



2016 NAYGN Career Report

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2016 NAYGN Benchmarking Committee

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I. Executive Summary

Since the formation of NAYGN in 1999, the organization has sought to be the voice of the young generation in nuclear. This survey and accompanying report represent an opportunity for young professionals in nuclear energy to provide their feedback and perspective on their careers and the industry as a whole.

As in previous surveys, this report addresses several main topics relevant to NAYGN members and their career, including: demographic information, salary, work hours, job satisfaction, and knowledge transfer. Participants were also asked to rate their satisfaction with NAYGN and the opportunities NAYGN offers.

Analysis of the collected data provided new insights and confirmed existing conclusions about the young generation in the nuclear industry. While a majority of young professionals report high levels of satisfaction with their jobs, the analysis shows a larger population of employees willing to seek new employment despite their current satisfaction levels. Factors with the most importance to job satisfaction continue to be salary, advancement opportunities (both compensation and positional) and a healthy work/life balance. The data indicates a positive direction for work/life balance as total salaries have increased and working hours have reduced slightly. Satisfaction with salary and salary growth along with work/life balance ranked in the top three factors while advancement opportunities was ranked second to last among the factors. The data indicates a positive direction for work/life balance as total salaries have increased and working hours have dropped.

Members of NAYGN continue to be actively engaged in their career and have a passion for their industry. The majority (five out of six) of surveyed members are satisfied with their jobs; two thirds are not actively seeking new employment opportunities.

II. Introduction

As the industry continues to evolve and adapt to market pressures, the perspective of the young generation continues to be an important factor in guiding the future of the industry. NAYGN surveyed its members to capture data that represents the voice of the young generation in the nuclear industry. The opinions and responses reported here represent a workforce that cares deeply about the future of the industry, the environmental benefits of nuclear energy, and how the industry is going to respond to the challenges facing it. NAYGN kept a large portion of the survey similar to previous reports from 2012 and 2014 to continue to enable trending between reports. For the 2016 survey, about one-third of our active members provided their thoughts and opinions.

III. Methodology and Data Collection

The development of the 2016 NAYGN Career Report occurred in three phases from October 2015 to April 2016. Survey methodology, data collection and analysis were the focus during the survey creation and analysis phases. The third phase, report writing, was the final phase that gathered conclusions and made recommendations based on the data.

During survey creation, the Benchmarking Committee agreed to use the similar survey questions from the 2012 and 2014 NAYGN Career Reports. The goal is to maintain a consistent survey to allow trending of data report over report. The survey continued to focus on several areas of interest, such as demographics, salary, career satisfaction, NAYGN satisfaction, and work hours. Minor changes to survey questions included:

- Switched several questions to ranking based responses (2016 questions numbered 17, 22, 23, 34, 38, and 39)
- Added question 19 to ask if weekly work hours have increased in the past two years
- Added more detail to question 26 to give context of why members would continue to see themselves working in the nuclear industry
- Added questions 28 through 30 for members to respond to high level themes of the nuclear industry

The survey had a total of 41 questions which were divided into pages according to the relevant areas. Some questions were branched depending on the response provided. This branching allowed for a deeper analysis in some areas. This is the second report with KT&R questions included. The committee focused on maintaining a survey for NAYGN members that would be short in length and response time. Fifty-seven percent indicated the length of the survey was just right. Based on lessons learned from previous career surveys and reports, fill-in-the-blank answers were kept at a minimum to support data analysis. Open response question feedback and conclusions are included in the report. This year the committee shifted a number of the questions to rankings to obtain better delineation between the options present in the questions.

The survey was open from October 12, 2015 to December 4, 2015. The link for the survey was provided to all NAYGN members via email in the NAYGN Membership Announcements and a Local Chapter Lead Brief. Of the roughly 3000 active NAYGN members, there were 851 respondents, leading to a response rate of 28%. All survey responses were anonymous.

Analysis was prepared based on similar results from the 2014 Career Report. When applicable, trends between each of 2012, 2014, and 2016 have been noted in the report. To provide clarity on some graphs, a few of the response categories were combined as noted. An extensive amount of effort was placed on analysis to ensure that accurate, beneficial, and clear information is reported to stakeholders.

IV. Demographic Information

Figure 1: Years of Experience

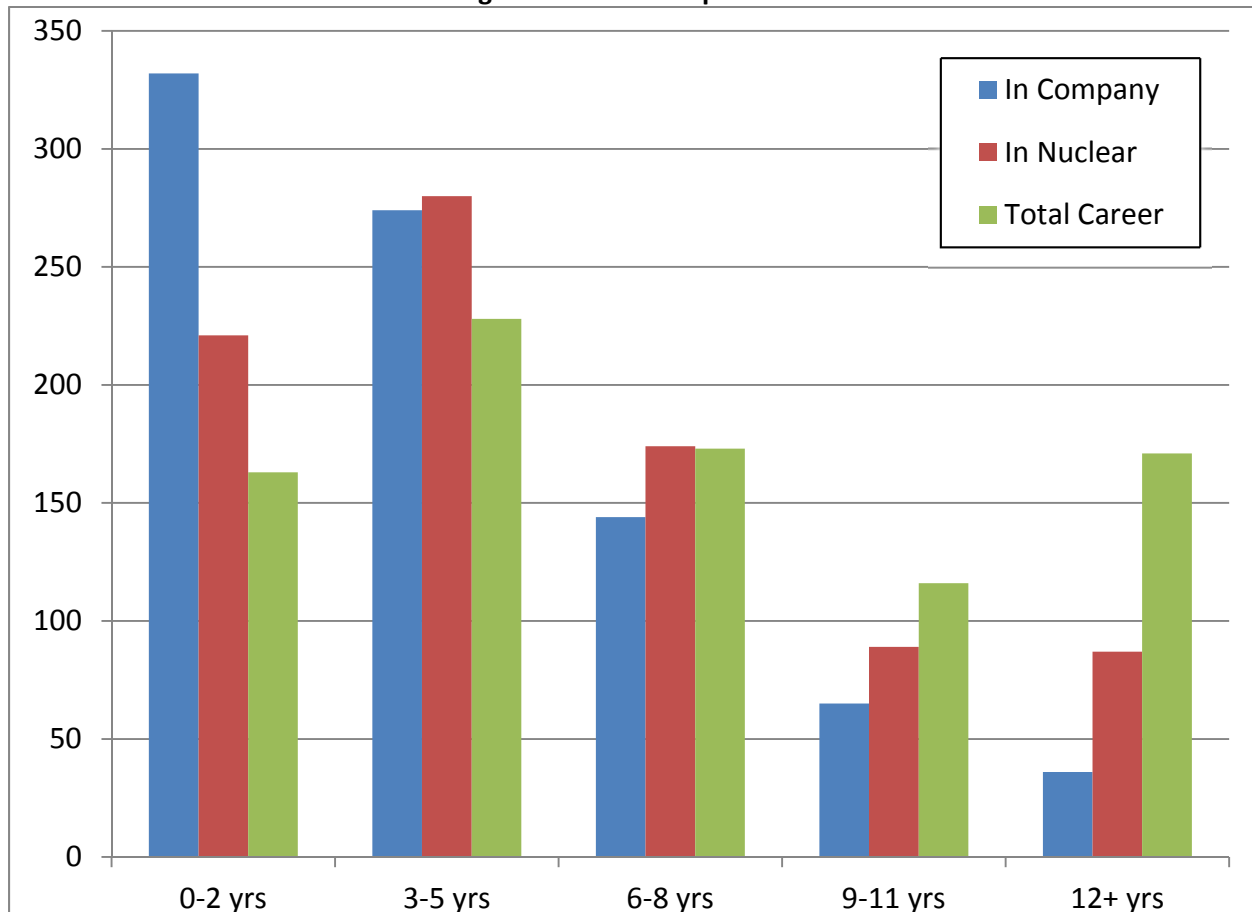
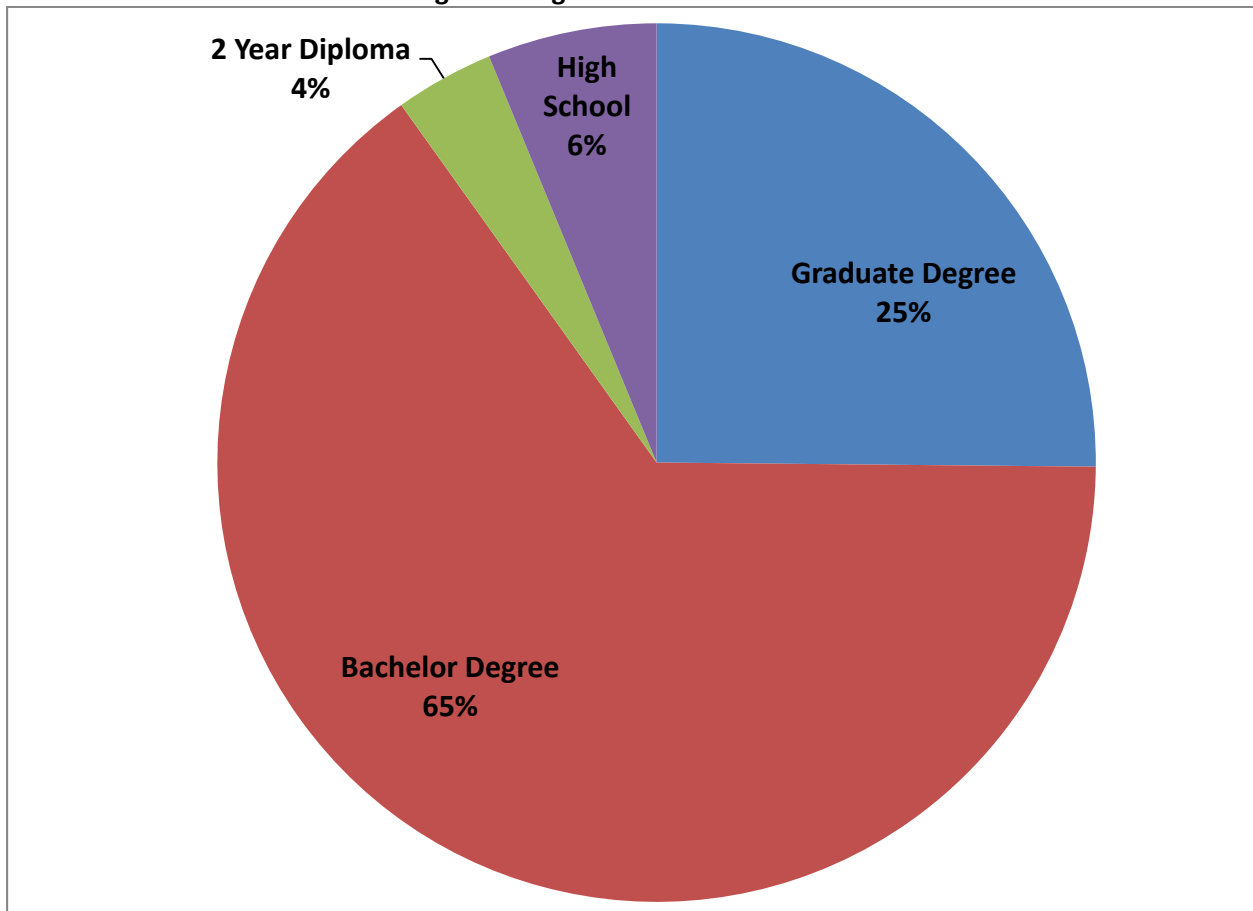


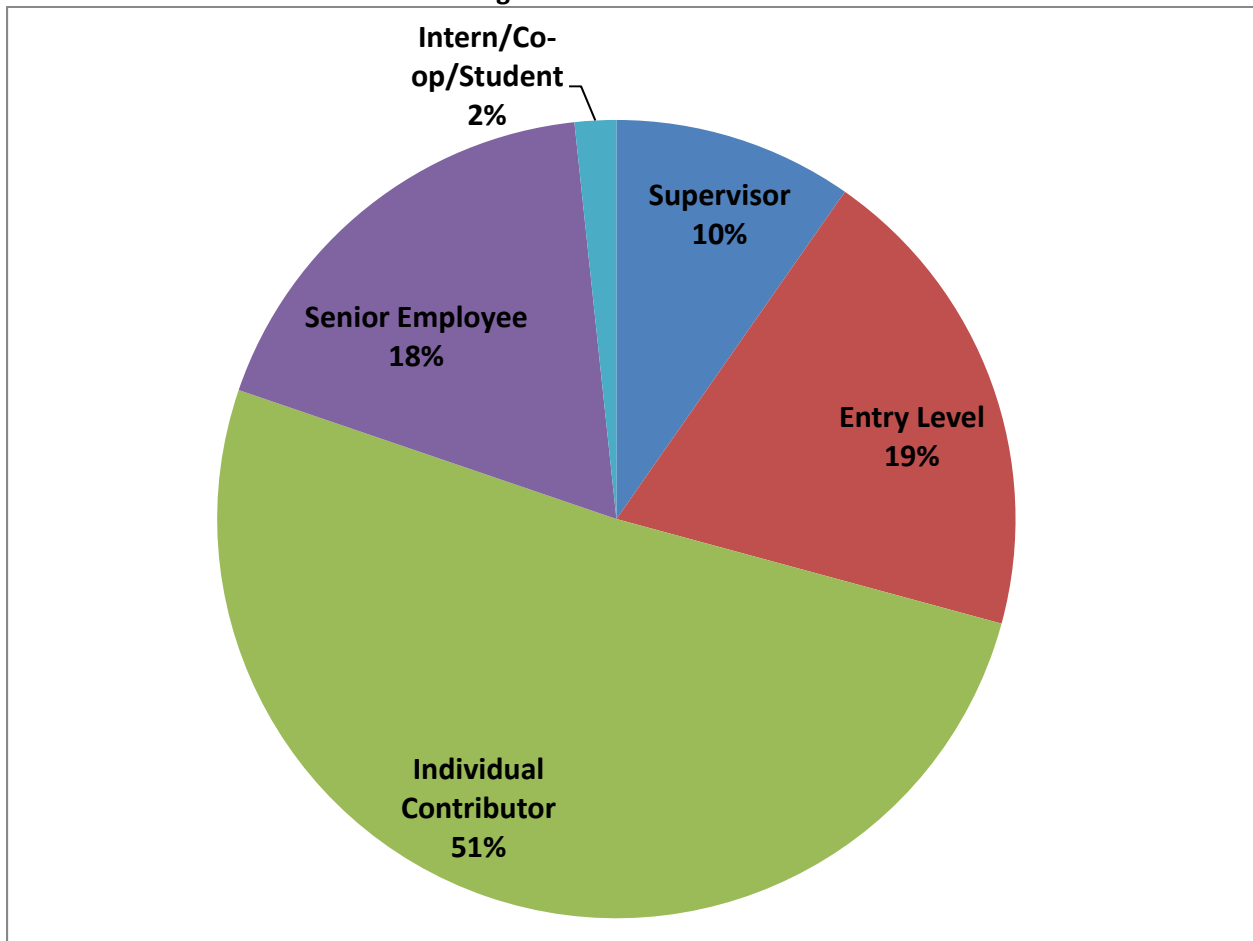
Figure 1 shows the working experience of the respondents in their current company, total throughout career and in the nuclear industry. It was found that 88%, a decrease of 8% from 2014, of the respondents have been in their current company for eight years or less. From the total data analyzed 79% have been in nuclear industry for the last eight years or less. This decreased from 92% in 2014. Finally, 66% of the respondents have eight years or less years of throughout career experience. This is a decrease from 83% in 2014. This indicates a larger number of respondents have been in their careers longer than eight years.

Figure 2: Highest Level of Education



Level of education was surveyed and the majority of young nuclear professionals have at least some level of college education (Figure 2). More than 90% of respondents have a bachelor and/or graduate degree. The number of respondents with a graduate degree decreased 3% from 2014, while those with a bachelor degree decreased from 63% in 2014 to 65% in 2016.

Figure 3: Current Position



Based on the responses gathered in the survey, 88% of the respondents are individual contributors in their company, with 18% at a senior level. Approximately 10% of the young professionals who participated in the survey are in supervisory positions.

This breakdown is consistent with the data collected in 2014.

