

Nuclear Crimes in Peaceful Fields

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Humans seek, through scientific capabilities and technological development to use nuclear energy as an alternative energy to traditional sources. This is as a result of its efficiency and its high capacity for generation in all fields. There is no doubt that scientific development must have a dark side, which represents the negative effects of that use and that nuclear energy has uses in the peaceful field. But as a result of the use of nuclear energy, there are crimes and acts that may inflict interests protected by law of serious and grave harm. Therefore, we see legislation that has enacted laws to address some of these problems, even though its treatment needs a broader view of the seriousness of the issue. This includes Egyptian legislation such as Law No. 59 of 1960 in the matter of organising work with Egyptian ionising radiation, as well as international agreements such as the Convention on the Physical Protection of Nuclear Material of 1980, and the International Convention for the Suppression of Acts of Nuclear Terrorism of 2005.

Key words: Scientific Capabilities, Technological Development

Introduction

Research Problem: The problem of this research is the lack of nuclear legislation regulating nuclear crimes that can be committed in the peaceful field, which has led us to look into the provisions of the Penal Code, and apply the provisions of these new crimes that may occur.

The Importance of Research: The importance of this research is that nuclear crimes are considered, among the crimes whose effects can be attained even after a long period of their occurrence, and here the problem arises of the existence of the causal relationship between action and outcome.



Research Methodology: The research is divided into two topics that address in the definition of nuclear crime and its characteristics and its pillars. The second topic is the description of nuclear crimes.

Chapter One

Definition of Nuclear Crime

In this topic, we address the definition of nuclear crime and its characteristics and pillars, and that in two requirements, the first will be to define the crime and explain its characteristics. While the second requirement is devoted to the elements of the nuclear crime as follows:

The First Requirement

The Concept of Nuclear Crime and Its Characteristics

This requirement will be divided into two branches. In the first, we address the definition of nuclear crime, and in the second we discuss the characteristics of it.

First Section

Nuclear Crime Definition

Criminal legislation does not provide a definition of a nuclear crime. In addition, it does not touch on the definition of crime in general; merely providing texts that show various crimes exclusively. While defining its provisions and penalties, it avoids a definition that does not accommodate all aspects of the punishable activity. Jurisprudence assumes the task of developing a definition of the crime, and these definitions were multiplied. Jurists defined it as an unlawful act, or omission committed by criminal will, for which the law establishes a penalty or a precautionary measure.

Therefore, the crime in general is an act committed by criminal will, for which the law decides a penalty for impinging on a right, or interest worthy of protection.

In light of this, a nuclear crime is a crime to which the description or definition above applies. But what distinguishes a nuclear crime from other crimes, is that it is related to the existence of nuclear energy, or it causes harm or dangers to legally protected interests, as a result of using nuclear energy, whether for peaceful or non-peaceful purposes.

Therefore, a nuclear crime can be defined according to the above data as every aggression that results in harm, or threat, to any legally protected interest with a risk resulting from the use of nuclear energy, whether intentionally or unintentionally, and whether the perpetrator of the crime is an ordinary or legal person.

The Second Section

Characteristics of Nuclear Crime

A nuclear crime has distinct characteristics that distinguish it from other crimes, and these characteristics include the following:

First: It is a Crime of Danger

The jurists divided crimes in terms of the result into two types of material crimes and formal crimes. This means physical crimes that result in committing a specific result such as death, while formal crimes are intended for those crimes that do not result in committing a specific result. From this position it does not require the realisation of a specific result. Physical crimes are called harm crimes and formal crimes are called risk crime (Alia, 2001, pp. 206-207).

Danger crimes are crimes that do not by their nature cause any harmful material result. They are crimes with a risk or potential harm, and are considered complete crimes as soon as the behaviour that leads to the possibility of an assault occurs, on a right protected by law (Al-Saeed, 2008, p. 212). The punitive legislator initiates the punishment without waiting for a material result to be committed, and takes into account the specific time during which the crime is considered to have been committed in all its aspects, as they are premature crimes (Thiab, 2017, p. 5). The crime is realised once the protected interest is endangered, regardless of whether or not a material result has occurred.

