

## Civil liability for damage caused by nuclear radiation in Iran law and Jurisprudence<sup>1</sup>

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**Abstract:** It is obvious that using Atomic Energy due to the limited fossil reserves such as oil and gas for all countries, (both developed and developing) is necessary and inevitable. This research will study the effects of nuclear radiation on humans and the environment around them in 1- Overview of Nuclear Research, 2-Islamic jurisprudence foundations of legal rights and responsibilities of civil nuclear damages, 3- compensation of damages for in civil liability law and Islamic jurisprudence, 4- The effects and responsibilities for damages resulting from radiation, 5-Iran Nuclear discipline and Conclusions and will present legal suggestions.

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### 1. Introduction

In 16 July 1945 atomic age began in America and in the human history the uranium-235 atoms are split and its energy was used in medicine, industry, agriculture and scientific research. After a rapid decrease in fossil fuel reserves of coal, oil, gas and increasing prices, many nuclear reactors for electric power generation plants were built in the world. With the proliferation of sources of ionizing radiation as well as radioactive precipitation resulting from nuclear weapons tests and increased risk of human contact with them which has dangerous effects on the human health. Radioactive radiation was induced changes that occur within the atom and invert into the other atom and these changes will continue till the last atom it becomes non-radioactive. The discovery of nuclear energy has produced volumes of left-radioactive nuclear from industries, submarines, satellites and nuclear weapons.

A significant effort of scientists in developed societies revolves around reducing greenhouse gas emissions and protects the environment and every year or every few months a conference will be established on this subject by international organizations and associations.

Carbon monoxide is produced from fossil fuels is Major contributor for greenhouse gases and temperature of the surrounding atmosphere and air pollution in urban and industrial areas so that the good solution should be providing clean energy, including nuclear energy. To avoid the adverse effects of producing this valuable energy it is necessary to adopt specific rules on civil liability and criminal law in order to produce a set of constraints to perpetrators of such damages. The solution should provide clean energy, including nuclear energy search.

### A. Expressed concern

When a nuclear accident occurs, it leaves the personal and generational effects. Each of these effects can cause the material and spiritual damage. Compensation of moral and material damages of personal effects in Iran's civil liability is obvious but in relation to the generational effects of nuclear accidents, as they are not identified during a specified time and at the moment of accidents, the accumulation of damages in civil liability will be uncertain and therefore the civil liability principles (the ability to determine the losses) is not certain and it is doubtful if damages resulting from the generation of nuclear radiation accident is compensable? Due to the general legal rights that every damage must not be remained Uncompensated, the generation damages that are affected by the length of specified time shall be able to be compensated.

#### a. Nuclear Radiation Damages

In this section we will study the three types of nuclear radiation and the effects of this radiation and the effects of a nuclear bomb are studied.

#### b. The Nuclear Radiation Kinds

Elements of a material are light or heavy, and the desire for stability exists in all elements. The Heavy metals are stable for the amount of mass to lose. The loss by radiation is carried out (Nowin, 1385, 24). These radiations are very dangerous and are distributed as soon as it is once ionized, the material is spread all over and also during the nuclear explosion numerous radiations will spread. These radiations are Alpha, beta, gamma and neutron.

1- Alpha, who have little leverage to achieve a sheet of paper or cloth or skin stops,

2- Beta, the particles are more penetrating than alpha particles with a smaller range and to achieve a

metal plate with a thickness of more than three millimeters stops

3- Gama has a lot of power with high-leverage influence and destructive damage radiation which half of it influences a 15 layer of concrete or a 20 cm soil layer, and just this half of the beam leaves its harmful effects.

4- Neutron has high and very harmful range of influence and is enormously destructive. Neutron is particle and gamma is ray and Neutron deleterious effects on living things are more than on other things. (Kazemi, 1388, 30 to 31).

### **B. Effects of Atomic Radiation**

There are both natural and artificial radioactive materials. Some ionizing radiation, such as gamma and X-rays are electromagnetic, while others use ionizing radiation, such as alpha particles, beta particles, neutrons and protons have very high travel speeds. The core of the fissile uranium or plutonium is split into many pieces, many of these particles are unstable and quickly destroyed, and within seconds a large amount of gamma rays are produced. It can pass through air and the tissue layers to create lesions in deep tissues. Beta particles are able to penetrate more and are very dangerous to human health. The ionization radiation from radioactive materials containing ions in the air, gas and live tissues is directly related to the ability of ionization radiation. Due to ionization radiation this property will damage living cells more.

