



# Certification Market Analysis Report

**June 2023**

## **JUNE 2025 UPDATE:**

June 2022 - ANS President's Special Committee on Certification was established to investigate the ways ANS can help broaden the pool of qualified potential candidates available to fill the growing number of employer vacancies across the nuclear industry.

June 2023 - After conducting roughly six months of market research, the President's Special Committee on Certification recommended that ANS take a two-pronged approach to address the identified immediate workforce gaps. First, ANS should develop a certificate program for specialized technical topics. Each certificate requires completion of a course, related activities, or experiences and ends with an examination. Second, ANS should develop a professional certification, tentatively titled Certified Nuclear Professional (CNP), that would be a longer-term commitment ending with an examination and requiring continuing education activities and/or a recertification examination to maintain the designation.

November 2024 - ANS held its first Certificate Course, selling out two classes of 20 students each for the debut of Nuclear 101, a 32-hour course held during the 2024 ANS Winter Conference in Orlando.

March 2025 - The first online ANS Certificate Course was launched, a 16-hour Licensing & Regulation Course.

June 2025 - Nuclear 101 was offered for a second time at the 2025 ANS Annual Conference in Chicago, and again sold out two classes of 20 students each.

June 2025 - After nearly two years of development, ANS is launching the Certified Nuclear Professional (CNP) credential with applications for the exam being opened. CNP candidates will take the exam this summer, and additional exam periods will be held in the fall and spring.

November 2025 - The third Certificate Course, Radioactive Waste Management, is planned to launch at the 2025 ANS Winter Conference in Washington, DC. The Nuclear 101 course is also planned to again take place at the conference.

Early 2026 - The Nuclear 101 course is scheduled to debut as an online course.

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## Attachments

The following supplemental attachments are included in the online Board packet:

- Attachment A – Survey #1 Results
- Attachment B – Survey #2 Results
- Attachment C – Financial Projections

## Executive Summary

The nuclear energy industry is undergoing a major workforce transformation on two primary fronts; first, current staff knowledge gaps are becoming more evident as one generation retires, while a less experienced generation makes up the remaining workforce. Second, large investments in the development of advanced nuclear fission plants and advanced nuclear fuels have resulted in a projected need for an additional 375,000 nuclear industry employees by 2050. These factors have resulted in near-term large-scale recruitment of non-nuclear professionals to fill expanding immediate workforce needs.

The American Nuclear Society (ANS) has taken up the challenge to set the standard for nuclear industry professionals by developing a professional credentials program to support the workforce of the future. To this end, the ANS President's Special Committee on Certification was created to investigate the ways ANS can help broaden the pool of qualified potential candidates available to fill the growing number of employer vacancies across the nuclear industry. Committee efforts were initiated in June 2022 following approval by the Board of Directors to conduct a market analysis and provide recommendations via a report to the Board in June 2023. Subject matter expertise and leadership were provided by ANS volunteers, ANS internal staff, and consultants that specialize in development of certification and credentialing programs for technical professionals.

After conducting roughly six months of market research with our vendor, Limitless Association Solution Resource (LASR), the President's Special Committee on Certification recommends that ANS take a two-pronged approach to address the identified immediate workforce gaps. First, ANS should develop a certificate program for specialized technical topics. Each certificate requires completion of a course, related activities, or experiences and ends with an examination. Second, ANS should develop a professional certification, tentatively titled Certified Nuclear Professional (CNP), that would be a longer-term commitment ending with an examination and requiring continuing education activities and/or a recertification examination to maintain the designation.

In order to move these two recommendations forward, the Special Committee on Certification has two formal requests of the ANS Board of Directors:

1. Approval of our recommendation to move forward with developing a nuclear certificate program and Certified Nuclear Professional credential.
2. Approval of a funding request of \$30,000 to hire a consultant to assist in the infrastructure development for these two programs in 2023 (the \$30,000 is in addition to \$55,000 that was previously approved in November 2022, for a combined \$85,000 in funding for 2023).

The remainder of this document provides additional details about the two recommended program concepts and the path forward and summarizes the market research data that were used to inform the committee's recommendations. To provide feedback on this document or additional insights on either recommended program, please contact Dan Goldberg, CAE, Director of Programs at ANS, via email to [dgoldberg@ans.org](mailto:dgoldberg@ans.org) or via phone at 773-203-3280.

## Introduction/Background

Over the past decade, nuclear power plants across the country shut down early in favor of cheaper natural gas. As a result, the United States (U.S.) Bureau of Labor Statistics has been estimating an 11 percent decline in demand for nuclear engineers. However, in the last few years climate concerns have driven an influx of investment from the government and the private sector, changing the trajectory of the existing U.S. nuclear fleet and spurring new technology development. Nuclear energy provided 47% of the carbon-free electricity in the U.S. during 2022, making it the largest domestic source of clean energy today. It seems clean nuclear will play a pivotal role in protecting our clean air, strengthening our national security, and spurring the economy through 2050 and likely beyond. Advanced, micro, and small modular reactor designs are just a few of the innovations fueling renewed and rapidly growing interest in nuclear energy. And it's not just the electricity and energy sectors where exciting innovations are happening – radioisotope applications in agriculture, insect control, disease identification and treatment, and space exploration are all areas experiencing renewed interest and growth.

The nuclear industry is home to one of the broadest workforces in existence, requiring an incredibly diverse set of technical capabilities and special skills – not just nuclear engineers. The Nuclear Energy Institute (NEI) estimates almost 100,000 people are directly employed in high-quality, long-term jobs in the U.S. nuclear energy sector, but this number jumps to 475,000 when secondary support jobs such as accountants, chemists, cybersecurity specialists, health physicists, lawyers, reactor operators, and union trade services are included. Then add on the professionals supporting the academic, government, supplier, and medical sectors. On top of that current demand, a March 2023 U.S. Department of Energy (DOE) Liftoff Report concluded that the nuclear industry would need to add 375,000 additional people by 2050. This staggering projected growth in the industry provides the backdrop for a better appreciation for the large-scale recruitment of non-nuclear professionals to fill the rapidly expanding technical workforce needs.

The American Nuclear Society (ANS) President's Special Committee on Certification was created to investigate the ways ANS can help broaden the pool of potential candidates available to fill the growing number of employer vacancies across the nuclear industry. Given a confirmation of market need, the goal is to develop an employer-recognized and -relevant credential program for the nuclear industry. The intent is that this credential program will not be tailored to any one sector of the industry, but instead apply broadly across the industry. The objectives to achieve this goal include:

1. Providing nuclear professionals a means for learning and/or demonstrating their knowledge of the fundamentals of nuclear science and technology, to assist them in their professional and career development.
2. Offering employers in the nuclear industry a means for helping to qualify candidates by establishing a benchmark level of expertise and experience in the nuclear science and technology field.

3. Establishing new products that generate revenue for ANS while advancing our vision and mission.
4. Enhancing ANS's stature within the nuclear science and technology field, especially among the commercial nuclear utility industry.
5. Increasing ANS membership and meeting attendance through participation in the certification program.

ANS Project Leadership: ANS leads for the project are Dan Goldberg, CAE, Director of Programs, and Craig Piercy, Executive Director/CEO.

Volunteer & Member Resources: The ANS Certification Committee, led by chair Rebecca Steinman, provides oversight and guidance for the investigative phase of the project, which began in October 2022 and ran through May 2023. Additional members of the committee are listed in Table 1. Members of the Certification Committee represent significant experience in the field, including many years serving in ANS leadership positions. Additionally, many of the committee members have also been actively involved with the Professional Engineering Exam Committee (PEEC) and other initiatives related to certification.