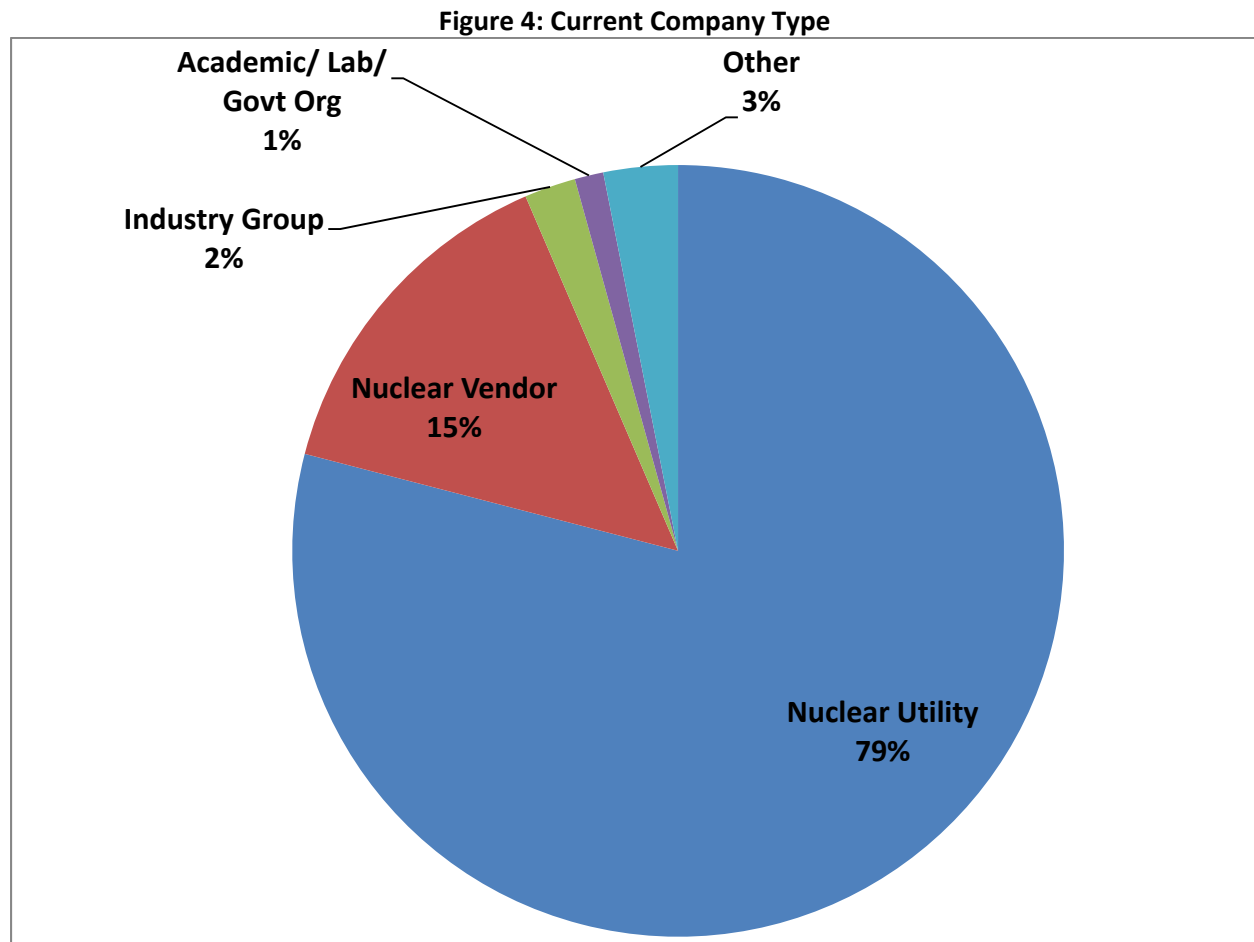


Figure 4 indicates that close to 79% of the respondents work in nuclear utilities. Those who work in industry groups, government organizations and laboratories make up less than 6% of the responses. Overall, this is consistent with the membership of NAYGN.

Figure 5: Respondents' Job Functions

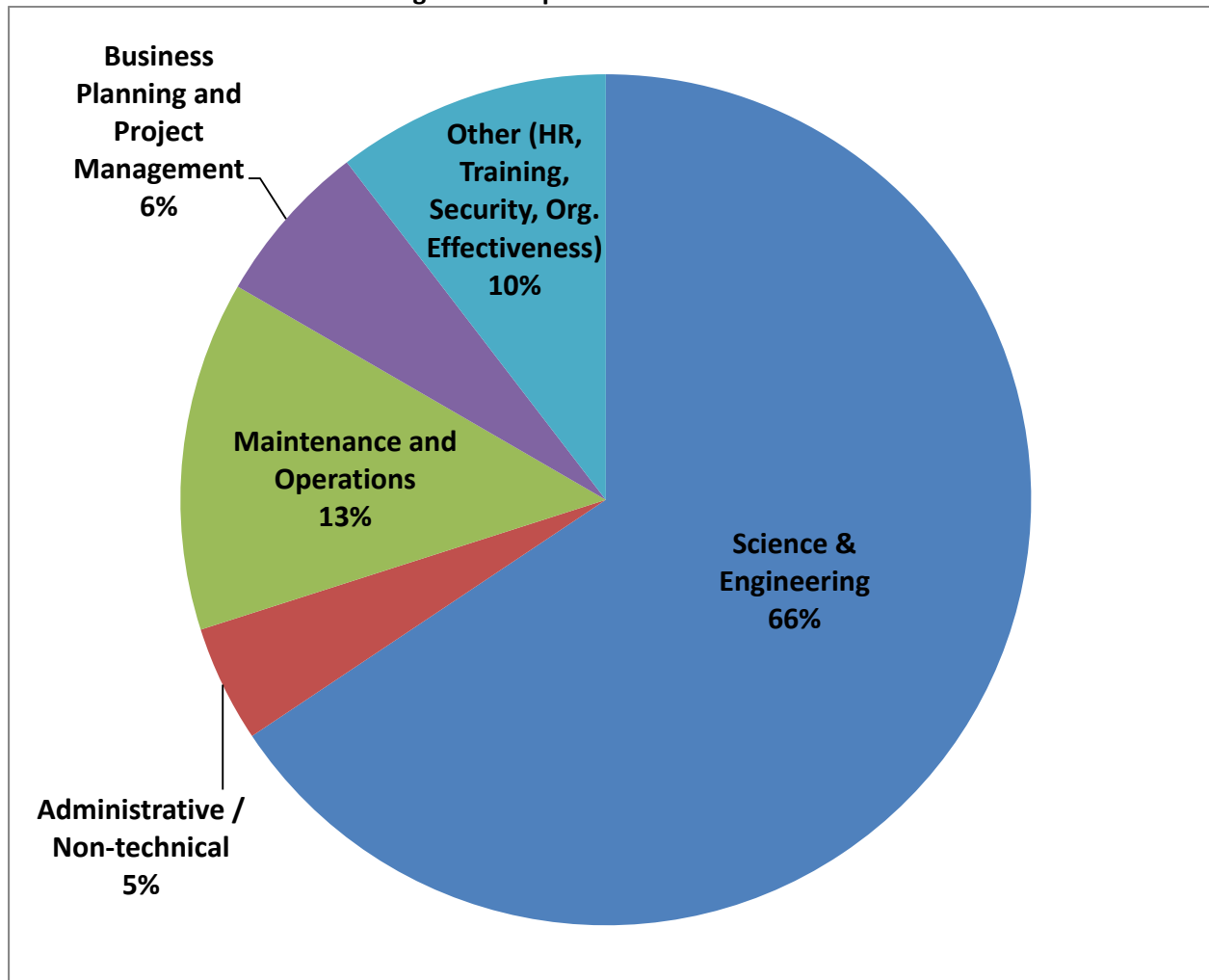


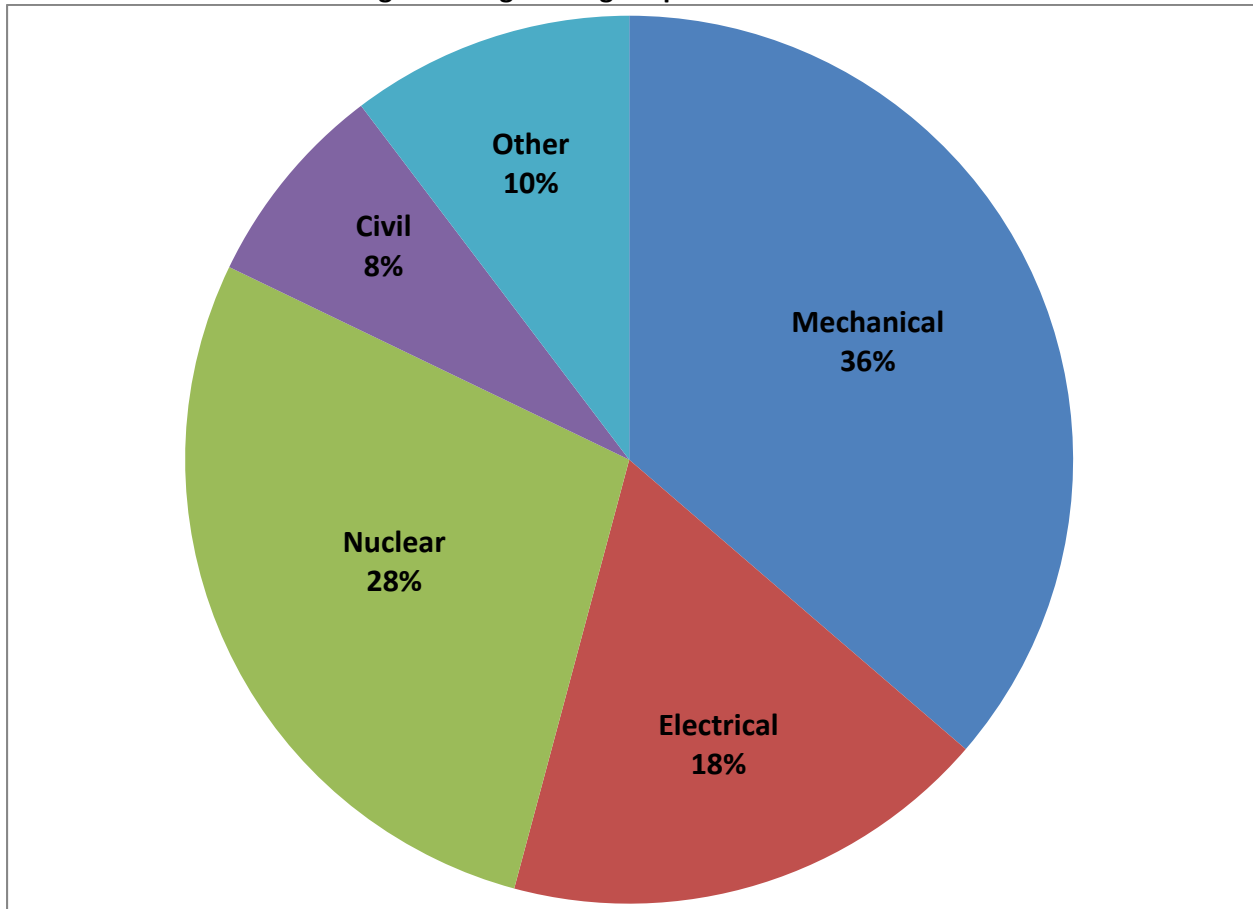
Figure 5 plots the respondent's job functions. Responses from NAYGN members in a wide range of job functions are represented in this survey.

Due to a low response rate from certain groups, some job functions were combined into job functions with similar salary ranges as follows:

1. Science (health physics, radiation protection, etc.) and Engineering were combined and are represented as "Science and Engineering."
2. Maintenance/ Technical and Operations were combined and are represented as "Maintenance and Operations."
3. HR/Communications, Security, and Learning/Training were combined and are represented as "Other (HR, Security, Training)."
4. Business Planning and Project Management.

Overall, the numbers are consistent with responses from 2014. However, there was a decline in Business Planning and Project Management from 11% to 6%.

Figure 6: Engineering Respondents' Positions



There is a diversity of engineering backgrounds within the nuclear industry. It seems that majority of the engineering respondents are mechanical engineers at 36%, a slight decline from 40% in 2014. Nuclear Engineers make-up 28% of the respondents and the remaining 36% consist of professionals in various fields of engineering. Based on this data, nuclear engineers do not represent the majority of engineers in nuclear energy.

Figure 7: Operations Respondents' Positions

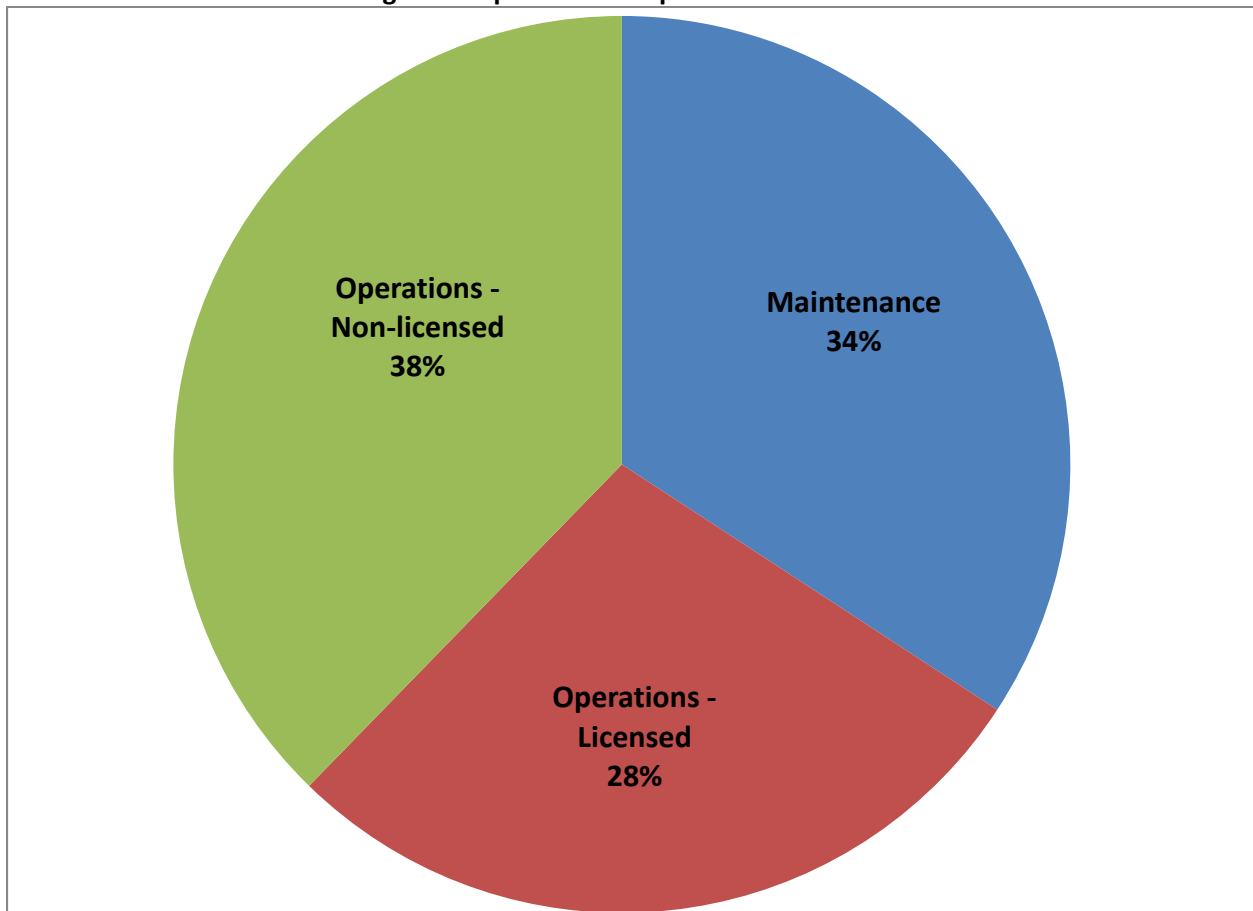
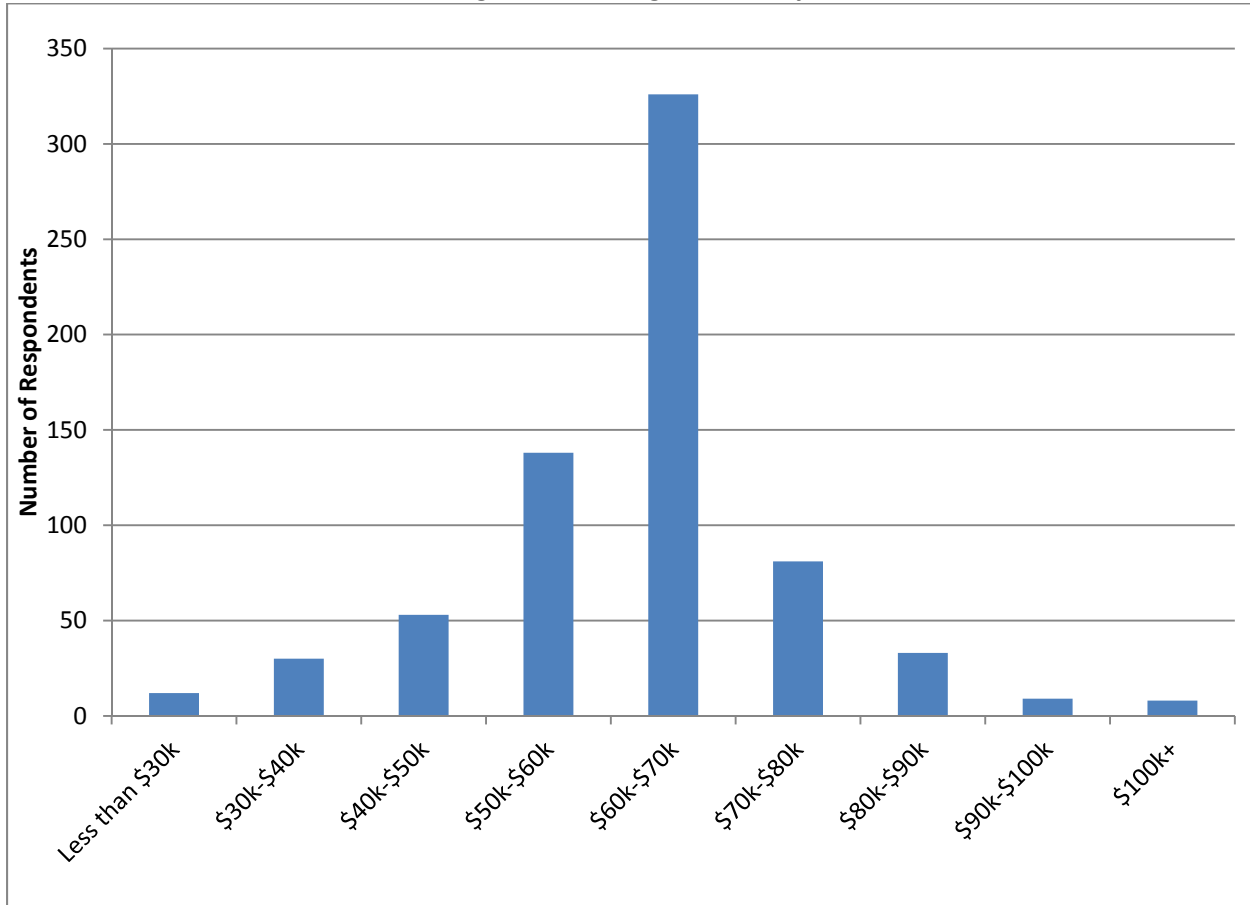