These effects can be divided into two categories, personal and generational. Personal effects are limited to the generation of living organisms, while appearing in future generations

#### 1-Generation effects

Germ cell gene mutation rate changes are basis of Generational effects of radiation. Any change in the genetic mutation is detrimental. The US National Institute of Radiation Protection knows genetically relationship between dose and its effect as the line effects that any amount of radiation and radioactive materials is harmful to humans and geneticists generally agree that:

1- 1-Any amount of these radiations is harmful and it is not necessary that ionizing radiation be greater than the threshold to produce harmful effects,

2- 1- Most of cells damages are irreversible ,

3- 1- Unusual variation (changes )on children whose parents on have been exposed to radioactive radiation are the result of DNA damage,

4- 1- In general, mutations will led to shortening the life period , increased susceptibility to diseases , reduced fertility and usually has worn and indistinguishable effects,

#### 2-Personal effects

Acute effects of radioactive radiation, due to exposure to high levels of radiation happen in a short

time, such as accidents resulting from defects in nuclear reactors and nuclear explosions.

Since the radiation from radioactive materials, ionize substances and living bodies are made up of different chemical substances, will harm seriously and its deep engrossed in a certain time depends on the amount of energy and cellular damage Sensitive tissues, such as bone marrow, ovaries and testes is higher fascinated the radiation. Radioactive materials enter the body in different ways; Such as inhaled radioactive particles suspended in the air, eating contaminated food, absorption through the skin and enter through wounds or skin abrasion. Then proportional to the energy and its half-life, destruct the body tissues. In addition to the release of radioactive there are risks of chemical toxicity as dust, visible smoke metal or smoke fog. Any radioactive contaminant from entering the body is placed in a particular organ .Excretion rate also depends on the nature of chemical and radioactive isotopes. Contaminations of ground and surface, ground and underground water are the results of uranium mining and production processes, uncontrolled disposal of nuclear waste from nuclear reactors and military industrial pollutants, which is associated with long-term injuries. Gradual penetration of radium-226 to the streams and rivers and its entry into the food chain, changes in blood composition will cause blood cancer and bone deformity. Nuclear Contamination may be the result of Nuclear tests the lack of safety of nuclear reactors, nuclear waste disposal and industrial waste, and radiation-induced addition of devices that are used in laboratories or radiology's which totally affected on human health, plants and animals. A way of entry of radioactive materials into the environment and food chain is nuclear explosion examinations on land or in the seas. An explosion caused by nuclear tests will have risks for people, agriculture, livestock, land, space and human resources.

Serious consequences of the spread of radioactive particles in the atmosphere, in addition to environmental pollution are health and the generation of sperm damages. Each of fissile uranium or plutonium nucleus is divided into many parts and this process is called "fission". Many of these particles are unstable and quickly vanish within seconds and produce large amounts of gamma rays. The amount of irradiation that is produced is measured in units of RAM. One percent of ram of radioactive radiation will cause disease and one of thousands ram in radiation therapy destroys any hope of cure. Protection of natural ecosystems suggests that radiation from nuclear activities is investigated and precise identification and protection of human beings against nuclear radiation guaranteed. Limiting the amount of radiation and lowering it in necessary terms reveals the fact that all

non-human organisms and ecosystems should be protected. (Hossaini, 115,1381).

### C) Effects of a Nuclear Bomb

1- Extreme heat, 2-High pressure which cause explosion and destruction 3- Radioactive materials

The explosion of nuclear bombs is divided into five parts:

1- Evaporation Zone 2-Zone of total destruction and severe damage 3-Severe damage in the area of severe blast of heat 4- Severe blast damage zone 5- Severe wind and fire damage zone

In the evaporation zone temperature will arise to three hundred million degrees centigrade which causes everything from metal to human and animal, not fire but steam, an instance of it is the United States crime in Hiroshima and Nagasaki. The harmful effects of the blast radius will effect to fifty kilometers or so and blast wave that carries a lot of energy can covert advanced electronic devices such as satellites and communication systems which cost millions of dollars into a handful of scrap metal and ruin all of them.

These are apparent and immediate effects of nuclear bombs. After long years of blast and radioactive radiation's living organisms in areas near the explosion hurt and can't live.

Radioactive beam of radiation, alpha, beta, gamma and neutron radiation is formed. Although alpha radiation has little influence on living tissues, but it is very dangerous and can penetrate only less than 100 micron but it is devastating.

Gamma rays crossed from the stone and wall. Each 9 mm lead or 25 m Air is halving Gamma's light intensity. Due to very high frequency radiation of this ray has high energy and if hits the human body it will cross the cell structure and in its path cause degradation of deoxy (DNA) and nucleic acid interference and finally provide even emergence of cancer, syndromes and other incurable defects which will be passed on to future generations. To avoid the influence of gamma radiation on the wall about 10 cm of lead is required.