Within the framework of nuclear crime, it is considered one of the most serious crimes. Simply by assaulting or threatening to attack one of the nuclear installations or one of its components, the potential for damage is very large and expected. If a radioactive leak occurs, this threatens the public interest of the state, and the interest of individuals without exception. The destructive consequences that include an unlimited number of interests and their future owners arise from intentional assaults on those facilities, whether by specialised or conventional weapons, as well as attacks on facilities of peaceful nuclear energy. This may lead to damage and radioactive contamination that destroys the surrounding environment, and if not the occurrence of the event, the danger of its future verification is undoubted (Qashqash, 1996, p. 72)

Second: It is a Crime of Harm

The damage in legal terminology is the removal or reduction of money or the value that satisfies the human need, whether that value is material or non-material (Behnam, 1996, pp. 109). The crimes of damage or so-called crimes, or material crimes are the crimes that occur by their nature with a tangible and harmful result. This means that the crime of damage assumes criminal behaviour or aggression has effects on rights protected by law. Damage to

the basic interests of society is the real damage that results in the loss of legal money or diminishes its value. Those crimes may also result in harm to the interests of the state. It is not considered a damage crime according to the above, if it can harm the external security of the state. This includes the disclosure of nuclear secrets, or internal security, such as sabotaging a nuclear facility, which causes the leakage of nuclear radiation and consequently damage to the environment. Whether the damage resulting from nuclear crimes directly or intentionally affects the public interest, or the interest of one of the individuals may be harmed, accordingly, nuclear crimes are considered to be crimes with harm.

Third: Nuclear Crime Goes Beyond the Principle of Territoriality

The principle of territoriality means that the criminal rule applies to all crimes committed on the territory of the state, whether the perpetrator or the victim is a national or a foreigner. This also includes whether the crime threatens the interests of the sovereign state over the region or threatens the interests of a foreign country. The principle of territoriality is a positive division and means submission to all the crimes that are committed in the territory of a specific state for its law. While another way, which is negative, is not to apply the law of the state to crimes committed outside its territory, regardless of the nationality or character of the perpetrator of the crime (Al-khalf&Al-Shawi, ND, p. 88). This is according to Article VI of the Iraqi Penal Code, which is (provisions of this A law applies to all crimes committed in Iraq, and the crime committed in Iraq is considered if one of the constituent acts is committed in it, or if its outcome is achieved or it is intended to be investigated in it. In all cases, the law applies to everyone who participated in a crime that occurred in all or part of Iraq and even if this contribution was abroad, be an actor or a partner)¹.

The territorial rule defines the scope of the Iraqi Penal Code to apply in terms of location and means. The Iraqi Penal Code applies to all crimes committed in the Iraqi region in its comprehensive concept, land, air, and sea, regardless of the nationality of the perpetrator or the victim's nationality, and this law also applies to anyone who committed a crime that affects the external or internal security of the state outside Iraq². This includes Iraqi citizens who commit crimes abroad³, and on every ship flying the Iraqi flag and on any plane that carries Iraqi citizenship⁴.

The Physical Protection of Nuclear Material Convention of 1980 and the International Convention for the Prevention of Nuclear Terrorism of 2005 have affirmed that the states party to these agreements take the necessary measures to achieve; the establishment of their jurisdiction over any of the crimes stipulated in the aforementioned agreements; when the crime is committed on a ship flying the flag of that country and; or aircraft registered under the laws of that country at the time the crime was committed⁵.