Figure 5 showed that 13% of respondents are from Maintenance and Operations. As shown above in Figure 7, of this group, 34% indicated that they work in Maintenance, 28% are licensed operators, and 38% are non-licensed operators. There was an increase in Maintenance from 28% in 2014 to 34% in 2016. This is closer to the 42% participation in 2012 for Maintenance. For Operations, there was a decrease in licensed operator participation from 33% in 2014 to 28% in 2016.

In 2012, maintenance represented 42% of respondents, showing a decrease this year of 14%. In Operations, both licensed and non-licensed increased, 6% and 7% respectively, compared to 2012.

V. Salary and Raise Results

Figure 8: Starting Base Salary



Note that all salary results in this report are adjusted to US Dollars.

Figure 8 plots the distribution of starting base salaries in the nuclear industry. Sixty seven percent of respondents started with a base salary between \$50,000 and \$70,000. Approximately 1.2% started over \$100,000 (a decrease of 0.1% from 2014). The average starting base salary was \$61,423. The average starting salary for a bachelor's degree is \$60,438 while the average starting salary with a graduate degree is \$65,243.

Current Base Salary

Considering current base salary (without overtime and bonuses), 45% of respondents reported a current base salary between \$70,000 and \$90,000. Eighteen percent reported over \$100,000 as a current base salary. The average current base salary is \$84,751. Current salary was compared to individuals actively seeking employment. This comparison gave no conclusive results.

Figure 9: Current Total Salary

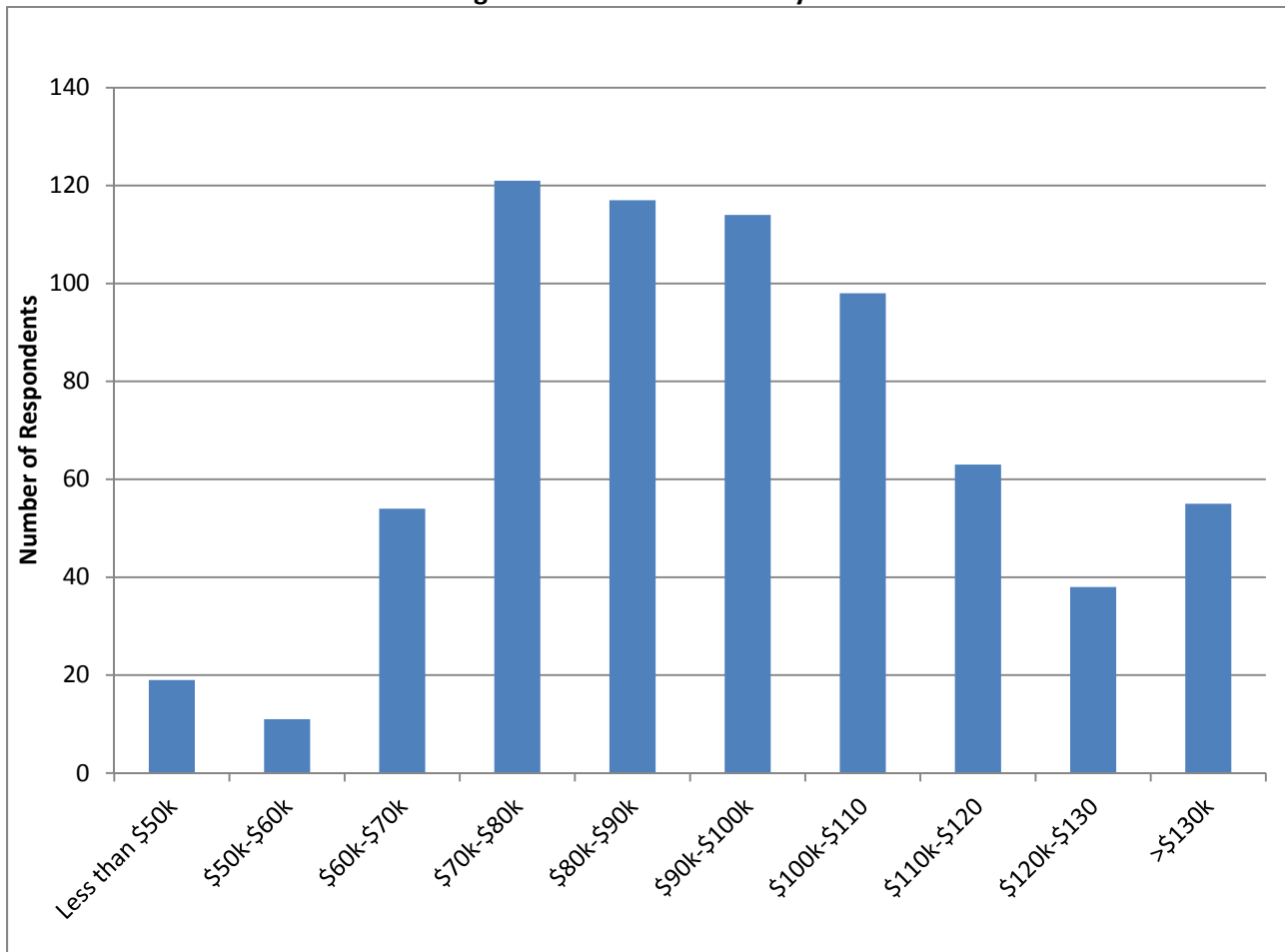
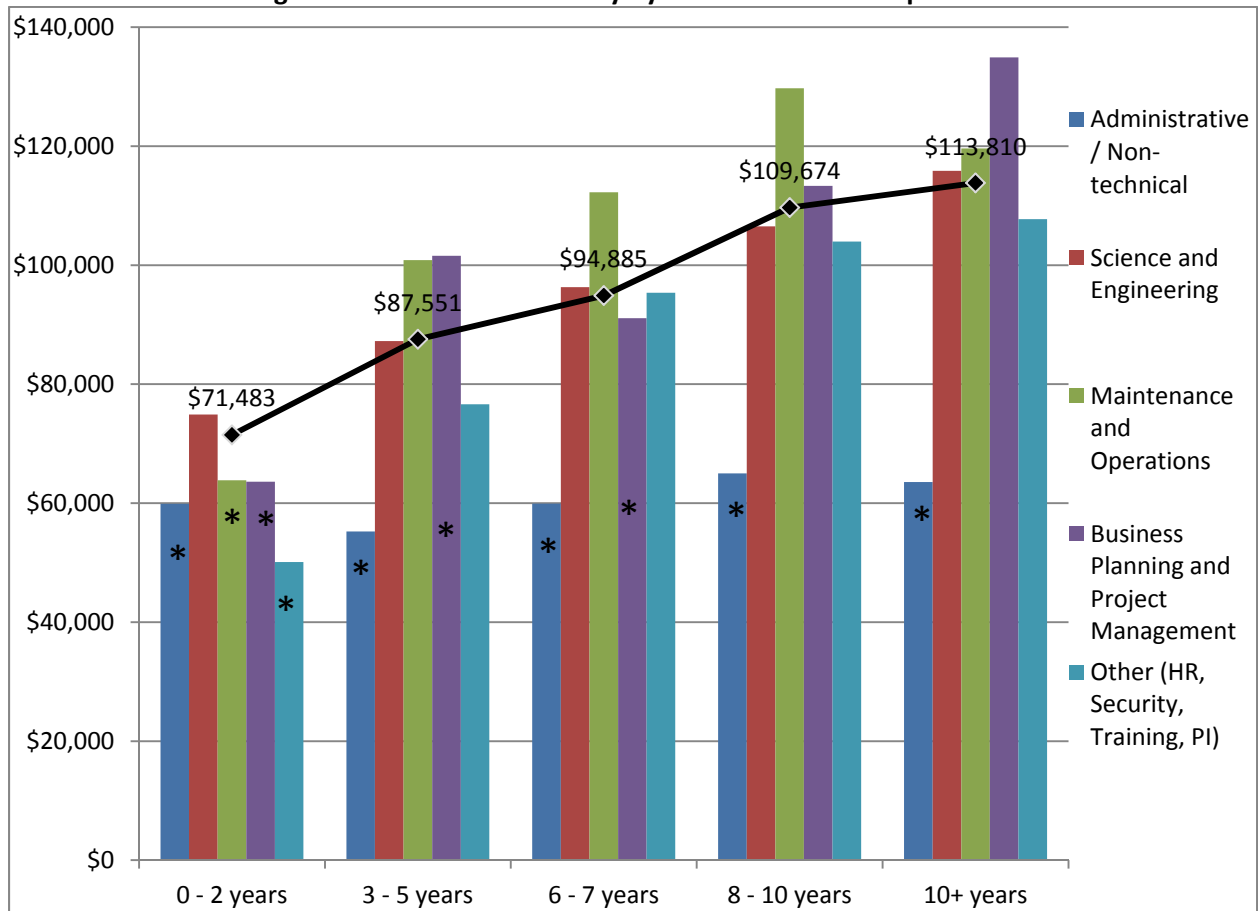


Figure 9 plots the distribution of current total salaries (including overtime and bonuses). Total salary was very evenly distributed between each of the buckets with 25% of respondents between \$60,000 and \$80,000. Twelve percent earn less than \$70,000, and 37% earn over \$100,000 total. The average total current salary is \$95,244, an increase of 12% from the 2014 results. The 25th percentile current total salary is \$76,648, and the 75th percentile current total salary is \$106,500, an increase of 12% from 2014.

Through the first six years of total professional experience, average total salaries in engineering were roughly equal between genders. After this six year mark the sample size from female participants was too low to draw conclusions. An insufficient amount of data was collected outside those bounds (for non-technical positions and 6+years' experience) to yield any conclusions or observations.

Figure 10: Current Total Salary by Job Function and Experience



*Less than 10 respondents in this category

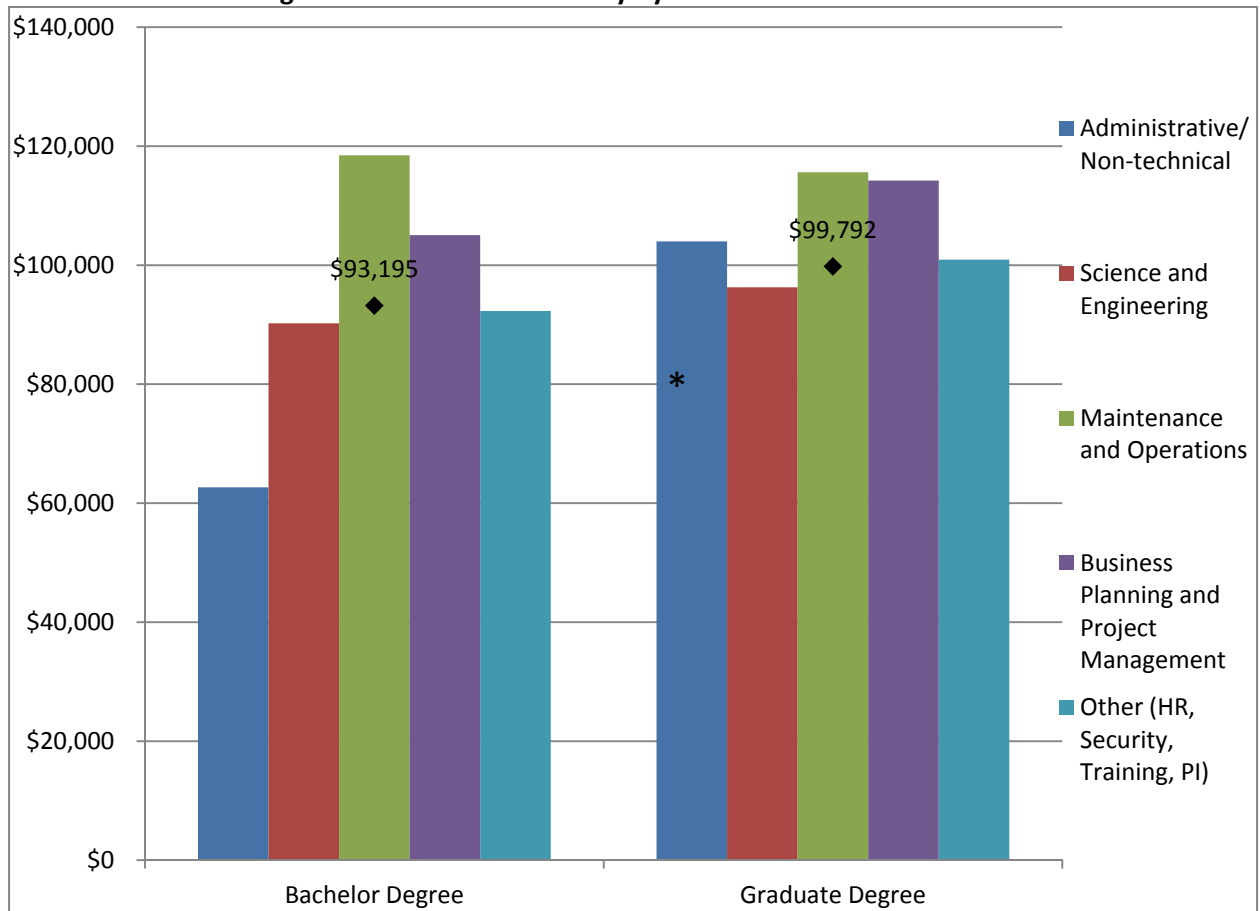
A summary of changes shown in Figure 10 compared to 2014 is shown below.