**Table 1 – ANS Certification Committee Membership**

<b>Name</b>	<b>Industry Sector Represented</b>	<b>ANS Affiliations</b>
Robert Becse	Supplier	Standards Board
Sunil Chirayath	Academia	RPSD, Book Publishing Committee
Mary Lou Dunzik-Gougar	Academia	Past President
Chip Lagdon	Supplier	BOD
Christina Leggett	Government	BOD, FCWMD
John Mahoney	Consultant	BOD
Walid Metwally	National Laboratory	APPC
Catharine Prat	Utility	BOD, YMG
Rebecca Steinman	Utility	PEEC
Tracy Stover	National Laboratory	PEEC, CSD
Alexandra Siwy	Regulator	PEEC, YMG
Joshua Vajda	National Laboratory	PEEC
Matt Wargon	Supplier	YMG

## Overall Recommendation

The overall recommendation from the Certification Committee is that ANS take a two-pronged approach to address the identified immediate workforce gaps. First, it is recommended to engage the ANS Professional Divisions for technical volunteers to develop individual certificates that will eventually form the catalog for the broader ANS Professional Development Certificate Program. The initial round of certificates should include fundamental topics that can be used as alternatives to educational eligibility credentials in the professional certification program as well as topics covering identified knowledge gaps between a traditional college education and the first few years of on-the-job experience.

The development of a professional certification program, tentatively titled the Certified Nuclear Professional (CNP), will require significantly more resources up front, but has the potential to have a more desirable financial outcome for ANS in the long term. The certification program must be structured and governed in a way that would eventually support accreditation. It must have sufficient financial resources to conduct effective and sustainable initial certification and recertification activities. The first step in developing this program will be to establish the policies and procedures to manage every aspect of the program, including but not limited to topics such as eligibility requirements, records management, exam development and examinee confidentiality requirements, conflicts of interest, exam security, etc. Once this governance structure is in place, the program must conduct a job analysis in accordance with sound psychometric practices to define the domains and associated tasks that characterize proficient performance in each domain. The job analysis will lead to the establishment of the specifications that describe what the examination is intended to measure as well as specify the details of the exam itself, such as length of exam, scoring rules, etc. Once the exam specification is known, the subject matter experts (SMEs) can begin to develop a question bank and build the initial exam form. And finally, a standard-setting study must be performed to set the passing score.

## Market Analysis Methodology

Limitless Association Solution Resource (LASR), ANS staff, and the Certification Committee conducted two surveys and four focus groups in the period March–May 2023.

The two surveys were administered through SurveyMonkey and were distributed to more than 45,000 ANS members and nonmembers via email and social media. Nonmembers that received the emails included:

- Past ANS members
- ANS meeting and webinar attendees
- ANS newsletter subscribers (Nuclear SmartBrief and *Nuclear Newswire*)

**Table 2 – Summary of Market Analysis Surveys**

Survey	Audience	2023 Dates Sent	Estimated Population	Response Rate*
Survey # 1	Members/Non-Members	March 8	46,677	2,749 6%
		1 <sup>st</sup> Reminder – March 9	46,203	
		2 <sup>nd</sup> Reminder – March 13	46,576	
Survey # 2	Members/Non-Members	May 1	46,576	1,328 3%
		1 <sup>st</sup> Reminder – May 5	46,246	
		2 <sup>nd</sup> Reminder – May 8	46,693	

*\* Note that the association industry standard response rate is 3–5% (American Society of Association Executives article, “Survey Says: Member Research Needs to Come Before Reaction,” December 12, 2016).*

Four focus groups were held with representatives from these segments of the industry via Zoom in April 2023:

- DOE and Nuclear Regulatory Commission (NRC) representatives
- National lab representatives
- Decommissioning and engineering companies
- Suppliers

## Market Survey Key Takeaways

### Survey #1 – Market Appetite for an ANS Credential

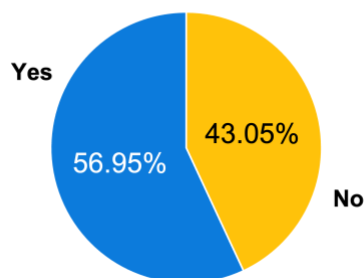
See “Attachment A – Survey #1 Results” in the online Board Packet for a full report.

The first survey was intended to gauge whether or not there was interest in an ANS-administered credential. The primary purpose was to determine the preferred type of professional credential (certification, certificate, etc.) and the market appetite for ANS offering this credential. This initial survey presented the following general credential descriptions to survey participants and attempted to gauge their interest.

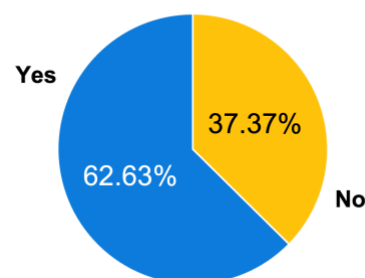
1. A professional **certification** that would require an examination with the option of continuing education activities or a recertification examination to maintain the designation.
2. A **specialty certification** that would require a written examination in a specific specialty with the option of continuing education activities or a recertification examination to maintain the designation.
3. A **certificate** that requires completion of a course and ends with an examination.

To assess the feasibility of these credentials, survey participants were asked the likelihood of seeking each professional credential and/or a specialty certification in the nuclear field. The survey findings showed that more than 50% of the survey respondents were in favor of each generally described credential, but there was not a distinct indication that one type of credential was favored above another when looking at the aggregate data.

Would you pursue a general nuclear professional certification if it were available?



Would you pursue a specialty nuclear credential if it were available?



For those that responded they had no interest in a credential, the most common reason for the no answer was being currently retired or nearing retirement. When the retirees were removed from the dataset, the next biggest driver of a no response was that they already had a Professional Engineer (PE) license (and considered that enough to differentiate them from others). Interestingly, these same two were also the top reasons employers gave as reasons for limiting support of a nuclear credential.



Another interesting piece of data that came out of Survey #1 was that 58% of the respondents indicated they held at least one professional credential; the top responses are provided below.

- Professional Engineer 24%
- Naval Nuclear Power School Graduate 12%
- Fundamentals of Engineering (formerly EIT) 12%
- Masters of Business Administration 9%
- Licensed Reactor Operator 8%
- Project Management Professional (PMP) 7%
- Certified Health Physicist (CHP) 3%

Within the initial market research survey, several questions provided the option for individuals to give additional comments. One of the key takeaways from the comments was that respondents stated that they wouldn't seek any other credential because they already have a PE or that they felt the PE fills the need for a credential in the nuclear industry.

A few other select comments, such as those below, provided feedback used to inform the design of Survey #2.

1. What specialty topics would interest you?

- Emergency Management of Nuclear Event
  - Emergency Preparedness
- Nuclear Psychology
- Public Communications/Policy
- Radiography (photon, proton, and neutron)
- Artificial Intelligence Applied to NPP & I&C
- Fire Protection
- Nuclear Security

2. Top reasons for/against support of personnel in obtaining a nuclear-specialty credential.  
74 responses

- Would support if value could be demonstrated in performance enhancement.
- Employer will support and pay for it if it is part of job requirement.
- Employer will support if credential is relevant to current practice and job function.
- Would not support due to the PE already existing.

3. Would a nuclear certification or specialty credential influence hiring and promotion decisions?  
230 comments

- Yes, demonstrates continuous learning desire.
- Yes, proof of expertise.
- Yes, adds to qualifications few others would have.
- Reduces chance for litigation.

## Survey #2 – Market Feasibility of Specific Concepts

*See “Attachment B – Survey #2 Results” in the online Board Packet for a full report.*

The second survey dove deeper into trying to determine which of three specific program concepts were most likely to attract the largest examinee pool and to try to narrow down the target audience. The second survey presented three specific credential descriptions to survey participants and attempted to determine which program was the most likely to meet the criteria for “success.”