In the nuclear bomb explosion, considerable amount of radioactive fission are produced and dispersed. The material is then transported by the wind to other parts of the world and fall from the atmosphere by rain and snow. Some radioactive materials have long Life expectancy; it is absorbed by plant, and eaten by people and animals. It turns out that these radioactive materials are detrimental genetic effects and physical effects.

In addition to the accidents of nuclear bombs the Fukushima accident showed that nuclear power plants are resistant to earthquakes, but tsunamis can be a serious threat for them. In the Tohoku earthquake in Japan in winter 2011 (1389) Fukushima nuclear power reactors were shut down automatically, but the main problem was the tsunami waves that disabled the

backup generators and turned down the reactor cooling system. Excessive heating of these reactors ruined parts of the plant and released radioactive material into the surrounding area.

### D- Civil liability and its Components

Responsibility literally means; "question", "has been questioned" and "the concept of separation of duties" (Amid1375·95) and in term means;" the legal obligation of a person for compensating the loss of another which is caused by his fault or his activities. In Islamic jurisprudence it is meant as"responsibility"and the person who is obliged for a loss is called "responsible".(Jafar Langroody,642,1346) Civil liability is the obligation and commitments of a person, for compensation of damages to the other persons, regardless whether this loss is caused by that person's actions or by his properties or owners.

In civil law, damage and proved causation are conditions for liability and the person's intention of doing this harm is ignored. (Taghizadeh and Hashemi, Bita, 12 to 16).

Elements of civil liability are harm, harmful act, Causation (between harmful and harmless procedure.) (Barykloo, 1385, 60). These three conditions can be called the fixed liability condition, as it is necessary to fulfill the responsibilities.

Responsibility also has a variable component that is the fault. In most legal systems, the responsibility rests primarily on the basis of fault. However, if the public interests demand, the legislator for compensating the illicit loss or danger to others can create the responsibility of no fault. But as the principle of liability is based on fault, wherever there is doubt in responsibility, we can cite to responsible based on fault, and for providing the liability, it is necessary to prove the fault of culprit, as it is the basis of responsibility and plays an essential role in the proof of Causation (Ghasem Zadeh, 72, 1387)

### E- Legal and Jurisprudence Basis of Nuclear Damages Liability

This section contains three subsections. First the jurisprudence basis of nuclear damages, second part is the legal basis of civil liability of nuclear damage and the third part is the international responsibilities basics for nuclear damages.

In circumstantial evidence of responsibility basically due to general and evidence rules the Lawsuit usually must prove the loss and that is hardly possible .The legislature may, according to the burden of proof, contrary claimed that the other party's duty is to prove that the evidence allegedly responsible (Hekmatnia,284,1386).In the assumption of responsibility, sometimes, in some cases, it is a difficult task to prove correlation between the loss and damage and perhaps sometimes not possible, so the legislator will assume the guilt. The difference between

"assume responsibility" with "absolute liability" is that; In "absolute liability" a person may be known not guilty as he proves that the force major is the reason of loss but if we suppose the person is responsible whether his fault proved or not (Katoozian, 1386-361)

But in Strict liability in cases such as illegal logging rights and interests of the injured party or the property of others is not required to prove the guilt and the loss operator deemed responsible (Badini, 1384, 218). Dr. Katoozian had used "absolute liability and liability in one sense in his book (Consistory, 1386, 307). Dr. Safaei also known objective liability as the acceptable theory in Islamic jurisprudence and used these words in the same meaning. (Safai, 1375, 248)

Absolute liability means liability to the presence or absence of absolute guilt of the person who is responsible and has to compensate the damage unless it is proved that he is not guilty and the concept of responsibility or the pure means to be responsible without proving fault.

Upon the strict liability with assuming guilt should be said in assumed liability if blamed proves his innocence or proves the cause of the incident and delivered losses is Force Majeure and unpredictable external and non-waste events has been absolved of responsibility, While in charge of strict liability, only if the losses proves the cause of loss is force majeure has been absolved of responsibility And even if proven innocent himself, will have no effect on his responsibility and warrant liable.

a. proposed theories on civil liability for nuclear damage in Islamic jurisprudence

Liability in jurisprudence has been raised as "Responsibility" ". Here the theories of "danger", "fault" will be discussed. In these theories liability may be due to waste which is equivalent to not guilty or cause which lies on failure. Where directed by Imam Khomeini (RA) in tahrir olvasileh had stated that responsibility has two reasons, "destroy and cause" (Mousavi Khomeini 0.1408, 2:68). Most Shieh leaders, stated that basis of responsibility is one of the destruction or cause.