The nuclear crime transcends the regional rule, and the principle of universal jurisdiction is worthy of application to these crimes. This requires the application of national law to every crime that the perpetrator is arrested in the territory of the state, regardless of the nationality or nationality of the victim, or the location of the crime. This principle was used to solve some crimes of international character in their seriousness and undoubtedly, their danger exceeds the one-state region and represents a threat to the general national interests.

Fourth: Nuclear Crimes Entail Criminal Accountability

It is known that moral persons carry out tasks and activities that ordinary people may not be able to perform due to their high cost, and that moral people have a huge means to carry out various activities. Ordinary people may be reluctant to perform those activities as to the great risks. It requires huge economic potential and results in risks such as those caused by nuclear radiation, in addition to the important political side in this matter, and this is why legislation is needed to allow moral persons to carry out these activities. Accordingly they will be one of the addressees of the text and the legal rules that regulate nuclear activity, as is the case with the natural person. Accordingly, it is not desirable to adopt criminal liability for a criminal person, and the Iraqi legislator has adopted the principle of the responsibility of the legal person, as Article 80 of the amended Penal Code stipulates. The responsibility of the legal person for the crimes committed by its representatives or its directors or agents, for its account or in its name.

The Second Requirement

Pillars of General Nuclear Crime

A crime as a general legal idea is a behaviour prohibited by law, which results in damage to the interests protected by the law and deserves a penalty. The nuclear crime like other crimes requires the availability of two pillars, a physical pillar and a moral pillar. The physical pillar is the act that inflicts the assault on the right protected by the law and consists of three elements which is the behaviour of the offender whether positive or negative, and a certain result, and a causal relationship between them. The moral element is when moral will accompanies the behaviour, which is different in crimes that are intentional, like the crime of manslaughter, and consist of circumstances that allow the appearance of sin in the conduct of the perpetrator. The two main pillars of nuclear crime, namely the physical and moral pillar, are as follows:

First Section

The Physical Pillar of Nuclear Crime

It is recognised that the law has no authority over the ideas or intentions of individuals 'consciences, or their intentions', as long as they have not emerged into the outside world

with actions that translate them. For this reason it is necessary for its establishment to develop a material pillar, and the material pillar of the nuclear crime is represented by criminal behaviour. This can be positive or negative, but results in the occurrence of a harmful public or private outcome, that is considered by law to be an objective prerequisite for punishment, which then requires an objective link between criminal activity and its harmful outcome, which is the causal link.

First: Criminal Activity

Criminal behaviour is the external material activity issued by a perpetrator to achieve a criminal result punishable by law and is a necessary element in every crime (Atiq, 2005, p. 201). In nuclear crime the offender uses nuclear energy supplies and materials, or materials from which harmful nuclear radiation emanates. This use leads to harm of public interests or the interests of individuals, that the legislator imposes protection on, and does not accept being attacked. From here it is clear that the perpetrator uses those materials, nuclear energy, or materials with nuclear radiation, and this represents criminal behaviour and its external appearance, and the criminal outcome occurs. As a source of unlawful use of nuclear or radiological energy, without using that energy or materials, criminal behaviour cannot be committed, and criminal behaviour in nuclear crime, as in most crimes, can take the form of positive or negative behavior. Positive behaviour is when the criminal behaviour consists of committing a positive act forbidden by law, and is a voluntary organic movement to achieve the result that is punishable by law (Ibrahim, 2008, p. 169). This includes when the nuclear crime can occur with every positive behaviour that the offender brings, contrary to the order of the legislator. For example, the offender exposes a person to nuclear radiation, which leads to their death; or a person is concerned with the disposal, importing or exporting of radioactive materials without obtaining an official permission⁶. As for negative behaviour, it is represented by the failure of the perpetrator to do what the law requires (Abdul Sattar, 1993, p. 244), for example, the refusal of those who possess a radiation source to exert the necessary effort to limit the exposure of the person or others to radiation, and not take technical measures to prevent exposure to radiation⁷.

