



PROJECT MANAGEMENT

LCBB5005



ASSESSMENT 2

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INTRODUCTION

Hinkley Point C marks the UK's first nuclear power plant construction in more than two decades. This facility, constructed in Somerset, aims to generate eco-friendly energy for approximately 6 million residences, establish numerous employment opportunities, and have long-term advantages for the British economy. With management and coordination coming from the Engineering Command Centre based in France and the UK, engineering teams from all over the world collaborate to complete the project. Hinkley Point C is a massive and intricately complex construction project in the UK that necessitates a competent and skilled workforce of builders. It's construction plan offers significant opportunities for economic expansion and long-term job security. The project also supports the UK Government's aim of promoting economic growth by providing new low-carbon energy infrastructure. It aids in the economic re-balancing, encompassing both geographic and sectoral aspects. (DBEIS, 2018)

HPC'S PROJECT ANALYSIS FROM PROJECT MANAGER'S PERSPECTIVE

During the main construction phase, having clear and visible engineering performance data was crucial to facilitate effective planning, management, and coordination of work at the site. (BPS, 2023) These are few of the factors that are going to be critically analysed in the following narrative from the prospective of a project manager, taking in consideration the PMBOK:

PROJECT INTEGRATION MANAGEMENT

As stated by NAO (2017), since November 2012, the Department for Business has been negotiating with EDF regarding HPC support. A new nuclear plant's expensive upfront capital and protracted lead times present challenges for developers. Political and regulatory risks could restrict nuclear operations in the future or even force plant closures. The Department worked hard to reach a deal that would support EDF in overcoming challenges. Two key choices: distribution of risks and choosing bilateral negotiations over waiting for nuclear projects to compete, shaped the strategy.

PROJECT SCOPE MANAGEMENT

The UK's Department for Business, Energy & Industrial Strategy is aiding HPC to address electricity system challenges in the country in the upcoming years. The UK is replacing its outdated, environmentally harmful energy generation methods with more modern, sustainable ones. Within the next 20 years, the UK will lose a sizable portion of its current electricity generation capacity. As more people use electricity-powered technologies, particularly for transportation and home heating, the government expects an increase in the demand for electricity. (NAO, 2017)

PROJECT TIME MANAGEMENT

Hinkley Point C plans remain unaltered, despite concerns of an 11-year setback to the venture. According to reports, the Somerset nuclear power plant won't be finished until 2036, which is way later than the original goal of 2025. (Moore, 2022)

PROJECT COST MANAGEMENT

According to NAO (2017), many people believe that the UK requires new nuclear power to achieve decarbonisation in the most cost-effective way possible. The agreement for HPC has bound consumers to a precarious and costly endeavour with uncertain advantages both strategically and economically. The developer is responsible for assuming the construction risks. Sharing risks with the government ensures that taxpayers and consumers are safeguarded against cost overruns. Without it, HPC's electricity may cost consumers more. Formerly, there have been occurrences indicating that at the end of the day, these hazards can transfer to taxpayers or consumers. The government may have to finance other options or be forced to re-negotiate its agreement if the project encounters problems as the result of the need to maintain a secure supply. The Department of Energy failed to adequately consider other options for organizing the agreement.

For several decades, it will be impossible to say whether investing in HPC will be worthwhile. The outcome will depend on a number of variables, including the continuation of existing agreements and external circumstances, such as the price of fossil fuels, the cost of using low-carbon power alternatives, and improvements in energy technology and overall electricity infrastructure. The government was mainly worried about the strategic consequences of not pushing through with the project and the advantages of keeping it out of the government's financial records. They didn't weigh the expenses and potential hazards of the agreement for the customers enough. The company needs to make sure that they have proper oversight methods in place in order to efficiently handle the contract and get the most value out of it for both the consumers and the taxpayers.

