

## 2005 SCEA NATIONAL SURVEY RESULTS

The 2005 SCEA national survey was completed in March 2006. This survey provides information to the membership on salary, work, education, and SCEA related activities. The response to the survey was very good with 405 surveys returned which represents almost 40% of the membership. The compiled statistics are provided below. Since not every question was answered, when an average or percentage of the total is given, the calculation is based on the total number responding to that specific question. Throughout the survey the number of respondents varies. Salary figures have been rounded to the nearest 100 dollars and percentages have been rounded to the nearest decimal point.

### DEMOGRAPHICS

Exhibit 1 shows the overall profile of the respondents to the survey. Profile of Respondents (n = 405).

	Percent or Median
Gender	
Male	78%
Female	22%
Median Age (Years)	49
Age Group	
< 35	11%
35 to 44	23%
45 to 54	34%
≥ 55	32%
Median Years Experience	17
Supervisor	44%
Certified Cost Estimator/ Analyst	36%

Exhibit 1. Profile of Respondents

Exhibit 2 provides the employment status of the respondents. The overwhelming majority of the respondents were full-time employees. This is understandable since the profession is going through a full employment phase – people are hard to find. The overall percentage of unemployed is very low.

<b>Employment Status</b>	<b>Percent</b>
Full-time	94%
Part-time	2%
Retired	3%
Unemployed	1%
Total	100%

Exhibit 2. Employment Status

Exhibit 3 identifies the percentage of respondents by age and gender. There seemed to be a good distribution by age for those who responded. It can be assumed that the majority of our members have been in the business for many years.

<b>Respondents</b>	<b>Percent or Median</b>	
	<b>Male</b>	<b>Female</b>
Median Age (Years)	50	44
Age Group		
< 35	8%	23%
35 to 44	21%	30%
45 to 54	33%	37%
≥ 55	38%	10%
Median Years Experience	19	15
Supervisor	46%	39%
Certified Cost Estimator/ Analyst	41%	21%

Exhibit 3. Respondents by Age and Gender

Exhibit 4 shows the level of education the respondents have completed. Surprisingly almost 65 percent of those who responded have a master’s degree and 6 percent have a doctorate. The level of education of the SCEA membership is very impressive and unusually high for most organizations of this type.

Level of Education	Percent
High school	2%
Associate degree	1%
Bachelor’s degree	27%
Master’s degree	64%
Doctorate	6%

Exhibit 4. Highest Level of Education

Exhibit 5 shows the principle field of study in which they received their degree. In some cases, people responded with more than one answer (i.e., one for undergraduate and one for graduate degree.) In those cases, the last degree was considered to reflect the primary field. Overall the area of Business Management was the largest field of study. The respondents have a technical background including engineering and accounting. This continues to conclude that the profession requires both technical and general business knowledge to perform the cost estimating and analysis function. The job function for each respondent varies widely. The question stated: "what one area best describes your job function." Many of the respondents answered with two or three areas, which indicate many perform multiple functions. We were hoping by narrowing the number of job options on this survey, respondents would be better able to fit their function within those given. This still did not occur, which also accounts for the high percentage of "Other" functions.

Field of Education	Percent
Business/management	40%
Engineering	20%
Math/statistics	12%
Economics	11%
Accounting	9%
Operations research	2%
Computer science	1%
Other	5%

Exhibit 5. Field of Education

Exhibit 6 provides the percentage of respondents and the job function they perform.

<b>Job Function</b>	<b>Percent</b>
Cost estimating/analysis	65%
Financial management	11%
Program management	10%
Contracting	3%
Earned value management	3%
Accounting	1%
Other	7%

Exhibit 6. Job Function

For purposes of this survey we categorized the United States into 12 regions. Exhibit 7 provides a breakdown of the states located in each region.

