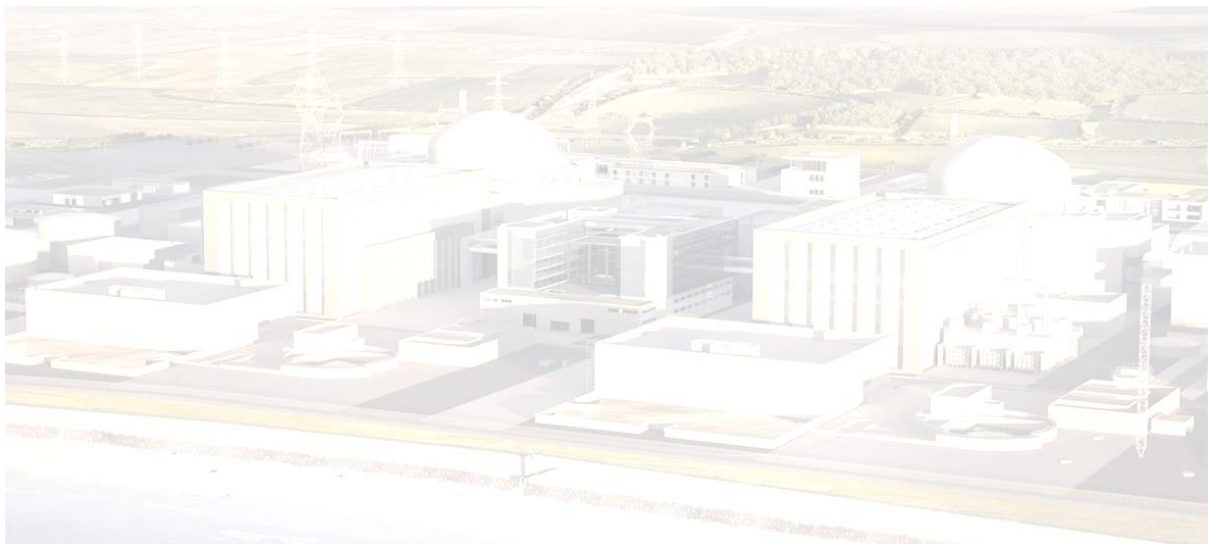


Hinkley Point C Nuclear Power Plant

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Introdudere

After conducting a thorough analysis in the initial assignment, numerous compelling reasons have emerged to support the inevitable failure of the project. These reasons are deeply rooted in the fundamentals of the project itself and cannot be ignored. The commencement of this report will involve a detailed recollection of the Hinkley Point C Nuclear Power Plant, alongside an examination of the prospects of the project and its consequential achievements.

In the following section of this study, we will delve deeper into the reasons behind the lengthy duration of the project. This will be carefully examined using various perspectives including PMBOK, Project Integration, Scope, Cost, Time, Quality Management, Human Resources, and Stakeholder Management. In the forthcoming discussion, I will clarify my position on where I stand regarding the project's lack of success, along with the reasons supporting my viewpoint.

In the end, I will depend on suggestions and put forward my own suggestions to guarantee the accomplishment of a project. My aim is to gather comprehensive insights from various sources to devise effective strategies that would improve project outcomes.



Background of Hinkley Point C Nuclear Power Plant

According to projections, the Somerset-based Hinkley Point C nuclear facility will produce enough environmentally friendly electricity to power about 6,000,000 homes, making it the first new nuclear infrastructure development in the United Kingdom in twenty years. In addition, it is anticipated that the plant's establishment will open a lot of employment opportunities and benefit the UK's economy long-term.

In addition to the potential for up to 1,000 apprenticeship positions, the establishment and operation of Hinkley Point C is expected to generate about 25,000 new job opportunities. Furthermore, it is anticipated that businesses operating in the United Kingdom will receive a sizeable portion of the 64 percent of the funds allocated for construction projects.

Given Hinkley Point C's essential role in the country's efforts to reduce carbon emissions, the inclusion of the facility into the United Kingdom's nuclear power sector marks a significant step forward in its revitalization. The two EPR reactors that make up this project are prepared to produce electricity that will have an environmental impact, possibly resulting in a 9-million-ton reduction in annual carbon dioxide emissions. The adverse environmental effects will have been lessened over the course of the project's sixty years of operation because it will have produced enough electricity to offset 600 million tons of carbon dioxide emissions that would have otherwise been released into the atmosphere.