Sheikh Tusi in Almabsout and Ebn edrys in Srayr, infections caused by the prohibited act, known as responsible basis and infection caused by a lawful act will cause, lake of adults responsibility (Shaykh Tusi, unique , 102, Ibn Idris, 1410, 494) and Alameh , in tazkareh, knew lack of violence and the spread allowance of good act as the basis responsibility and irresponsibility. (Allameh Helli, 1420, 376).

Shahid Sani in Masalek was talking of "Wastage as the reason of destruction" and "Causality cause responsibility" (Shahid sani, 166, 1367). Saheb Javaher and Maraghi knows "the waste and loss" as the reasons for responsibilities and mutually Mohaghegh Ardabili. There was consensus among jurists about the reason of

responsibility to introduce causality (Najafi, 43, 121 7:59, Modares, 129, 1408, Alhosaini Almaraghi, :355, 1417, Ardabili, 10:502, 1402) In the following will disuse the Shieh consideration basis of liability in Islamic jurisprudence.

### **Theory of Dissipation (waste)**

Based on the common theory in jurisprudence which is called Waste rule, who is wasting everyone else's property is responsible for compensation. In the view of some jurists adhering to the principle of rational and obvious vote (Almaraghi, 2:434, 1417). Saheb javaher says if we do not know this is necessary definitely consensus about the implications will be obtained (Najafi.37:46). Some jurists do not narrate this theory and considered it as an awareness rule altogether (Mousavi Khoei, 1:525, 1417). However, due to Alameh Helli interpretation, whoever makes loss to others is responsible and must compensate it. The late Mohaghegh Damad knows this term as authoritative interpreter (Amoli, 432, 1413). Contarary, Saheb javaher didn't believe it as an authoritative interpreter term and said it was just a famous rule in the language of jurists (Najafi, 31:91, 36:156, 432).

The most important document for loss rule is narrations to ensure the person's responsibility who is the indirect cause of damage. Abi al saleh narrated from Imam Sadegh peace be upon him: "Everyone who harm Muslims is responsible and must compensate it" (Alhossain Maraghi, 2:45, 1417).

### **The concept of property**

Since in waste rule, the term of "other's property" "is stated, it is necessary first to examine the property and see if it consists of the financial property damage or also encompasses spiritual damages. In definition of property, it is stated something that is owned by a person and people is paying for and keep it. Some jurists consider money as something that would interest people. (Mousavi Al Khomeini 1363.1: 323). Interest means, value and represents the tendency of people to have it. Property as needs means something that meets the needs of people and they use it. Property has been defined as something that meet the requirements of people who belongs to, what is acceptable and desirable and be involved in people's livelihood such as eating and drinking and what human needs, directly or indirectly to relieve (Bojnordi, 2:21).

Some knew the capability of exploiting as the main constituting element and its essential concept and its being considered as a possible access and their ability to operate, maintain and make available. For example, we utilize the sun's light and heat and we use from the sun as much as we need. Today continuous changes in capacity utilization provide the property development (Amid-Zanjani 1382, 115).

Accordingly, we can say that the term "property" means and includes the benefits and is not specialized

to objects and consists all man requires, is influenced directly or indirectly on the health, growth and its physical integrity and ability to exploit it.

Therefore, wasting property and its examples will bring civil responsibility and liability and if we do not know them as parts of the property, surely this wasting will be subject to liability and civil liability.

But some believes according to the waste rule, the common phrase "losing other's property" brings responsibility and property specialized to external subjects and financial loss (Hakim, 3). It can only mean a waste of wealth and is usually used to prove liability in damages and lost property will be invoked with regard to the rules and standards of reason and evidence to this loss. Generally who causes harm to anyone in any way has to provide a guarantee for damages and losses recovery to the general concept and includes all the losses (financial and spiritual). On the other hand by adhering to the principle of those responsibility rule, jurists have accepted liability for any loss resulting by doctors, cupping, veterinarian in medical waste such as physical injury, loss of life and injury to person or animal (Tabataba'ii yazdi, 1409, 2: 507; Alkhomy'ny Mousavi, AH 1408, 2: 560).

Therefore, the waste(loss) rule not only is governing on the financial losses and waste, but also on the needs wasted and the loss of intellectual property as it is inferred, the provisions of this rule is that whoever caused the damage to someone else's property, interests, life, honor, dignity, or any other right surely is obliged to recover it. Jurists in proving liability in cases of loss of property, rights, interests, or defect of manslaughter, injury are used to invoke the principle of waste rule (Maraghi, AH 1417, 2: 434). Accordingly, in Islam as the money is respected, life, health, physical integrity and rights of all persons must be respected, and even the less in the cases of any kind of damage, the agent must somehow compensate it.

