

The Nuclear Workforce in Cumbria

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Prepared by Cogent SSC



Introduction

This document gives an outline of the current and future challenges facing the nuclear workforce in the North West and in Cumbria in particular. It has been produced by Cogent SSC to inform employers, the National Skills Academy for Nuclear and other stakeholders for the regional skills challenges.

Analysis in this report was drawn from the primary data gathered for the “Civil Nuclear Workforce 2009” report. **The findings presented in this report are preliminary and subject to revision until the full Nuclear LMI report is published.**

To assess the nuclear workforce in Cumbria, we have used available data on current and projected levels of employment in the North West region and further separated the data by nuclear sites in Cumbria.

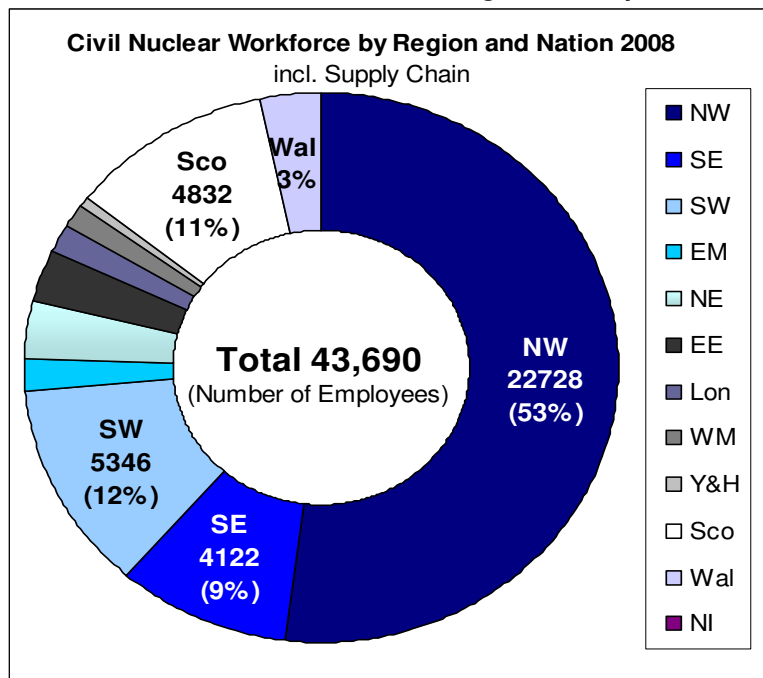
The nuclear workforce in Cumbria presented in this report consists of those employed at the Sellafield and LLWR sites. Both are located on the Cumbrian coast and collectively are major employers in the locality. Nuclear employment in Cumbria constitutes 80% of the nuclear workforce in the North West.

The demand forecast given here is based mainly on planned industry operations as evidenced through the 13 job contexts for the nuclear industry.

1. Overview of the Current Nuclear Workforce in the North West

The nuclear industry in the North West plays a major role in the UK economy. The electricity-generating capacity is currently 2,500 MWe. However, the region is the major UK centre for decommissioning. The North West nuclear sector employs over 22,700 people (including supply chain), accounting for 53% of the total civil nuclear workforce in the UK.

Chart 1.1 Civil Nuclear Workforce - Regional Perspective



The northwest has the largest population of the civil nuclear workforce of any region in the UK.

The combined civil nuclear workforce in the North West is around 23,000. Those directly employed by the operators make up over half of this at 13,000.