### **1. Certified Nuclear Associate (CNA) (certification)**

Description: Will be geared toward individuals interested in, or who are just starting, a career in the nuclear industry, as well as professionals that do not have a technical nuclear background. The designation will demonstrate an individual’s knowledge and understanding of the unique aspects of the nuclear industry. Individuals will need to meet eligibility requirements and pass an examination. Self-paced and online preparatory courses will be offered by ANS. The certification will need to be renewed every 3–5 years by earning continuing education credits and by paying a renewal fee.

### **2. Certified Nuclear Professional (CNP) (certification)**

Description: Will be geared toward nuclear professionals desiring a means to differentiate themselves in the workplace, but who might not meet the eligibility requirements to obtain or desire to maintain a state-issued license. CNPs must demonstrate broader knowledge and a deeper understanding of the nuclear industry than a I. Individuals will need to meet eligibility requirements, which may include years of experience, and pass a comprehensive examination. Self-paced and online preparatory courses will be offered by ANS. Certification renewal will be required every 3–5 years by earning continuing education credits and by paying a renewal fee.

### **3. Certificate of Training**

Description: Will include a catalog of courses on individual technical topics that individuals can take, leading to earning a certificate upon passing an examination. Course options may include self-paced or live virtual courses, and in-person classes at ANS meetings. There will be no renewal requirements.

The following three graphics visually compare the distribution of the Survey #2 respondents by job title, job function, and industry sector compared to the distribution of the same categories across the current ANS membership. A few aspects immediately jump out – first, that students were underrepresented on the survey compared to their cross section of members. A similar statement can be made for the job titles of professor and emeritus/retiree respondents. Second, engineers (two categories combined) make up just over one-quarter of all survey respondents, while representing less than 20% of the overall society membership.

**Figure 1 – Comparison of Survey Respondents to ANS Membership by Job Title**

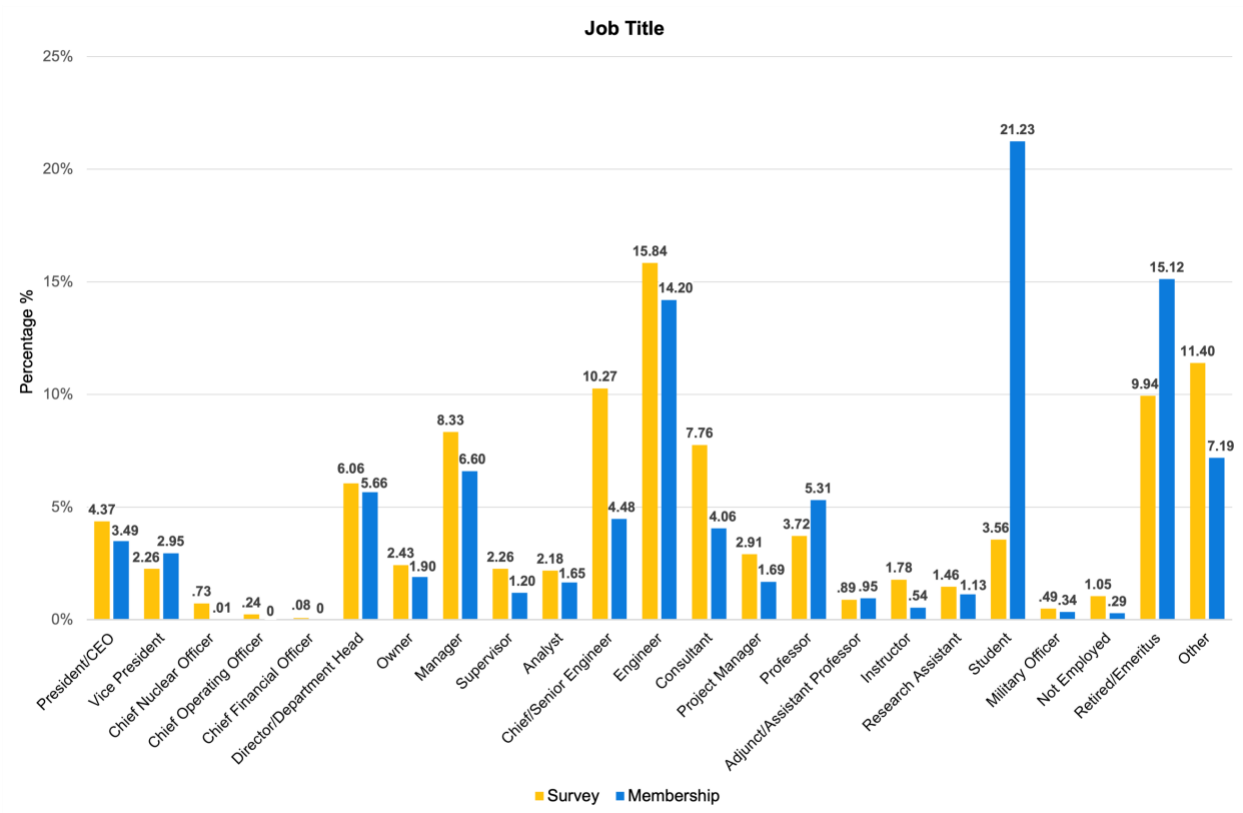
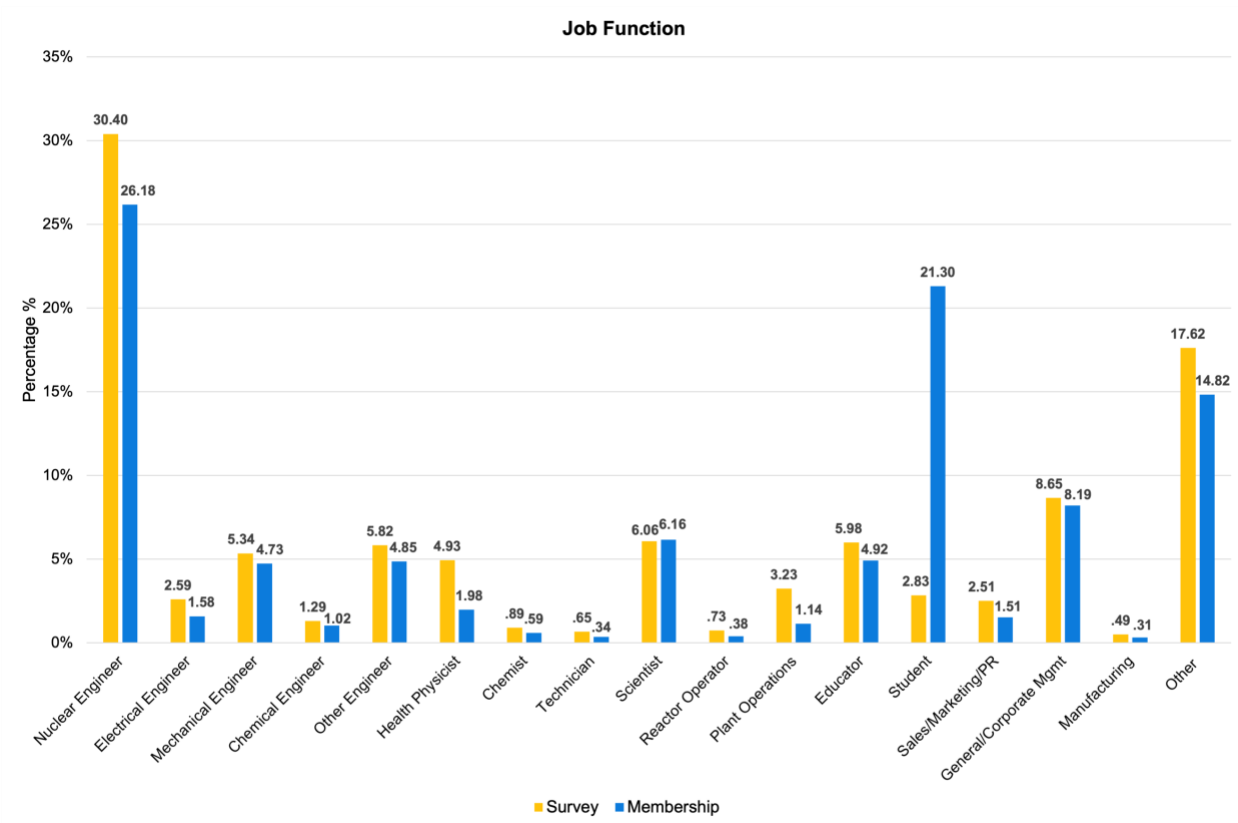