#### **Theory causation**

According to this theory, anyone causing property damage or destruction shall deal of responsibility. So, proving causation relationship is very important. The idea of risk-based on guilt, it is important to prove the reason of the loss or damage. This idea in the current law in many countries is accepted for full compensation, but it is not an immediate and proper theory in scope of nuclear damage, because in most cases related to nuclear damage, gathering causation documents will face many challenges. Shiite jurists have criticized the theory. Such a rule wouldn't be withdrawn from diverse traditions on Sahb javahr believes such a rule wouldn't be withdrawn from diverse traditions Sahb javahr says that cause of civil liability is loss, not the reason and in the absence of dissipation, just with the abolition of property, civil liability in cases of infection in similar criteria and

standards is supposed. (Najafi, B., 550, and 541: 37; 34:97) Some jurists also confirm the origin of waste for liability merely realized "customary losses" as the basis of responsibility (Alhosaini Almaraghi, 2:68, 1417). Of course Some jurists have considered the norm "causation" rule independently. For example late Bojnordi noted about the rule of independence fairly and that narrate that "fairness "means; any action from liberty granted and resulted in the Muslim property loss or injury or death and there was no gap between the act and the waste generated from liberty and wise doer, this person is liable (Makarem Shirazi, 435, 1411; Shahid Sadr, 4:319, 1400).

#### **Theory of assault and negligence**

Assault and negligence liability are two common issues that the jurists have used for coercive liability. Some jurists mentioned these two titles the "rule of liability for assault and negligence" (Hosseini Ameli, 60-54: 21, 1419).

Of course, this term in Islamic jurisprudence debates about "trustee responsibility" has been introduced. Trustee in term of assault and negligence is responsible even if this damage is not invoked to his action documentary. The principle of assault and negligence and the rule by going to waste has an essential difference, the main difference is, that responsibility here is both the liability of the waste intentionally or without intention, even for the private use of the property in a manner that would cause injurious to others; they called here negligence rule infringed and going to lose. Such as the person who made fire in his home, but the fire infects and damages the neighbor house. Other example of assault or negligence theory, happens in using common public places like the use of public roads or parks and green spaces.

#### **Theory of loss**

This theory that emphasizes on traditional loss provisions says; the legislator has laid no harmful rule in Islam, was the founder of Islam. Accordingly it is not permitted to harm or hurt others. The nuclear contamination and humanity destroy to nature and natural resources are the clearest examples to harm of others (public and private) that Islam has categorically rejected it. Late Maraghi has tried to prove the liability by this narration, in his point. Of view the narrations of no loss is an ordering sentence and indicates prohibitions. So if there is a loss only to be sentenced to spend the infliction of harm will not sufficient and shall introduce a way for compensating this loss (Alhossain Maraghi, 113, 1417).

If someone prisoned an animal and its child died, in this case may not be referred to the presumption of innocent. But in this case the rule of no loss and no damage is used (Fazel Tony, 193-194, 1412).

There is also competing theory which is known as "overcome rule" and is opposite the rule of loss. But in nuclear radiation damages, the rule of loss will be governed. In short, the civil liability based on the rule of loss and the Islamic legislator is not satisfied with others disadvantages, so this responsibility is absolute liability. This expression means there is a belief in the guilt and as far as you can compensate your damage by using the waste rule, it is necessary to obey it otherwise the rule of no loss will be cited, therefore, if in some cases the reason of damage or loss is investigated, it doesn't mean responsibility for fault, and reason of fault will be used for clearing the relations of causes the loss. Therefore the content of the legal rules indicate the liability is absolute or objective for operating loss.

#### **b. Basis of Jurisprudence civil liability for nuclear damages**

After expressing new ideas in the foundations of civil liability, now must consider the liability are to be seen in Islamic Jurisprudence is based on which of the above theories. In the ocean of Shiite jurisprudence, no single theory can be explained, because according to the case, the basis of responsibility will be changed. What may be briefly stated is in Imam Jurisprudence, civil liability also divides into two kinds: "coercive" and "formal". In contractual liability we don't faced with a particular problem, and in such cases jurisprudence accepts liability on lost property which its origin can be contractual or lawful or the common law (Vahdaty Shabbir, 1385, 203), but the Compulsory civil liability basis in jurisprudence can be stated: Sometimes the reason of responsibility is waste, for example when a person made a gutter or a hole in the Muslim way, or pound his horse's bridle nail or dug a well in the way (path) of Muslim and someone drop it and hurts, the sponsor is liable (Hor e Ameli, 11, 1409 and Najafi, 42: 120).