PMBOK and Critical Factors

Project Integration Management is a tool employed by managers to ensure coherence and consistency in cross-functional departments during the stages of a project's life cycle. The absence of a collaborative team effort may result in counterproductive actions and sabotage. PIM integrates various procedures and strategies with the aim of promoting a unified approach amongst all organizational units. Owing to the intricate nature of undertakings, monitoring and recording every detail proves to be a formidable task. Moreover, it is incumbent upon project managers to achieve project triumph while simultaneously juggling the desires of stakeholder groups and the requirements of clients.

On the Hinkley Point C Power Plant, project integration management has not clearly implemented, and the engineering goals of the project are carried out by teams spread out across the globe, and they are coordinated and managed by a central unit known as the Engineering Command Centre, which is in France and the United Kingdom. To ensure effective planning, supervision, and synchronization of on-site operations as the project entered its primary phase of development, it was crucial to present engineering performance data in an unambiguous and prominent manner. The client recognized the need for a more robust project controls structure and sought Blueprint's expertise to set up appropriate protocols and put together a skilled team to provide the necessary support.

Project Scope Management is the assessment of the projected scope plays a crucial role during the initial stages of a project plan as it necessitates an exhaustive analysis of the ultimate deliverables or characteristics that will be incorporated in the project's execution. The inventory has been carefully assembled and documented in detail in anticipation of subsequent actions. The core principle underpinning project scope is grounded in the identification of the project's objectives and the essential measures required to realize them.

It is expected that the Hinkley Point C power station will commence the generation of low-emission power by 2025 with an estimated annual production of around 26 TWh. During the duration of the 60-year project, the electricity generated from this venture shall prove adequate to supply a multitude of over 6 million households in the United Kingdom, serving a proportion exceeding 7% of the nation's aggregate power requirements.

Project Time Management Undertakings related to the management of project time tend to cause worry and fear. When dealing with a project, the use of project time management makes it possible to divide the tasks into smaller and manageable components. By doing so, it allows the project to be broken down into smaller and more achievable sections, each with its own set of unique tasks. Ensuring adherence

to a predetermined schedule can be effectively accomplished through the precise synchronization of project time management with task management and resource management. This requires a careful approach that considers all the various factors involved in the project at hand. By working together in a coordinated manner, these three elements can help ensure that all project tasks are completed on time and within the established schedule.

Recently, there has been a lot of media attention on the nuclear power plant located in Somerset, called The Power Plant. It has been reported that due to delays in construction, the plant will not be up and running until 2036. This is a delay of 11 years from its originally intended completion date of 2025. However, a spokesperson for Hinkley Point C has declared that the project is currently advancing according to the previously established schedule. The pandemic has significantly contributed to time delays, primarily due to job losses that resulted in a scarcity of employers to fulfill the demand.

Project Quality Management is the examination of products that have been produced recently. A thorough examination of contracts that have been executed in the recent past. The act of carefully watching and analysing work routines to ascertain levels of safety and productivity.

Hinkley Point C is a major milestone in civil engineering as it's UK's first nuclear power station in a generation. A £20 billion project will take around ten years and hire up to 5,000 workers at any time. BYLOR, a partnership between Bouygues Travaux Publics and Laing O'Rourke, handles the primary civil engineering tasks for the project. BYLOR's use of digital technology in constructing over 60 major buildings, including those for the nuclear reactors, is unsurprising. BYLOR was responsible for selecting the design and detailing methodology and software suite at the start of the project, which would have a lasting effect on their efficiency.

Project Cost Management, ever since the project's inception, there have been a succession of cost overruns and disruptions. The plant's budget had initially been projected by EDF to be £20.5bn. Upon confirmation of the project during the Autumn of 2016, the total cost estimations had surged to \$24.8bn (£22.6bn). In the year 2022, projections increased once more by an amount exceeding \$3.6 billion (£3 billion).

