Salary Information for Nuclear Engineers and Health Physicists, October 1995

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INTRODUCTION

Salary information was collected for October 1995 for personnel working as nuclear engineers and health physicists. The salary information includes personnel at the B.S., M.S., and Ph.D. levels with zero, one, and three years of professional work experience.

Information is provided for utilities and non-utilities. Non-utilities include private sector organizations and U.S. Department of Energy contractor-operated facilities. Government agencies, the military, academic organizations, and medical facilities are excluded.

The number of requests for information and of responses received are summarized in Table 1.

Table 1. Salary Information Requests and Responses, October 1995

	<u># Requests</u>	<u># Responses</u>	<u>% Responded</u>
Utilities* :	50	20	40%
Non-Utilities:	155	51	33%

* Includes two refusals in the number of responses.

SUMMARY HIGHLIGHTS -- OCTOBER 1995 SALARY INFORMATION

Salaries for Nuclear Engineers (see Table 2 and 3)

Nuclear engineers' salaries reported by utilities versus non-utilities

Average salaries at utilities are equal to or higher than average salaries at non-utilities for the B.S. degree level. Non-utilities reported higher average salaries for the M.S. and Ph.D. degree levels.

For B.S. level with zero years of professional work experience, the average annual salary is \$36,600 for both utilities and non-utilities.

For M.S. level with zero years of professional work experience, the average annual salary is \$38,400 for utilities and \$39,600 for non-utilities.

For Ph.D. level with zero years of professional work experience, the average annual salary is \$40,400 for utilities and \$47,900 for non-utilities.

Nuclear engineers' salary differentials between experience levels

Non-utilities have larger differentials in average salaries than utilities between each level of experience for all degree levels except for the B.S. level, zero versus one year of experience.

For the B.S. level, utilities have an average salary differential of \$2,500 for zero versus one year of experience and \$4,100 for one versus three years of experience, while non-utilities have average salary differentials of \$2,000 and of \$4,300, respectively.

For the M.S. level, utilities have an average salary differential of \$1,700 for zero versus one year of experience and of \$3,300 for one versus three years of experience, while non-utilities have average salary differentials of \$2,500 and \$5,100, respectively.

For the Ph.D. level, utilities have an average salary differential of \$2,100 for zero versus one year of experience and of \$1,900 for one versus three years of experience, while non-utilities have average salary differentials of \$3,100 and \$4,300, respectively.

Nuclear engineers' salary differentials between degree levels

Non-utilities have larger differentials in average salaries than utilities between all degree levels at each level of experience. Also, the salary differentials in non-utilities are greater for Ph.D. versus M.S. than for M.S. versus B.S. degree levels.

The differences in average salaries at utilities for M.S. versus B.S. degree levels are \$1,800 for no experience, \$1,000 for one year of experience, and \$200 for three years of experience; while at non-utilities the differences are \$3,000, \$3,500 and \$4,300, respectively.

The differences in average salaries at utilities for Ph.D. versus M.S. degree levels are \$2,000 for no experience, \$2,400 for one year of experience, and \$1,000 for three years of experience, while at non-utilities the differences are \$8,300, \$8,900, and \$8,100 respectively.

Salaries for Health Physicists (see Tables 2 and 3)

Health physicists' salaries for utilities versus non-utilities

Average salaries at utilities are higher than average salaries at non-utilities for B.S. and M.S. levels. Non-utilities reported higher average salaries for Ph.D. levels.

For B.S. degree with zero years of professional work experience, the average annual salary is \$38,500 for utilities and \$34,700 for non-utilities.

For M.S. degree with zero years of professional work experience, the average annual salary is \$40,200 for utilities and \$39,500 for non-utilities.

For Ph.D. degree with zero years of professional work experience, the average annual salary is \$42,600 for utilities and \$48,100 for non-utilities.

Health physicists' salary differentials between experience levels

Utilities have slightly larger salary differentials than non-utilities between each level of experience for B.S. and M.S. degree levels. Non-Utilities have larger salary differentials between experience levels for the Ph.D. degree level.

At the B.S. level, utilities have an average salary differential of \$3,200 for zero versus one year of experience and of \$5,300 for one year versus three years of experience while non-utilities have average salary differentials of \$3,000 and \$4,800, respectively.