The difference between causes of loss and loss must consider in loss, damage or harm will happened directly and in cause, harm is imported indirectly if there was no reason or cause, there would be no loss or harm, here the loss will happened by the doer action like digging well. Sometimes the responsibility is based on the guilt and doer must guaranty the loss. Shepherd deemed to be guarantor as committed harm to sheep by his fault in the case of sleeping or unawareness of sheep and take them to a path that hurt them. Sometimes the liability is absolute liability, means it is not necessary to prove fault. If a veterinarian has to cure an animal medically and do veterinary surgeon and don't take permission for it, in case of death or hurt, he is liable and has to compensate. However, here, it may be said, unskilled practitioner must be considered but in absolute liability skill or proficiency plays no role and even if the veterinarian was skillful and had no fault, he is

responsible. Sometimes responsibility is based on abuse or negligence. Late Alameh Heli; maintained that if in a bathroom, its lord obeys all rules for health and safety compliance will not be guaranteed (Najafi, 2:331). Sometimes liability is based on fault. It means the fault is assumed as an evidence established, but the doer has the right to prove that he is innocent and has no fault, despite the absolute responsibility (without proof of fault), not to detriment the loss agent the right prove that he is not guilty. Mohagh e Sani has the claim of consensus and industrialists' alleged launderer and artisans are in charge even if they prove their innocence. Among the reasons for the rule of fault (not absolute liability) is proposed, he is due to what stated of Imam Sadiq (AS) asked about dyeing who was assigned to the dress, and dyer claims that the clothes of garments has been stolen. Imam (AS) said unless the dyer proves that cloth has been stolen, he is innocent, if all the clothes have been stolen and he is innocent.

The words of the late Sheikh Mofid and Seyed Morteza Sayyed Mortaza is helpful and so obtained the business owners are considered guilty unless he proves he is not guilty.

Anyone practicing medicine or treating human and animal, the owner must first obtain from the permission to be innocent otherwise in the event of a loss, will be sponsor. Late expression of the gold in this area is also possible to verify this claim, the claim of consensus has been outlined.

It is noteworthy that the ideas according to waste rule and the liability based on fault delineates the major responsibility and the causes theory that is based on the risk of the portion of the loss, are new ones and in cases it is impossible to prove fault or guilt, absolute liability will be used regardless of the

#### **c. Choosing the best basis**

Considering the importance of harm to humans and the living creatures, should be carefully and seriously recognize the responsible person, it seems with absolute liability to find loss responsible legally. The narrations which confirm this opinion are as follows;

In Islamic law, as impermissible harms can be attributed to a person commonly, he will be responsible and must ensure compensation status of the physical and spiritual harms, even where fault is the basis of liability, this concept has a criteria of judgment aspect in common. If a trustee commits an act which is considered normally is found negligence liability. Islamic jurists haven't followed a single principle in all problems of. For example, in order to establish causes liability typically, it is necessary to prove that the other party has done something improper and it is not necessary to prove fault.

These differences show that in the context of civil liability, the jurists to real justice respect for the

principles of fairness and real justice more than logic. It is necessary to accept absolute liability as the basis of responsibility and revised all social relations on this basis. It is not necessary to ignore of fault and guilt and all deliberately build on established physical relationship between the act and the harm. (katoozian, 1386, 98)

Apart from all jurisprudence narrations about contractual and enforceable liability, sometimes, due to importance of damage subject, legislators in order to have a safe social accept absolute responsibility. Now if we don't consider the importance of damage to the environment that deals with the lives of thousands of living people less than the damage to the cloth in laundry, accepting the absolute liability for Nuclear damages and losses is fair and justice.

#### **F- Legal Basis for Civil liability in Nuclear Damages**

In civil liability law in Iran, several theories are stated that each of them is based on a special philosophy. Here we will talk about important theories on loss in civil liability law then investigate the civil liability of nuclear damage in civil law and finally will propose the best choice for these damages.

##### **a. Theories of civil liability in respect of nuclear damage in law**

In the law world liability is legal duty to eliminate harm effects to another person (Darabpoor, 23, 1387) and the principles of civil liability have been the subject of numerous theories which each based on a particular philosophy and its specifications. These theories especially in internal civil law are based on three traditional, new and midrate ideas which are based on the danger and fault theories are examined based on the civil rights and is noteworthy as the fundamentals of nuclear damage liability. Here we will propose the best and most suitable choice for nuclear damages and losses.