2. Criminal Outcome

The criminal consequence is the effect of criminal conduct, namely aggression, which affects the interest or right to which the law determines penal protection (Wazier, 2004, p. 275). There is no doubt that there is damage to a person's health or various life activities, or may lead to death or financial harm. In addition to environmental damage, is the harmful criminal result generated by the use of nuclear energy and the radiation generated by it, and the harmful consequence of the criminal conduct of nuclear crime may damage the very components of nuclear energy, as in the case of theft of radioactive materials or equipment for the production of nuclear energy.

3- Causal Relationship

It is not enough for the physical pillar of nuclear crime and any other crime to have the availability of criminal conduct and the punishable result, but it is necessary to have a causal relationship between the behaviour and the result. That is, that such behaviour is the cause that led to the criminal result, the conduct is directly related to the result and its inactivity does not ask the perpetrator about the crime and is limited to the initiation if it is intentional and nothing is unintentional. This may result in some difficulties in proving the causal relationship in nuclear crimes, including the impossibility of proving the causal relationship in nuclear crimes. Proof in cases where the result of nuclear criminality is lax, there is loss of evidence or the consequences are not direct, as well as the neglect of the victim for treatment and this negligence may be normal is difficult. Therefore there is no interruption to the causal relationship here, or the negligence may be deliberate from the person to maximise the responsibility of the perpetrator, here the causal relationship is interrupted (Mustafa, Previous source, p. 292).

Second Section

The Moral Pillar of Nuclear Crime

Moral pillar or criminal intent is the direction of the offender's will towards committing the crime, knowing its elements and its fundamentals as required by law. The Iraqi legislator defined criminal intent as; the perpetrator directs his will to commit the act of the crime aimed at the result of the crime or any other criminal result⁸. The criminal intent in nuclear crimes is of great importance because it highlights the seriousness of the offender's personality, the specificity of the crime that distinguishes it from other crimes, and the availability of elements of intent, acknowledgement and will (Obaid, previous source, p. 222). The element of acknowledgement requires that the perpetrator be aware of the facts of the crime and harmful behaviour, and a public or private interest protected by the law is attacked. The result that will be obtained and also available knowledge that nuclear energy has its own nature and all elements of conduct, such as the place of the crime, for example, as stipulated in the Iraqi Environmental Protection and Improvement Act No. 3 of 1997 amended in the article, which approved the penalty of the violation and doubles its imposition monthly until the violation is removed and multiplied in the case of recidivism.

The element of will is attached to the element of acknowledge and must be available, considering that intentional nuclear crime must be the result of a voluntary decision of the perpetrator, as it is assumed that the perpetrator has directed will to achieve the wanted, which is to commit a nuclear crime.

Chapter two

Examples of Peaceful Nuclear Crimes

Next is a description of nuclear crimes in the peaceful field, discussed through two types of models. The first deals with two crimes targeting the components of nuclear energy. The second deals with assault crimes using nuclear energy as follows:

The First Requirement

Crimes Targeting Nuclear Energy Ingredients

In this topic a statement of the crimes that target the nuclear energy constituents is discussed, through two types of crimes, namely the crime of attacking the constituents of nuclear energy and the crime of stealing nuclear materials in two branches, as follows:

First Section

Nuclear Material Theft Crimes

Article 439 of the Iraqi Penal Code defines theft as; theft is the embezzlement of movable property owned by a non-offender intentionally. However the legislator did not address the issue of theft to nuclear materials and therefore it is necessary to refer to the general rules in the crime of theft stipulated in the Penal Code. Therefore the elements of a crime theft of nuclear material is the place of crime, the material pillar and the moral pillar

1-The Place of the Nuclear Materials Theft Crime

In order for the theft crime to take place, an assault on the property of others, must be transferred, must occur. Here the question arises whether nuclear energy, nuclear materials, nuclear fuel, and even nuclear waste can be the object of the crime of theft?