Years of Total Workforce Experience	Total Salary Change
0-2	+1.1%
3-5	+7.7%
6-7	+7.5%
8-10	+13.9%
10+	+0.8%

For Figures 10 and 11, due to a low response rate from certain groups, some job functions were combined into job functions with similar salary ranges as follows:

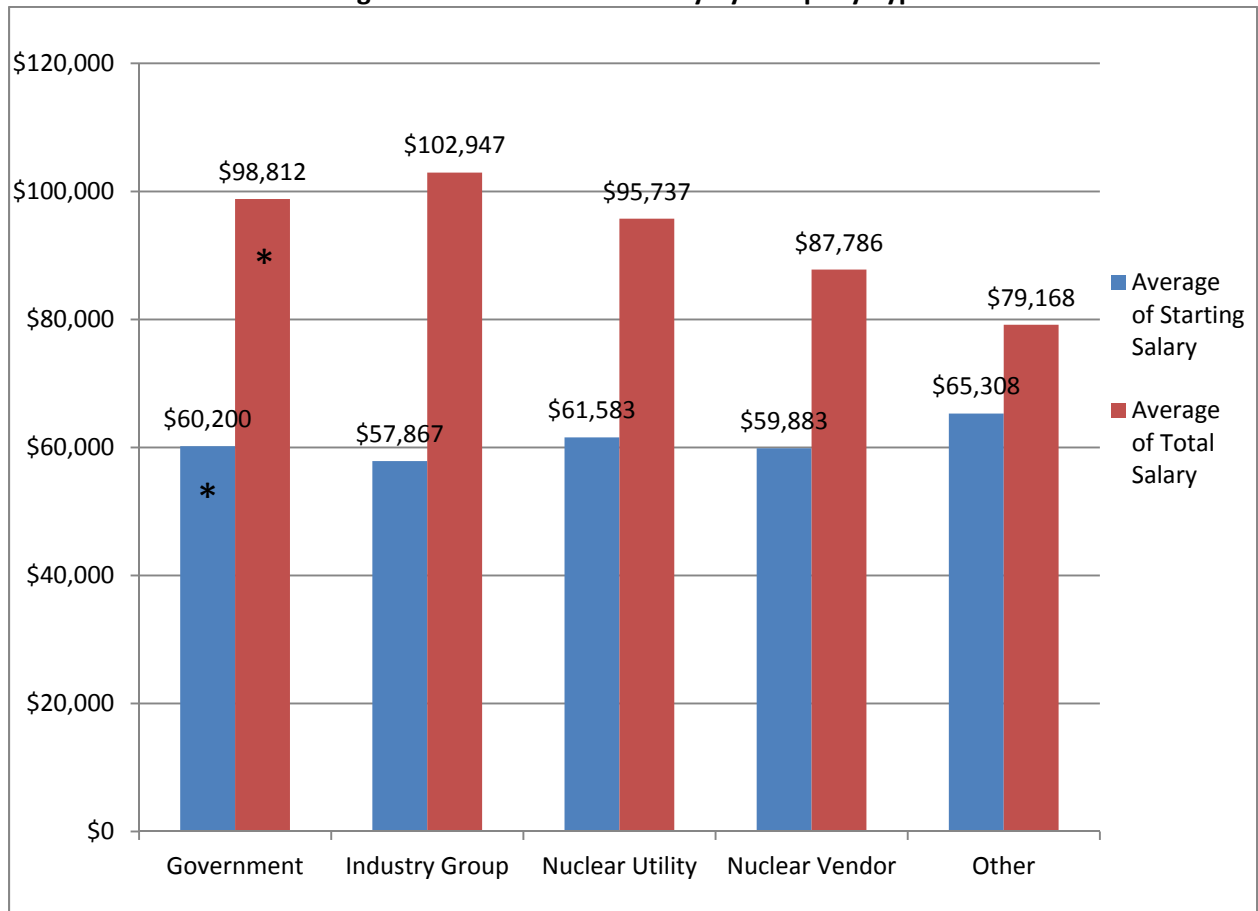
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2. Maintenance/Technical and Operations were combined and are represented as "Maintenance and Operations."
3. HR/Communications, Security, and Learning/Training were combined and are represented as "Other (HR, Security, Training)."

Figure 11: Current Total Salary by Job Function and Education



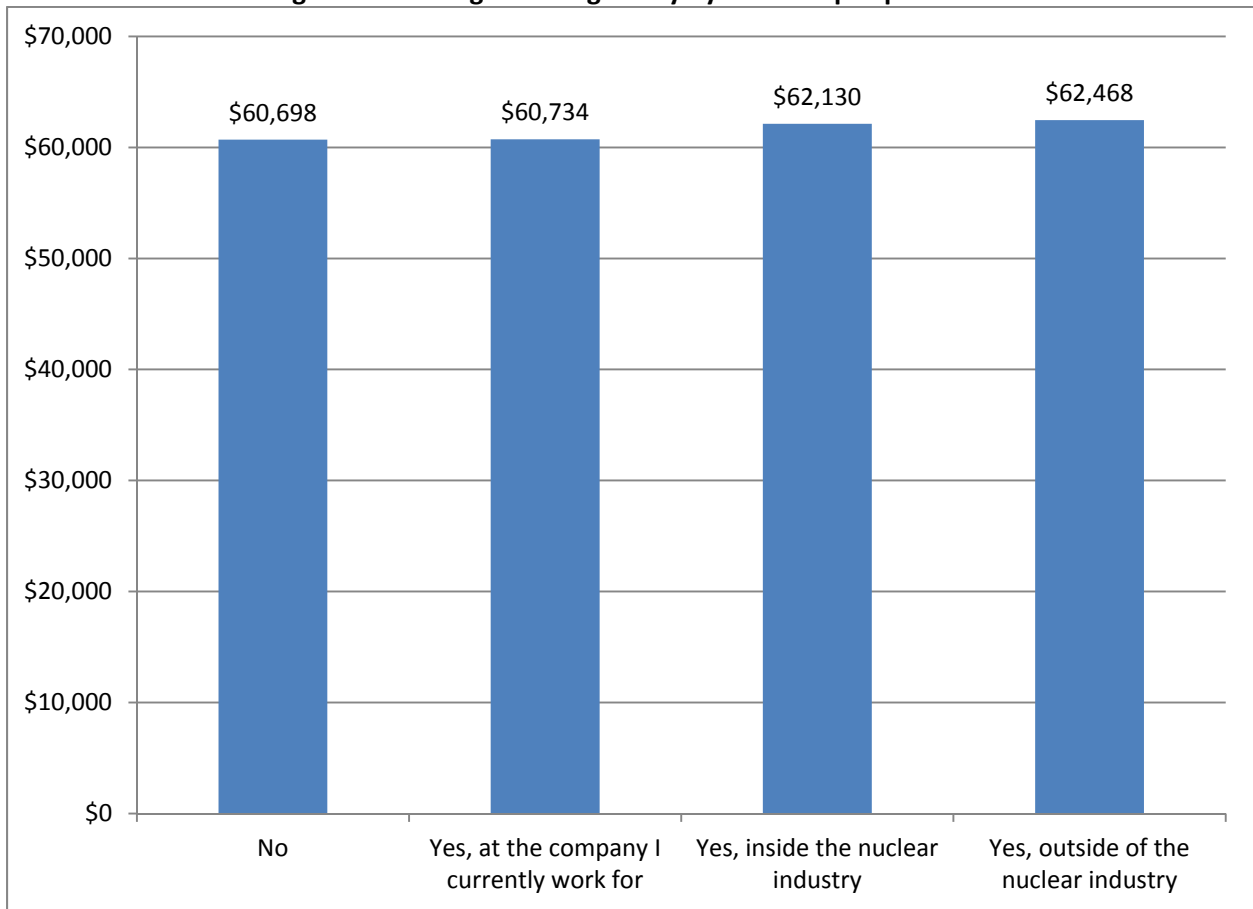
**Less than 10 respondents in this category*

Figure 12: Current Total Salary by Company Type



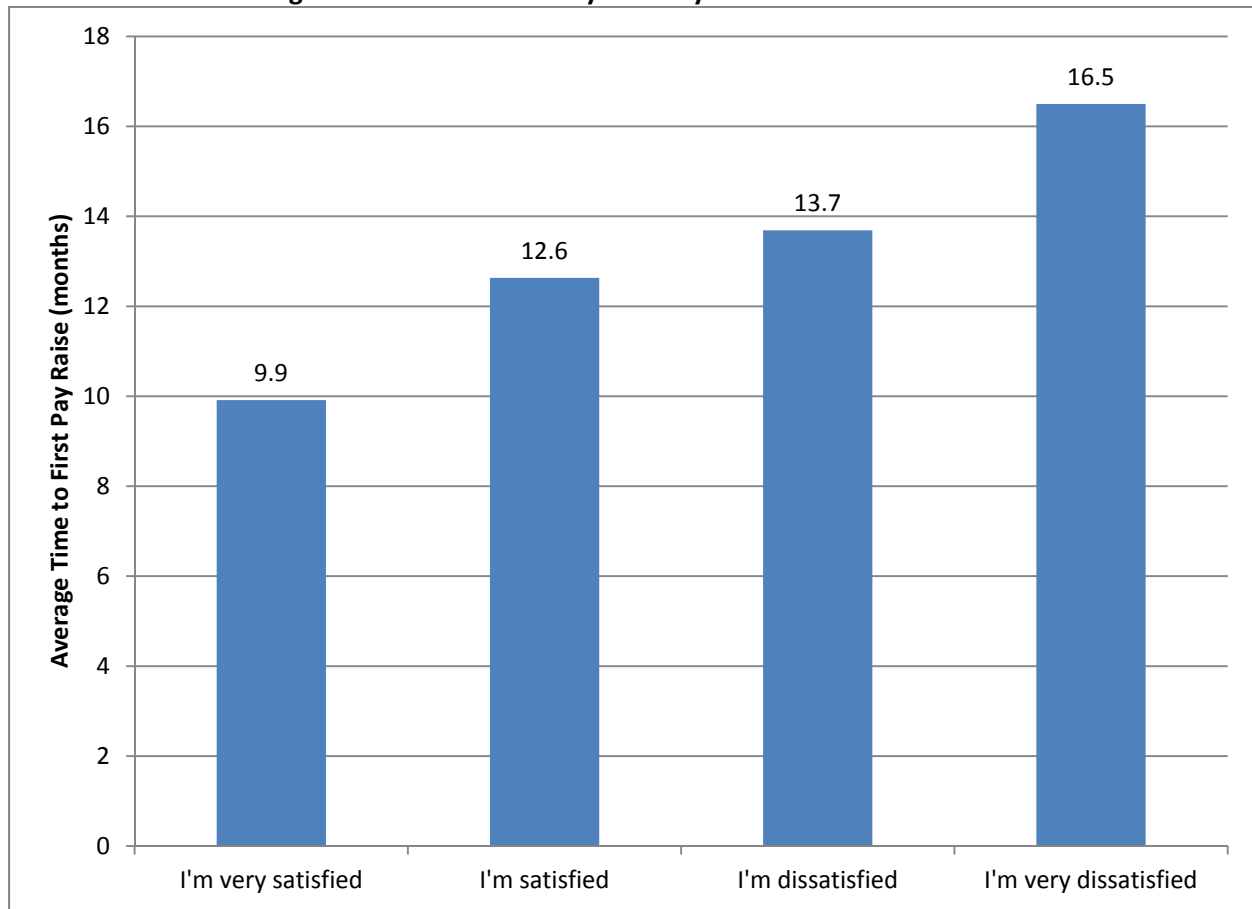
**Less than 10 respondents in this category*

Figure 13: Average Starting Salary by Internship Experience



Average starting salary was compared to internship experience (Figure 13). Those who had any type of internship received an average starting salary 2% higher than those without an internship; this is a relatively small difference compared to the 11% difference from 2014 but almost exactly the same from 2012 when the data reported 2%. Internships should provide a boost in overall value to companies regardless of whether the internship is inside or outside the nuclear industry, but the data does not reflect this value.

Figure 14: Time to First Pay Raise by Overall Job Satisfaction



Raises and Increases in Responsibility

Fifty-five percent of respondents who have received a raise received it within their first year of work experience. Ninety-eight received their first raise within their first two years. Sixty-two percent of respondents who have gotten an increase in work responsibility received it within their first year of work experience. Ninety-two percent received their first increase in responsibility within their first two years. Those working between 35 hours and 55 hours per week received their first raise an average of 12 months after starting their careers.

Career satisfaction was compared to time to first pay raise (Figure 14). Those who were dissatisfied or very dissatisfied with their jobs received their first raise an average of just over two months later than those who are satisfied or very satisfied with their jobs. Those who were very satisfied with their jobs received their first raise in about 60% of the amount of time it took for those who were very dissatisfied.

VI. Work Hours Results

Figure 15: Preference in Alternative Work Arrangement Programs

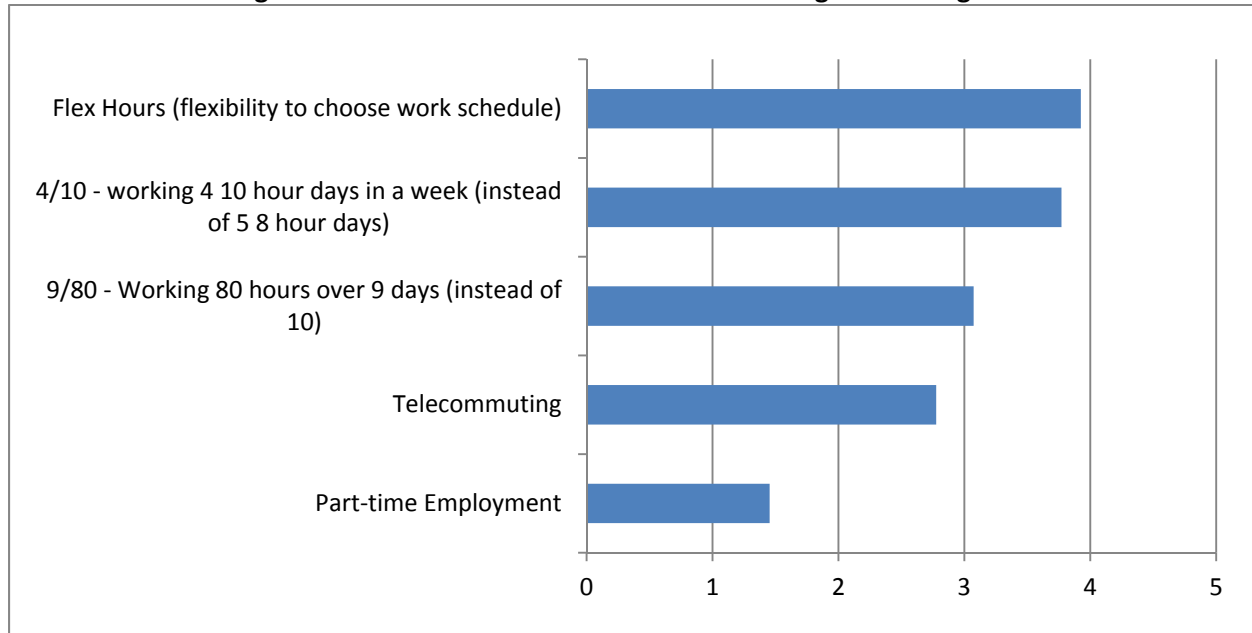


Figure 15 shows the survey ranking results for a variety of alternate work hours arrangements. The strongest preferences are for Flexible work schedule and 4/10 schedules. Over 60% of respondents ranked Flex Hours and 4/10 schedules as their top two preferences. Based on anecdotal evidence from the benchmarking committee, eligibility in Telecommuting and Part-time Employment is largely similar to 2014. The above Figure 15 shows purely a ranking of preference with the top two remaining consistent with 2014.

The results of the data analysis indicated that the majority of respondents (64%) work an average of 40-45 hours per week up from 56% from 2014, independent of the type of company at which they work (See Figure 9). The number of respondents working less than 35 hours is negligible. The remaining respondents rarely work more than 60 hours per week.

