



**GOODNIGHT  
CONSULTING**

# AUG 2018 U.S. NUCLEAR NEWSLETTER

## Staffing Down 2% from 2017

Most U.S. plants have reduced total staffing in 2018 as the industry responds to the "Delivering the Nuclear Promise" initiative.

## 2018 Top Performers | pg. 2

As part of our annual survey, we identified the 2018 Top & Under-Performers in the U.S. nuclear industry. Take a look at our side-by-side comparison, and explore the defining characteristics of both groups. How does your organization measure up?

## 2018 Nuclear Staffing | pg. 5

The three-year plateau in staffing is now sliding into a downward trend as the "Delivering the Nuclear Promise" initiative (DNP) takes root. This year, we identify which job functions saw the most of 2018's headcount reductions.

## CNO Top Concerns | pg. 7

In 2017 we surveyed Chief Nuclear Officers across the industry to learn more about the concerns they have in common (what "keeps them up at night"). We discuss changes from last year's staffing relative to the CNO's top five concerns.

### RENEWED DECLINE

Goodnight Consulting has been monitoring staffing trends since 1997. After the lowest-ever staffing in 2007, indexed staffing in the industry climbed to a three-year plateau ('15 to '17) at approximately 90% of 1997 levels. This year, however, we identified a 2% drop in overall staffing numbers.

*Read more, page 6*

### Industry Staffing Levels



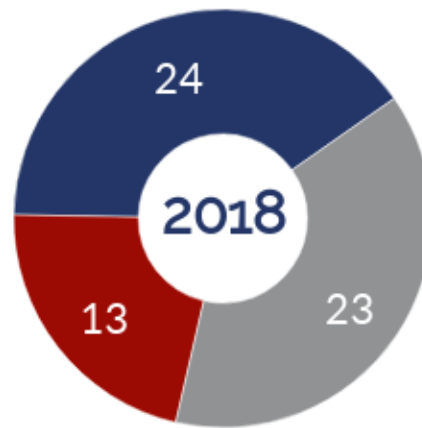
## 2018 Top & Under Performers

As part of our annual survey, we assess performance across the U.S. fleet based on three critical measurements:

- **Cost** (Annual Avg. Staff/MWe)
- **Output** (3-Year Avg. Capacity Factor)
- **Compliance** (3-Year Cumulative ROP)

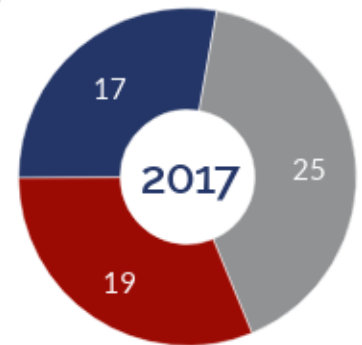
We identified 24 plants as U.S. nuclear power industry **Top Performers** for 2018 - plants that achieve an effective balance of staffing, electrical output, and regulatory compliance. Top Performers are plants that beat the average in all three of our critical metrics. There are seven more Top-Performing plants in 2018 than there were last year.

**Under Performers** are those plants which achieve above-average performance in no more than one of our critical metrics. About 22% (13 plants) fall into this category this year. There are 6 fewer Under-Performers in 2018.



### TOP & UNDER PERFORMERS

### U.S. FLEET PERFORMANCE 2017 & 2018



## Infograph Guide

The infograph on the next page compares the defining characteristics of Top Performers and Under Performers in 2018. The figures for staff/MWe and capacity factor represent the 3-year average for 2015-2017. The "Tip of the Spear" refers to three functions that are the eyes and ears of the plant: Operations, Maintenance, and Engineering. These are core personnel needed to operate, maintain, and sustain plant operations. While Top Performers usually have fewer staff/MWe, they also tend to allocate a greater portion of their total staff to the Tip of the Spear.



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Goodnight Consulting is a management consultancy serving the electric power industry. We supply our clients with Skilled Experts to bridge gaps in expertise and execute turnkey project solutions. With more than 80 industry veterans - including executives, managers, and subject-matter experts - our team offers a range of rare skills, spanning from safety culture to procedure upgrades.

