

## The Legal Basis for Civil Liability in the Nuclear Field

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### Abstract

*This study examined the legal basis of civil liability in the nuclear field by assessing the feasibility of fault-based liability, whether it is based on proven fault or presumed fault, to establish civil liability for nuclear damages. Furthermore, the study addressed strict liability as the most suitable solution for establishing liability in the nuclear field, given the inadequacy of fault-based liability in addressing the issues of nuclear incidents and compensation for them. The study recommended the necessity of implementing strict and absolute liability in the nuclear field to protect individuals, society, and the environment from the catastrophic severity of nuclear incidents. It emphasized the importance of focusing on all means of nuclear safety and security to avoid any nuclear incident, and the significance of solidarity among nuclear operators and insurance pools and funds when facing nuclear incidents and addressing the severe damages they cause.*

**Keywords:** Nuclear Energy, Fault, Damage, Strict Liability

## INTRODUCTION

Multiple legal theories have sought to explain the foundation upon which the civil liability of the nuclear operator is based. Civil liability for negligence is divided into fault-based liability, grounded on proven or presumed fault, and strict or no-fault liability, based on harm. The difference between fault-based liability and strict liability is that fault-based liability relies on the presence of a mistake or negligence leading to the responsibility and compensation for the damage, whereas strict liability arises from a direct relationship between the person and the duties imposed on him without considering the presence of a fault or negligence.

This study addresses the issue of determining the liability basis for the nuclear operator's obligations to compensate for nuclear damages. It questions whether the fault-based theory succeeds in addressing the legal issues arising from nuclear incidents, or whether the solution lies in strict liability based on harm without considering whether the nuclear operator's fault can be proven.

The study aims to present a correct legal framework for establishing the civil liability of the nuclear operator for nuclear damages. This involves clarifying fault-based liability and its types and whether it serves as a basis for the nuclear operator's liability. It also clarifies strict liability and whether it constitutes an effective solution for establishing civil liability for nuclear damages.

The importance of the study lies in seeking liability that ensures protection for the affected individuals, society, and the environment from nuclear energy and incidents. This is through fair compensation that remedies the damages incurred, contributing to achieving justice and progress in society.

### According to Search

The research methodology in the field of nuclear liability relies on an analytical approach to understand the foundation upon which civil liability in the nuclear field is built. This is achieved through the analysis of legal texts of international conventions and national laws, as well as examining legal trends and opinions, with the aim of establishing a solid and fair basis that provides protection from the risks and damages of nuclear incidents.

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## **SEARCH CONCEPTS**

### **Nuclear Civil Liability Based on Established Fault**

The majority of civil legislations have not explicitly defined fault, leaving it to the interpretations of legal commentators, who have offered various definitions. Some have defined it as a breach of a prior legal obligation (Marcus, 1971), or a deviation from the standard and customary behavior of the ordinary person (Imran, 1982). Generally, legal doctrine maintains that there can be no civil liability without harm, and some argue that there can be no civil liability without fault, as fault is logically and legally the basis of civil liability (Al-Ahmad, 2009).

Fault-based liability, in its traditional form, is established when three essential elements are present: fault, damage, and a causal link between them. Since proof is the duty of the claimant – as evidence must be provided by the one who claims – and the claimant in a civil liability lawsuit is the injured party, it is incumbent upon the latter to demonstrate the presence of these three elements as a necessary and fundamental condition for obtaining compensation. If successful, the burden of proof shifts to the defendant, who may then dispute the existence of these elements, deny any fault on their part, or argue that the fault – although proven – was not the cause of the claimed damage (Abd Al-Aal, 2008).

Until the 19th century, fault was the essence of civil liability, upon which its existence depended. However, the continuous advancement of industries, the increase in transportation means, the frequency of work and traffic accidents, and the difficulty of proving fault in many cases, all these factors have enticed some scholars to move away from the fault principle. They argued that the new risks introduced are sufficient to obligate those who caused them to compensate for the resulting damage, whether they were at fault or not (Mar'i, 1936).