PROJECT QUALITY MANAGEMENT

The project is influenced by both positive and negative factors, and these are identified through an analysis of actual vs. predicted impacts. Effective implementation of mitigation and enhancement measures often leads to numerous positive outcomes. The skills that are being referred to are those that bring about transformation. They offer training and education, a Medical Centre on campus, the Workers Code of Ethics and community guard initiatives. In addition to various management plans, there are also multiple funding initiatives, with EDFE being the primary source. Delays in starting the construction project, alterations to the project, changes in initial conditions, obligation and requirement trigger points missing, unclear definition of some indicators, too much emphasis on construction's peak impacts, and insufficient predictive methods are all reasons for the negative results. Project and baseline changes often occur when the authorisation process takes a long time, as some categories have similarities. Additionally, there are difficulties

encountered by a significant venture that lacks recent equivalents within the UK. (EastSuffolkCouncil, 2019)

PROJECT HUMAN RESOURCE MANAGEMENT

Due to rigorous quality standards and high upfront costs, nuclear power plant projects require sponsorship, establishment, and implementation of training by the utility, main contractors, and subcontractors. Numerous elements, such as the project's location, the availability of infrastructure and human resources, and construction-related requirements, are important for effective education and training programs. HPC has mainly hired competent individuals for their expansions, resulting in minimal training requirements. New roles and training profiles must be generated in each project phase to align with the progress of the project organization. (IAEA, 2012)

PROJECT COMMUNICATION MANAGEMENT

Communications management involves collecting, storing, and distributing information and data among the project team throughout the project's life. The goal is to ensure that all processes and procedures are followed correctly. However, In Hinkley's project, it has been observed a lack of communication on organization between the management and the teams involved, leading to a significant delay in operations. (ONR, 2021)

PROJECT RISK MANAGEMENT

Although the internal hazards assessment turned up no issues, the inspector did have some technical observations on the main references supporting internal hazards. The license's safety case and the supporting documentation were accepted by the inspector at this particular developmental stage. Although a license was granted, no construction has yet started. The inspector discovered that there is still work to be done on the safety case for internal hazards in the project's detailed design stage. Potential risks from the harmony of plant systems and structures, implementing necessary changes in procedure, and demonstrating that potential risks have been addressed are all areas of concern. (ONR, 2012)

The assessment of external hazards concentrates on site-specific difficulties involving systems and structures. Identifying external risks like earthquakes and heavy rains, as well as ensuring the site complies with requirements for generic design, like being able to withstand coastal flooding assuming a dry environment, are among the key findings. The licensee's external hazard technical work is focused on supporting design bases and siting assumptions through site-specific technical work and justifying any necessary changes. The inspector stated that the evaluation of external hazards is still in its early stages and aims to uncover any significant safety risks related to nuclear activities. (ONR, 2012)

PROJECT PROCUREMENT MANAGEMENT

According to EDF (2023), to build the country's first nuclear power plant in 20 years, wants to work with UK companies. UK manufacturers are being supported in every way possible to ensure they can secure contracts. Many businesses have

already joined Hinkley Point C or have been chosen as preferred candidates. Some of these companies have successfully formed alliances to work together on the project. Over 4,000 neighbourhood businesses have expressed interest in working with us, and we've signed contracts in the Southwest totalling £3.02 billion.

PROJECT STAKEHOLDER MANAGEMENT

The Government evaluated how the building, running, and dismantling of new nuclear power plants could affect the environment, society, and economy. Furthermore, a sustainability assessment was conducted. This evaluation was also done for Hinkley Point Site to aid in decision-making. It utilized various pertinent information regarding the site, including regional and local government policies that were crucial in assessing the effects and establishing baseline conditions. It shows the likely large impacts of constructing a new nuclear power station, as well as ways in which such adverse impacts can be reduced. Although this evaluation takes into account the regional and local situation, the Government recognizes that the sustainability has been evaluated strategically and the development consent stage requires thorough evaluation. (EDF, 2010)

HINKLEY POINT C A FAILURE OR A SUCCESS?