##### **Theory of fault,**

This theory is the most traditional theories of liability. Accordingly no damages can be claimed unless the guilt of doer the damage can be proved. Therefore, if the injured party can prove that the loss is from doer's fault, he may be responsible for consistory (katoozian, 14, 1371). This theory which is almost common in Iran's regime of civil liability law and most legal systems such as French laws and is away from principles and philosophy of nuclear damages law. Upon articles 1382 and 1383 French Nuclear Damage rights, claiming for damages and proof of loss is due to the fault of doer the loss (Priour, 921, 2004). Although theory of fault in causality relations and establishing damage to the doer plays good role, but it cannot be a comprehensive basis (Uliescu, 1993, 382). In fact accepting this theory make compensating nuclear damage difficult because proving fault and guilty person due to the nature of nuclear damage numerous

nuclear plurality plants and polluters is very difficult (Babaei Moghadam, 53, 1385).

##### **Theory of Danger**

This theory is proposed by two lawyers, Zhosaran and Sally and improved. Risk (danger) theory means everyone who starts a working (or benefit from it) will cause a dangerous environment for others and whoever take benefit of this job must compensate its damages (katouzian, 14, 1371). Therefore, the civil responsibilities of nuclear damages on this theory doesn't required to prove guilt of contaminator and as soon as a person starts an action which have benefits for him and causes damages and harms for others life or environment, is liable and must compensate its remedy even if he was guilty or not. This theory is called also the benefit risk and the theory of the allocation of risk in turn, benefit to. Today this theory, a theory for nuclear damage compensation can play an important role in strengthening the protection of human health and the environment. In fact, contaminating the environment, based on the theory has objective responsibility for nuclear damage. Although this theory seems to be appropriate for human and his environment but many economic (risk activities) and social (reduction in social motivation) aspects especially in terms of economic and industrial activities have been criticized.

##### **Theories of mixed**

These theories of guilt and danger (risk) are two common theories with their own principles and their arguments. However, it should be noted that there are intermediate views that interface to control and interact with the two previous comments are presented.

##### **Theory assumes guilt**

This in fact modifies the theory of guilt and danger. That means it is not so difficult to prove doer's guilt and not so easy like risk theory. In this theory fault has been accepted as the basis with an essential adjustment. It is assumed that the cause of nuclear damage is liable but should provide evidence to free him from the burden of responsibility. (Mohammad Haitham, 2004, 11 to 14). In fact the internal logic of this theory is fault assumption theory, represents the displacement of claim with defendant. That is not the injured party duty to prove defendant fault or guilt for the pollution and defendant must prove the guilt factor. On this basis the defendant is assumed guilty unless he proves by presenting reasons that had no role in causing damage. In this theory supporting the aggrieved is assumed the principle.

##### **Unusual business theory**

According to this theory an irregular and unusual act is the causes of responsibility for compensation. So if legal action which is called conventional in jurisprudence is done and caused any damage only if the person is proven guilty sentenced to compensate.

This theory has been criticized very much such what is irregular action and how can recognize it? If it means negligence it is the same as fault (guilt) theory. is actually nothing but repeat this theory is not a theory of guilt. In international law this theory is very similar to error theory in which the person will be responsible for actions that are forbidden in international Law.

#### **Theory of risk versus benefit**

This theory takes economic basis for justifying responsibility. In fact his personal responsibility faces with his benefits and taking advantage of it. Despite criticism there are for this theory due to expanding civil liability scopes, and for claim and defendant and its neutrality in responsibility, in the nuclear damages with environment economy, can play good role because most actions lead to losses for living environment.

#### **Theory of liability against dangerous objects**

This theory is used in place where dangerous objects are used (Mazo and Tonk, citing by Katoziyan, 16, 1371). This theory emphasizes on the kind of actin and also supporting a theory in the field of nuclear damage. Accordingly, a person who is using dangerous and harmful objects in his work is responsible for damages and harms to people and the environment. Here it is not necessary to prove fault or guilt. For example, manufacturers of chemicals, pollutants, industrial plants, etc. according to this theory have absolute responsibility. For example, in France environmental law by virtue of paragraph 1 of Article 1384 of the Civil Code in one case, liability without proof of fault is considered to the cause of harm and it is about the objects which cause damage to other objects such as cars and industrial plants (Prieur, 2004, 920).

#### **Theory of guaranteeing the right**

This theory was presented in France by Starck, unlike the proponents of the theory of guilt and danger, instead of looking for civil liability basis in the importer of loss to must find the responsibility basis in the injured party. Stark analysis this theory under individualism school impact and defended the right of individual person. This theory obliges others to ensure respect for the safety, health, life and the rights of others as well as theirs. According to Stark, in struggling between freedom and civil liability, freedom is precedence. Due to this theory, In order to ensure respect for the right to health, right to life and the environment right of people if someone causes nuclear damage shall be personally responsible for compensation even if he is not at fault. This theory can be found in the fields of jurisprudence. For example, one of the Islamic jurists in protecting of work liberties sentenced If in a blacksmith in his forging is working and a fire flares to a pedestrian 's clothing and is burning, the blacksmith is not liable because the blacksmith profession entailed in his forge to throw fire

flares( Morteza Ghasemzadeh,217,1387).On this basis in order to protect the rights and freedoms of workers, Many words can be found on the ground among the Islamic jurists who recognized and emphasized on the right of keeping order, the right to health, the right to security professionals and right of passers-by and etc.