# U.S. UNDER PERFORMERS

2018

# U.S. TOP PERFORMERS

STAFF PER MWe



STAFF PER MWe

**BETTER, FASTER, CHEAPER**  
Top Performers require 27.7% less staff per MWe compared to Under Performers.

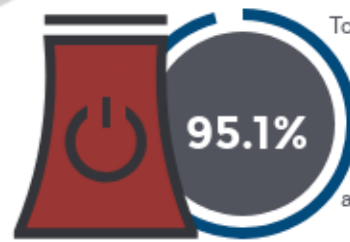
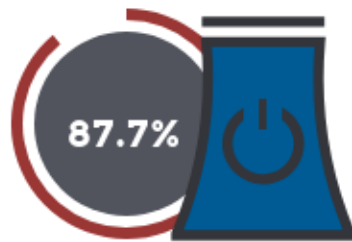
**0.76**

**0.55**

CAPACITY FACTOR



CAPACITY FACTOR

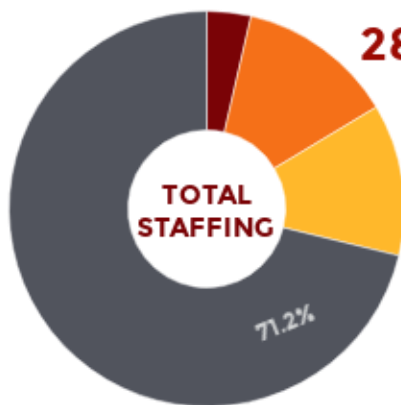


**BREAKING THE CEILING**  
Top Performers produce more than 95% of their capacity on average. One Top Performer in 2017 managed to exceed capacity with an output of over 101%.

CRITICAL FUNCTIONS



CRITICAL FUNCTIONS



- Engineering (3.6%)
- Maintenance (12.8%)
- Operations (12.8%)

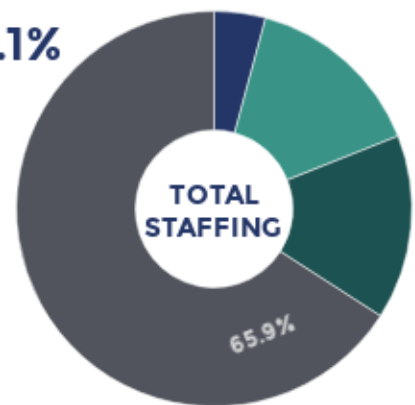
**SKELETON CREW**

Operations, Maintenance, and Engineering - a group of functions we call "the Tip of the Spear" - account for only 28.8% of overall staffing at the average Under-Performing plant.

- Engineering (4.2%)
- Maintenance (14.8%)
- Operations (15.1%)

**WEIGHT ADVANTAGE**

The average Top Performer allocates 34.1% of its overall staff to "Tip of the Spear" functions. Relative to Under-Performing plants, that's an increase of more than 18%.



# PUT YOUR PROBLEMS TO BED



Whatever's keeping you up at night, there's a Skilled Expert to help you rest easy.



## THE PROFESSIONAL

Frontline implementers with a knack for project execution. Give the order, and they'll be there with sleeves rolled up to cut through your growing backlog.



## THE SPECIALIST

Hard-skill Subject Matter Experts and the cream of the crop in their respective fields - the perfect cure for any technical painpoint.



## THE UTILITY KNIFE

Seasoned veterans with industry-spanning skill sets, these adaptable Experts help you refine your organization from top to bottom.



## THE EXECUTIVE

Power industry titans with top-level pedigrees at major utilities. Rely on these Experts to supply essential insight for all your critical initiatives.



## THE ADVISOR

Masters of the soft skills, combining senior management credentials and focused expertise as they help you navigate qualitative challenges.