From Project Manager's perspective, after an in-depth analysis, it can be determined that Hinkley Point C is currently failing and having negative effects on society and the environment. Due to their expensive, risky, radioactive, and carbon reducing capabilities as well as the problems they present with managing nuclear waste, Hinkley Point C and nuclear power in general are met with opposition. Moreover, HPC has seen significant construction cost increases and delays, which would ultimately lead to higher electricity bills for consumers. Abandoning the project would cost taxpayers significantly less than continuing with it but would not result in an energy shortage.

Large-scale projects frequently fail, which is common. Advanced technological installations, post-merger integrations, and new growth strategies demand significant resources that must be spread out over protracted times, sometimes months or even years. Despite numerous studies, these investments frequently produce underwhelming outcomes; some estimates place the success rates at under 50%. They have an effect beyond just financial losses. Hardworking workers lose motivation as a result of these failures. The traditional way of managing projects tends to divert the attention of project teams from achieving the final outcome to developing recommendations, new technologies, and incomplete solutions. The ultimate goal is to create a blueprint, but it's challenging for managers to predict every activity and workstream required when many people are working on a project for an extended period. In engineering projects like airplane constructions, where the outcome is thoroughly comprehended, there are minimal chances for plan errors. However, in other cases, it's almost certain that some aspects may be excluded from the plan. Although the correct activities may have been expected, it could still be challenging or unfeasible to connect them after their completion. (HBR, 2003)

Even though there is plenty of proof that renewables are more economically viable than nuclear power, the nuclear industry and their advocates still argue otherwise. The arguments are usually founded on unrealistic expense estimates for reactor designs that do not even exist. The cost claims of renewables by the nuclear lobby are equally absurd. The construction of every power reactor project in the US and Western Europe in the last decade has been a fiasco. Nuclear power's cost effectiveness is unlikely to improve and is more probable to decline, despite enthusiasts' positive outlook. Certain advocates of nuclear power endorse the concept of carbon pricing. Nuclear power would become more economically competitive with fossil fuels if that were implemented. Carbon pricing doesn't make nuclear power more competitive than renewables. (TheEcologist, 2021)

LEASONS THAT CAN BE LEARNED FROM HPC PROJECT

Based on a brief review of lessons learned from HPC's failure, there are several implementations that if are put in place, can avoid the outcome that HPC had. According to RAE (2010), effective learning of the lessons identified can lead to various solutions, so it's not necessary to have all these components for a project's success. The attributes mentioned below that make a project successful are only suggestive and cannot be conclusive:

The key to success is early government intervention and public approval, with ongoing engagement to foster clear communication between the project and the community.

The project team recognizes that many lessons can be applied to other related projects and similar issues tend to occur repeatedly.

Concentrate on technology and design that have already been tested and approved.

Ensuring high standards of quality throughout the entire supply chain.

Create a connection to address regulatory concerns before the project's crucial stage.

RECOMMENDATIONS

According to NAO (2017), in order to establish successful oversight and governance methods for a project like HPC, the Department for Business, Energy and Industrial Strategy should utilize successful practices from other government sectors and countries, specifically:

Set up methods of evaluation to guarantee efficient supervision systems throughout the entire project duration. As the project moves through construction and into operation, the oversight measures will have to adapt accordingly. Create a detailed plan for implementing the changes, including specific timelines and methods.

Develop and put into action a strategy for tracking the accomplishment of the project's objectives. To ensure that the project provides both local and national benefits, working with stakeholders is recommended. The Department must figure out what steps it can take to ensure that the desired benefits are realized.

Make sure to clearly understand the cost and timing consequences of any alternatives presented to decision-makers during project planning. Other options may not follow the common path of broader policies. However, those in charge must understand the potential consequences of their chosen method, especially regarding cost-effectiveness, in order to make a well-informed decision.

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