manufacturing or wholesale establishment.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of the data processing systems to be applied.

OR

Works on a segment of a complex data processing scheme or system, as described for class A. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instruction, and to insure proper alignment with the overall system.

Class C. Works under immediate supervision, carrying out analysis as assigned, usually of a single activity. Assignments are designed to develop and expand practical experience in the application of procedures and skills required for systems analysis work. For example, may assist a higher level systems analyst by preparing the detailed specifications required by programmers from information developed by the higher level analyst.

Drafter, class A

Plans the graphic presentation of complex items having distinctive design features that differ significantly from established drafting precedents. Works in close support with the design originator, and may recommend minor design changes. Analyzes the effect of each change on the details of form, function, and positional relationships of components and parts. Works with a minimum of supervisory assistance. Completed work is reviewed by design originator for consistency with prior engineering determinations. May either prepare drawings, or direct their preparation by lower level drafters.

Drafter, class B

Performs nonroutine and complex drafting assignments that require the application of most of the standardized drawing techniques regularly used. Duties typically involve such work as: Prepares working drawings of subassemblies with irregular shapes, multiple functions, and precise positional relationships between components; prepares architectural drawings for construction of a building including detail drawings of foundations, wall sections, floor plans, and roof. Uses accepted formulas and manuals in making necessary computations to determine quantities of materials to be used, load capacities, strengths, stresses, etc. Receives initial instructions, requirements, and advice from supervisor. Completed work is checked for technical adequacy.

Drafter, class C

Prepares detail drawings of single units or parts for engineering, construction, manufacturing, or repair purposes. Types of drawings prepared include isometric projections (depicting three dimensions in accurate scale) and sectional views to clarify positioning of components and convey needed information. Consolidates details from a number of sources and adjusts or transposes scale as required. Suggested methods of approach, applicable precedents, and advice on source materials are given with initial assignments. Instructions are less complete when assignments recur. Work may be spot-checked during progress.

Drafter-tracer

Copies plans and drawings prepared by placing tracing cloth or paper over drawings and tracing with pen or pencil. (Does not include tracing limited to plans primarily consisting of straight lines and a large scale not requiring close delineation.)

and/or

Prepares simple or repetitive drawings of easily

visualized items. Work is closely supervised during progress.

Electronics technician

Works on various types of electronic equipment and related devices by performing one or a combination of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment—consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit—includes, but is not limited to, the following: (a) Electronic transmitting and receiving equipment (e.g., radar, radio, telephone, sonar, navigational aids), (b) digital and analog computers, and (c) industrial and medical measuring and controlling equipment.

This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose primary duty is servicing electronic test instruments; technicians who have administrative or supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions:

Class A. Applies advanced technical knowledge to solve unusually complex problems (i.e., those that typically *cannot* be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include location and density of circuitry, electro-magnetic radiation, isolating malfunctions, and frequent engineering changes. Work involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., dual trace oscilloscopes, Q-meters, deviation meters, pulse generators).

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

Class B. Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically *can* be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting tools and testing instruments, usually less complex than those used by the Class A technician.

Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide technical guidance to lower level technicians.

Class C. Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., multimeters, audio signal generators, tube testers, oscilloscopes). Is not required to be familiar with the interrelationships of circuits. This knowledge, however, may be acquired through assignments designed to increase competence (including classroom training) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot checked, but is given detailed review when new or advanced assignments are involved.

Peripheral Equipment Operator

Operates peripheral equipment which directly supports digital computer operations. Such equipment is uniquely and specifically designed for computer applications, but need not be physically or electronically connected to a computer. Printers, plotters, card read/punches, tape readers, tape units or drives, disk units or drives, and data display units are examples of such equipment.

The following duties characterize the work of a peripheral equipment operator:

- Loading printers and plotters with correct paper; adjusting controls for forms, thickness, tension, printing density, and location; and unloading hard copy.
- Labelling tape reels, disks, or card decks.
- Checking labels and mounting and dismounting designated tape reels or disks on specified units or drives.
- Setting controls which regulate operation of the equipment.
- Observing panel lights for warnings and error indications and taking appropriate action.
- Examining tapes, cards, or other material for creases, tears, or other defects which could cause processing problems.

This classification excludes workers (1) who monitor and operate a control console (see computer operator) or a remote terminal, or (2) whose duties are limited to operating decollaters, bursters, separators, or similar equipment.

Registered industrial nurse

A registered nurse who gives nursing service under general medical direction to ill or injured employees, or other persons who become ill or suffer an accident, on the premises of a factory or other establishment. Duties involve a *combination of the following*: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

Industry Wage Studies

The most recent reports providing occupational wage data for industries included in the Bureau's program of industry wage surveys since 1960 are listed below. Copies are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from any of its regional sales offices, and from the regional offices of the Bureau of Labor Statistics shown on the inside back cover. Copies that are out of stock are available for reference purposes at leading public, college, or university libraries, or at the Bureau's Washington or regional offices.