The Iraqi legislator, in Article 439, consider electrical and water forces and every other energy or power obtained as money transferred to implement the provisions of theft, and nuclear energy, if in the form of money, is considered something of financial value and it is valid for a subject of material authorities that are represented in a group of rights and benefits that can be violated through theft. Nuclear energy is a force and energy that is subject to the control of those who generate it and can use it for various purposes. This also allow others to use and dispose of it and thus it is suitable for ownership and possession, and it is suitable for transfer from one location to another. That is it is suitable for exiting possession and entering into other possession in a way that achieves the embezzlement by theft, and there is no doubt that the energy, nuclear materials, nuclear fuel, and even nuclear waste have a material value and this value is very large. Nuclear energy can be the place to do embezzlement in the crime of theft and it is undoubtedly owned by others and this owner may be the state represented by

one of its institutions, or one of the companies affiliated with the private sector. In general it concerns the owner of nuclear energy as long as the attack actually occurred on it.

2-The Physical Pillar

The physical element in the crime of stealing energy or nuclear materials that are embezzled or acquires that energy, and takes it out of the possession of its owner without consent. Therefore it is necessary to seize possession and the lack of consent of the victim, and embezzlement⁹ or seizing possession of nuclear energy is taking out the energy and nuclear materials from the full possession of the owner of energy and materials and its inclusion in the full possession of the perpetrator. It is necessary to attack the full possession of nuclear energy with its material and moral elements, and it does not matter the method used by the perpetrator in order to obtain that energy, so the law equals all means through which to get this energy. It is recognised that due to the seriousness of the energy and nuclear material and its high financial value, the prohibitive dissatisfaction of the victim of the offender is verified in this case, and the acquisition of nuclear energy money without the knowledge of the victim is a sign of dissatisfaction.

3-Moral pillar

The crime of stealing nuclear energy is like any other intentional theft crime that requires the availability of a criminal intent. It is not sufficient for the punishment for this crime to seize energy or nuclear materials owned by others without consent. Criminal intent in its public and private parts must be available alongside, and the general intent is the offender must be aware that the energy or nuclear material that is embezzled is owned by others. That the latter is not satisfied with the act of embezzlement and to know that the action constitutes an assault on the ownership and possession of others, as well as the tendency of the will to commit the act of embezzlement and achieve the criminal result (Taha, 2001, p. 81). As for private intent of the ownership is represented in the will of authorities, that are directly involved in the property of the stolen object (Taha, previous source, p. 83) (energy or nuclear materials).

It is worth noting that this crime can be associated with aggravating circumstances stipulated in the Penal Code, such as theft at night or coercion, and other conditions, and the prescribed penalty is then imposed. In turn, it is recommended that the legislator consider the theft of energy other nuclear material to be an aggravating circumstance.

The Second Section

The Crime of Nuclear Material's Destruction and Sabotaging

The Iraqi legislator did not deal with organising the provisions of the crime of destroying the elements of nuclear energy, and for this it refers to general rules to clarify the elements of this crime. Any destruction is intended to destroy the substance in part or in whole, the partial

destruction requires making money not valid for use (Qashqush, 2012, p. 156.). Subsequently any damage must be based on fixed or transferred money. The Iraqi legislator punished in accordance with Article 477 and will impose a prison sentence on anyone who destroyed property or movable property. This is not owned by the offender or property that is made unusable, harmed or damaged in any way. From here it is clear that the crime of destroying the nuclear energy components is destroyed from the material and moral pillar.

1- The Physical Pillar

According to the text of Article 477 of the Iraqi Penal Code, the act of destruction should be focused on property or movable property and nuclear energy. This also includes facilities including factories, laboratories, nuclear plants and centres of nuclear energy reactors, as well as various nuclear equipment and all money from them is fixed and transferred. Nuclear energy has a high material and economic value, in addition there is an aim to achieve the public interest and represents a strategic importance in the nation's wealth. Therefore any damage represents a great loss in addition to the damage to life, property or the environment in general.