Chart 1.2 Nuclear Workforce in the North West¹

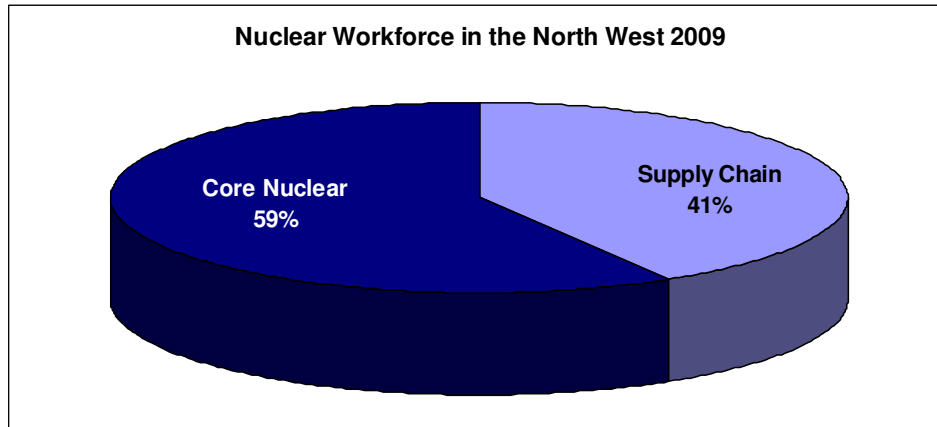
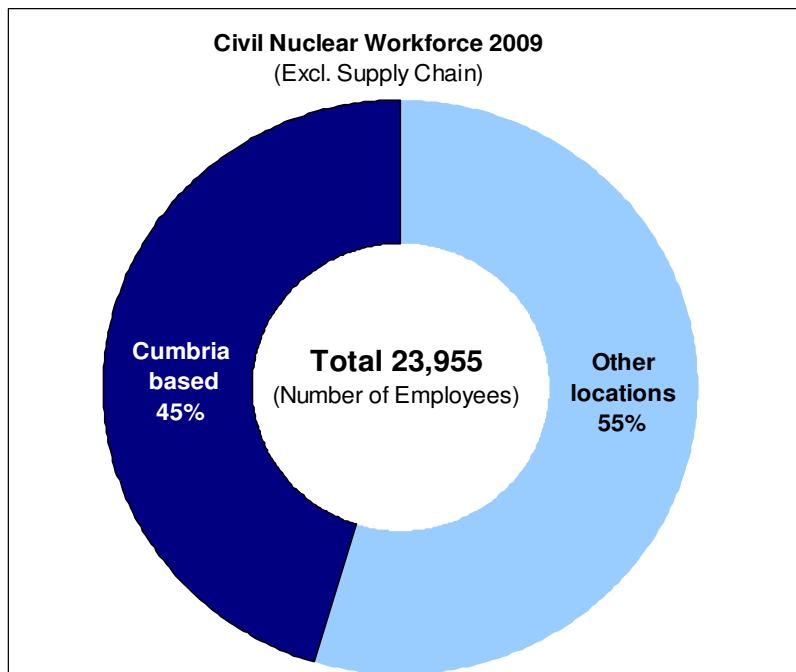


Chart 1.3 Share of Nuclear Workforce in Cumbria of UK



The core civil nuclear workforce in Cumbria accounts for 81% of the northwest nuclear workforce.

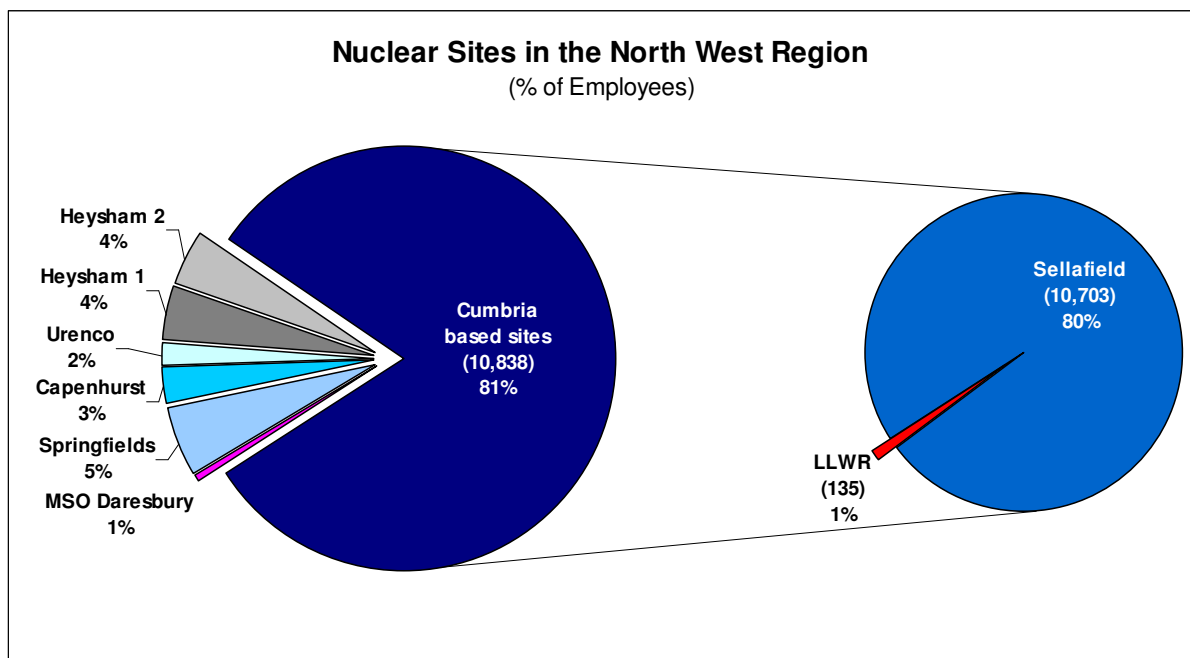
¹ The NIA supply chain data

2. Nuclear Sites in the North West Region

The North West has seven main nuclear sites and over 300 companies in the supply chain.