At the outset of the project, BYLOR was assigned the responsibility to determine the methodology and software suite to apply towards the design and detailing process, a decision which would have a prolonged impact on their productivity and effectiveness. The accurate coordination of project time management with both task management and resource management can effectively ensure adherence to a predetermined schedule.

Project Human Resources Management. To help local residents, find employment during both the construction and operational phases, the Hinkley Point C project has developed a special employment program. The following goals are

intended to be attained by the Hinkley Point C job service, which was created through a partnership between EDF Energy, Jobcentre Plus, training organizations, and various local support organizations like Somerset Council. The current task is to assign people to open positions at Hinkley Point C as well as other viable job opportunities in the neighbourhood. To assist people in gaining access to employment opportunities, develop and deliver initiatives and services that are employment focused. It is advised to make financial investments in and provide support to specialized training facilities in the area that meet the requirements for educational programs and needs as set forth by potential employers.

Project Risk Management The major risk management they had to deal with is during the pandemic. EDF disclosed a loss of more than 500,000 significant operational days during the years 2020 and 2021 as a result of pandemic-induced limitations on personnel availability at worksites. It was announced by EDF in May that the commencement of the production of twin reactors designated for Hinkley would not meet the previously scheduled timeline, resulting in an eighteen-month delay and ultimately prompting completion by June 2027. The Covid-19 pandemic has been cited as the causal factor for the 12-month delay in the project's completion. Due to the outbreak of the pandemic, the workforce deployed at the project site had to be minimized from 5,000 to 1,500, which had a substantial impact on the advancement of the project.

What went wrong?

When starting the evaluation of project integration management, it is apparent that the project was not fully understood and organized to align with its intended goals and objectives. The plan for managing the project was insufficient as it failed to include a comprehensive structure to address the various potential hazards that could arise during its implementation. These hazards comprised of the possibility of going beyond the budget limit, the occurrence of inflationary trends, the requirement for proficient personnel who can produce high-quality results, as well as the inadequacy of supervisory and regulatory procedures.

When a project takes longer than expected, it can have serious consequences on the outcome. In the case of an anticipated delay of 11 years, the resulting work may suffer in quality, and it may be difficult or impossible to stick to the original timeline. This can be detrimental to all parties involved and should be avoided whenever possible. When there is a situation like this, it brings up major worries about whether the project can live up to its quality standards or remain viable for a reasonable length of time. The time allotted for completing a task has gone beyond the predetermined cut-off date. It might result in a drop in the amount of work generated because of external factors, such as the unforeseen outbreak of COVID-19, which may delay the project.

Because of not considering the potential hazards linked with construction activities at the time of assigning the initial fund of £9.2bn in 2017, the costs of the project have escalated considerably beyond the originally intended budget. Due to

the rise in inflation rates, it was anticipated that the project would cost a significant £33 billion in 2023. The increase can have significant repercussions such as the potential to increase costs across multiple areas such as labour, raw materials, and various interests, which could lead to further rises.

When the act of managing risks and human resources is ignored or not given enough importance. It can be observed that the pandemic has caused a considerable amount of harm to the project, just like other situations in which it has had an impact. At a significant juncture, the company decided to decrease expenses by laying off around 1000 to 1500 employees. Furthermore, among the people who had to undergo self-isolation were those who had been in proximity to a COVID-19 positive individual or had contracted the virus themselves.

How a nuclear power plant project can be successful?

⇒ Understanding the risks of a large and complex nuclear project is essential for its success. Some hazards common in traditional energy investments are like those in nuclear energy investments, but only nuclear energy investments have unique dangers. Utility companies assess and modify potential risks during a project's development.

⇒ Project structure and risk management

The arrangement of a project and the distribution of potential hazards among its stakeholders. The primary objective of constructing an organized plan for a project is to attain the optimal utilization of monetary funds and resources. It is imperative to allocate project risks to the party with the greatest proficiency in effectively managing them.

Key players in a nuclear project are:

- Government oversees energy policy and sometimes finances it.
- Electricity customers form market for competitive prices.
- Generator is responsible for the entire project.
- EPC contractors: companies responsible for engineering, procurement, and construction.
- delivery as scheduled and within budget by owner.
- Suppliers provide equipment and technology to the owner.
- As per timeline and budget, EPC contractor or joint venture/consortium.
- Safety authority responsible for public safety protection

and the environment, from the design stage to plant operation and fuel management.