Figure 16: Weekly Working Hours Compared to the Job Level in Organization

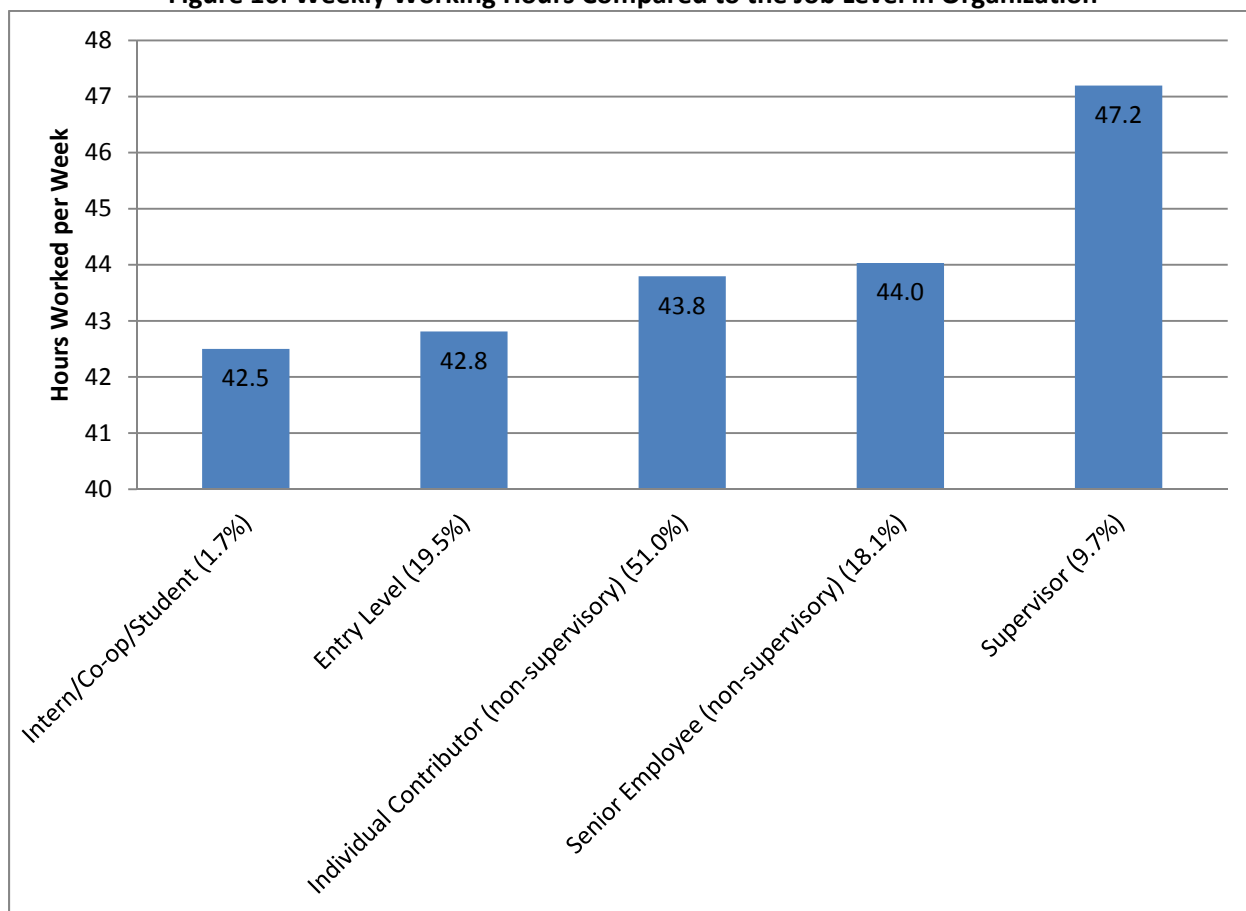
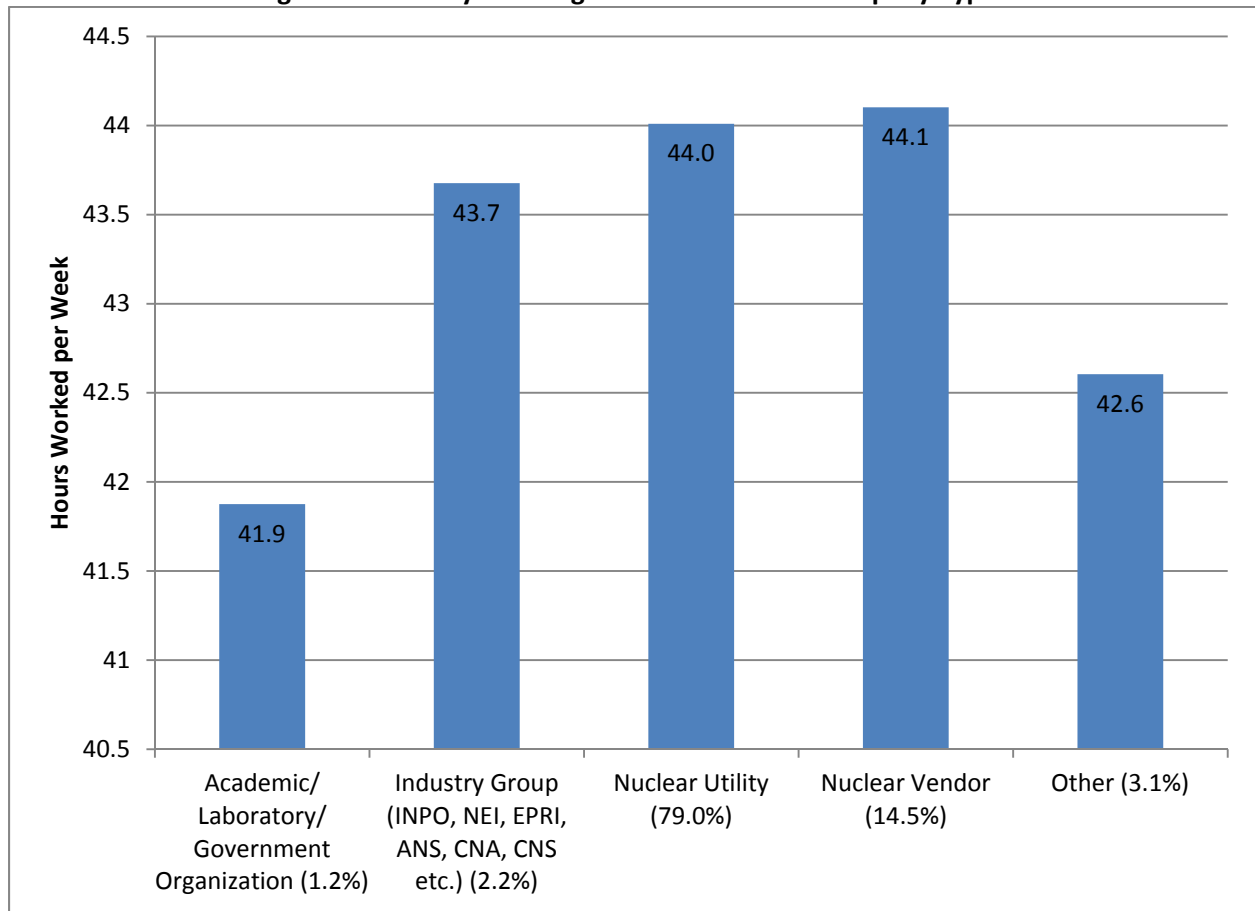


Figure 16 shows the relationship between average hours worked per week and the position-level the respondents' hold. This data is consistent with results reported in 2012, with no increase in work hours of more than 1.5% for any position-level in 2014.

Figure 17: Weekly Working Hours in Different Company Types



**Less than 10 respondents in this category*

Figure 17 compares hours worked per week to company type. From 2012, government and industry group jobs have held at similar levels while nuclear utilities and vendors have increased almost a half hour each.

Figure 18: Total Annual Salary Compared to Hours Worked Per Week

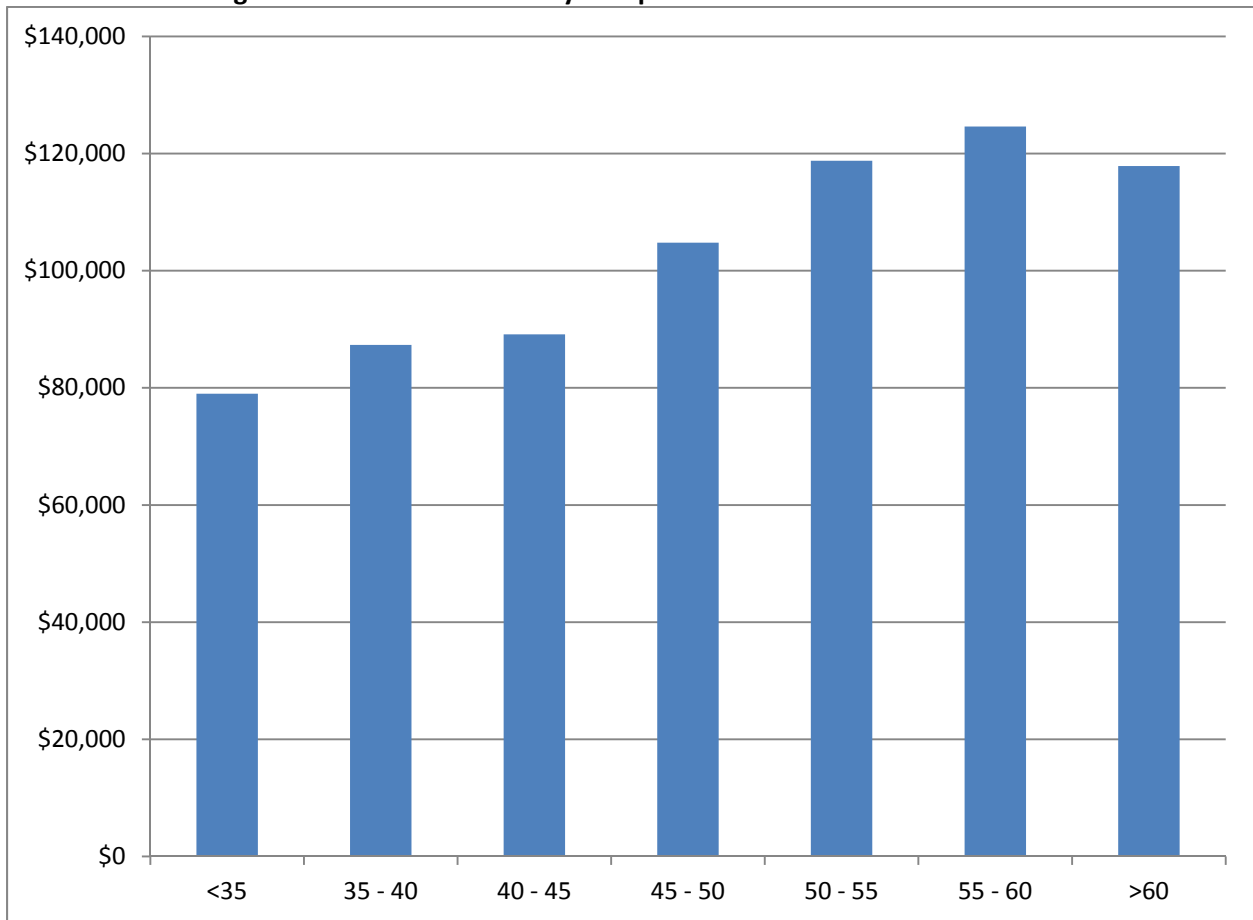
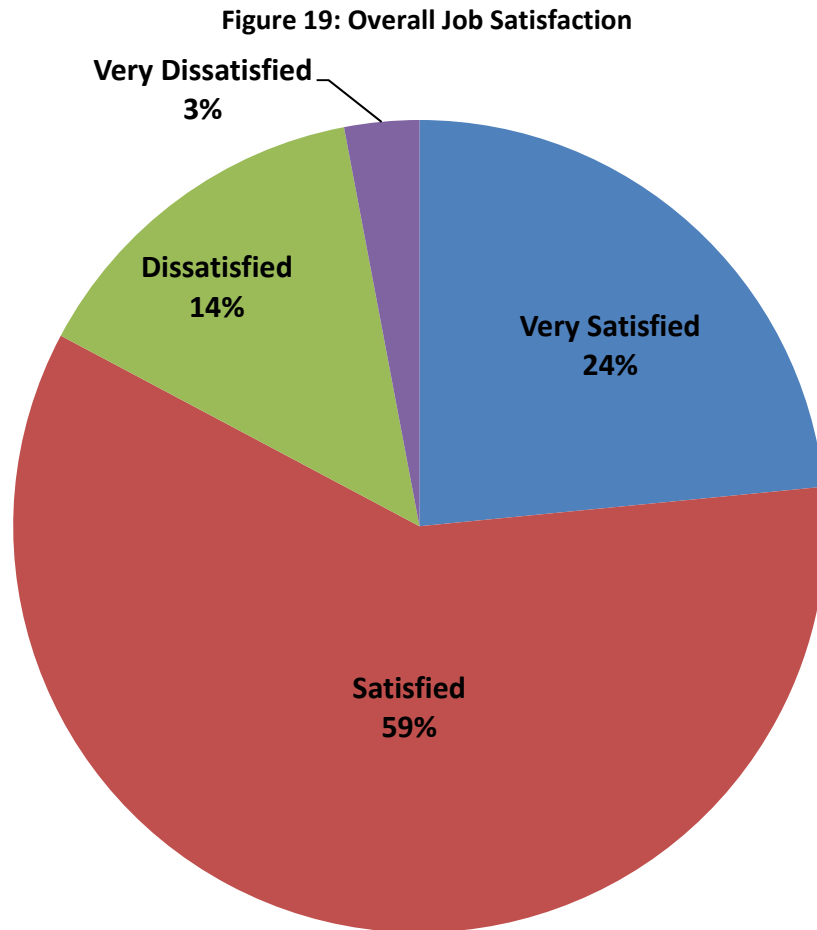


Figure 18 compares the total annual salary (including bonuses and overtime) to hours worked per week, showing that there is a positive correlation to total compensation and work hours. This also indicates that the majority of survey respondents are paid overtime for working extra hours. It appears there is a positive correlation between hours worked and salary for most segments except the >60 column. After the 60 hour mark, the rewards of working more overtime start to diminish.

VII. Job Satisfaction Results



Overall job satisfaction is shown in Figure 19. Responses for satisfied or very satisfied totaled 83%, the same as the 2014 survey. Only a small portion of respondents indicated they are very dissatisfied with their jobs.

Figure 20: Importance of Factors Affecting Job Satisfaction

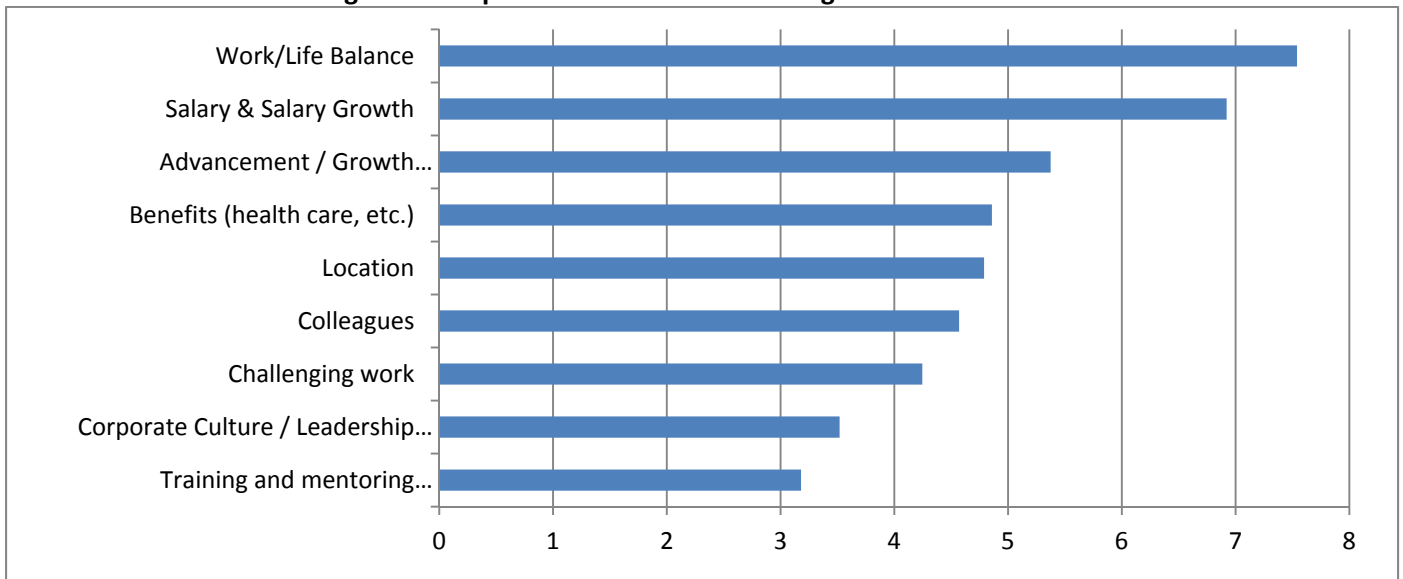
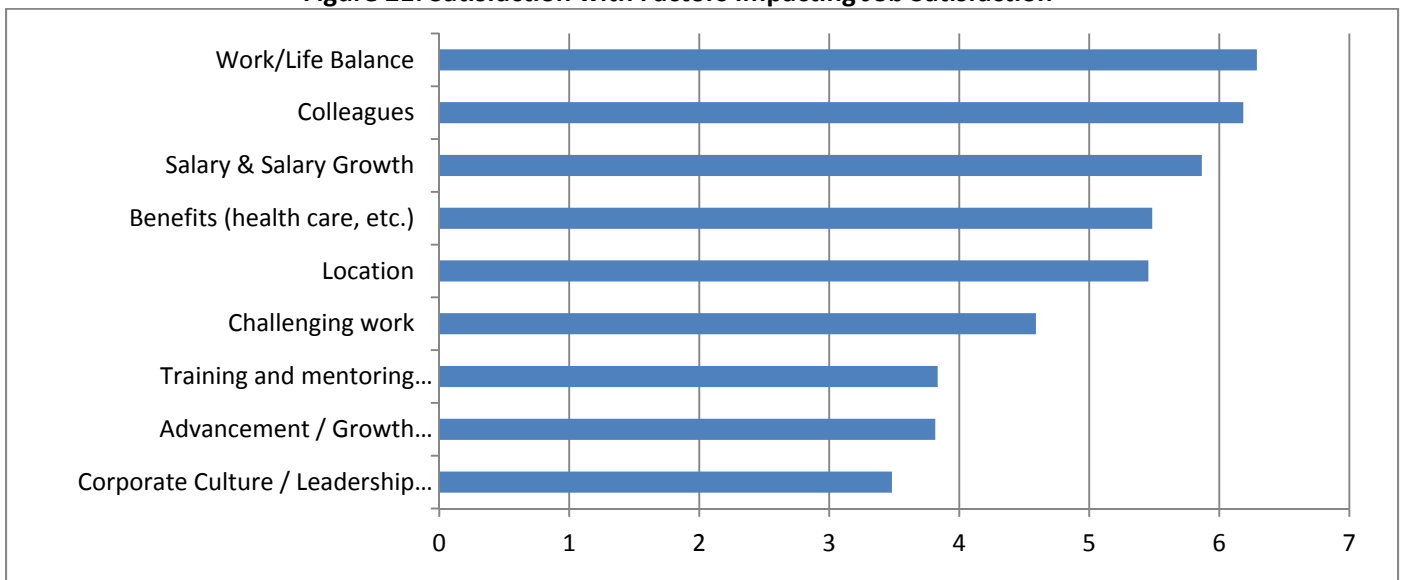