At the M.S. level, utilities have an average salary differential of \$2,400 for zero versus one year of experience and of \$5,800 for one versus three years of experience while non-utilities have average salary differentials of \$2,100 and \$5,700, respectively.

At the Ph.D. level, utilities have an average salary differential of \$2,500 for zero versus one year of experience and of \$2,900 for one versus three years of experience while non-utilities have average salary differentials of \$2,900 and \$6,000, respectively.

Health physicists' salary differentials between degree levels

Non-utilities in comparison to utilities have larger differentials in average salaries between degree levels at each level of experience. Also, the salary differentials in non-utilities are greater for Ph.D. versus M.S. than for M.S. versus B.S. degree levels.

The differences in average salaries at utilities for M.S. versus B.S. degree levels are \$1,700 for no experience, \$900 for one year of experience, and \$1,400 for three years of experience; at non-utilities the differences are \$4,800, \$3,900, and \$4,800, respectively.

The differences in average salaries at utilities for Ph.D. versus M.S. degree levels are \$2,400 for no experience, \$2,500 for one year of experience, and a decrease of \$400 for three years of experience; at non-utilities the differences are \$8,600, \$9,400, and \$9,700, respectively.

Salary Comparisons between Health Physicists and Nuclear Engineers

Salary comparisons at utilities

For utilities, average salaries for health physicists are higher than for nuclear engineers for all experience and degree categories.

Average salaries at the B.S. degree level range from \$1,900 to \$3,800 higher for health physicists than for nuclear engineers.

Average salaries at the M.S. degree level range from \$1,800 to \$5,000 higher for health physicists than for nuclear engineers.

Average salaries at the Ph.D. degree level range from \$2,200 to \$3,600 higher for health physicists than for nuclear engineers.

For all three degree levels, the greater the number of years of experience the larger the difference in average salary for health physicists over nuclear engineers.

Salary comparisons at non-utilities

For non-utilities, average salaries for nuclear engineers compared to health physicists differ by only a few hundred dollars for most categories -- higher in five, equal in one, and less in three.

Average salaries for nuclear engineers are higher than for health physicists at the B.S. degree level for all experience levels and at the M.S. degree level for zero and one year experience.

Average salaries for nuclear engineers are equal to health physicists at the Ph.D. degree level with one year experience and less than health physicists at the M.S. degree level with three years experience and at the Ph.D. degree level with zero and three years experience.

Percentage Change Trends for Salaries (see Table 4)

[These changes are for organizations that provided data in each pair of years being compared.]

The percentage increases in average salaries between 1994 and 1995 for both nuclear engineers and health physicists (with zero experience) are lower than the annual increases recorded for 1993-1994, and are mixed, some higher some lower, than the increases recorded for 1992-1993.

The percentage increases in average salaries for nuclear engineers between 1994 and 1995 varied between 1.5 to 2.1 percent for the three degree levels. In 1993-1994 the increases were either 2.5 or 2.6 percent.

The percentage increases in average salaries for health physicists between 1994 and 1995 varied between 1.8 to 2.3 percent for the three degree levels. In 1993-1994 the increases varied between 3.5 to 5.2 percent.

The percentage increase in average salaries between 1994 and 1995 was greater for health physicists than for nuclear engineers for B.S. and M.S. degree levels: 2.3 versus 1.5 percent at the B.S. degree level, and 2.3 versus 2.1 percent at the M.S. degree level. At the Ph.D. degree level, nuclear engineers had a larger percentage increase than health physicists between 1994 and 1995: 2.0 versus 1.8 percent.