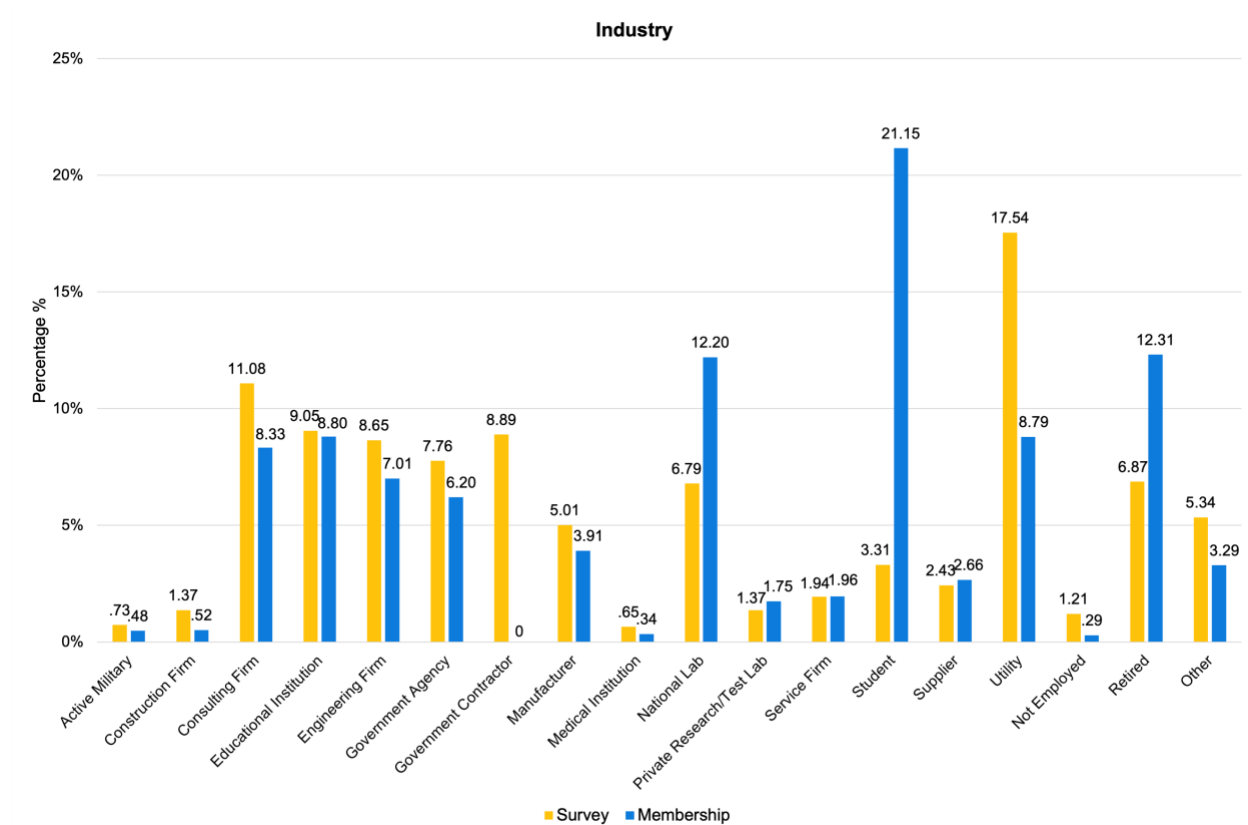
Figure 2 demonstrates that the breakdown of survey respondents by job function generally aligns with the Society, again with the exception of students. The largest group of survey responses, nearly one-third of the total, were received from nuclear engineers, and if you sum all engineers, around 46% of the total responders perform an engineering job function. This is noteworthy because engineers are the one job subgroup with a well-known existing credential, the PE license.

**Figure 2 – Comparison of Survey Respondents to ANS Membership by Job Function**



Additionally, Figure 3 shows that most sectors of the industry were represented in the survey data in a manner proportionate to the corresponding distribution among current ANS members. Notable differences are those employed by the national laboratories, utilities, students, and retirees. It was interesting that the utility response to the survey was twice their percentage of members in the Society, while the opposite was true regarding national laboratory employees.

**Figure 3 – Comparison of Survey Respondents to ANS Membership by Industry**



*Note: Government Contractor is not a current option for members to choose in their profile.*

Table 3 is a breakdown of Survey #2 respondents based on specific categories to determine any trends in interest in the proposed CNA, CNP, and technical certificate programs. Note that survey respondents were not required to answer all questions, and in some cases not every option available in the survey is included in the Table 3 breakdown; as a result, the total number of responses in each breakdown does not always equal the total number of respondents (1,328 listed in Table 2). A few key takeaways from these data are:

- There appears to be slightly more interest in the credential program options among international and non-ANS members. This is insightful because it opens up a large potential audience for these ANS products and would hopefully lead credential holders that are not currently ANS members to become members.
- There is significantly more interest in the CNP and the Certificate programs as compared to the CNA across most breakdowns, with the exception of the student population, which showed equal interest in all three options at roughly 70%.
- Interest in the proposed credential options is inversely related to respondents' level of education. As expected, people with a doctorate degree have less interest than those with two years or less higher education.
- Interest in the CNA is highest among people less than a year into their career, but interest in the CNP and Certificate programs is highest for those with 1–3 years of experience. This could be attributed to an interpretation that an associate's program is targeted at early-career professionals and becomes less relevant with experience. It was also noted that the term Associate might have a negative connotation as compared to Professional in the title of the option.
- Interest in the Certificate program was consistently above 50% for all groups except those with over 20 years of experience, and even that group showed 41% positive interest. This indicates a strong interest in professional development/training options that do not require recertification.

**Table 3 – Select Participation Interest in Each Specified Concept**

Category	Total	CNA Yes %	CNP Yes %	Cert Yes %
<b>U.S. vs. International</b>				
U.S.	1,094	31.1%	51.0%	51.9%
International	207	49.7%	58.0%	68.3%
<b>ANS Member vs. Nonmember</b>				
ANS Members	681	30.0%	51.9%	53.3%
Nonmembers	435	39.8%	52.3%	55.7%
<b>Job Title</b>				
President/CEO, VP, CNO, CFO	96	18.0%	31.8%	34.2%
Chief/Senior Engineer	128	25.6%	48.4%	54.1%
Engineer	197	37.6%	63.4%	62.5%
Consultant	97	22.1%	39.6%	39.6%
Manager	104	31.7%	53.6%	51.6%
<b>Job Function</b>				
Nuclear Engineer	377	20.5%	46.2%	48.7%
Electrical Engineer	33	26.5%	47.1%	53.1%
Mechanical Engineer	67	35.9%	50.0%	47.4%
Chemical Engineer	17	50.0%	60.0%	71.4%
Other Engineer	73	28.6%	52.2%	56.1%
Scientist	76	41.1%	45.7%	47.8%
Educator	75	45.8%	48.6%	52.2%
General/Corporate Mgmt	108	26.9%	39.8%	44.2%
<b>Industry</b>				
Consulting Firm	138	20.6%	38.1%	40.0%
Educational Institution	113	43.0%	50.0%	53.0%
Engineering Firm	108	30.2%	48.1%	44.0%
Government Agency	97	41.7%	55.2%	61.1%
Government Contractor	111	26.9%	48.6%	54.2%
National Lab	85	24.7%	41.3%	51.9%
Student	42	72.2%	72.7%	69.7%
Utility	218	24.2%	52.2%	57.1%