Figure 21: Satisfaction with Factors Impacting Job Satisfaction



Survey data indicates factors that most highly affect job satisfaction continue to be: Work/Life Balance and Salary & Salary Growth. These priorities are unchanged from 2012 data. NAYGN members are most satisfied with: Work/Life Balance, Colleagues, Salary and Salary Growth, Benefits, and Location. Lower satisfaction ratings were indicated for Challenging work, Training and mentoring opportunities, and Advancement/Growth opportunities. This indicates that NA-YGN members do not feel that they are provided opportunities to develop more advanced technical skills in their jobs.

Figure 22: Respondents Seeking New Employment

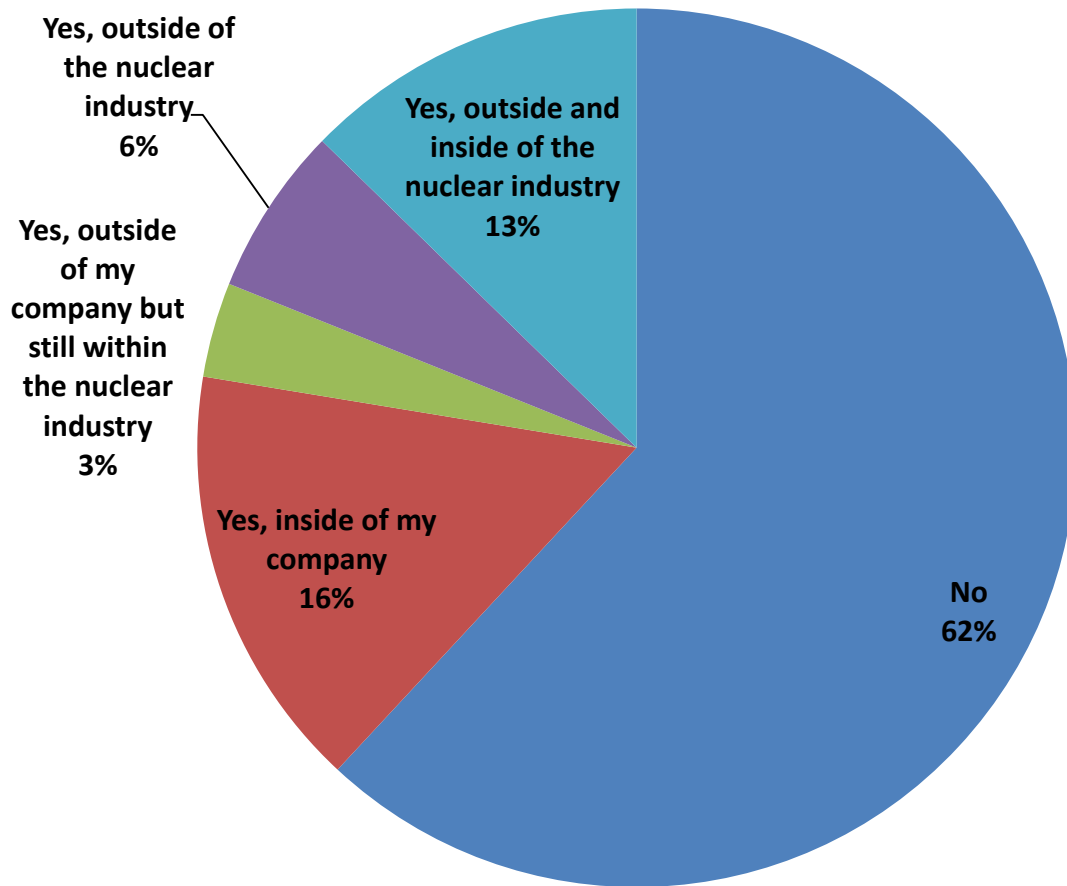
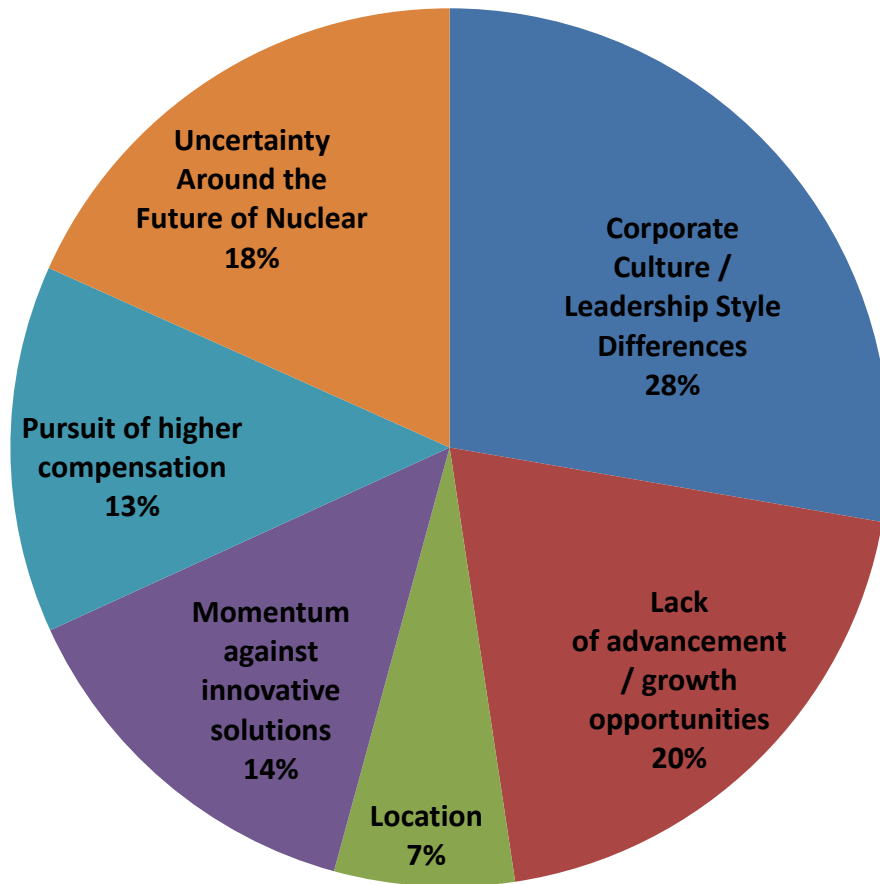


Figure 22 displays the responses for NAYGN members asked if they were seeking new employment, and if so, within or outside of their company and the industry. Thirty eight percent of respondents are currently seeking new employment; this is approximately 2% higher than in 2014. The 2% increase is primarily in the category of those seeking new employment inside of their company. There was also a slight decrease seen in the category of those looking outside of their company but still within the nuclear industry.

Reasons for the increase in respondents who are seeking new employment can be gathered from the open-ended responses to why people leave our industry. A response that encompasses many other responses says:

"I think people leave the company because they don't like the bureaucracy of the work, and don't desire to move up within the company (long hours in management, no work life balance being displayed by current leaders). The future of the industry contributes - I am becoming uneasy about building a skillset in an industry that might disappear, and then realizing that I am unqualified for engineering jobs in other markets."

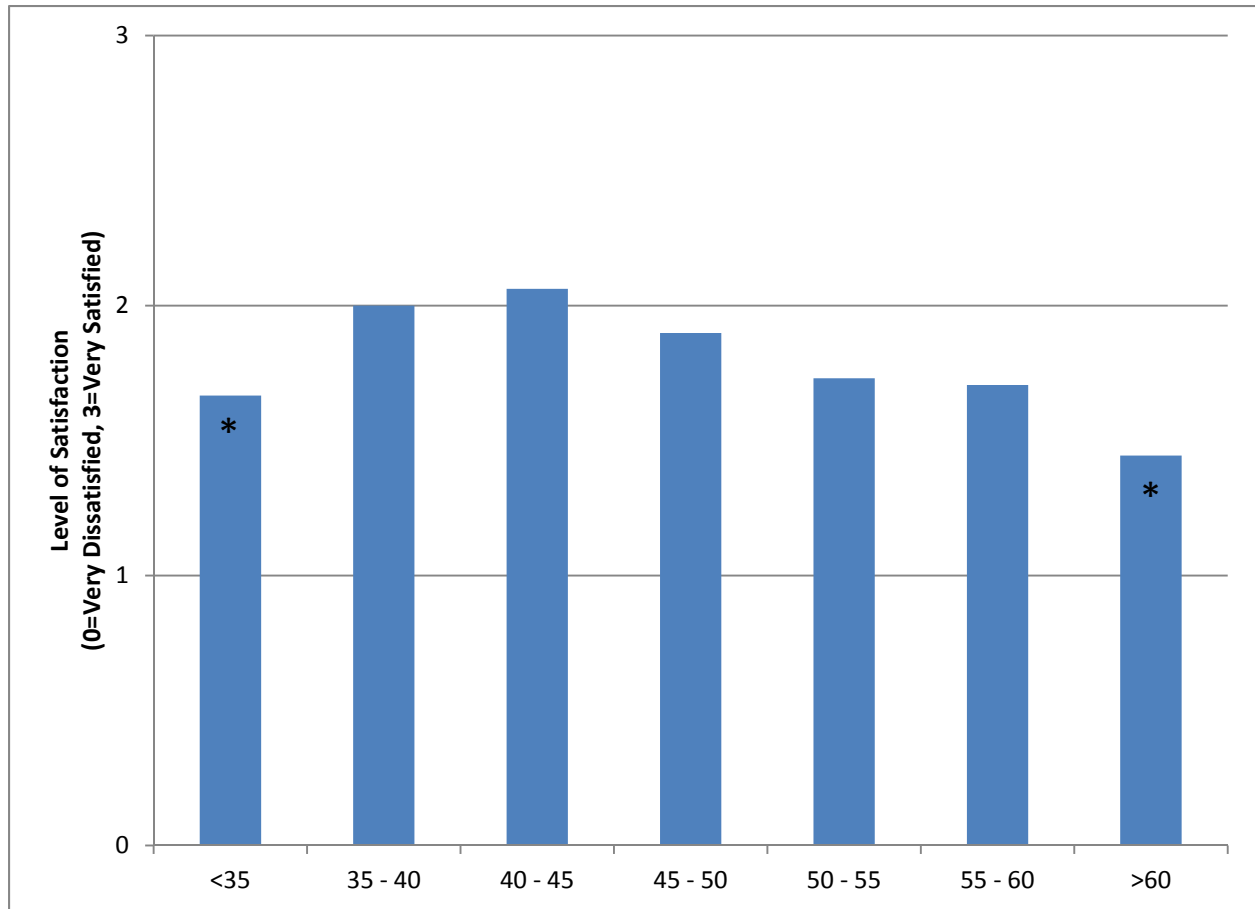
Figure 23: Reasons for Seeking New Employment



The top reason for seeking new employment, as seen in Figure 23, is the Corporate Culture/Leadership Style Differences. In 2014 Lack of Advancement/Growth Opportunities was the top reason, but this year it comes in as the second highest reason. Another main factor affecting employment searches is “Uncertainty Around the Future of Nuclear.” Based on open-ended responses, the significant amount of “Corporate Culture/Leadership Style Differences” responses indicates a general frustration with regulatory and corporate administrative burden which prohibits adaptation and productivity and also a frustration with work/life balance. The option for “Uncertainty Around the Future of Nuclear” was a new option for this survey, and demonstrates that concerns about the nuclear industry providing a stable and life-long are common amongst NAYGN members.

In the next 5 years 48% of members see themselves satisfied with their career and working in the nuclear industry. The next 40% responded that they would see themselves working in the nuclear industry if there were leadership opportunities or if clean air energy rulemaking appropriately values the contributions of baseload nuclear energy. The final 12% reported they see their career goals taking them outside of the nuclear industry in the next 5 years.

Figure 24: Job Satisfaction Compared to Hours Worked per Week



** Total Number of respondents in "<35 hours" and ">60 hours" were too small to be considered in the conclusions made.*

Figure 24 compares job satisfaction with hours worked per week. Respondents working between 35-50 hours per week are the most satisfied with their job. As working hours exceed 50 per week, satisfaction begins to decline. This is consistent with the 2014 data results.

Figure 25: Job Satisfaction Compared to Seeking New Employment

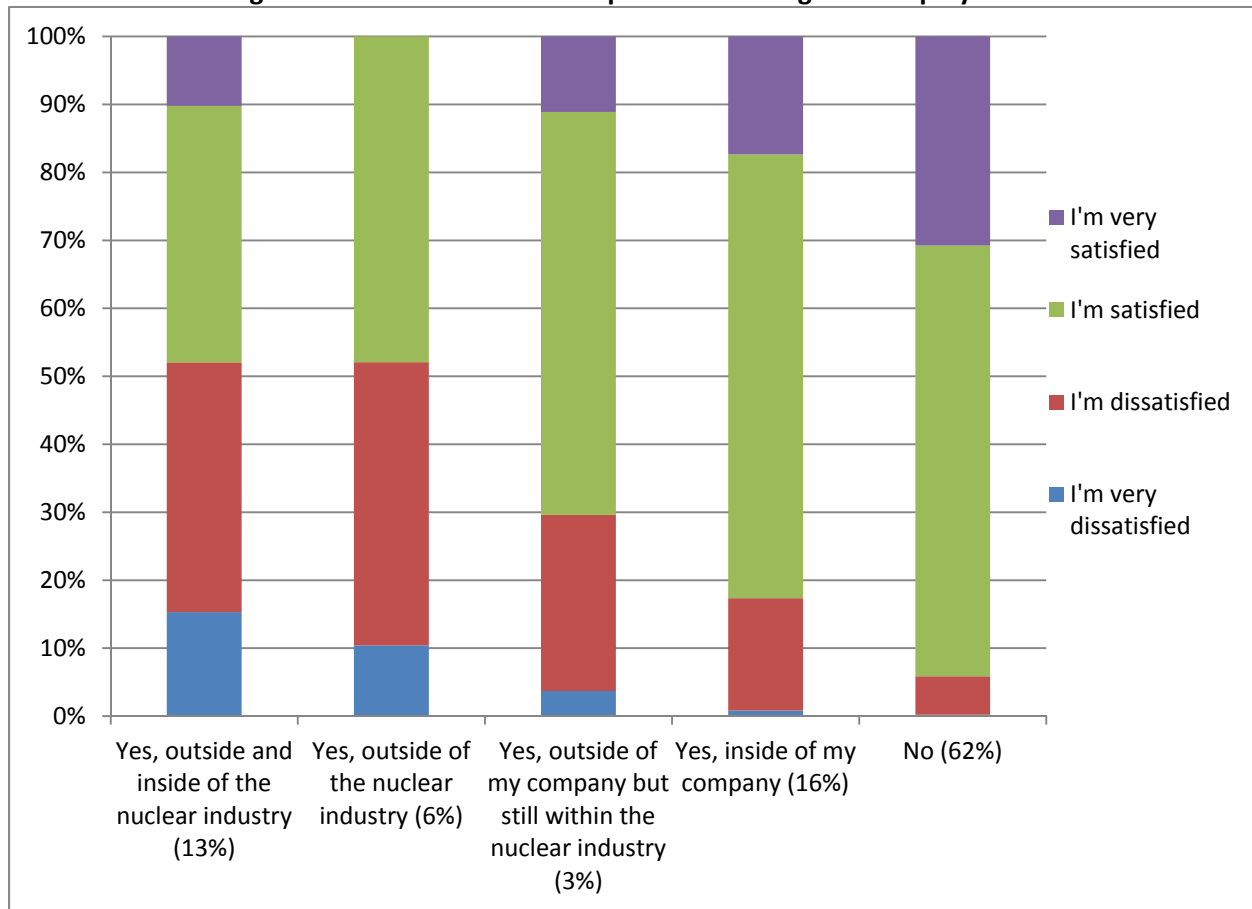


Figure 25 compares job satisfaction with whether respondents are seeking new employment. As expected, respondents that are not seeking new employment are very satisfied with their jobs. Also mostly as expected lower levels of satisfaction tend to drive respondents towards seeking new employment. However, at least half of all participants seeking new employment are satisfied with their jobs. Comparing these results to the 2014 survey, we see that satisfaction and seeking new employment are not as strongly correlated. This means that while the majority of factors that drive satisfaction are not necessarily driving respondents to remain in their current positions.