<b>Region</b>	<b>States In Region</b>
New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Atlantic	Delaware, District of Columbia, Maryland, Virginia, West Virginia
Mid Atlantic	New Jersey, New York, Pennsylvania
East North Central	Illinois, Indiana, Michigan, Ohio, Wisconsin
West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
South East	Florida, Georgia, North Carolina, South Carolina
East South Central	Alabama, Kentucky, Mississippi, Tennessee
West South Central	Arkansas, Louisiana, Oklahoma, Texas
Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah
Pacific	Alaska, California, Hawaii, Oregon, Washington
Canada	

Exhibit 7. Region Categories by States in Region

Exhibit 8 provides a profile of the respondents by chapter. The result shows that the survey fairly represented the actual membership. In other words, the Washington Chapter is the largest and they had the most responses. Those who do not belong to a chapter are second in size and they were the second largest respondents. It is interesting to note that almost 9 percent of the respondents do not know to which chapter they belong. This was due to many responses, most of which were that they have never been notified of meetings by a local chapter (or national).

SCEA Chapter	Percent
Washington Metro	29%
Dayton	8%
Southern California	6%
Greater Huntsville	6%
New England	5%
Central (St. Louis)	4%
Greater Florida	4%
Rocky Mountain	2%
South Maryland	2%
Pikes Peak	2%
Orange County	1%
Seattle	1%
Lone Star	1%
Greater Phoenix	1%
Indianapolis	<1%
Atlanta	<1%
Baltimore	<1%
Detroit	<1%
San Diego	<1%
Pax River	<1%
Pacific Northwest	<1%
Twin Cities	<1%
Do not know	9%
Do not belong	16%

Exhibit 8. Respondents by SCEA Chapter

Exhibit 9 shows percentage distribution by geographical region.

<b>Geographic Region</b>	<b>Percent</b>
New England	5%
Atlantic	37%
Mid Atlantic	4%
East North Central	10%
West North Central	6%
South East	8%
East South Central	6%
West South Central	3%
Mountain	6%
Pacific	13%
Canada	<1%
Other countries	2%

Exhibit 9. Respondents by Geographic Region

Another question dealt with the primary business of each respondent. Exhibit 10 shows the breakdown between industry, government, and university; the vast majority (67 percent) of the respondents worked for Business/Industry.

<b>Employer</b>	<b>Percent</b>
Business/industry	67%
Government	30%
University/college	3%

Exhibit 10. Respondents by Employer

Exhibit 11 shows the breakout of the government personnel by Military or Civilian.

<b>Government</b>	<b>Percent</b>
Military	11%
Civilian	89%

Exhibit 11. Respondents by Government Breakout

Exhibit 12 shows the breakout of the military personnel by branch of service.

<b>Military</b>	<b>Percent</b>
USAF	92%
USN	8%

Exhibit 12. Respondents by Military Branch

Exhibit 13 shows the primary end product for Business/Industry. The majority of cost work is in support of the aircraft, missiles and spacecraft category. The next largest category is RDT&E and consulting.

<b>Business/Industry</b>	<b>Percent</b>
Aircraft, missiles, spacecraft	30%
RDT&E and consulting	24%
Electronics/communications	11%
Intelligence/reconnaissance	7%
Shipbuilding	2%
Computers/peripherals	1%
Components/devices	1%
Electro-optics	1%
Other	22%

Exhibit 13. Respondents by Business/Industry Primary End Product

## COMPENSATION

Salary was the most interesting subject of the survey. The basic category breakdown is shown in the following exhibits. Where no salary is identified, the number of respondents is too small to provide reliable results. The median salary in 2003 was approximately \$94,000. For reference purposes, this represents a 57% increase from our 1993 salary survey, which had the median salary at \$60,000. The median salary for 2002 was \$90,000. The median increase from 2002 to 2003 is 4.4%. Exhibits 14 and 15 show the median salary by geographical region and then by geographical region and gender.