There is no doubt that nuclear installations and nuclear equipment are mostly owned by the state because of its importance and seriousness. This does not mean that it is inconceivable that equipment is owned by any person other than the state. Therefore to attack by any means and from any person, the offender may be an employee of the nuclear facility or others. This criminal behaviour is considered a positive or negative action by the offender, that leads to sabotage of the facility or nuclear material in whole or in part, which disables its function. This could be by disrupting the operation or control devices, by destroying electronic control programs, or causing damage to the device, or supply to the infrastructure of the facility by causing it to be destroyed or part of it, which would render it inoperable.

2-The Moral Pillar

The crime of destroying the elements of nuclear energy from intentional crimes whose moral component takes the form of a general criminal, intent that rises on the elements of science and will, so the offender should know that their actions involve damage to the nuclear energy ingredients, nuclear reactor, radioactive materials or nuclear fuel in its fixed or transmitted form, that this money owned by others, the will of the perpetrator must be directed to cause the destruction by any means.

We cannot fail to show that the Iraqi legislator has increased the punishment if the crime of destruction is committed in conjunction with one of the aggravating circumstances stipulated in Article 478, which are cases of committing a crime of destruction or sabotage by a gang of at least five people, or if committing violence or in the event of sedition or agitation.

The Second Requirement

Assault Crimes Using Nuclear Energy

There is no doubt that if nuclear energy is used in contravention of the law and for the purpose for which it was created, it causes harm to the right or interest protected by law. It can be the subject of human aggression, whether its life or the integrity of its body, and it can also be the subject of environmental aggression, so it becomes contaminated by the aggression using nuclear energy. The requirement is divided into two branches. Crimes of assault on human life and body integrity are addressed in the first section, and in the second section crimes of aggression on the environment are discussed.

First Section

Crimes Assaulting Human Life and Safety

Criminal law is concerned with the protection of humanity and this protection is represented in the texts that prohibit killing in all its forms. This law relates to the human right to life, the right to the safety of the body, especially since the attack on life is usually directed to the body with the intention of completely disrupting all its organic functions, so that harm to the safety of the body or health involves the risk of eliminating life, as well as the certain harm it afflicts on the victim. Therefore the legislator criminalises actions that affect the safety of the body. A person may be exposed to nuclear radiation, which leads to the elimination of their life or causes harm to body or health, as a result of the chemical and biological radiation impact. This includes penetration to the body that causes poisoning, which leads to death or serious diseases such as cancer. This is discussed as follows:

1-Murdering a Person Using Nuclear Energy

By following the texts of the Iraqi legislation, we note that the legislator did not address this crime, but in this case it was up to what is stipulated in Article 405. This article punishes life or temporary imprisonment for killing a person deliberately and killing is loss of the soul of a person deliberately (Shelal, 2010, p. 109). Killing using nuclear energy according to the elements of the crime is discussed below.

A- The Physical Pillar

The crime of wilful killing requires the perpetrator to commit criminal behaviour that leads to the loss of the soul of a living person, and that the causal relationship between the behaviour and the result is available. Also that the criminal behaviour in this crime can take place by the perpetrator using nuclear material or direct nuclear radiation to the victim., This can be by inhalation of the harmful nuclear material or by giving it orally, injecting, or spraying it so that the body absorbs it. The result causes poisoning, leading to death, and this may occur

directly, or the result may come in a weak effect, as the nuclear material may not show its effect immediately.

The crime of killing by using nuclear energy may be by mistake; such as the perpetrator committing a technical error as a result of negligence or lack of precaution, or failure to observe the regulations and instructions for nuclear installations, reactors and laboratories, resulting in a leakage of nuclear radiation. For example, that affects a person and leads to death, and the legislator did not treat a crime of wrongful killing using nuclear energy, and therefore it is imperative to refer to the text of Article 411 of the Iraqi Penal Code.