Category	Total	CNA Yes %	CNP Yes %	Cert Yes %
<b>Education Level</b>				
High School	35	66.7%	75.0%	67.9%
Trade School	10	70.0%	62.5%	85.7%
Associate's	24	56.5%	71.4%	76.2%
Bachelor's	352	32.6%	54.2%	55.0%
Master's	485	29.5%	48.6%	50.6%
Doctorate	298	22.6%	37.0%	44.4%
<b>Nuclear-Related Degree</b>				
Nuclear-Related Degree	760	26.5%	48.9%	50.5%
No Nuclear-Related Degree	479	39.0%	48.5%	53.5%
<b>PE Licensure</b>				
Nuclear PE	152	14.1%	31.8%	42.5%
Other PE	195	24.1%	41.4%	43.3%
No PE	893	35.8%	53.4%	55.2%
<b>Experience Level</b>				
Less than 1 yr	60	78.4%	58.3%	74.5%
1–3 yr	79	73.3%	82.2%	80.6%
4–6 yr	84	46.8%	63.0%	61.4%
7–10 yr	83	35.8%	60.3%	70.1%
11–15 yr	114	42.5%	57.1%	66.3%
16–20 yr	93	44.9%	54.7%	53.0%
20+ yr	724	18.2%	39.6%	41.3%



One of the Survey #2 questions asked respondents to rank a list of 19 potential certificate topics. Table 4 summarizes the top responses by industry sector. These survey results were quite similar to the top technical topics brought up during the focus groups, with U.S. licensing and regulations and power plant design being the most desired topics, which aligns with the current surge in the number of new designs seeking NRC certification.

**Table 4 – Top Certificate Technical Topics by Industry Sector**

<b>Industry Sector</b>	<b>1<sup>st</sup> Choice</b>	<b>2<sup>nd</sup> Choice</b>	<b>3<sup>rd</sup> Choice</b>
<b>Consulting Firm</b>	Licensing	Power Plant Design	Probabilistic Risk Assessment
<b>Educational Institution</b>	Nuclear Economics	Nuclear Criticality Safety	U.S. Regulations
<b>Engineering Firm</b>	Power Plant Design	Nuclear Economics	Basics of Fission and Fusion
<b>Government Agency</b>	Power Plant Design	Radioactive Waste Management	Probabilistic Risk Assessment
<b>Government Contractor</b>	Nuclear Criticality Safety	Radiation Detection and Measurement	Power Plant Design
<b>National Lab</b>	U.S. Regulations	Probabilistic Risk Assessment	Nuclear Economics
<b>Student</b>	Nuclear Economics	Radiation Detection and Measurement	Nuclear Criticality Safety
<b>Utility</b>	Licensing	Power Plant Design	Nuclear Economics

**Recommended topics for development of a technical certificate based on the survey results:**

1. Power Plant Design
2. Nuclear Economics
3. Licensing
4. Nuclear Criticality Safety
5. Probabilistic Risk Assessment

**Survey data from supervisors, human resources, and training staff**

Key takeaways for the overall survey results include:

- Of the 451 survey respondents who indicated they supervise employees or have human resources or training responsibilities, 69.6% said they would find one of the three programs beneficial for employees.

- Supervisors ranked the CNP (51.4%) and Certificate (49.8%) programs higher than the I (41.0%).
- As shown in Table 5 below, the perceived benefit of the CNP is significantly higher than that of the CNA among those in the utility, government contractor, and consulting firm industries.
- The Certificate program received about 50% interest across several industries, but that jumped to 59.4% for government agency workers and dropped to 40.7% for consulting firms.
- Representatives from national labs showed much less interest in the CNA (25.0%) and CNP (32.1%) compared to the Certificate program (46.4%).
- The highest-rated reason for finding the three programs beneficial was the opportunity to complement their training programs (68.9%).
- The top reason why supervisors did not feel the programs would be beneficial is because they prefer to tailor training to their organization's specific needs (45.5%).

**Table 5 – Industry Sector Breakdown of Supervisor Yes Response to  
“Would you find any of these programs beneficial for your employees?”**

<b>Industry Sector</b>	<b>Total</b>	<b>CNA</b>	<b>CNP</b>	<b>Certificate</b>
<b>Utility</b>	87	35.6%	57.5%	48.3%
<b>Educational Institution</b>	46	47.8%	52.2%	50.0%
<b>Engineering Firm</b>	46	45.7%	45.7%	50.0%
<b>Government Agency</b>	32	53.1%	53.1%	59.4%
<b>Government Contractor</b>	47	38.3%	55.3%	51.1%
<b>National Lab</b>	28	25.0%	32.1%	46.4%
<b>Consulting Firm</b>	59	39.0%	47.5%	40.7%

## Focus Group Key Takeaways

Four focus group Zoom meetings were conducted in April 2023. These groups were:

- DOE and NRC representatives
- National lab representatives
- Decommissioning and engineering companies
- Suppliers

The key takeaways from these focus group conversations included the feeling that there is significant value in ANS creating a pathway for the nuclear professional. There is a workforce challenge and a gap in training to onboard an individual regardless of the place of employment. A technical certificate program or a professional certification would build an industry benchmark that can be utilized as a potential onboarding training mechanism and assessment, followed by an industry-recognized certification for the nuclear professional.

Specific feedback received includes:

- At one small company, 64% of the jobs require an associate's degree; 26% a high school diploma or GED; and 10% a four-year degree. Thus, from their perspective a valuable credential must provide a minimal level of certification to allow someone to enter the nuclear workforce without going to get a four-year degree.
- Smaller organizations need a way to get non-nuclear technical people in-person experiences. For example, an aerospace engineer gets a lot more out of seeing a reactor and asking questions than reading about reactors. National laboratories have a desire to provide these types of experiences to people they can potentially partner with on large technical projects.
- Smaller organizations, especially those that consult, would pay the fees for a credential program, but would expect the employee to do most of the work on their own time. National laboratories and federal government employers were more inclined to provide payment of fees and time on the job to work through the program.
- Smaller organizations need more fundamental topics, like construction, quality assurance, and radiation protection, whereas most of these are already covered by general employee training at the utilities.
- Across all groups, instrumentation and control engineers are in demand, but most do not have a nuclear design philosophy or safety culture background.
- An enterprise-level access option compared to individual fees is desired when programs are relevant to most or all employees

## Recommended Program Details

### **Certificate program**

The Certificate program will consist of ANS offering a catalog of courses on nuclear-related topics, with each course concluding with an exam. Upon successful completion, participants will receive a certificate. The plan is to start the program in the spring of 2024 with one broad overview course, Nuclear 101, as well as three additional courses, which could include topics such as:

- Power Plant Design
- Nuclear Criticality Safety
- Probabilistic Risk Assessment
- Licensing
- U.S. Regulations
- Overview of U.S. Nuclear-Related Consensus Standards

(Note the above topic suggestions are based on results from both survey and the focus group data and are thus slightly different than the top five topics resulting from just Survey #2.)

Each subsequent year, 1–3 courses will be added. The course content will be reviewed at regular intervals to ensure content stays up-to-date. The volunteer group providing oversight will generate basic guidelines so that modules will be similar. This guidance will include things such as a requirement that objectives be stated at the start of modules, using a consistent ANS template/format, and including rules for multiple choice question generation. ANS Professional Divisions will play a key role in the selection and development of individual courses.

Some certificate courses may be part of the optional selection topics for the CNP program in addition to acting as stand-alone certificates.

Development of the courses will begin in the summer of 2023.

