



# 2020 NAYGN Career Report

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## **2020 NAYGN Benchmarking Committee**

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# I. Executive Summary

Since the formation of NAYGN in 1999, the North American Young Generation in Nuclear (NAYGN) has sought to be the voice of the next generation of leaders in the nuclear industry. 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.

This survey was conducted in the fall of 2019 (prior to any impact to employment from COVID-19). 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, job importance vs. satisfaction, professional development and training, and nuclear outlook. 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.

In total, 933 employees of the nuclear industry responded to the survey. The survey responses were diverse in regions and age, as results spanned across seven different regions in North America and six different age brackets. The results were not as diverse in ethnicity as nearly 77% of respondents were Caucasian / White. Job positions were diverse from students and individual contributors, to managers and senior leaders. The broad range of experience assisted with multi-layered analysis based on the questions asked within the survey.

The results show that of the respondents, 57% of employees have been with their current company for less than five years. For the total data analyzed, 63% of respondents have spent their entire careers in nuclear with 95% of respondents having some form of higher education post high school. Nearly 66% of respondents indicated they work 40-45 hours per week and only ~7.2% working less than 40 or part time hours.

Starting salaries were above \$50,000 annually for 83% of respondents with careers in Operations, Quality / Oversight, Training and Project Management providing the highest current salaries. Similarly, to previous surveys, there is a significant gender-based difference with females having a lower salary in both starting and current salaries. Some of the pay gap may be attributed to differences in years of experience, however, the individual contributor job function as the largest sample size showed that men's salary averaged more than women even after the average compensation is normalized by years of experience. Overall the results were more favorable than previous surveys. There are significant statistical differences from the average current salaries for Black or African American (-2.35) and Hispanic/Latino (-1.36) respondents.

18.8% of respondents indicated organizational level of Supervisors, Managers, and Senior Leaders, however, this drops to 13.6% for non-Caucasian / White respondents compared to 20% for Caucasian / White respondents. This may indicate an area for companies to review opportunities for minorities in leadership roles.

For overall job satisfaction, the results indicate that 87% of respondents are Satisfied or Very Satisfied with their job. The most important aspects of the workplace were cited as Compensation / Pay, Flexibility to Balance Life and Work Issues, and Paid Time Off. The aspects with the lowest levels of satisfaction were cited as Trust Between Employees and Senior Leadership, Career Development / Advancement Opportunities, and their Organization's Financial Stability.

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. Of the respondents, 47% are looking for new employment (actively or passively) with 18% looking solely outside of the nuclear industry. Respondents indicated that their top reasons for leaving the nuclear industry would be attributed to Uncertainty Around the Future of Nuclear (19.24%); Lack of Advancement / Growth Opportunities (14.49%); and Lack of Work / Life Balance (12.11%).

Respondents provided clarity on how they viewed the general outlook of the nuclear industry and government support within their region. The results show a generally positive perspective; however, the USA-Midwest and USA-Northeast regions have the least positive support in their community. General outlook and government support were perceived to be the highest in the Canadian region while lowest in the USA-Northeast and USA-West regions.

Respondents demonstrated that they were most interested in Leadership and Management skill development and least interested in Software / Programming Proficiency regardless of position in the company.

NAYGN chapters remaining actively engaged was a uniform trend across the regions. This is a positive sign of a healthy organization. Members of NAYGN continue to be actively engaged in their career and have a passion for their industry.

## XII. Conclusions and Recommendations

### Conclusions

#### **1. NAYGN membership shows an underrepresentation of minorities when compared to the industry.**

The distribution of the ethnicities of respondents differs considerably from the distribution of ethnicities in the nuclear industry defined in the 2019 US Energy and Employment Report [2]. 5% of survey respondents identified as Black or African American vs a 12% industry average published in the 2019 US Energy and Employment Report [2]. Additionally, 4% of survey respondents identified as Hispanic or Latino vs a 15% published industry average, and only 7% of respondents identified as Asian vs an 11% published industry average. In total, 77% of the survey respondents were Caucasian / White compared to the 2019 US Energy and Employment Report average of 66%.

#### **2. There is a continued lack of gender diversity in specific job roles as well as starting salary disparity.**

Although the 2019 US Energy & Employment Report [2] cites nuclear as the highest employer of women of any generation technology, there are substantial differences in the number of female employees vs male employees in Maintenance (~13% female), Operations (~25% female), and Engineering (~28% female). Conversely, some job roles remain primarily female dominated roles including Organizational Effectiveness / Performance Improvement (~67% female), and Administrative/Non-Technical roles (~85% female). The overall gender distribution, 62% male and 38% female, closely matched the results published in the 20 US Energy & Employment Report [2], and the five aforementioned groups differed most from the overall distribution.

Similarly, to previous surveys, there is a significant gender-based difference in both the starting and current salaries with female starting salary 4.7% less than male starting salary and female current salary 7.7% percent less than male current salary which is an improvement from the 2018 Career Report [1]. When accounting for average years of experience by taking the average current salary divided by the average number of years of experience for each gender group, there is not a statistical difference in current compensation, with females making slightly more when normalized for experience. When average compensation is normalized by years of experience, females make more than males in all categories but individual contributor. Unfortunately, most job functions sample sizes were too small to definitively determine if this accounts for the gap; only for Engineering can we confirm the compensation gap is primarily due to years of experience.