B - The Moral Pillar

The moral pillar of intentional murder with the use of nuclear energy is a general criminal intention consisting of knowledge and will. In this sense the perpetrator's will tends to achieve the facts of the crime and the knowledge of its crime is required by law. This means that the offender is aware that nuclear materials would lead to the death of the victim. It is fatal by nature, yet the will is directed to achieving the result, which is the death of the victim. This also requires that there is a special intention, which is the intention to kill, that is, the loss of the human spirit by means of nuclear materials. This means that the crime of murder requires the establishment of a special criminal intent besides general intent (Saleh, 2002, p. 50). As for the intention in the crime of manslaughter as a result of using nuclear energy, it is an unintentional mistake and lies in breaching the duties of caution, and caution imposed by the law; and the psychological relationship between the will of the perpetrator and the criminal result that actually occurred (Al-Qahwaji&Al-Shazly, 2003, p. 114).

2- Crimes Endangering the Safety of the Human Body Using Nuclear Energy

The subject of abuse in crimes that endanger the safety of the human body using nuclear energy is the right to the safety of the body. This safety means the body continues to perform its vital functions naturally and that it maintains its physical body, and is freed from physical pain (Al-Haydari, 2012, pp. 425-426). The act of abuse using nuclear energy may be represented by the perpetual disability of the victim or in other forms of abuse. This research is limited to the crime of causing permanent disability, as follows:

Elements of the crime of causing permanent disability with the use of nuclear energy

The Iraqi legislator handled the crime of causing permanent disability in Article 412/1 of the Penal Code and did not mention its occurrence by means of nuclear materials or as a result of using nuclear energy to cause permanent disability. The elements of the crime are as follows:

A- The Physical Pillar

According to Article 412 of the Penal Code, one of the forms of abuse stipulated is providing harmful material that leads to the occurrence of permanent disability and there is no doubt

that aggression using nuclear materials would lead to the occurrence of permanent disability. This is because it is considered a harmful material that leads to traces affecting the victim's body, or to the disruption of one or more functions of the body, or to the loss of one of senses. Subsequently this form of permanent disability leads to loss or weakness of the senses permanently (Al-Hadithi, 1996, p. 119). Such as someone who loses their eyesight as a result of exposure to nuclear radiation or loses the sense of smell as a result of inhaling substances or nuclear or skin illness that cannot be cured.

B- Moral Pillar

In order for the perpetrator to be responsible for the attack with the intention of causing permanent disability using energy or a nuclear material, there must be criminal intent and it is sufficient to achieve this element of the perpetrator's act of aggression knowingly and willingly. This will cause permanent disability to the victim using nuclear material and to know that nuclear material would cause permanent impairment, yet the will is directed to commit the act.

Second Section

Crime of Attacking the Environment Using Nuclear Energy

The environment in its general sense is the medium or place where humans and other living and non-living organisms live (Salama, No Year of Printing, p. 7). The definition is by the Law on the Protection and Improvement of the Environment No. (27) Of 2009 as the surrounding environment in which organisms live and the effects of human economic, social and cultural activities¹⁰. Radiation generated by nuclear energy, nuclear fuel and hazardous waste due to its use is one of the most important sources of environmental pollution in places where these plants or nuclear reactors produce nuclear energy. Radioactive pollution leads to an increase in the rate of radioactivity above the scientifically permitted limits, affecting the elements of nature, such as water, air and soil, and harming human health (Kashkosh, 1996, p. 95). The crime of deliberately polluting the environment is the following :