Table 2. Utilities' Salary Information, October 1995

NUCLEAR ENGINEERS

<u>Years of Experience:</u>	Annual Salary (rounded to nearest hundred)								
	<u>B.S. Degree Level Personnel</u>			<u>M.S. Degree Level Personnel</u>			<u>Ph.D. Degree Level Personnel</u>		
	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>
total received:	16	15	14	11	11	10	7	7	7
Average (Mean) Salaries:	\$36,600	\$39,100	\$43,200	\$38,400	\$40,100	\$43,400	\$40,400	\$42,500	\$44,400
Median Salaries:	\$36,700	\$38,600	\$43,200	\$37,500	\$39,900	\$43,600	\$39,000	\$40,500	\$44,300
Stan. Dev. Salaries	\$2,200	\$2,700	\$4,000	\$2,900	\$2,500	\$3,800	\$4,300	\$4,200	\$5,100
High Salary	\$40,000	\$43,900	\$52,100	\$42,200	\$43,900	\$49,800	\$47,100	\$48,500	\$52,100
Low Salary	\$30,700	\$32,800	\$37,000	\$32,800	\$35,000	\$38,600	\$36,200	\$38,600	\$39,300

HEALTH PHYSICISTS

<u>Years of Experience:</u>	Annual Salary (rounded to nearest hundred)								
	<u>B.S. Degree Level Personnel</u>			<u>M.S. Degree Level Personnel</u>			<u>Ph.D. Degree Level Personnel</u>		
	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>
total received:	13	12	11	7	7	8	7	7	7
Average (Mean) Salaries:	\$38,500	\$41,700	\$47,000	\$40,200	\$42,600	\$48,400	\$42,600	\$45,100	\$48,000
Median Salaries:	\$37,000	\$39,400	\$43,900	\$39,000	\$40,600	\$46,200	\$42,000	\$44,700	\$48,900
Stan. Dev. Salaries	\$5,700	\$8,400	\$11,300	\$4,900	\$5,100	\$9,000	\$5,300	\$5,200	\$7,200
High Salary	\$49,000	\$63,000	\$77,000	\$47,800	\$51,100	\$64,900	\$49,900	\$53,400	\$60,300
Low Salary	\$31,400	\$32,700	\$37,300	\$33,900	\$37,300	\$37,300	\$33,900	\$37,300	\$37,300

Table 3. Non-Utilities Salary Information, October 1995

NUCLEAR ENGINEERS

	Annual Salary (rounded to nearest hundred)								
	<u>B.S. Degree Level Personnel</u>			<u>M.S. Degree Level Personnel</u>			<u>Ph.D. Degree Level Personnel</u>		
	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>
Years of Experience:									
total received:	33	35	37	29	33	33	25	25	29
Average (Mean) Salaries:	\$36,600	\$38,600	\$42,900	\$39,600	\$42,100	\$47,200	\$47,900	\$51,000	\$55,300
Median Salaries:	\$35,400	\$36,700	\$40,000	\$39,800	\$41,300	\$44,800	\$50,000	\$52,000	\$54,600
Stan. Dev. Salaries	\$7,400	\$9,300	\$12,800	\$3,900	\$5,400	\$8,600	\$6,800	\$8,200	\$9,000
High Salary	\$72,800	\$83,200	\$110,200	\$50,400	\$58,700	\$72,900	\$58,800	\$70,000	\$80,000
Low Salary	\$27,000	\$27,600	\$30,000	\$32,000	\$33,200	\$36,000	\$36,000	\$37,400	\$43,000

HEALTH PHYSICISTS

	Annual Salary (rounded to nearest hundred)								
	<u>B.S. Degree Level Personnel</u>			<u>M.S. Degree Level Personnel</u>			<u>Ph.D. Degree Level Personnel</u>		
	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>	<u>0 Years</u>	<u>1 Year</u>	<u>3 Years</u>
Years of Experience:									
total received:	29	32	36	26	26	29	21	22	22
Average (Mean) Salaries:	\$34,700	\$37,700	\$42,500	\$39,500	\$41,600	\$47,300	\$48,100	\$51,000	\$57,000
Median Salaries:	\$36,000	\$37,300	\$40,000	\$39,800	\$41,800	\$46,000	\$50,000	\$50,700	\$55,100
Stan. Dev. Salaries	\$6,000	\$8,400	\$10,200	\$4,700	\$5,800	\$9,300	\$6,700	\$8,300	\$10,500
High Salary	\$52,000	\$72,800	\$83,200	\$50,400	\$55,000	\$75,000	\$59,800	\$70,000	\$90,000
Low Salary	\$22,000	\$25,000	\$25,000	\$29,900	\$32,400	\$33,400	\$38,500	\$38,500	\$43,000