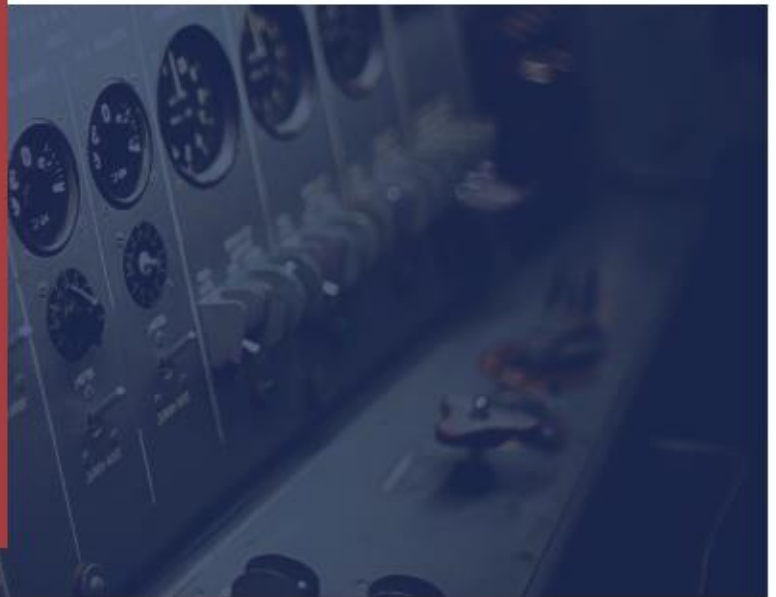
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# THE DATA

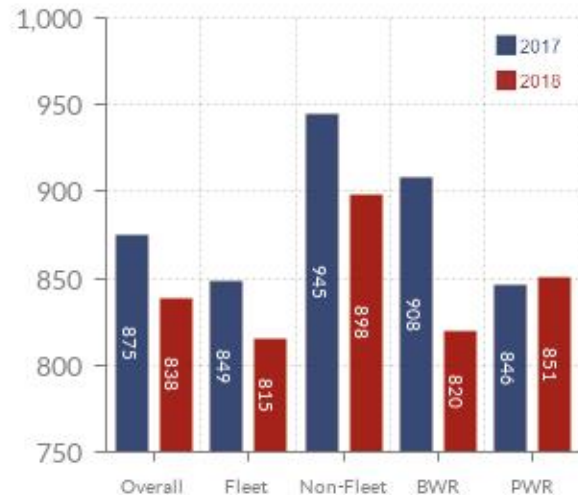
The data in this newsletter comes from our nuclear plant staffing database, which sources its information from client engagements and our annual US Nuclear Power Plant Staffing Survey. Our database includes employees and baseline contractors. We also maintain an industry best-practices database and an organizational chart library.



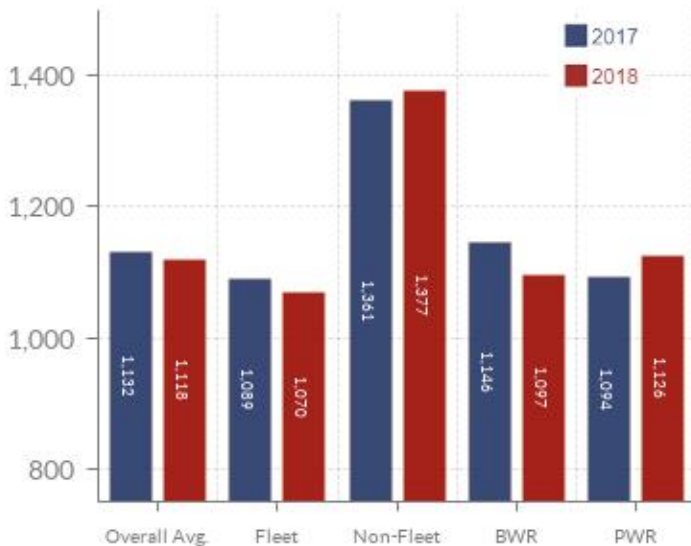
## 2018 Staffing Data: Staffing Falls by 2%

It has been two years since DNP began and we are starting to see a decrease in staffing. While there has been a 2% decrease across the industry, it is also important to note that some sites increased their staffing. 1-unit PWRs increased by 0.6%, 2-unit non-fleet plants increased by 1.2%, and 2-unit PWRs by 2.9%.

Avg. Total Staff by Plant Type  
1-Unit, including contractors



Avg. Total Staff by Plant Type  
2-Unit, including contractors



1-unit plants experienced the most change since last year, with 1-unit BWRs decreasing their staffing by 9.7%. This was followed by a 5% decrease for 1-unit non-fleet plants. 2-unit plants saw the least change across the board. BWRs saw the greatest staffing decrease among 2-unit plants: a decline of 4.3%. While a 2% industry-wide staffing decrease may seem small, this is the first significant change observed since 2014. However, staffing reductions are not occurring in the most effective areas. Goodnight Consulting can help ensure you are optimizing your staffing in all the right places to maximize your cost-effectiveness.