VIII. NAYGN Related Results

Members were surveyed about how important the different NAYGN benefits are to them, and how satisfied they are with NAYGN in each of these areas. The NAYGN benefits under consideration are leadership skill development, soft skill development, public outreach, networking, and industry executive interaction. The average response was that every benefit is important to our members, with networking and soft skill development being ranked as the most important. Survey respondents indicated that they are satisfied with NAYGN's performance in providing these benefits to members, and networking and community service related opportunities were ranked as the most satisfied.

Figure 26: Importance of Benefits NAYGN Provides to Its Members

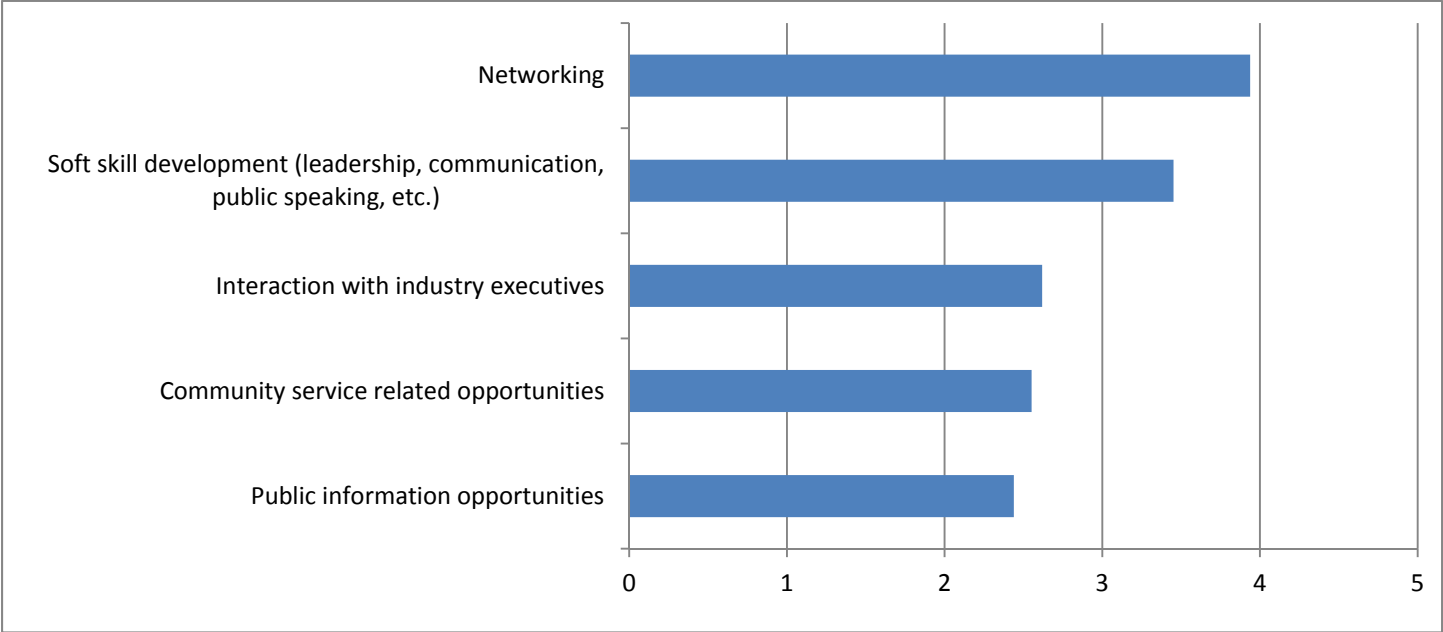
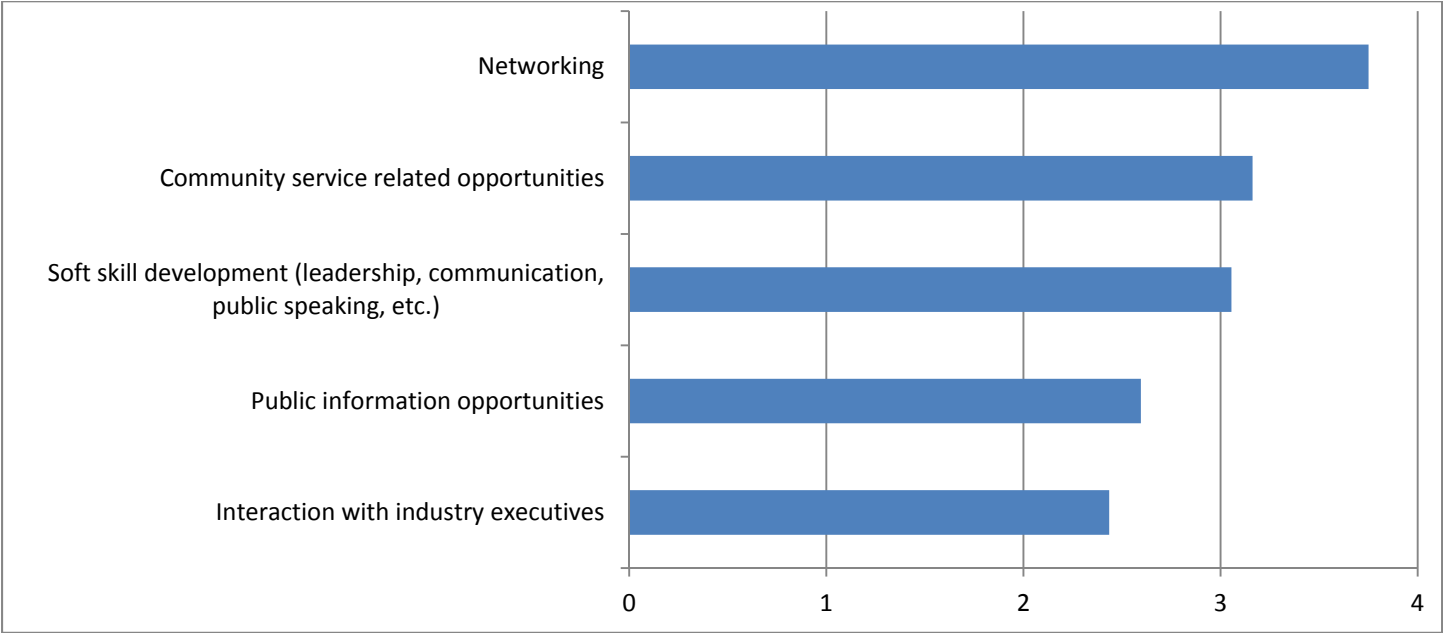


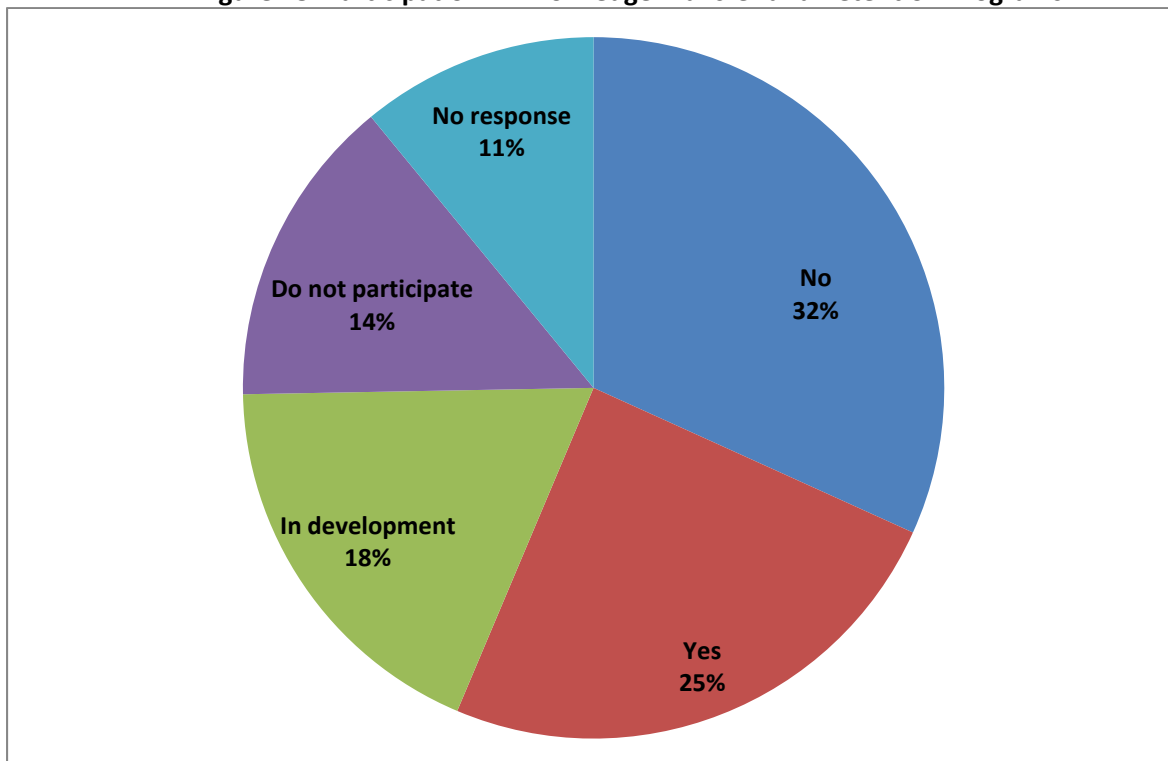
Figure 27: Satisfaction of How NAYGN Benefits Are Implemented



IX. Knowledge Transfer and Retention (KT&R) Results

Survey participants were asked about the status of their company's Knowledge Transfer and Retention Programs. Fifty-seven percent of respondents reports that a program existed or was in development. This is a shift from the last survey in which 70% of respondents participated in local programs. Engineers comprised the largest number of individuals engaged with local programs at 69%, followed by Operations and Maintenance/Technical at only 5%. There are no groups, other than training, that reported greater than 10% participation. Members were also asked to grade common tools and methods for knowledge transfer (Figure 29.) Responses were not restricted to individuals included in formal programs.

Figure 28: Participation in Knowledge Transfer and Retention Programs



Survey results indicated that Informal mentoring, Job cross training, and Assignments were considered the most effective tools for knowledge transfer and retention. Informal mentoring was among the top ranked in 2014 as well. This style of mentorship tends to be more inclusive and more frequent than assigned mentors.

Job cross-training opportunities were ranked second and assignments were ranked third most effective. Job cross-training exposes employees to experience different activities and develop other skills. Additionally, rotations give participants perspective on how different departments and disciplines function and interact with each other.

Figure 29 Knowledge Transfer and Retention Tool Effectiveness



Assignments give them hands-on, real world experience. They can learn by doing and taking ownership important activities. Comments from the KT&R open ended question reveals that respondents feel strongly that real world experience is critical for long term success and to ensure they truly understand the information that has been shared with them through mentorships, training, and station procedures.

The results for the top three least effective components of a KT&R program were similar to the 2014 career survey: Succession planning, expert storytelling sessions, and knowledge databases. Succession planning continues to be low ranked based on the lack of visibility of implementation. Write in comments indicated the members understand its importance, but do not think it is being implemented effectively or timely.

Expert storytelling sessions was not selected in the previous survey, but it was not highly ranked. These activities do not occur frequently enough to make a tremendous impact of KT&R. Lunch and learns and similar meetings are a popular NAYGN activity, but cannot stand alone for transfer and retention of important information.

Knowledge databases were selected as the third least effective component of local KT&R programs, which is a repeat from 2014. There were no negative write in comments specific to knowledge databased. However, one respondent noted that “you only get what you put in and it’s rare that anyone takes the time to put anything in...” This suggests that knowledge databases could be useful if given more priority and attention.

X. Trends from Open Response Questions

Survey takers were asked for open ended input twice; after the career satisfaction input (question 31) and at the very end, after KT&R and NAYGN specific questions (question 41). In total, close to 250 responses were reviewed by the team. Responses specific to the logistics of the survey and on NAYGN operations were shared internally. Industry feedback was categorized based on the response content and specific comments were chosen to best represent the chosen themes. These main topics include:

- Compensation in the industry is no longer competitive when aligned with expected working hours, leading to negative work/life balance (28%)

"I think people leave the nuclear industry to reduce their stress levels and achieve a better work/life balance"

"Potential for long stressful hours/called in on weekends is clearly a part of life for engineers that have worked here just a little bit longer than me."

- Doing work in the industry is difficult, due to regulatory environment or corporate climate (27%)

"I think that the "because it's the way we've always done it" mentality is a killer for young, motivated individuals who really want to have an impact. A culture which celebrates fresh ideas would see much higher retention."

"One of the biggest frustrations to performing work that frustrate people and cause them to leave the industry is how difficult we make it on ourselves to get work done. An incredible amount of processes need to be done prior to being able to do work. Two days ago I oversaw a small part of work to replace a small solenoid valve that was a threaded connection that one person could replace in 10 minutes. There were 8 people and it took 1 1/2 hours of process to do only the valve removal. We are creating too many barriers to getting work done and are pricing ourselves out of competitiveness in the utility industry."

- Industry leadership is not optimized for the needs of the young generation (18%)

"We know the industry is facing hard times, but I'd like to hear some positive messages from time to time. Our leaders seem to have forgotten how to be thankful or grateful for all of the good work that is done."

- Concern about the long term future and viability of the industry (15%)

"I would like to continue working in the nuclear industry five years from now. However, of the hurdles preventing the industries success that have been identified, very few are being actively dealt with. We see what's wrong, but we don't fix it. I am very passionate about this industry but I am losing my faith in it."

Despite the tone of the comments mentioned above, many open responses showed the young generation's continued passion towards the industry. Replies like this sum it up perfectly:

"I support nuclear because of the economic impacts in my local area and because it's a clean source of energy."

As for the KT&R comments there were some specific themes that emerged from the response reviews. The team categorized the comments into strengths and opportunities buckets.

Key comments with concerns about KT&R components in the survey:

"Industry Conferences tend to be overloaded with vendors trying to push a product rather than trying to promote collaboration and knowledge sharing"

"Knowledge database - it is a great idea but this is lost in translation. The database can get unorganized very quickly and lose its purpose by getting dragged down into details."

"It is challenging to obtain quality mentoring because the best employee have the most work and the least amount of time."

"KT&R programs are not offered to bargaining-unit employees at my site."

Key comments identifying effective uses of KT&R:

"Procedures. KT&R is more tribal than procedural. Anyone can sit and learn from a procedure. It's what is in the head of the individual leaving that is truly what you want to harness, and that isn't in a procedure. An Operator once said that if he is running the control room on a daily basis, he wants a group of green operators working with him, because they are proceduralized and follow the processes to a T. He then said that if things hit the fan and a major issue occurs, he wants to kick all of those green operators out of the room and bring in every veteran operator he can because they know what to actually do to fix the plant. That is the type of knowledge KT&R needs to concentrate on more than anything else."

"Knowledge transfer by giving new employees complex assignments is an effective form of KT&R. It inspires people to seek answers from the resident experts and in so doing learn how to find answers from the original sources. If I drive to a new place, I can probably find it again, but if I ride with someone else to a new place, I am less likely to remember the directions. When I own an assignment that requires learning in the process, I am likely to remember what I learn."