1. Heysham 1, 2 - Nuclear power stations
2. Capenhurst - Fuel (uranium) processing
3. Urenco - Fuel processing
4. Springfields - Fuel processing
5. MSO Daresbury
6. LLWR- Low Level Waste Repository
7. Sellafield – Thorp Decommissioning, Fuel Manufacturing, Waste Management

Chart 2 Nuclear Sites in the North West

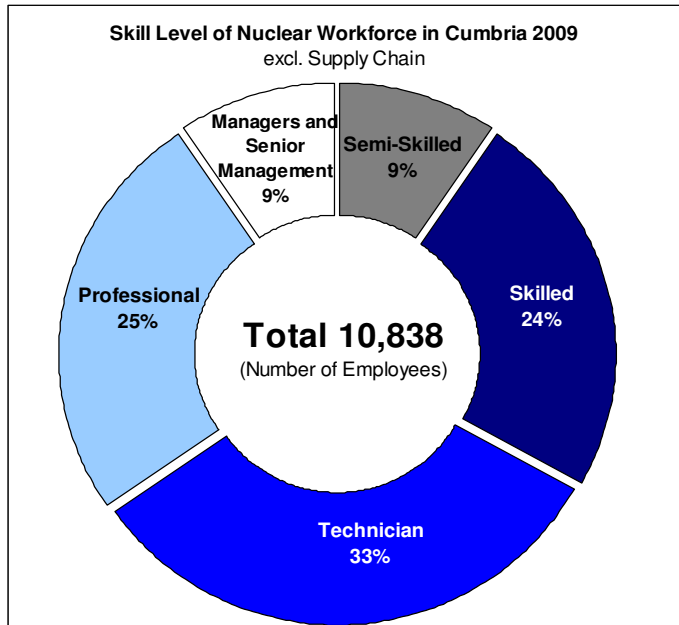


The Cumbria has the largest nuclear workforce in the UK (approximately 11,000).

3. Skill Level

The proportion of the workforce employed at levels 3 (technical) and level 4/5 (professional/senior managerial) is high at a combined 67%.

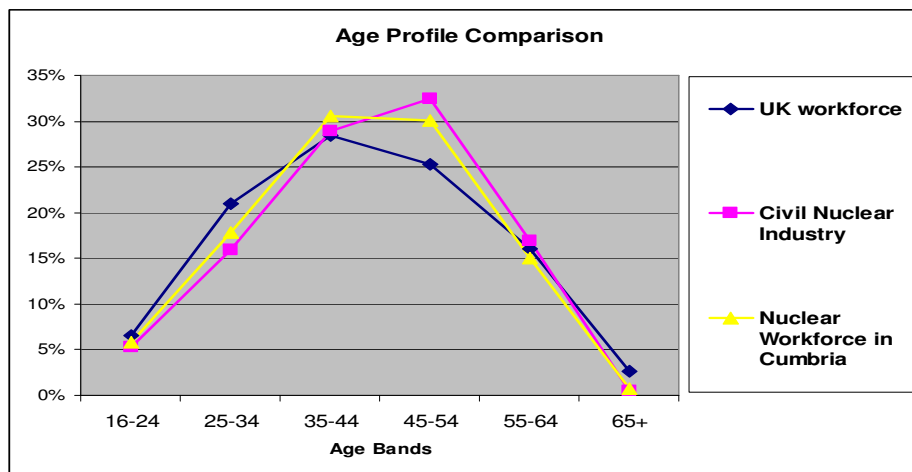
Chart 3 Skill Level of Cumbrian Workforce



4. Age Profile

The civil nuclear industry has an ageing workforce. Historically there have been declining numbers of young people entering the workforce. The operating workforce in Cumbria is older than the UK workforce. However, the average age of the Cumbrian nuclear workforce is slightly younger than the rest of the nuclear industry as shown below.

Chart 4 Age Profile Comparison (UK workforce², Civil nuclear workforce, Nuclear workforce in Cumbria)



² Age profile of the UK workforce- Labour Force Survey (LFS) 2008. In order to demonstrate data comparability, age distribution of the UK workforce was analysed by the same 5 skill levels used in civil nuclear industry data analysis.