## Largest Staffing Reductions

Within the 2% industry-wide staffing decrease, there were 5 functions that decreased personnel by a larger margin. The graph above shows these staffing changes by functional area.

Admin staffing decreased by an average of 3.8 people (a 14% drop). Certain functions, meanwhile, increased; Security Operations, for example, went up by an average of 11.7 people (a 9% increase). The DNP initiative was a major driver in the functional staffing reductions, which is reflected in the reductions in Mechanical Maintenance and Maintenance Support.

The decreases in these five functions reflect the implementation of portions of DNP. Decreases in Mechanical Maintenance (the largest of the maintenance disciplines) and Maintenance Support show that the focus of DNP is helping to improve the work control process, resulting in efficiencies in staffing requirements.

Our "Safety Programs" function includes Corrective Action, one area targeted for improvement by DNP. Staffing within Safety Programs increased by more than 40% between 2010 and 2016, and the 14% decrease since 2017 reflects the re-balancing that the industry has taken to adjust to cumulative regulatory impacts.



## HR INFORMATION CONSISTENCY

Many of our industry clients experience inconsistencies in their HR information systems and data. The same job or division will often have different titles and descriptions between each of the company's sites, even when those sites are "identically" organized. The same is true when comparing corporate's HR data to the individual sites. Goodnight Consulting has assisted many of our clients identify and correct these conditions.



## MISSING SOMEONE?

If you have an existing vacancy, one of our **Skilled Experts** can jump right in to bridge the gap while you find a long-term hire:

### GET THE JOB DONE

guarantee work continuity while you fill the position.

### POWER IMPROVEMENT

provide insight on potential process improvements

### HELP INTERVIEW

assist during the interview process and assess candidates

### OPTIMIZE TURNOVER

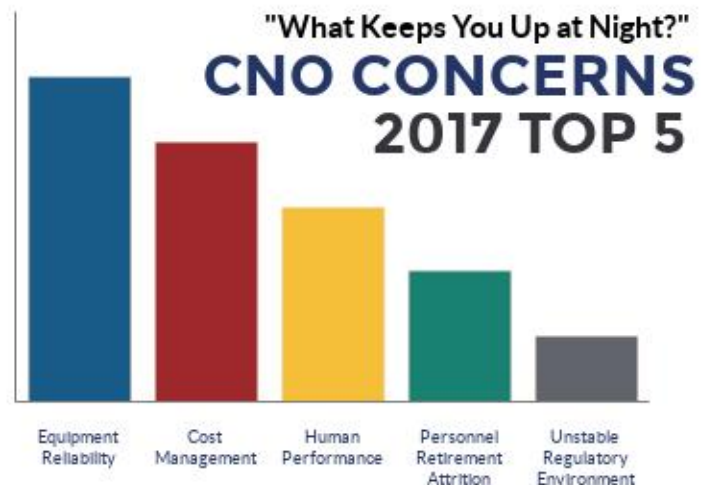
mentor the permanent hire and set them up for success

## Survey: CNO Top Concerns

In 2017, Goodnight Consulting surveyed U.S. Chief Nuclear Officers (CNOs). We asked them to identify their top 5 concerns, after nuclear and personnel safety. The CNOs identified their top 5 concerns as:

- 1) Equipment Reliability
- 2) Cost Management
- 3) Human Performance
- 4) Personnel Retirement Attrition
- 5) An Unstable Regulatory Environment.

Two of these directly relate to staffing levels: **Cost Management**, the number two top concern for CNOs, was another driver in the 2% staffing decrease. Staffing decreases across the industry provide O&M savings. Yet, there were still sites where staffing levels increased from last year. Headcounts have not been optimized for all functions. Goodnight Consulting can help identify where you can optimize your staffing and improve your Cost Management.



**Personnel Retirement Attrition** is a factor in the last year's staffing decreases. The nuclear power workforce has been retiring and new people are being hired and trained. Goodnight Consulting can assist your organization with workforce planning *and* provide skilled experts to fill vacant positions until permanent hires are found. They will ensure the job gets done, provide real-time process improvement advice, sit on the hiring committee, and help you mentor the new hire once they're on board.