Manufacturing

Basic Iron and Steel, 1972. BLS Bulletin 1839[1]
Candy and Other Confectionery Products, 1975. BLS Bulletin 1939
Cigar Manufacturing, 1972. BLS Bulletin 1976
Cigarette Manufacturing, 1976, BLS Bulletin 1944
Corrugated and Solid Fiber Boxes, 1976. BLS Bulletin 1921
Fabricated Structural Steel, 1974. BLS Bulletin 1935
Fertilizer Manufacturing, 1972. BLS Bulletin 1763
Flour and Other Grain Mill Products, 1977. BLS Bulletin 2026
Fluid Milk Industry, 1973. BLS Bulletin 1871
Footwear, 1975. BLS Bulletin 1946
Grain Mill Products, 1977. BLS Bulletin 2026
Hosiery, 1976. BLS Bulletin 1987
Industrial Chemicals, 1976. BLS Bulletin 1978
Iron and Steel Foundries, 1973. BLS Bulletin 1894
Leather Tanning and Finishing, 1973. BLS Bulletin 1835
Machinery Manufacturing, 1978. BLS Bulletin 2022
Meat Products, 1974. BLS Bulletin 1896
Men's Shirts and Separate Trousers, 1978. BLS Bulletin 2035
Men's and Boy's Suits and Coats, 1976. BLS Bulletin 1962
Miscellaneous Plastics Products, 1974. BLS Bulletin 1914
Motor Vehicles and Parts, 1973–74. BLS Bulletin 1912
Nonferrous Foundries, 1975. BLS Bulletin 1952
Paints and Varnishes, 1976. BLS Bulletin 1973
Paperboard Containers and Boxes, 1970. BLS Bulletin 1719
Petroleum Refining, 1976. BLS Bulletin 1948
Pressed or Blown Glass and Glassware, 1975. BLS Bulletin 1923
Pulp, Paper, and Paperboard Mills, 1977. BLS Bulletin 2008
Semiconductors, 1977. BLS Bulletin 2021
Shipbuilding and Repairing, 1976. BLS Bulletin 1968
Southern Sawmills and Planing Mills, 1969. BLS Bulletin 1694
Structural Clay Products, 1975. BLS Bulletin 1942
Synthetic Fibers, 1976. BLS Bulletin 1975
Textile Dyeing and Finishing, 1976. BLS Bulletin 1967
Textiles, 1975. BLS Bulletin 1945
Wages and Demographic Characteristics in Work Clothing Manufacturing, 1972. BLS Bulletin 1858
West Coast Sawmilling, 1969. BLS Bulletin 1704
Women's and Misses' Coats and Suits, 1970. BLS Bulletin 1728
Women's and Misses' Dresses, 1977. BLS Bulletin 2007
Wood Household Furniture, Except Upholstered, 1974. BLS Bulletin 1930

Nonmanufacturing

Appliance Repair Shops, 1975. BLS Bulletin 1936
Auto Dealer Repair Shops, 1973. BLS Bulletin 1876
Banking and Life Insurance, 1976. BLS Bulletin 1988
Bituminous Coal Mining, 1976. BLS Bulletin 1999
Communications, 1977. BLS Bulletin 2029
Computer and Data Processing Services, 1978. BLS Bulletin 2028
Contract Cleaning Services, 1977. BLS Bulletin 2009
Contract Construction, 1973. BLS Bulletin 1911
Department Stores, 1977. BLS Bulletin 2006
Educational Institutions: Nonteaching Employees, 1968-69. BLS Bulletin 1671
Electric and Gas Utilities, 1979. BLS Bulletin 2040
Hospitals, 1975-76. BLS Bulletin 1949
Hotels and Motels, 1973. BLS Bulletin 1883
Laundry and Cleaning Services, 1968. BLS Bulletin 1645[1]
Metal Mining, 1977. BLS Bulletin 2017
Motion Picture Theatres, 1966. BLS Bulletin 1542[1]
Nursing Homes and Related Facilities, 1976. BLS Bulletin 1974
Oil and Gas Extraction, 1977. BLS Bulletin 2014
Scheduled Airlines, 1975. BLS Bulletin 1951
Wages and Tips in Restaurants and Hotels, 1970. BLS Bulletin 1712

[1]Bulletin out of stock.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1979—O-311-416 (169)

24 Hour CPI Mailgram Service

Consumer Price Index data now are available by mailgram within 24 hours of the CPI release. The new service is being offered by the Bureau of Labor Statistics through the National Technical Information Service of the U.S. Department of Commerce.