### **Certified Nuclear Professional (CNP) program**

The CNP certification will offer recognition to practitioners desiring a means to differentiate themselves in the workplace, but who might not meet the eligibility requirements to obtain or desire to maintain a state-issued license to practice engineering. The CNP will demonstrate broad knowledge and more than a minimal understanding of key aspects of the nuclear industry but will not require demonstration of engineering skills covered by the nuclear Professional Engineer (PE) license exam.

Program objectives will be demonstrated by passing a comprehensive exam at the end of the course, in addition to meeting specific eligibility requirements. The preparation for the exam could be accomplished via combination of academic courses as well as online or in-person

certification-focused modules, classes, or experiences offered by ANS, including a specific CNP Preparatory Course.

A CNP will demonstrate basic knowledge and understanding of the following unique aspects of the overall nuclear industry, in addition to basic concepts and terminology associated with certain nuclear technology–related technical topics. Some of these areas may require demonstration of specific experiences. Applicants with advanced degrees or significant nuclear industry experience should already possess most of the lower-tier fundamental knowledge, whereas those new to the industry may require more preparatory effort to obtain a passing exam score.

#### Unique Aspects of the Nuclear Industry

- Nuclear Safety Culture
- Safeguards & Security
- Radiation Safety Fundamentals
- Nonproliferation & Export Controls
- Structure, System, or Component (SSC) Special Treatment

General topics covered by the study materials may include:

- Radiation Fundamentals
  - Structure of an atom, nomenclature
  - Isotopes, decay, types of radiation, half-life, activity
  - Binding energy, nuclear reactions
  - Interaction of radiation
- Applied Health Physics / Radiation Safety
  - Nomenclature and units
  - Exposure, dose, contamination concepts
  - Introductory safety concepts such as time, distance, shielding
  - 10 CFR 20
- General Nuclear Safety Culture – Safety, Security, and Safeguards
- Nuclear Reactors and Power Generation
  - Types of reactors – traditional LWRs as well as advanced technologies
  - General concepts of operation
- Fuel Cycle Basics (including waste – what it is and isn't)
- Nuclear Nonproliferation / Export Controls (810)
- Licensing and Regulatory Concepts – NRC versus DOD/DOE
  - 10 CFR Parts 21; 50; 51; 52; 54; 70; 71; and 72
  - Licensing basis and design information
  - Deterministic versus risk-informed
- Industry Codes and Standards (including SSC special treatment)
- Non-Power Applications of Radiation and Nuclear Technology
- Fusion Energy Basics

In addition to the general topics, a CNP would need to demonstrate a working knowledge of at least two specialty topics. Examples of such specialty topics include:

- Nuclear Criticality Safety
- EQ, MOV, Fire Protection, or some other special program
- Traditional and Advanced Reactor Concepts / Power Plant Design
- Non-Power Applications of Nuclear Technology
- Packaging and Transport of Radioactive Materials
- Probabilistic Risk Assessment

A lot of people easily confuse “certificate” and “certification” due to the similar sound of the names. Table 6 provides a comparison of select key features of each proposed program in an effort to highlight similarities and important differences for better communication of the concepts to the broader ANS individual membership and key organizational partners.

**Table 6 – Side-By-Side Comparison of Proposed Certificate and Certification Programs**

	<b>Certificate Program</b>	<b>Certified Nuclear Professional</b>
<b>Launch Date</b>	Spring 2024	Summer 2025
<b>Audience</b>	Nuclear 101 – individuals new to the nuclear field or those without a nuclear technical background; probably not current ANS members, but maybe this certification will prompt them to join. All other topics – current ANS members, individuals new to the nuclear field, and/or those looking to enhance their depth of knowledge of specific topics.	Two groups. First, working professionals with a degree in something other than nuclear engineering; workers new to the nuclear industry needing fundamental concepts or a basic overview of the nuclear industry; executives that might not have a nuclear background, but want to become familiar with concepts and terminology. Second, typical ANS members that have degrees in nuclear engineering. In this case, this certification may be viewed as an intermediate step between a four-year engineering degree and a PE license.
<b>Eligibility Requirements</b>	None	Will have set academic achievement and experience eligibility requirements. Applicants with a high school diploma or equivalent or associate’s degree, or applicants

		who are transferring to the nuclear industry, may need to take the Nuclear 101 fundamentals certificate as an alternative to the formal educational requirements.
<b>Completion Requirements</b>	Participants must complete the course and pass the exam.	Participants must pass an online exam, which will be offered on a rolling basis, as well as demonstrate attainment of certain core experiences. Opportunities to bypass portions of the exam based on previously earned ANS Certificate(s) may be explored.
<b>Course/Exam Development</b>	Courses and exams will be developed by ANS volunteers. Nuclear 101 will be developed by a group of volunteers specifically selected to ensure the depth of this course fits its intended use. Other courses and exams will be developed by volunteers, primarily made up of representatives of the sponsoring Professional Division. A psychometrician will be hired to help with the exam development.	The body of knowledge and exam will be developed by volunteers with assistance from staff and a consultant. A psychometrician will be hired to help with the job analysis, as well as specification and exam development.
<b>Course/Exam Delivery</b>	Courses will be held online and will be available live or recorded. The first Nuclear 101 course will also be held in person at the November 2024 ANS Winter Meeting. Will need to determine the23nvone course software.	Exams will be held online. Will need to determine the online exam software.
<b>Course Duration/Prep Time</b>	Nuclear 101 will be 8–10 hours. Other courses will range from 2–5 hours.	Estimated time to prep for exam is 120–150 hours.
<b>Exam Questions</b>	40–60 questions for Nuclear 101; 20–40 questions for other topics.	Would need to be something more than the certificate, but less than the 8-hour, 70-question nuclear PE Exam.

<b>Fee Ranges</b> <i>Estimated fees are subject to analysis.</i>	Nuclear 101 fee ranges will be \$499–799 nonmembers / \$399–599 members; other topics will be \$249–599 nonmembers / \$199–499 members per course.	\$599–899 nonmember / \$399–699 member application and exam fee; \$399–549 nonmember / \$299–449 member recertification fee every three years.
<b>Maintenance</b>	None	40 hours of nuclear-related continuing education hours every three years plus a recertification fee. Individuals can earn continuing education credit through the ANS Certificate program, webinars, meetings, and other industry events deemed appropriate by a review committee.
<b>Recognition</b>	Participants will be sent a PDF certificate upon passing the course exam. Digital badges also will be provided for ANS member profiles, LinkedIn, and other uses.	CNPers will receive a printed and PDF certificate, along with digital badges and access to a CNP logo to use on email signatures, business cards, etc. New CNPs will also be recognized in <i>Nuclear News</i> .



## Exam Administration

The framework for the development and administration of the examinations for both the Certificate and the Certified Nuclear Professional programs will be built with the guidance of a consultant and a psychometrician.

For the Certificate program, examinations will likely be administered through a learning management system (LMS) that will provide online testing upon completion of the Certificate course. The exams will be developed by ANS volunteers, including members of Professional Divisions.

The examination development process will be significantly more extensive for the Certified Nuclear Professional program. In order to meet accreditation requirements, we will need to follow the Standards for the Accreditation of Certification Programs, set by the National Commission for Certifying Agencies.