"Technical Mentoring - when a replacement is identified prior to a person leaving, the best way to learn the "skill of the craft" or "heat of the battle" facts is directly from the person who experienced them instead of reading some document."

XI. Conclusions and Recommendations

The 2016 NAYGN Career Survey collected a data from the NAYGN members that demonstrated trends in the areas of salary, job satisfaction, and NAYGN satisfaction. Strategically the consistency between the 2016, 2014, and 2012 surveys, allowed the committee to trend data over four years. The data indicates that the industry is moving forward in promising ways but there are always opportunities to improve the course.

Conclusions

1. Members are proud of their industry and are satisfied with their jobs but many strongly value advancement and growth opportunities

Overall reported job satisfaction was flat with 2014 with 83% of members satisfied with their jobs. Almost one in four members are very satisfied. 2016 saw a 2% increase in respondents seeking new employment, both inside and outside of the industry than in 2014. In 2016, over 80% of members wanted to continue their careers in the nuclear industry.

While in both 2012 and 2014 those satisfied with their jobs typically weren't seeking new employment, in 2016 the data indicates a decoupling of these factors. Of the nearly 40% of members actively seeking new job opportunities, 62% of them are satisfied with their jobs.

Just under 40% of members were proud of the clean air energy aspects of the nuclear industry while over 20% were most proud of the innovation and challenging opportunities. Very few members reported that being in the nuclear industry was "just a job" for them.

2. Compared to 2014, the young generation is working less hours and compensation has increased. *(Inflation was not accounted for when calculating salary change.)*

Members are satisfied with work/life balance and salary/salary growth as these factors both rank in the top three factors for both importance to job satisfaction and satisfaction with the factors. Satisfaction with salary and salary growth is up from sixth place in 2014.

3. Development and advancement opportunities should be a key focus area

Advancement and growth opportunities ranks in the top three factors of satisfaction importance but ranks second to last in terms of overall satisfaction. Members are more satisfied with work life balance which is up from 2014. In conjunction with conclusion 1 above, this indicates that members are looking to create advancement opportunities for themselves.

4. Knowledge Transfer and Retention continues to be a challenge for the industry.

Members are unclear about the direction of Knowledge Transfer and Retention. Though programs are being developed, the companies aren't necessarily effectively communicating the programs and expectations to the young generation.

Individuals prefer to take ownership of the job functions and learn by performing the activities rather than learning by watching another person perform the activity. Encouraging informal and formal mentoring relationships is key to helping members take ownership to perform their job functions.

5. Satisfaction with NAYGN remains strong – members are satisfied with the networking and skills development that they get out of NAYGN.

Recommendations

The recommendations below are based on the survey team's analysis and interpretation of this data.

For NAYGN

- NAYGN should continue to step up and engage the industry leadership on the important issues facing the industry. An engaged and active NAYGN will help move the industry forward given current economic climates facing each of the nuclear stations.
- Continue to engage and inform the public about the benefits of nuclear science and technology.
- The survey response population continues to be predominantly engineering. Recruitment efforts along with innovative thinking can help broaden the membership to align more with industry demographics.
- Continue to take a leadership role in helping the industry develop effective KT&R programs.

For the Industry

- The nuclear industry should continue to look to the young generation for innovative ideas and initiatives to enrich the viability of the industry. The young professionals are eager to grow the nuclear industry and a combination of innovative thinking with seasoned experience will lead to the future success of the industry.
- The young generation is very motivated to be an integral part of the solution and have proven to have an innovative approach to the challenges facing the industry. The industry should look to partner the innovative spirit of the young generation with the seasoned experience to build sustainable solutions.
- Initiatives to improve the competitive performance of the nuclear industry should include opportunities for advancement and growth. An engaged and valued young generation will be one of the most valuable assets to the industry as it progresses into the future. As these opportunities are created and come available, young employees should have strong development plans, mentors in senior management, and career path planning that is updated regularly in order to adequately be prepared for the challenges ahead.
- Nuclear companies should ensure that young professionals are given adequate on-the-job experience with seasoned employees, even given the temporary effect of increased cost/headcount.
- Continue to support NAYGN. There is a correlation between employee retention and respondent's satisfaction with NAYGN.

XII. Acknowledgments

The Benchmarking Committee would like to thank the NAYGN Core for their support throughout this project. Continual support and feedback was provided by core members on the project. The Core provided timely review and feedback during report development. Our team appreciates the communications support we received with notifications to all NAYGN members as well as chapter lead briefs.

Thank you to the NAYGN members for responding to the survey. Your input is valuable and has helped us form the voice of the young generation in nuclear through the data and this report.

We are delighted to report that Duke Energy had the most participation in the career survey. Congratulations to your chapter on winning the highest participation award. And thank you to all for your participation!

Finally, we'd like to thank the volunteers who tirelessly participated on the Benchmarking Committee. You have worked together for seven months to make this report a success. Your time spent on team calls and providing feedback is commended. It is always a challenge to participate on a virtual, all-volunteer project team while juggling daily work and family responsibilities. It is encouraging to see the efforts of the committee members echo the initiatives of the industry through efficient and innovative approaches to complete this effort. Many thanks to the committee for your support!

Appendix A: Survey Questions

* 1. Are you over or under 35 years of age?

- ☐ Over 35 years of age
☐ Under 35 years of age

2. Gender:

- ☐ Female
☐ Male

* 3. Total years of full-time work experience in: (integers only, enter 0 for less than 1 year)

Current Company	<input type="text"/>
Nuclear Industry	<input type="text"/>
Total throughout Career	<input type="text"/>

* 4. What is the highest level of school you have completed or the highest degree you have received?

- ☐ High School
☐ 2 Year Diploma
☐ Bachelor Degree
☐ Graduate Degree

* 5. Did you have a student development position prior to starting full-time work (i.e. internship, co-op, etc.)?

- ☐ No
☐ Yes, outside of the nuclear industry
☐ Yes, inside the nuclear industry
☐ Yes, at the company I currently work for

* 6. What level in the organization are you?

- ☐ Intern/Co-op/Student
- ☐ Entry Level: Usually requires ordinary level of education, training, and experience qualifications.
- ☐ Individual Contributor (non-supervisory employee): Experienced employee who is responsible for leading more complex projects and tasks.
- ☐ Senior Employee (non-supervisory employee): Employee who has acquired extensive knowledge of concepts, principles and practices, and works independently with only general direction.
- ☐ Supervisor: Responsible for the direct supervision of one or more employees.

* 7. What category best describes the company you currently work for?

- ☐ Nuclear Vendor
- ☐ Nuclear Utility
- ☐ Government Organization/Laboratory
- ☐ Academic Organization
- ☐ Industry Group (INPO, NEI, EPRI, ANS, CNA, CNS etc.)
- ☐ Other

* 8. What best describes your current job function?

- ☐ Science (health physics, radiation protection, etc.)
- ☐ Engineering
- ☐ Operations
- ☐ Business Planning/Project Management
- ☐ Maintenance/Technical
- ☐ Security
- ☐ Learning/Training
- ☐ Administrative/Non-technical
- ☐ HR/Communications
- ☐ Organizational effectiveness / Performance Improvement

* 9. What kind of engineering work do you do?

- ☐ Nuclear
- ☐ Electrical
- ☐ Mechanical
- ☐ Civil
- ☐ Other

* 10. What kind operations position do you work in?

- ☐ Non-licensed
- ☐ Licensed

* 11. What North American country do you work in?

- ☐ Canada
- ☐ Mexico
- ☐ USA

* 12. Please answer these questions in US Dollars (USD), integers only. All answers are strictly confidential.

Starting annual base
salary in nuclear industry

Current annual base
salary

Current annual added pay
(overtime, bonuses, etc.)

* 13. Please answer these questions in Canadian Dollars (CAD), integers only. All answers are strictly confidential.

Starting annual base
salary in nuclear industry

Current annual base
salary

Current annual added pay
(overtime, bonuses, etc.)

* 14. Please answer these questions in Mexican Pesos (MXN), integers only. All answers are strictly confidential.

Starting annual base
salary in nuclear industry

Current annual base
salary

Current annual added pay
(overtime, bonuses, etc.)

* 15. How long did you work at your current job until you received your first increase in pay that was not based on cost of living adjustments?

- ☐ N/A
- ☐ 0 – 6 months
- ☐ 7 – 12 months
- ☐ 1 – 2 years
- ☐ 2 – 3 years
- ☐ 3+ years

* 16. How long did you work at your current job until you received your first significant increase in responsibility?

- ☐ N/A
- ☐ 0 – 6 months
- ☐ 7 – 12 months
- ☐ 1 – 2 years
- ☐ 2 – 3 years
- ☐ 3+ years

* 17. Please rank the following work arrangements in your order of preference (regardless of availability to you, 1 being best)

<input type="text"/>	9/80 - Working 80 hours over 9 days (instead of 10)
<input type="text"/>	4/10 - working 4 10 hour days in a week (instead of 5 8 hour days)
<input type="text"/>	Part-time Employment
<input type="text"/>	Telecommuting
<input type="text"/>	Flex Hours (flexibility to choose work schedule)

* 18. How many hours do you work in an average week?

- ☐ <35
- ☐ 35 - 40
- ☐ 40 - 45
- ☐ 45 - 50
- ☐ 50 - 55
- ☐ 55 - 60
- ☐ >60

* 19. In the past two years have your average weekly work hours increased?

- ☐ Yes, they have increased
- ☐ No, they have stayed the same
- ☐ No, they have decreased

* 20. Overall, how satisfied are you with your job?

- ☐ I'm very satisfied
- ☐ I'm satisfied
- ☐ I'm dissatisfied
- ☐ I'm very dissatisfied

* 21. Are you actively looking for a new job?

- ☐ Yes, outside and inside of the nuclear industry
- ☐ Yes, outside of the nuclear industry
- ☐ Yes, outside of my company but still within the nuclear industry
- ☐ Yes, inside of my company
- ☐ No

* 22. Please rank the following by level of importance for your job satisfaction (1 is most important)

<input type="text"/>	Work/Life Balance
<input type="text"/>	Colleagues
<input type="text"/>	Salary & Salary Growth
<input type="text"/>	Benefits (health care, etc.)
<input type="text"/>	Corporate Culture / Leadership Styles
<input type="text"/>	Location
<input type="text"/>	Training and mentoring opportunities
<input type="text"/>	Challenging work
<input type="text"/>	Advancement / Growth opportunities

* 23. Please rank the following by level of satisfaction for your current situation (1 is most satisfied)

<input type="text"/>	Work/Life Balance
<input type="text"/>	Colleagues
<input type="text"/>	Salary & Salary Growth
<input type="text"/>	Benefits (health care, etc.)
<input type="text"/>	Corporate Culture / Leadership Styles
<input type="text"/>	Location
<input type="text"/>	Training and mentoring opportunities
<input type="text"/>	Challenging work
<input type="text"/>	Advancement / Growth opportunities

* 24. How soon would you like to change jobs?

- ☐ 0 – 3 months
- ☐ 3 – 6 months
- ☐ 6 – 9 months
- ☐ 9 – 12 months

* 25. What about your current job is prompting you to look for a new job?

	Big influence	Some influence	No influence
Work/Life Balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salary & Salary Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benefits (health care, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corporate Culture or Leadership Style Differences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training Opportunities & Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of Challenging Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advancement/Growth Opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plant Closures or Corporate Downsizing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Charge Code Culture (i.e. budgetary challenges that hinder work)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 26. In 5 years, do you still see yourself working in the nuclear industry?

- ☐ Yes, I am satisfied with my career in the nuclear industry
- ☐ Yes, if there are leadership opportunities
- ☐ Yes, if clean energy rulemaking recognizes contributions from nuclear energy
- ☐ No, my career goals will take me outside of the nuclear industry

* 27. Are you willing to relocate outside of your local area (geographically)?

- ☐ Yes
- ☐ No

* 28. Are your leaders mentoring you and is NAYGN included in succession planning?

- ☐ Senior leaders support mentoring but in reality, it does not get prioritized highly. NAYGN chapters are expected to be an integral part of mentoring.
- ☐ Senior leaders support mentoring but in reality, it does not get prioritized highly. NAYGN chapters are not expected to be an integral part of mentoring.
- ☐ Our organization executes a visible succession and mentoring plan. NAYGN chapters play an integral role.
- ☐ Our organization executes a visible succession and mentoring plan. NAYGN chapters do not play an integral role.
- ☐ A leadership mentoring program exists; participation is exclusive and it is unclear how to participate. NAYGN chapters do not play a role.
- ☐ I'm not sure what succession planning is or how it might impact my career.

* 29. Which aspect of nuclear energy are you most proud of?

- ☐ The above market paying jobs that lead to very beneficial regional economic impacts
- ☐ The innovative nature of nuclear and the interesting career challenges it brings
- ☐ Nuclear energy is the only reliable, low cost, baseload, clean air energy source
- ☐ It's just a job for me
- ☐ The operational excellence and safety of our current nuclear fleet

* 30. In your opinion what is the top reason people leave our industry?

- ☐ Momentum against innovative solutions
- ☐ Pursuit of higher compensation
- ☐ Lack of advancement / growth opportunities
- ☐ Location
- ☐ Work is not challenging enough
- ☐ Corporate Culture / Leadership Style Differences
- ☐ Uncertainty Around the Future of Nuclear

31. Do you have any additional comments on topics discussed above?

* 32. Do you have a knowledge transfer and retention program in your company?

- ☐ No
- ☐ Yes
- ☐ Yes, but I do not participate
- ☐ My company is developing a knowledge transfer and retention program

* 33. For the listed Knowledge Transfer & Retention (KT&R) components below please indicate those that are part of your company's KT&R program.

	Part of my program	Not part of my program	Unsure if this is part of my program
Critical Knowledge Risk Assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expert Contact List	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expert Storytelling Session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Industry Conferences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Cross-training/Rotational Assignments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Shadowing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Turnover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional Communities (NAYGN, WIN, ANS, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge Database	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formal Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informal Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical Mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Succession Planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 34. For the listed Knowledge Transfer & Retention (KT&R) components below please rank the components in order of effectiveness for your company's KT&R program. (1 is most effective)

<input type="text"/>	Critical Knowledge Risk Assessments	<input type="checkbox"/> N/A
<input type="text"/>	Expert Contact List	<input type="checkbox"/> N/A
<input type="text"/>	Expert Storytelling Session	<input type="checkbox"/> N/A
<input type="text"/>	Industry Conferences	<input type="checkbox"/> N/A
<input type="text"/>	Job Cross-training/Rotational	<input type="checkbox"/> N/A
<input type="text"/>	Assignments	<input type="checkbox"/> N/A
<input type="text"/>	Job Shadowing	<input type="checkbox"/> N/A
<input type="text"/>	Job Turnover	<input type="checkbox"/> N/A
<input type="text"/>	Professional Communities (NAYGN, WIN, ANS, etc.)	<input type="checkbox"/> N/A
<input type="text"/>	Knowledge Database	<input type="checkbox"/> N/A
<input type="text"/>	Procedures	<input type="checkbox"/> N/A
<input type="text"/>	Formal Mentoring	<input type="checkbox"/> N/A
<input type="text"/>	Informal Mentoring	<input type="checkbox"/> N/A
<input type="text"/>	Technical Mentoring	<input type="checkbox"/> N/A
<input type="text"/>	Succession Planning	<input type="checkbox"/> N/A
<input type="text"/>	Technical Training	<input type="checkbox"/> N/A

* 35. Which of the KT&R items listed above do you find to be the least effective and why?

* 36. Which of the KT&R items listed above do you find to be the most effective and why?

* 37. Is your local NAYGN Chapter engaged with the station or company's KT&R program?

- ☐ Yes
- ☐ No
- ☐ I am unsure about the engagement of NAYGN with KT&R

* 38. Please rank the below in order of importance of NAYGN to provide to its members (1 is most important)

<input type="text"/>	Soft skill development (leadership, communication, public speaking, etc.)
<input type="text"/>	Community service related opportunities
<input type="text"/>	Public information opportunities
<input type="text"/>	Networking
<input type="text"/>	Interaction with industry executives

* 39. Please rank the below in order of your satisfaction with how NAYGN has implemented each (1 is most satisfied)

<input type="text"/>	Soft skill development (leadership, communication, public speaking, etc.)
<input type="text"/>	Community service related opportunities
<input type="text"/>	Public information opportunities
<input type="text"/>	Networking
<input type="text"/>	Interaction with industry executives

* 40. The length of this survey was:

- ☐ Too short
- ☐ Just right
- ☐ Too long

41. Please provide your feedback or comments on any of the topics addressed in this survey.



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