<b>Geographical Region</b>	<b>Median Salary (\$)</b>
New England	96,000
Mid Atlantic	102,500
East North Central	85,000
West North Central	78,000
Atlantic	100,000
South East	80,000
East South Central	87,500
West South Central	89,000
Mountain	89,500
Pacific	96,000
Canada	---
Other countries	65,000

Exhibit 14. Median Salary by Geographical Region

Geographical Region	Median Salary (\$)	
	Males	Females
New England	111,500	78,000
Atlantic	103,500	85,000
Mid Atlantic	110,000	---
East North Central	85,000	94,000
West North Central	78,000	---
South East	85,000	65,000
East South Central	87,500	---
West South Central	115,000	67,000
Mountain	92,500	80,000
Pacific	97,000	80,000
Canada	---	---
Other countries	65,000	---

Exhibit 15. Median Salary by Geographical Region and Gender

Exhibits 16 and 17 further break down salary by education and then by education and gender. The median salary of those with only high school degrees is higher than those with Bachelor's and Master's degrees. This can be attributed to the fact that those with high school degrees probably have more years of experience.

Highest Level of Education	Median Salary (\$)
High school/Associate degree	90,000
Bachelor's degree	84,000
Master's degree	95,000
Doctorate	125,000

Exhibit 16. Median Salary by Highest Level of Education

Highest Level of Education	Median Salary (\$)	
	Males	Females
High school/Associate degree	87,000	---
Bachelor's degree	85,000	75,000
Master's degree	99,000	85,000
Doctorate	125,000	---

Exhibit 17. Median Salary by Highest Level of Education and Gender



Exhibits 18 and 19 further break down salary by employment and then by employment and gender.

Who Employed By?	Median Salary (\$)
Business/industry	92,000
Government	95,500
University/college	97,500

Exhibit 18. Median Salary by Employer

Who Employed By?	Median Salary (\$)	
	Males	Females
Business/industry	96,000	78,000
Government	100,000	90,000
University/college	97,500	---

Exhibit 19. Median Salary by Employer and Gender

Exhibit 20 breaks down salary by job function and gender.

Job Function	Median Salary (\$)	
	Males	Females
Cost estimating/analysis	95,000	81,500
Accounting	---	---
Financial management	95,000	92,500
Contracting	108,000	---
Program management	100,000	---
Earned value management	114,000	---

Exhibit 20. Median Salary by Job Function and Gender

Exhibit 21 breaks down salary by years experience and gender.

Years of Experience	Median Salary (\$)	
	Males	Females
<10	75,000	66,000
10-19	100,000	92,000
20-29	105,000	93,000
≥30	95,500	---

Exhibit 21. Median Salary by Years Experience and Gender

Exhibit 22 breaks down salary by age and gender.

Age	Median Salary (\$)	
	Males	Females
<35	70,000	58,000
35-44	88,500	85,000
45-54	100,000	89,500
≥55	100,000	96,000

Exhibit 22. Median Salary by Age and Gender

Exhibit 23 breaks down salary by years experience and business and government.

Years of Experience	Median Salary (\$)	
	Business	Government
<10	71,500	75,000
10-19	98,000	97,000
20-29	98,000	106,000
≥30	95,000	108,000

Exhibit 23. Median Salary by Years Experience and Employer

Exhibit 24 shows the topics to be included as part of education/training course, by percentage of members who choose topic as one of top three priorities.

Topic	Percent
Estimating methods and techniques	46%
Risk management techniques	34%
Cost/price analysis	26%
Earned value management	24%
Software sizing and estimating	23%
Parametric techniques in hardware estimating	20%
Probability and statistics	19%
Operations/support cost estimating	19%
Cost proposal preparation	18%
Economic analysis	17%
Data analysis and normalization	16%
Design-to-cost/life cycle cost	14%
Regression analysis	13%
Cost accounting	10%
Learning curves	8%
Defective pricing/estimating system compliance	8%

Exhibit 24. Topics to Be Included As Part Of Education/Training Course

Exhibit 25 shows the preferred training method.

<b>Method</b>	<b>Percent</b>
Training sessions several times a year at regional locations	65%
Training sessions at company on-site locations	50%
Correspondence courses	46%
Training sessions with joint sponsorship of other organizations	44%
Chapter training sessions	40%

Exhibit 25. Preferred Training Methods