Therefore, fault as the basis of civil liability has become incapable of offering better protection for those injured by various activities. Thus, it can be said that establishing fault is inadequate for encompassing nuclear disputes due to the following difficulties and obstacles:

Firstly, nuclear damages arise from legitimate activities: Nuclear damages do not always result from wrongful conduct or activities that are illegal or contrary to nuclear regulations. Instead, they mostly arise from legitimate activities for which nuclear facility operators have obtained prior licenses from administrative authorities, without any illegal act or deviation from standard conduct and despite taking all precautions; hence, establishing the nuclear operator's liability for lack of fault is impossible (Al-Heli, 2019).

Secondly, the difficulty of proving fault: For an injured party to obtain compensation, they must prove fault. Fault is the principal element for establishing liability according to this theory, making it unsuitable for risky activities (nuclear risks), as nuclear damage can extend over great distances, may not manifest until a long time has passed, can be distributed across future generations, and affects individuals unknowingly. Moreover, it is difficult, if not impossible, to prove the technical faults that led to its occurrence, burdening the injured party with proving fault (Sayed Ahmad, 2016; Al-Mashhadani, 2002).

Thirdly, the difficulty of proving causation: Proving causation in the nuclear field is challenging, starting with identifying the responsible party for the damage. If possible, the injured party must then prove the causal relationship between the fault and the nuclear damage, often relying on sensory perception rules. This does not align with the nature of nuclear industry damages, which are sometimes not perceptible in a tangible sensory form, in addition to the intervention of many factors that could lead to the same nuclear damage (Ishtayat, 2015; Fahmi, 2011). Despite these difficulties, some scholars (Salama, 1997; Al-Sharqawi, 2015) believe that excluding this theory entirely is inappropriate. In some cases, this theory remains the only basis for establishing civil liability, such as when an individual deliberately refrains from acting, or neglects to perform an act that is in itself a fault according to legal rules with the intent to harm others; hence, this theory should be preserved for application in cases of fault, such as the discharge of nuclear waste into water bodies. However, if fault is not present and damage ensues, legally, there is nothing preventing the search for another basis of liability and obligating the perpetrator of the harmful act to compensate the injured party.

From the above, it can be inferred that it is difficult to base the civil liability of the nuclear operator on established fault, as this theory does not align with the nature of nuclear damage due to difficulties in proving the illegality of the act causing the damage, proving the occurrence of damage, and proving the causal relationship between the damage and the act causing it. Therefore, it is necessary to search for a basis that aligns with the nature and characteristics of nuclear damages.

### **Nuclear Civil Liability Based on Presumed Fault**

To overcome the shortcomings of establishing civil liability based on fault that must be proven according to general rules, jurisprudence has attempted to base liability on presumed fault, facilitating the process for the injured party to obtain fair compensation for the damage sustained, thus removing the burden of proof of fault from them.

Since the law requires fault to be proven by the claimant, it has shifted towards presuming fault on the part of the responsible party without requiring the claimant to prove it, easing the process for the injured party to obtain compensation by lightening their burden of proof. Presumed fault may be rebuttable, as in the case of guardianship control, or irrefutable, as in cases of liability for actions of dependents or for actions of things (Taha, 2010; Al-Sharqawi, 2015).

Therefore, the rule of presumed fault only applies in cases of liability for actions of others and for actions of things. In personal liability, the existence of presumed fault is inconceivable (Al-Shami, 1989).

Thus, according to the theory of presumed fault, the injured party obtains compensation once the damage results from things, without the need to prove fault on the part of the thing's guardian. Liability in these instances is only negated by proving force majeure, fault of the injured party, or an external cause, and the guardianship liability can be attributed to both natural and legal persons (Dessouki, 1972).

Despite criticisms directed at the principle of presumed fault (Mujahid, 2004), it has various advantages, namely (Sayed Ahmed, 2016):

Presumed fault is established by law, meaning that presumed fault can only be applied based on the law.

Presumed fault can be rebutted. The defendant can present evidence to refute committing the fault.

Applying the principle of presumed fault in the nuclear field, given the inadequacy and limitations of the established fault theory in compensating those injured by nuclear accidents, and the inappropriateness of traditional civil liability rules based on fault that must be proven with nuclear activities that result in numerous damages, and considering justice requirements necessitate the injured party's full right to compensation; hence, there is an urgent need to search for another legal basis capable of encompassing peaceful nuclear activity disputes, while at the same time providing protection (Al-Heli, 2019). Here arises the question: Is the principle of presumed fault a suitable basis for the liability of the nuclear operator, or will it prove inadequate in providing full protection for the injured parties in their right to fair compensation?