⇒ Government's function favorable regulatory framework to ensure its safe and efficient operation. The successful implementation of nuclear energy as a source of power necessitates the backing of the government in the form of specific policies that acknowledge and reinforce its value, coupled with the

establishment of a regulatory framework that facilitates its secure and effective functioning. A structure within which its activities are carried out. The process of designing a facility, transitioning to full-scale operation, and managing fuel consumption.

- ⇒ Financing. When it comes to financing, there are two primary components: equity, which represents ownership in a company, and debt, which is money borrowed from a lender. Investors who are willing to take risks in exchange for adequate rewards are known as equity holders, and their willingness to take risks varies depending on the individual's risk tolerance. As project structures become more intricate, investors may view them as riskier, and as a result, may demand a higher expected return.

Nuclear projects are unique. Long projects require a lot of capital, but after they are finished, fuel and operating costs drop significantly. Tight regulations and public scrutiny apply to nuclear plants. These qualities have an impact on nuclear construction projects. Successful nuclear projects depend on stakeholders sharing risks fairly. Govt. Support for nuclear energy should be followed by private investment in new power plants. Strong project management is necessary for the successful implementation of multiple investment models.

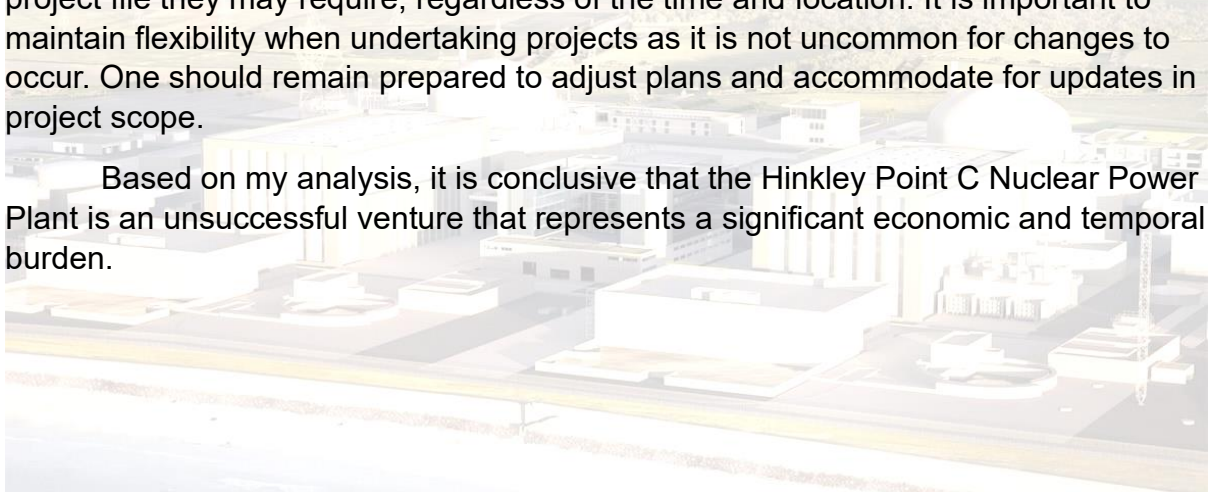


Conclusion and recommendations

As the end of my research, I conclude as to improve your understanding of a process is to gain a comprehensive understanding of the project at hand, it is imperative to be aware of any potential challenges or unexpected developments. Hence, it is imperative to adhere to these guidelines to comprehend processes more effectively.

Leveraging prior project knowledge is critical in refining operational processes; examining previous victories and errors provides valuable insights for future endeavors. It is imperative to meticulously chart out every process, whereby the team members are granted unrestricted entry to every significant document and project file they may require, regardless of the time and location. It is important to maintain flexibility when undertaking projects as it is not uncommon for changes to occur. One should remain prepared to adjust plans and accommodate for updates in project scope.

Based on my analysis, it is conclusive that the Hinkley Point C Nuclear Power Plant is an unsuccessful venture that represents a significant economic and temporal burden.



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