1-Physical Pillar

The physical pillar is the criminal conduct practiced by the offender, under which the environment, whether air, water or soil, is attacked using nuclear materials, causing radioactive contamination, whether by dumping nuclear material, leaking harmful nuclear radiation into the air, dumping nuclear fuel, dumping nuclear waste into the soil or water, whether this act is positive or negative, and the perpetrator's action will increase the radioactive activity of radioactive materials in the air, soil or water environment. The Iraqi legislator has prevented the transfer, circulation, introduction, introduction, burial, storage or disposal of hazardous or radioactive waste except by using environmentally sound methods and obtaining official approvals in accordance with instructions issued by the Minister in

coordination with the relevant authority¹¹, and imposed in Article 35 of the same law. The penalty of imprisonment for violating the provisions of paragraph 20 of article 20 above, and the obligation of the violator to return hazardous or radioactive materials or wastes to their originator or dispose of them in a safe manner with compensation.

2-Moral Pillar

The moral element in the crime of attacking the environment using nuclear energy takes the form of general criminal intent, where it is achieved by the availability of knowledge of the perpetrator that they are dumping nuclear materials, hazardous radioactive materials or nuclear waste and leaking them with soil or water, or leaking nuclear radiation into the air, despite knowledge of its seriousness, radiation impact and its ability to damage and deliberately release it contrary to the law, and will is discharged without being forced to commit the act.

A-The Conclusions

There is no doubt that research on nuclear crimes in the peaceful field will eventually produce a number of conclusions and recommendations .

Conclusions

- 1-Nuclear crimes have not been dealt with by the Iraqi legislature in the penal code or in laws on nuclear legislation
- 2- The nuclear crime in general is defined as, an act of criminal will, for which the law shall be punished for violating a right or interest worthy of protection.
- 3- Nuclear crime has characteristics that distinguish it from other crimes and is considered to be both a crime of danger and harm, in addition to being a crime that goes beyond the principle of territoriality .
- 4-Nuclear crimes committed in the peaceful field range from crimes of attacking the components of nuclear energy to attacking others or the environment using nuclear energy or one of its materials.

B- Suggestions

- 1-We propose that legislation be passed on nuclear legislation that contains a statement of crimes and acts that may be committed against the law and cause harm to every vested interest protected by the law.
- 2-The commission of the crime using nuclear energy should be considered as an aggravating circumstance because of the seriousness of the means used in the commission of the crime, namely nuclear energy.



3-Amending the current penal code by introducing nuclear crimes in its provisions to address the current deficiency in the law

Margins

1. This is matched by the text of Article 16/1 of the UAE Federal Penal Code No. 3 of 1987, and Article 1 of the amended Egyptian Penal Code No. 58 of 1937.
2. Article 9 of the Iraqi Penal Code No. 111 of 1969, as amended
3. Article 10 of the amended Iraqi Penal Code
4. Articles 7 and 8 of the revised Iraqi Penal Code
5. Article 8 of the Physical Protection of Nuclear Material Convention of 1980 states: (1) Each State Party shall take the necessary measures to establish its jurisdiction over the crimes set forth in Article 7 in the following cases: (a) When the crime is committed in the territory of that State or on board A ship or aircraft registered in that country (b) when the person accused of the crime is a national of that country.
6. Article 7, Paragraph 1 of the Law on the Protection of Ionizing Radiation No. (80) of The Iraqi 1971, and Article 21 of Law No. 59 of 1960 regarding the regulation of the work of Egyptian ionizing radiation.
7. Consider paragraph 1 of Article 8 of the Law on Protection from Ionizing Radiation No. 80 of 1971 of Iraq, and Article 43 of Law No. 4 of 1994 issuing a law in the matter of the Egyptian environment.
8. Article 33/1 of the Iraqi Penal Code, and it is offset by Article 38/1 of the UAE Penal Code.
9. Embezzlement is the removal of something from the victim's possession and placing it in another possession, for more illustration look: (Al-Saifi), without a year of publication, p. 92
10. Article 1 / Fifth of the Iraqi Environmental Protection and Improvement Law No. 27 of 2009, and Article 1/1 of the Egyptian Environmental Law No. 4 of 1994 amended.
11. Article 20 / second

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