The answer is that if we want to establish civil liability for nuclear damages on the basis of the guardianship of things, we find that the conditions for establishing the guardianship of things' liability seem to be met; the nuclear facility operator is the guardian of the dangerous things within it; having actual authority over these things. No doubt, nuclear facilities, with their machines and materials, fall under the category of mechanical devices and things requiring special care, and nuclear damage generally arises from the positive intervention of these things (Al-Hayari, 2017).

The nuclear operator may have the authorities of thing-based liability (Abdel Hamid, 1993), thus considered a guardian according to the general principles of civil liability of things, but the concept of civil liability for things is not a suitable basis for the liability of the nuclear operator due to the following differences (Nayel, 1994):

It does not require special conditions to acquire the status of guardian, whereas the nuclear operator must be technically and economically qualified to cover nuclear liability.

Guardianship, according to general rules, reflects a factual situation (actual control over the thing), while the

nuclear operator is determined according to a formal criterion represented in the license issued to operate the facility.

Guardianship can be transferred to another person, whereas the nuclear operator cannot transfer the issued license to others, and in the event of their death, it does not transfer to the heirs.

The guardian of the thing is liable for it unless they prove that the damage occurred due to an external cause, such as an unforeseen accident, force majeure, or the act of another. However, the nuclear operator can only repel liability in specific cases set forth in international conventions and statutory laws, listed exhaustively (Sayed Mohamed, 2010).

The critique directed at the established fault theory applies equally to the presumed fault theory; besides, this theory does not align with the general rules in laws that base liability on causing harm, not on fault, whether it must be proven or presumed. Moreover, this theory is flawed because it is not suitable as a basis for liability in cases where the responsible party engages in a legitimate activity and is able to prove that they were not at fault by taking necessary precautions, yet damage still occurred (Al-Sharqawi, 2015).

From the foregoing, it is evident: the presumed fault theory is not a viable basis for the civil liability of the nuclear operator, as it does not provide the required protection for the injured parties to receive necessary compensation for the damage they suffered. Consequently, international conventions and national legislations have sought another legal basis to address and cover all issues related to establishing nuclear civil liability, adopting strict liability as the basis for civil liability for nuclear damages.

### **Nuclear Civil Liability Based on Damage (Strict Liability)**

In search of a stable and fair foundation for civil liability for nuclear damages, strict liability based on damage or risk, i.e., "without fault," has been adopted. The shift towards strict liability is due to the scientific and technological advancements surrounding nuclear facility operations and the increasing risks to humans and the magnification of damages incurred. It has become challenging to establish liability based on fault, which has become difficult, and sometimes impossible, to prove. This has made searching for a new foundation for civil liability, especially regarding damages resulting from nuclear facilities, an urgent matter (Sadat, 2017; Tony, 2019). Given the difficulties in establishing civil liability for nuclear damages based on fault, the direction has been towards establishing civil liability for nuclear damages based on strict liability.

Strict liability is defined as: "Imposing liability on the responsible party for a dangerous activity for the damages caused without resorting to proving fault on their part" (Abu Sukheila, 1983). It is also described as: "Liability for a prohibited act where fault plays no foundational role" (Al-Hayari, 2017).

The Vienna Convention on Civil Liability for Nuclear Damage in its 1997 Amending Protocol adopted this liability, stating in Article (4) that: "The liability of the operator for nuclear damages under this Convention shall be absolute." Even before this, the principle of strict liability was adopted in the Paris Convention related to Third Party Civil Liability in the Field of Nuclear Energy. Although it did not explicitly mention it among its texts, it is inferred from its provisions that it suffices to prove the elements of damage and causation to establish the liability of the nuclear facility operator (Sadat, 2017).

Therefore, the operator's liability is not a personal liability based on fault but a strict liability based on damage. If nuclear damage occurs due to a nuclear incident, even without fault from the operator, their liability is established. Consequently, the injured party is not required to prove the operator's fault but only to prove the causal link between the damage and the nuclear incident. This ruling benefits the injured parties, who find it difficult to prove fault in nuclear incidents, justifying the operator bearing the consequences of the risks they have introduced, as responsibility cannot be attributed to any other party besides the operator (Fadel, 1996; Al-Mashhadani, 2002).