The CPI MAILGRAM service provides unadjusted and seasonally adjusted data both for the All Urban Consumers (CPI-U) and for the Urban Wage Earners and Clerical Workers (CPI-W) Indexes as shown on the CPI-U sample page below. The unadjusted data include the current month's index and the percent changes from 12 months ago and one month ago. The seasonally adjusted data are the percent changes from one month ago.

CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS (CPI-U): U.S. CITY AVERAGE (1967=100)

GROUP	UNADJ INDEX MAY 1979	UNADJUSTED PER CHG FROM 12 MO AGO	UNADJUSTED PER CHG FROM 1 MO AGO	S ADJ PER CHG FROM 1 MO AGO
ALL ITEMS	214.1	10.8	1.2	1.1
ALL ITEMS(1957-59=100)	249.0	-	-	-
FOOD AND BEVERAGES	228.2	11.2	.8	.7
FOOD	234.3	11.4	.9	.7
FOOD AT HOME	233.4	11.3	.7	.5
CEREALS AND BAKERY PRODUCTS	216.2	9.5	.8	1.0
MEATS, POULTRY, FISH, AND EGGS	242.2	19.4	.9	.1
DAIRY PRODUCTS	203.8	11.1	.7	.8
FRUITS AND VEGETABLES	226.8	3.4	.1	-.2
FOOD AWAY FROM HOME	241.1	11.7	1.1	1.1
HOUSING	222.4	11.3	1.2	1.2
RENT, RESIDENTIAL	173.8	6.8	1.0	1.0
HOMEOWNERSHIP	254.9	14.6	1.3	1.3
FUEL AND OTHER UTILITIES	232.2	7.7	2.1	2.2
FUEL OIL, COAL, AND BOTTLED GAS	364.3	23.2	4.1	4.8
GAS (PIPED) AND ELECTRICITY	251.6	8.2	2.6	2.6
HOUSEHOLD FURNISHINGS AND OPERATION	189.2	7.5	.3	.4
APPAREL AND UPKEEP	166.1	3.9	.4	.0
TRANSPORTATION	207.7	13.4	2.4	1.8
NEW CARS	165.8	8.7	.9	1.1
USED CARS	205.4	11.3	2.7	-.5
GASOLINE	247.7	29.1	5.5	5.0
PUBLIC TRANSPORTATION	193.3	3.1	.4	.7
MEDICAL CARE	236.3	8.9	.5	.6
MEDICAL CARE SERVICES	254.4	9.4	.5	.6
ENTERTAINMENT	187.8	6.6	.7	.5
OTHER GOODS AND SERVICES	193.9	7.5	.4	.5
PERSONAL CARE 1/	193.9	7.5	.6	.6
COMMODITIES	205.8	10.9	1.2	.9
COMMODITIES LESS FOOD AND BEVERAGES	192.9	10.9	1.5	1.0
NONDURABLES LESS FOOD AND BEVERAGES	195.7	12.0	2.0	1.9
DURABLES	189.2	10.0	1.1	.5
SERVICES	229.5	10.3	1.1	1.3
ALL ITEMS LESS FOOD	203.9	10.5	1.3	1.2
ENERGY 1/	260.8	19.8	4.2	4.2
ALL ITEMS LESS FOOD AND ENERGY	204.1	9.5	.9	.9

1/ NOT SEASONALLY ADJUSTED.

ORDER FROM: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161

Please enter _____subscription(s) to CONSUMER PRICE INDEX MAILGRAM (NTISUB/158).
Subscription rates: $95.00 in contiguous U.S. and Hawaii, $110.00 in Alaska and Canada.

NAME: _____
STREET ADDRESS: _____
CITY, STATE, ZIP: _____

( ) ENCLOSED $_____Purchase Order Number _____
( ) CHARGE $_____to my American Express Account # _____
( ) CHARGE $_____to my NTIS Deposit Account # _____
( ) BILL ME $_____SIGNATURE REQUIRED _____

Handbook of Labor Statistics 1978

The 1978 edition of the Handbook of Labor Statistics makes available in one 620-page volume the major series produced by the Bureau of Labor Statistics. Each table is complete historically, beginning with the earliest reliable and consistent data and running through calendar year 1977. The volume includes index and technical notes.

Tables include:

Labor force
Employment
Unemployment
Hours
Productivity and unit labor costs
Compensation
Prices and living conditions
Unions and industrial relations
Foreign labor statistics
General economic data

Mail Order Form to:

BLS Regional Office nearest you (listing elsewhere) or Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
Make checks payable to Superintendent of Documents

Please send _____ copies of BLS Bulletin 2000 *Handbook of Labor Statistics 1978* Stock No. 029-001-02194-1 at $9.50 a copy.