Table 4. Annual Salary Percentage Changes, 1992 - 1995
For Organizations Reporting Data in Both Years in each Column

**For Personnel with Zero Years of Experience and
All Organizations Combined (Utilities plus Non-Utilities)**

B.S. Level Personnel			
<i>(For zero years of experience)</i>			
	<u>1994 to 1995</u>	<u>1993 to 1994</u>	<u>1992 to 1993</u>
Nuclear Engineers			
Total Number of Organizations:	30	26	25
Average Percent Change in Salary:	1.5%	2.5%	1.8%
Health Physicists			
Total Number of Organizations:	24	21	17
Average Percent Change in Salary:	2.3%	4.5%	2.5%
M.S. Level Personnel			
<i>(For zero years of experience)</i>			
	<u>1994 to 1995</u>	<u>1993 to 1994</u>	<u>1992 to 1993</u>
Nuclear Engineers			
Total Number of Organizations:	25	20	19
Average Percent Change in Salary:	2.1%	2.6%	1.9%
Health Physicists			
Total Number of Organizations:	20	18	16
Average Percent Change in Salary:	2.3%	3.5%	2.5%
Ph.D. Level Personnel			
<i>(For zero years of experience)</i>			
	<u>1994 to 1995</u>	<u>1993 to 1994</u>	<u>1992 to 1993</u>
Nuclear Engineers			
Total Number of Organizations:	18	11	12
Average Percent Change in Salary:	2.0%	2.5%	1.0%
Health Physicists			
Total Number of Organizations:	16	12	11
Average Percent Change in Salary:	1.8%	5.2%	3.7%

FIGURES

Figure 1. Nuclear Engineers' Salaries at Utilities, October 1995

Figure 2. Nuclear Engineers' Salaries at Non-Utilities, October 1995

Figure 3. Health Physicists' Salaries at Utilities, October 1995

Figure 4. Health Physicists' Salaries at Non-Utilities, October 1995

Figure 5. B.S. Level, Zero Experience, Salary Percentage Changes For All Organizations (Utilities and Non-Utilities) Responding in Both Years Indicated

Figure 6. M.S. Level, Zero Experience, Salary Percentage Changes For All Organizations (Utilities and Non-Utilities) Responding in Both Years Indicated

Figure 7. Ph.D. Level, Zero Experience, Salary Percentage Changes For All Organizations (Utilities and Non-Utilities) Responding in Both Years Indicated

SURVEY RESPONDENTS

(Organizations that authorized listing of company name.)

Utilities

Arizona Public Service
Centerior Energy Corporation
ComEd
Consolidated Edison Company of New York
Consumers Power Company
Duke Power Company
Duquesne Light Company
Entergy Operations, Inc.
Houston Lighting and Power Company
Maine Yankee Atomic Power Company
Omaha Public Power District
PECO Energy Company
Tennessee Valley Authority
Texas Utilities Electric Company
The Southern Company
Vermont Yankee Nuclear Power
Washington Public Power Supply System
Wisconsin Public Service Corporation

Non-Utilities

Abbott Laboratories
Allied Signal, Inc.
Analysis and Measurement Services Corporation
Argonne National Laboratory
Argonne National Laboratory-West
Battelle Pacific Northwest National Laboratory
Brookhaven National Laboratory
B&W Nuclear Technologies
Computer Simulation and Analysis, Inc.
Fluor Daniel Company
General Atomics
IT Corporation
JBF Associates, Inc.
Knolls Atomic Power Laboratory
Lockheed Martin Energy Systems
Lockheed Martin Idaho Technologies
Los Alamos Technical Associates, Inc.
Mason & Hanger - Silas Mason Company, Inc.
NAC International
Nuclear Fuel Services, Inc.
Oak Ridge Associated Universities
Pickard, Lowe, & Garrick, Inc.
Plant Technical Services
Rogers & Associates Engineering Corporation
Rust Geotech, Inc.
Sandia National Laboratories
Science Applications International Corporation
Stanford Linear Accelerator Center
Utility Resource Associates
West Valley Nuclear Services Company
Westinghouse Electric-Bettis Atomic Power Lab.
Westinghouse Hanford
Westinghouse Savannah River Company
Westinghouse Waste Isolation Division