Some of the key standards that will need to be met in the development of the CNP include:

- The certification program must establish specifications that describe what the examination is intended to measure as well as the design of the examination and requirements for its standardization and use, consistent with the stated objectives of the certification program.
- The examination specifications must clearly state the objective of the examination, including what the examination is intended to measure (e.g., cognitive knowledge, psychomotor skills, general competency) and the level of practice (e.g., entry, advanced, specialty, or as defined by the program) being measured.
- The plan for weighting sections of an examination must be based on a job analysis; the plan must provide precise direction regarding the weighting structure for each section.
- A written and systematic item development plan must be developed and followed to ensure that examination content is accurate, current, and appropriate for candidates, regardless of format and candidate demographics.
- The development of subjectively scored items (scored by raters) and scoring rubrics must employ rigorous methods that maximize validity. When raters are used to score items, rater qualifications, training materials, and rubrics must satisfy the established specifications for standardization and the validity of scores.
- Steps involved in the examination development process may include but are not limited to:

- Training of SMEs;
  - Developing items;
  - Documenting the accuracy, currency, and relevance of examination items and scoring rubrics and their congruence with the purpose of the examination;
  - Using empirical item performance data to inform decisions related to the evaluation, revision, and use of items;
  - Assembling new forms of the examination by selecting appropriate items, revising selected items when appropriate, evaluating and refining scoring rubrics (for subjectively scored examinations), and adhering to examination specifications;
  - Structuring, delivering, and documenting training provided to item writers, item reviewers, and others who produce examination content in a professional and consistent manner; and
  - Documenting the development and assembly process for forms of an examination.
- Examinations must be administered under secure and confidential protocols that restrict access to examination content to authorized individuals throughout examination storage, conveyance, administration, and disposal. Program policies must be in place to hold examinees accountable for improper behavior before, during, and after examination administration. The program must make a summary of security policies, incident review processes, and disciplinary procedures available to examinees.
  - Examinations must be administered using standardized procedures that have been specified by the certification program to ensure comparable conditions for all candidates and promote the validity of scores.
  - The certification program must have processes to monitor ongoing compliance with examination administration and security procedures.

## **CNP Accreditation**

The Certified Nuclear Professional program will be developed with the goal of obtaining accreditation. This is an important step in the process as it will demonstrate that the CNP has met the stringent standards set by the credentialing community. It will also enhance the credibility and legitimacy of the credential by providing impartial, third-party oversight of a conformity assessment system.

There are two main accrediting bodies – one focuses primarily on the U.S. market and the other is both U.S. based and international in scope. Both third-party accreditation programs require the certification program to be actively testing candidates. These require at least one year in

operation or a specific number of candidates to have tested so they have enough candidates to adequately evaluate the data.

The typical timeframe to prepare an application is approximately six months; then, once the application is submitted, it takes approximately nine months to complete the evaluation period, on-site assessment, and overall review.

Upon becoming an accredited program, we will need to follow specific standards to maintain accreditation, including annually completing and submitting information requested by the certification agency and its programs for the previous reporting year.

There are fees associated with obtaining and maintaining accreditation, including application and assessor fees. These costs are included in Attachment A – Financial Projections.

## **CNP Program Development and Timeline**

Several of the key program development aspects for the CNP are described in the Overall Recommendation section narrative on page five. These development activities consist of two core areas. The activities required for each core area are noted below, and approximate timelines are provided.

### **Psychometrics**

Job Analysis/Practice Analysis	3–6 months
Item Training*	2–3 hours
Item Development*	3–4 days in person
Form Assembly	2 weeks
Form Review*	1 day
Item Analysis and Review*	2 weeks
Form Analysis	2 weeks
Standard Setting*	2 days (virtual or in person)
Cut Score*	2 days
Equating	3 weeks

*Note: This estimated timeline is typical for developing a program from scratch but assumes nearly complete volunteer engagement/availability during the listed period for predominately volunteer efforts (denoted by a \*). Certain longer-term aspects of the ANS program will take longer to develop since volunteers will not be available to support the activity on a nearly full-time basis. One possible solution to this resource limitation would be to hire a consultant to perform the major lift and use volunteers as input and oversight to the process.*

### **Operations/Administration**

Certification Program Infrastructure Development	5–6 months
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Identify and Implement Testing Delivery Vendor (Remote Proctor Company)	2 months
Integration of Credentialing Examination into LMS	2 months

## Marketing Plan and Timeline

Marketing will be critical to the success of both the Certified Nuclear Professional credential and the Certificate program. The primary emphasis of the marketing plan will be to generate awareness of the new initiatives among individuals and employees, particularly during the development and rollout phases, and to encourage participation in each program.

### Certificate marketing

With the Certificate program scheduled to launch in the spring of 2024, marketing will kick off at the 2023 ANS Winter Meeting to help generate anticipation and excitement for the program. Marketing activities at the meeting may include:

- Introductory video at the Opening Plenary
- Debut of the Certificate program title and logo
- Promo giveaway item at the ANS exhibit booth
- Social media campaign
- *NewsWire* feature article
- Opportunity to sign up to receive updates on the program

Marketing will continue through the winter and spring with ads and promotions in *Nuclear News*, *Nuclear SmartBrief*, and *Nuclear NewsWire* as well as an email campaign and social media campaign. The program will also be promoted during ANS webinars and topical meetings.

External marketing will include targeted campaigns to expand our reach outside of the ANS audience. Digital marketing, including online ads and social media, will be implemented to promote the program to individuals not currently affiliated with ANS. Campaigns will be created to target individuals who are new to the nuclear field and who do not have a technical nuclear background. These efforts will focus on how the ANS certificates can help a person changing careers feel more prepared, confident, and qualified to pursue new opportunities in the nuclear industry. Partnerships with other organizations will also be pursued to broaden awareness of the Certificate program to audiences unfamiliar with ANS.

Marketing efforts will continue with the launch of the program in the spring of 2024, including promotions at the 2024 ANS Annual Meeting.

### Certified Nuclear Professional marketing

Marketing for the CNP program will face a greater challenge than that for the Certificates due to the relatively significant commitment involved with earning the credential. Our marketing efforts will focus on encouraging employers to support the program by (1) valuing the

credential amongst current staff as well as potential new hires; and (2) providing financial support and allocating time for current staff to prepare and sit for the exam and maintain their certification. Marketing messages must clearly differentiate what a CNP holder brings to the workplace that other credentials do not. For individuals, we need to demonstrate that the CNP will help advance their careers and bolster their resumes and individual achievements in the nuclear field.

The CNP will start offering exams in August 2025, so marketing for both the certification and accompanying preparation courses/resources will need begin several months earlier to generate interest in obtaining certification and to allow exam takers time to prepare for the exam. Assuming it may take some individuals up to eight months to prepare, we need to plan to start getting people signed up to take the exam at the start of 2025. Soft marketing to start building awareness of the program will begin at the 2023 ANS Winter Meeting, but the primary marketing launch will begin with the 2024 ANS Annual Meeting. Similar to the Certificate program, activities may include a video, a social media campaign, giveaway items, as well as an informational session that will provide attendees a glimpse of what the program will entail.

Marketing campaigns will continue through the rest of 2024 utilizing regular ANS marketing channels, as well digital marketing and partnerships to reach external audiences. Additionally, regular informational webinars will be offered to allow individuals the opportunity to learn more about why they should get certified and how to get certified. We will also schedule calls with large organizations such as national labs and utilities to discuss and build interest in the program. Customized webinars for those organizations may also be developed for their employees.

Upon the launch of the prep courses and exam sign-ups in January 2025, a full campaign will be implemented to promote the CNP through previously mentioned marketing channels as well as through media outreach and a video that will be presented at ANS events, on the ANS website, and on social media. The campaign will continue throughout 2025 and will evolve into an ongoing marketing initiative.

## **Competitive Landscape**

The market for a certificate or certification in the nuclear field is just as complex as the industry itself. While direct competitors are relatively few, we face competition from many different angles. Individuals in the field receive education, training, and credentials from a broad range of sources, including trade schools; universities; employers (utilities, suppliers, labs, government, etc.); and organizations like the NRC, INPO, EPRI, and others.