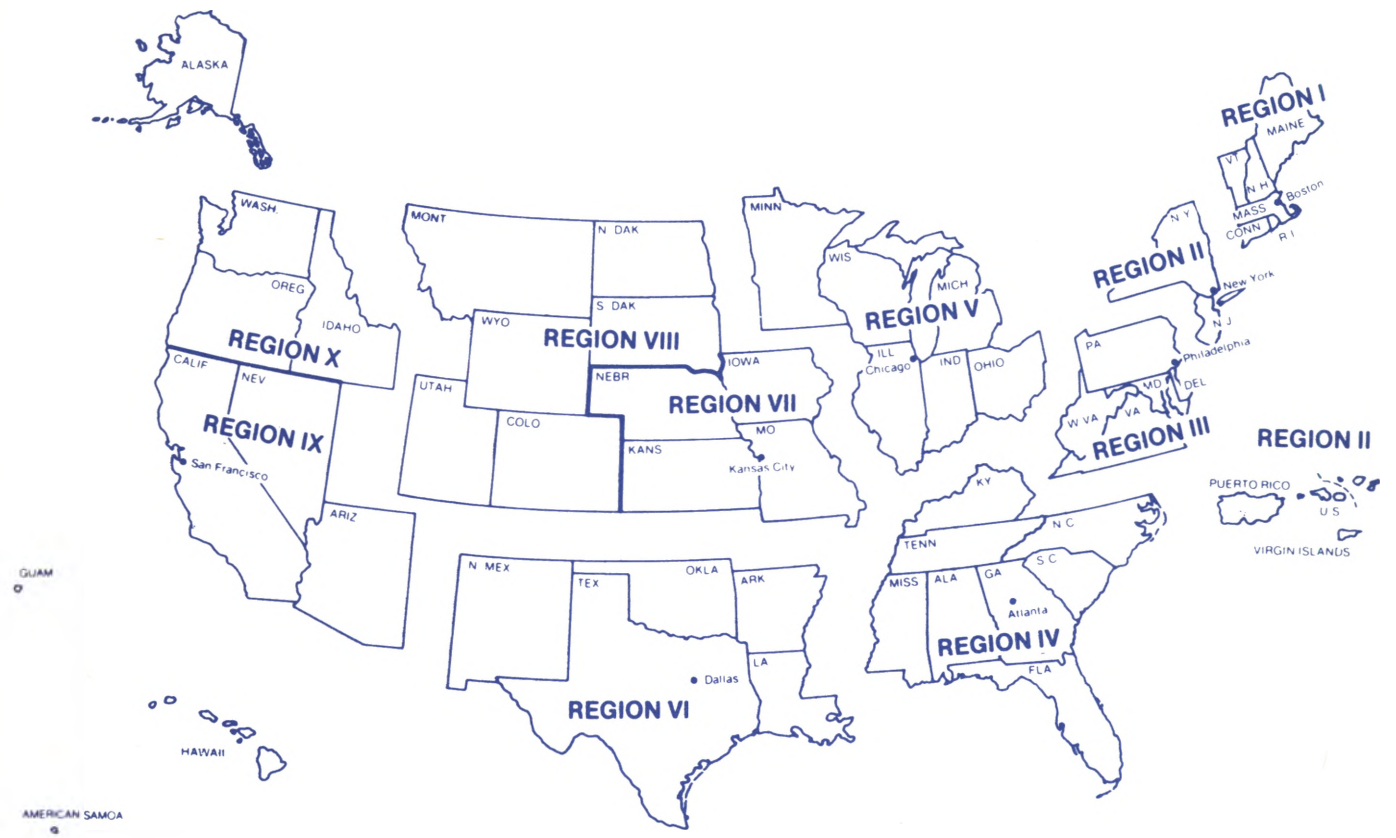
Name _____

Organization _____

Address _____

City, State, and Zip Code _____

Bureau of Labor Statistics
Regional Offices



Region I
1603 JFK Federal Building
Government Center
Boston, Mass. 02203
Phone: (617) 223-6761

Region II
Suite 3400
1515 Broadway
New York, N.Y. 10036
Phone: (212) 944-3121

Region III
3535 Market Street
P.O. Box 13309
Philadelphia, Pa. 19101
Phone: (215) 596-1154

Region IV
1371 Peachtree Street, N.E.
Atlanta, Ga. 30309
Phone: (404) 881-4418

Region V
9th Floor
Federal Office Building
230 S. Dearborn Street
Chicago, Ill. 60604
Phone: (312) 353-1880

Region VI
Second Floor
555 Griffin Square Building
Dallas, Tex. 75202
Phone: (214) 767-6971

Regions VII and VIII
911 Walnut Street
Kansas City, Mo. 64106
Phone: (816) 374-2481

Regions IX and X
450 Golden Gate Avenue
Box 36017
San Francisco, Calif. 94102
Phone: (415) 556-4678