5. Retirements

Retirement is the major driver of demand facing the nuclear operation part of the industry. Natural attrition of skills and experience through age-related attrition begins to impact on replacement demand from around 2015. In total 47% of the overall nuclear workforce in Cumbria may retire by 2025. A significant percentage of these are Suitably Qualified and Experienced Personnel (SQEP) - 70% of the combined management, senior management and professional levels are set to retire by 2025.

Chart 5.1 Retirement Profile Comparison (UK workforce², Civil nuclear workforce, Nuclear workforce in Cumbria)

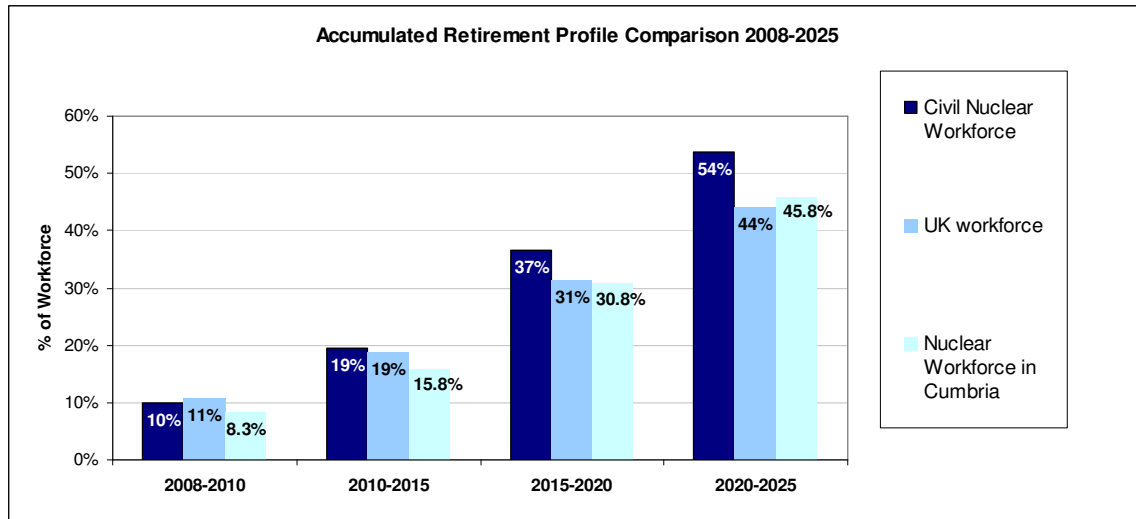
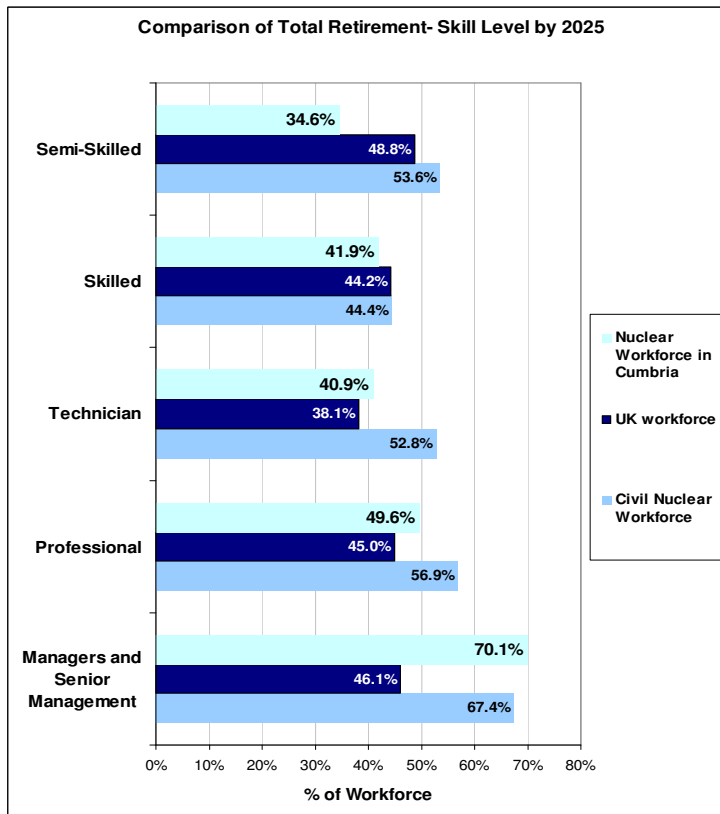


Chart 5.2 Retirement Profile Comparison by level of skill (UK workforce², Civil nuclear workforce, Nuclear workforce in Cumbria)



6. Demand

The demand forecast for Cumbria is based on the detailed analysis of the Sellafield and LLWR lifetime plan. Overall, the demand forecast reflects planned industry operations such as Evaporator D and HAST³ replacement 2011-2015. Progressive decommissioning operations would have a steady demand of 700-900 FTE through to 2025, comprising Upstream and Downstream plants and Post Operations Clean Out (POCO)⁴ etc.