For the Certificate program, our main competitors are employers providing in-house training and professional development, as well as other organizations that provide courses similar to our proposed Certificate program. To give an example of some of the more popular programs,

the following programs had the highest percentage of participants from our the survey #2 responders (1,198 total responses):

Advanced Engineering Training	8.2%
EPRI University	4.5%
1-week Nuclear Plant Safety Summer Course (MIT)	3.5%
Sciencetech Courses	2.8%
MIT Summer Professional Courses	2.7%
University of New Mexico Nuclear Criticality Safety Manager's Workshop	2.5%

With the knowledge experts and credibility that ANS offers, we believe the Certificate program has an opportunity to establish the Society as a go-to source for training and education. But in order to meet that opportunity, we will need to strategically work with competitors, whether in the form of partnerships (see the following section) or by working closely with organizations such as utilities and national laboratories to identify specific gaps in training or education that we can fill. One of those gaps that continually came up during our focus groups related to the transition of workers that are new to the nuclear field or that lack a technical nuclear background. We intend to fill that need through the development of the Nuclear 101 certificate course.

The CNP program faces similar competition from in-house training and professional programs and other nuclear courses, but it also will have additional competition from PE licensure and certification programs in related fields, such as:

- Certified Health Physicist (CHP)
- Project Management Professional (PMP)
- Licensed Reactor Operator (RO/SRO)
- Naval Nuclear Power School
- National Registry of Radiation Protection Technologists (NRRPT)

With a very wide range of roles in the nuclear industry, the certification needs vary just as significantly. For some engineers, they must become a licensed Professional Engineer, but for many others, it is not necessary, or the process of obtaining and maintaining the PE designation does not meet the perceived value. We feel the CNP program will meet the niche of providing enough value for an appropriate level of effort that will appeal to nuclear professionals, both early and late in their career stages.

## Partnership Opportunities

Based on the input received in the market analysis, along with ANS's many deep relationships with organizations in all sectors of the nuclear field, we believe there are unlimited partnership opportunities involving both programs. Generally speaking, some of those opportunities include:

- Partnering with organizations currently offering nuclear courses, webinars, and meetings to allow those programs to be approved for continuing education (CE) credit toward the CNP renewal requirements. Organizations may be vetted and approved, or be deemed "preferred CE providers." Similar partnership opportunities can be explored for preparing for the CNP exam, whether by having programs be recommended as preparatory courses or by rolling the content into the ANS preparatory course that we will develop.
- Collaborating with academic institutions and other organizations to co-brand courses and help widen the audience and to provide CE credits. The co-branded courses could be included under the ANS Certificate umbrella or be a resource for obtaining CE credits.
- Collaborating with the Navy and other armed forces to provide customized education through Certificates or the CNP program, to help individuals transition from careers in the military to civilian nuclear jobs.
- Hosting Certificate courses or CNP prep courses at the headquarters of larger organizations, such as national labs, utilities, suppliers, or academic institutions.
- Working with national labs or other organizations on experiential learning opportunities, such as facility tours, as well as applied learning/hands-on experience opportunities (other partners besides national labs may be also be an appropriate fit).
- Selecting existing nuclear courses or programs that, upon completion, allow individuals to bypass certain sections of the CNP exam.
- Offering group discounts for Certificate or CNP prep courses for ANS Trustees of Nuclear members and other organizations with a potential large audience.
- Providing curriculum from the Certificate courses (such as Nuclear 101) to community colleges to allow them to offer nuclear science courses that provide both college credit and an ANS Certificate to students simultaneously.

## **Staffing**

The development of the Certificate and CNP programs will be led by ANS staff working alongside a team of volunteers and a consultant to help build the programs. Following the development phase, we anticipate staff will fully manage the programs with minimal guidance from a consultant.

The staff lead on the development of the programs will be the Director of Programs. Administrative and additional assistance will be provided by the Membership Manager, the Membership Specialist, and other staff as necessary. The development of the CNP Prep Course will include assistance from the Publications Department, including the Production Manager. Marketing and communications initiatives involving the rollout of the programs will be led by the Director of Programs and 32nvolvee Communications and IT staff as well.

It is recommended that a full-time Certification Manager be hired in 2024 to manage both the Certificate and CNP programs under the guidance of the Director of Programs.

Following a request for proposals process, a consultant will be hired in the summer of 2023 to help guide the development of the Certificate and CNP programs. The engagement will run through the launch of the CNP project in the summer of 2025. The consultant may still be involved with the project beyond that timeframe, but it is anticipated the involvement will be significantly less following the program launch.

## **Volunteer/Governance Structure**

It is recommended that the Special Committee on Certification be reappointed for 2023–24 to lead the development of the programs from a volunteer perspective. We suggest expanding the number of committee members to ensure broad representation covering key areas of the nuclear field. It is also recommended to split the committee into two subcommittees or working groups, focusing efforts on the two different programs.

When we move from the development to the implementation phase of the CNP program, a certification board will need to be created for the purpose of autonomy in decision-making for all essential certification policies and activities. The composition of the certification board will include individuals from the certified population and may include other appropriate stakeholder groups.



## Certification Study/Preparatory Resources

To help individuals prepare for the Certified Nuclear Professional exam, ANS will develop a preparatory course that will potentially be available in a live format and a self-paced online format, including in-person options at ANS national meetings (and possibly other meetings). The course will be developed by volunteers from the Special Committee on Certification and from other volunteer groups, including from Professional Divisions. ANS staff will assist with the development, including the Publications Production Manager and Director of Programs.

The course will be offered for a fee with special pricing for ANS members. Expenses for the development and administration of the course potentially include LMS or other online hosting fees, instructor stipends, and marketing costs. Additional fees such as food and beverage, audio-visual equipment, and other meeting costs will apply for in-person meetings.

## Budget

The following table outlines anticipated expenses for the development of the CNP and Certificate programs for the remainder of 2023 through 2025. For more detailed projections of expenses and revenue associated with the programs, see *Attachment C – Financial Projections* in the online Board Packet.

Consultant fees for 2023 include \$25,000 that was spent to conduct the market analysis. In November 2022, the Board of Directors approved spending up to \$80,000 in certification program development costs in 2023. We are requesting an additional \$30,000 in funding to add to the remaining \$55,000 that was approved in 2023 in order to have access to \$85,000 to cover consultant fees for work that will be conducted in 2023 to begin the development of the infrastructure and governance for the CNP and Certificate programs. An RFP process will be conducted to select a consultant to work with staff and volunteers to build the CNP and Certificate programs. It is anticipated that the work with the consultant will continue at least through the launch of the CNP program in 2025.

	<b>2023</b>	<b>2024</b>	<b>2025</b>
Consultant Fees	\$110,000	\$120,000	\$80,000
Learning Management System (LMS) Fees		\$35,000	\$10,000
Stipends for Instructors		\$15,000	\$20,000
Volunteer and Staff Travel		\$30,000	\$30,000
Marketing and Admin Fees		\$20,000	\$25,000
Staff Fees		\$100,000	\$125,000

Budget notes:

- LMS Fees includes setup costs to be incurred in 2024 and annual licensing fees in 2025.

- Stipends for Instructors is intended to cover travel and other costs for Nuclear 101 Certificate and CNP prep course instructors.
- Volunteer and Staff Travel expenses will cover costs of travel for in-person meetings involving the development of the CNP exam and for potential in-person courses at ANS meetings.
- Marketing and Admin Fees cover producing program logos and videos, online marketing fees, and mailing of CNP certificates (beginning in 2025). Additional expenses for recertification notices will be added in 2028.
- Staff Fees include the assumption that a full-time staff member will be hired in 2024 to manage the certification programs.
- Additional expenses will potentially be added in 2026 for accreditation costs, including application and assessor fees. We anticipate budgeting \$25,000 for the first year of accreditation and \$10,000 for each subsequent year.

*Note: The budget request for the June 2023 Board meeting is for \$30,000. A separate request for funding in 2024 will be made at the November 2023 Board meeting. The projected costs for 2024 and beyond are based on initial estimates that will need to be re-evaluated after the program development begins.*