#### **3. Although the workforce ranks compensation as highly important, those who make the highest salaries are the least happy in their current roles.**

The results in the Importance vs Satisfaction section show that Compensation / Pay was ranked most important by the majority of respondents, and that respondents are generally satisfied with their compensation (5<sup>th</sup> largest delta between importance and satisfaction). These results align with those of the 2018 NAYGN Career Survey [1].

Those who work >50 hours per week saw an increase of >\$10,000 in average salary from the 2018 survey results; however, ~22% of respondents who work 50-55 hours per week and ~36% of those who work >55 hours per week are dissatisfied with their job. This contrasts with an average of 11.2% of those who work less than 50 hours per week being dissatisfied with their job.

Over 50% of all respondents who work >40 hours per week are either actively or passively looking for a new job.

**4. The current workforce believes that Subsequent License Renewal is most impactful to the future of nuclear while the next generation believes that Small Modular Reactors and Advanced Reactor Technology will be most impactful.**

With the “uncertainty around the future of nuclear” overwhelmingly leading as the top reason respondents would leave the nuclear industry, developing technology and how the industry prioritizes the application of that technology is extremely important to today’s workforce. Employees in all job roles (except student) identified “Extending Life of Existing Plants” as the being most impactful to the future of nuclear.

Students deem life extension of existing plants one of the least impactful to the future of nuclear, second only to water desalination. Instead, students see Small Module Reactors and Advanced Reactor Technology as the future of nuclear. This trend could be impacted by the recent momentum in NuScale’s SMR design certification by the Nuclear Regulatory Commission.

**5. The outlook on the future of nuclear in communities with new builds is optimistic; however, other communities have changed their perspective.**

Challenges during the construction of VC Summer Units 2 and 3 increased the importance of the successful construction of Vogtle Units 3 and 4 for the industry. Survey results discussed in the Nuclear Outlook Results section show that although the majority of USA-Southeast region respondents identified the life extension of existing plants as having the largest impact on the future of nuclear, they had the highest number of respondents (24.6%) select “new builds” as being most impactful. Additionally, over 50% of respondents in the USA-Southeast region indicated that their community is supportive of nuclear, which is an increase of ~8% from the results of the 2018 Career Report [1].

In the two years between surveys, the greatest change is in the USA-West. In 2018, plant closures were being announced and the wave of small modular reactors and other new reactor technologies was not as widespread as it is in 2020. This funding and innovation are having a positive effect on the region.

Conversely, the USA-Midwest region was the only region to have an increase in respondents who feel the community has a negative perception of nuclear, and a sizeable decrease in respondents who feel the community has a positive perception of nuclear. This trend is most likely driven by recent plant closures.

**6. The workforce demonstrated that they were most interested in Leadership and Management skill development.**

This was the top ranked choice among every job profession and was the same in the 2018 Career Report [1].

**7. Rotational programs are valuable and desired by the current workforce. This is a potential solution to some of the workforce’s dissatisfactions with career development.**

Of those who have access to a rotational training program, 85% indicated that the program has value; however, there was a decrease of almost 10% in respondents who said a program was available to them from the 2018 Career Survey [1]. Only ~30% said that a rotational program is offered to them – whereas 60% said that a program is not offered but they believe it would be valuable.

Career development/advancement opportunities had the highest delta overall between importance and satisfaction. Additionally, “lack of advancement/career growth” was the second highest response when respondents were asked the top reason they would leave the nuclear industry.

## 8. Satisfaction with NAYGN and chapter engagement remains strong.

Chapters continue to have strong attendance in events. Compared with the 2018 Career Report [1], the overall participation in NAYGN has increased (“0 events” went from 24% in 2018 to 22.75% in 2020 and “10 or more” went from 6% to 8.76%).

Respondents reviewed the NAYGN pillars of Professional Development, Membership & Networking, Community Outreach, and Public Information, as well as Communications. Overall, most areas have decreased in “very good” and increased in “good” or “average” from the 2018 survey with weighted averages showing strong scores in all pillars.

### Recommendations

For NAYGN:

- Establish a strategic plan initiative to promote diversity, inclusion, and belonging in the membership at large.
- Improve partnerships with outside organizations (including universities and international groups) that align with NAYGN’s goals and update the membership on how NAYGN is strategically aligning with partners.
- Develop career development programs or initiatives that are focused on leadership / management skill development and similar soft skills training to members.
- Focus advocacy and public information efforts in areas that have a negative perception of nuclear or negative regional outlook.
- Increase collaboration between regions and chapters and share material and best practices. This was most requested in the freeform comments in which participants suggested improvements for NAYGN.

For the industry:

- Continue to engage NAYGN members in alignment with industry goals. Members are eager to be part of the solution to growing the industry.
- Promote cross-training and rotational programs to support the professional development of NAYGN members within the industry. Many feel that there is a lack of career development and growth opportunities in the industry, and these types of training programs could help remedy that dissatisfaction.
- Provide opportunities to develop leadership / management and other soft skills.
- Review the current professional development roadmaps in place for nuclear professionals. Work with the employee to define career steps within the roadmap that are attainable and reachable within a certain time period. Provide the clarity and tools for employees to achieve their next developmental step. This approach will provide a goal for employees to work towards and satisfy the desire to improve as a professional.
- Focus advocacy and public information efforts in areas that have a negative perception of nuclear (particularly in the Midwest). Continue to build the positive momentum in public perception of nuclear in areas with existing construction projects.
- Explore employee incentives outside of increased compensation for those in roles where they are working more than 50 hours per week. Compensation alone may not be incentive enough to keep these employees satisfied.
- Industry to analyze the potential minority pay and promotion gap seen in the NAYGN survey.