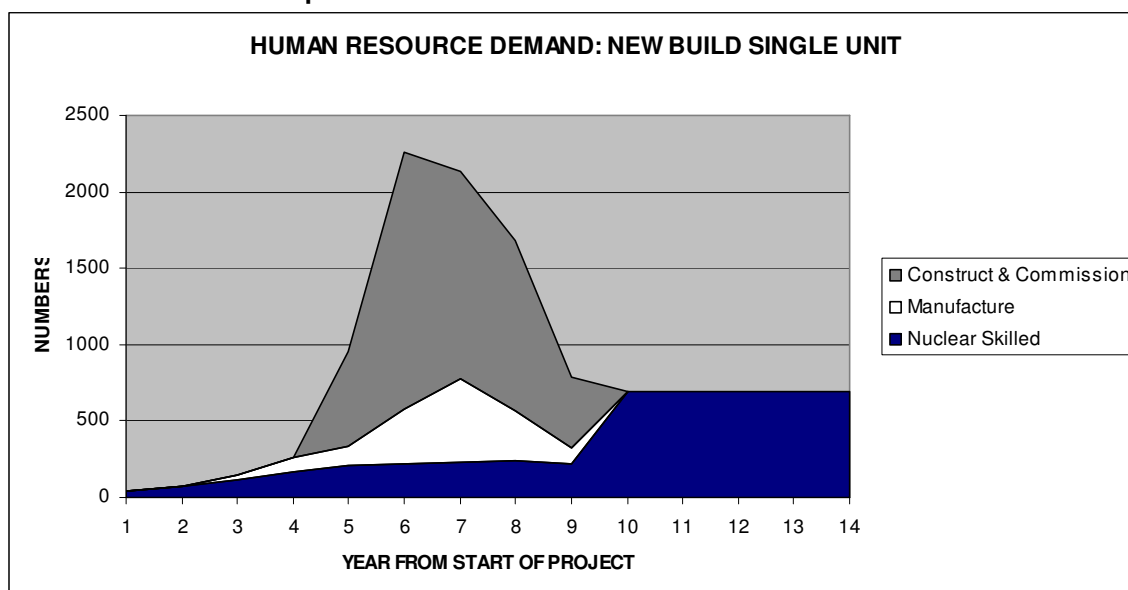
NDA demand forecasts reveal a gradual reduction in the operational workforce from 2015.

7. New Build

In 2009, 11 sites were nominated to government for new-build assessment. Four of these sites are in the North West region and three are in Cumbria. Two of the nominated locations in Cumbria (Braystones and Kirksanton) are new sites that have not previously hosted nuclear operations. The nominated locations in the North West are:

- Heysham, in Lancashire
- Sellafield, in Cumbria
- Braystones, in Cumbria
- Kirksanton, in Cumbria

Chart 7.1 Workforce Requirements for 1 PWR



Future new-build capacity (assuming 3 PWR units in Cumbria) would elevate workforce demand.

Construction and operation of nuclear new-build is likely to draw, in part, from the regional labour pool. Work on modeling this is in hand at the time of writing. Early estimates are shown above for a single PWR unit; many of the construction jobs will be required for the period of construction only. The operator and operator contractor jobs, on the other hand, will be long-term for the life of the plant.

An estimate of the workforce required to operate each new-build is of the order of 1,000. This is made up of 500 per PWR unit and a further 500 induced in the contractor sector. Energy production sites typically require 350-400 on site and a further 50-150 in other functions not necessarily on site.

New-build construction will draw in significant employment to the region. The intensity and extent of this is unlikely to be clear until 2010. However, Chart 7.1 illustrates the latest estimation of the construction demand for each PWR unit. Employment peaks at approximately 4,500 person years across civil,

³ Highly Active Storage Tanks

⁴ Sellafield 2009/10 Lifetime Plan

mechanical and electrical trades and professions. The new-build manufacturing workforce demand is likely to be of the order of 500 FTE per PWR unit but in this area global capability (*e.g.* large forgings and reactor pressure vessels) will be a determinant. Most of this manufacture is unlikely to be in the Cumbrian region but many UK component manufacturers in the supply chain are likely to be sourced nationally through the client and vendor companies.

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