This liability was also recognized in the Kuwait Document derived from Islamic jurisprudence, where Article (261) of the Kuwait Civil Law Unified Document for the Gulf Cooperation Council states: "Any harm caused to others obligates the doer, even if not discerning, to guarantee the damage." Therefore, strict or causative liability relieves the victim from the burden of proving fault committed by the facility operator; it suffices to

prove a causal relationship between the damage sustained and the nuclear incident experienced by the facility or occurred during the transportation of materials from or to that facility (Khairuddin, 2013).

Several justifications have led to the adoption and endorsement of strict liability in the nuclear field, including:

The special nature of nuclear damages, which are extremely dangerous and varied, where nuclear damage spreads over wide areas and extends over long periods, potentially affecting future generations (Al-Mashhadani, 2002).

The complex and obscure nature of operating nuclear facilities makes it difficult for the injured party to prove the operator's fault, especially if the fault is related to technical and technological matters unknown to the injured.

Some accidents arising from the operation of nuclear facilities lead to catastrophic damages and limitless risks, creating a practical impossibility for the injured to prove the operator's fault, especially if the nuclear incident leads to the destruction of the facility and the surrounding area (Sadat, 2017).

Adopting the objective nature of civil liability for nuclear damages is often coupled with obliging the nuclear operator to insure against their liability for nuclear energy risks, providing a real guarantee for the injured to obtain compensation (Al-Mashhadani, 2002; Al-Hayari, 2017).

Ensuring community rights, as imposing stringent liability on the nuclear operator aims to balance between reducing the effects of damages on individuals and ensuring the social and economic rights of the community, as those exposed to nuclear energy risks cannot insure against them, given the rarity of nuclear risks, and few insure against the ordinary risks they face in the community (Al-Mashhadani, 2002), let alone insure against nuclear risks.

Finally, the establishment of the nuclear operator's strict liability does not depend on proving their violation or breach of nuclear safety regulations and systems, whether stipulated by national nuclear legislation or by instructions issued by international bodies or organizations like the International Atomic Energy Agency, among others. On the other hand, the injured is not required to prove the nuclear operator's violation or breach of these regulations and systems (Abd Al-Aal, 2008).

In conclusion, given the developments and modern industries, the multitude of risks and damages, and the difficulty of proving fault due to the nature and danger of the damages, it was necessary to adopt the theory of strict liability, which is based on the damage alone without seeking the element of fault. Damage alone is a sufficient cause for liability, and strict liability is an effective solution to the challenges of liability in the modern era, fitting with the requirements of justice.

## **RESULTS**

The study's results revolve around identifying the legal basis for the operator's liability for nuclear damages, with the findings as follows:

It is difficult to base the nuclear operator's civil liability on established fault, as this theory does not align with the nature of nuclear damage. This is due to difficulties in proving the illegality of the act causing the damage, proving the occurrence of damage, and proving the causal relationship between the damage and the causative act.

The study demonstrated the ineffectiveness of the theory of presumed fault as a basis for the civil liability of the nuclear operator, as it does not provide the required protection for the injured parties in obtaining the necessary compensation for the damage they suffered.

International conventions and national legislations have sought another legal basis to address and cover all issues related to establishing nuclear civil liability, by adopting strict liability as the basis for civil liability for nuclear damages.

The adoption of the theory of strict liability resulted from modern developments and industries, the multiplicity of risks and damages, and the difficulty of proving fault due to the nature and severity of the damages. This

liability is based on the damage alone without seeking the element of fault, making the damage alone a sufficient cause for liability.

Strict liability is the effective solution to the challenges of liability in the modern era, fitting with the requirements of justice and fairness.

## **RECOMMENDATIONS**

Based on the conclusions derived from the study of the legal basis for civil liability in the nuclear field, the following recommendations can be proposed:

The necessity of implementing strict and absolute liability in the nuclear field to protect individuals, society, and the environment from the catastrophic and severe consequences of nuclear accidents.

Emphasizing the importance of all nuclear safety and security measures to prevent any nuclear accident.

The importance of solidarity among nuclear operators, insurance pools, and funds in facing nuclear accidents and addressing the severe damages caused.

Constructing nuclear reactors and nuclear power stations in locations far from populated and vital areas.

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