#### **Civil liability basis for nuclear damage on Law**

Among the theories proposed as a basis for civil liability, the most important theory that the majority of Iranian and French lawyers believed in is fault theory. The theory that, it has been argued that fault theory suggests, except in exceptional cases the civil liability is based on the theory of fault. In subject of civil liability which is based on absolute liability fault factor has no place. Very soon, there should be a time that all damages will have to compensate by absolute responsibility and this theory will govern on fault principle (katoziyan, 240, 1371).

Compulsory Insurance of Motor Vehicles Act 1347, disregarding the theory of guilt was so high that within article 1 of this law the vehicle holders are absolutely responsible for driving accidents. The law seeks to establish absolute liability which is objective and don't let the defendant to prove the absence of fault. Compulsory motor vehicle insurance law reforms in 1387 also denied the involvement of force major for compensation and the defendant has to pay it absolutely.

Under sub section 2 of Article 4 of Mandatory Insurance Law; the insurer is obliged to fulfill the obligations stipulated in this law, without distinction of ex, religion, must pay the damage of insurance obligations. Excess of the amount designated by the court shall be considered as insurance events.

Legislation of the law on civil liability of owners of motor vehicles is an important step in proving Inability of guilt liability and evolution of absolute civil liability that comply with Islamic law and was commonplace basis of more than a thousand years ago. As prophet Jordan stated; "It is not necessary to emphasize the responsibility for playing the role of fault compensation which is not appropriate because objective responsibilities is indisputable superiority. Even liability based on fault, provoked criticism that tremble the civil liability system conversely (Jordan,23,1380).

#### **Choosing the appropriate basis**

According to the above discussions can understand:

- 1- Building a theory based of fault liability claim is not accepted by all lawyers.
- 2- Because there are deficiencies in the performance of the fault theory, today those believe it tend to the absolute liability theory which is basis of nuclear damages. Therefore basis of civil liability in Islamic jurisprudence is absolute liability that is raised

from no loss rule. None of these propounded theories can answer the core and essence of the law of nuclear damages and also absolute liability is the essential factor for loss factor. Approval motor vehicle insurance law, liability of owners of land motor vehicle is the best evidence

### **G- Compensation in Islamic jurisprudence**

One of the effects of civil liability is compensation that this part is devoted this important effect. In Islamic jurisprudence, compensation will be discussed in two sections. First we will talk of compensation or remedy and then we will investigate on compensation methods.

#### **Compensation**

The Necessity of compensation for the loss of life and property in Islamic law has never been in doubt. Even prohibition of this damage and the sanctity of life have been introduced as necessary basis on the principle of compensation (financial and human). For compensating the losses incurred and establishing a legal enforcement for protecting the physical integrity of human beings, Holy lawgiver determined a certain amount of property based on the severity and type of fatalities caused damage called "diyeh" that must be paid as compensation to the affected person or parents of deceased (in the case of death or injury) by the killer. In cases where compensation has not been determined, judge will rule and the remedy "diyeh" according to the severity of the damage and the value of the warrant will be issued. The importance and sensitivity of defendant's compensation is so much that if no specific guilty person determined, Holy lawgiver concerned the remedy must be compensated by the Muslim public financial and funds (Islamic government must pay) and in case of guilty compensation inability, his family and relatives should pay the remedy and in case of impossibility to compensate what he was obliged to make reparation, Islamic government must pay (Shaykh Tutsi, Almsvt, Alghsb book, 3:49, means Shia, book of Hajj, chapter 158).

In payments in excess of "diyeh" or insurance (as medical expenses and disablement) there are differences between contemporary jurists and most of them are disagree with it believe that compensation is fixed for all damages resulting from Local and bodily injury and losses be determined, and other mandated specifically for medical expenses are not concluded. In contrast, some jurists seem to believe the ability to compensate for losses in excess of insurance is possible and exist (Edriss, 353, 352, 1377)

#### **1 - Spiritual damages in legal texts**

In addition, in some verses the Holy Quran prohibits implied damages both material and spiritual, "the punishment of evil must be as bad as it is" (Verse 194 of Sura Al-Baqara) and So everyone who abuse the same way that you have infringed upon if he Highly

battle with the spiritual damage is assaults and the punishment of evil like the evil, And" If you punish criminals you have the punishment" (verse 126 of Surah Nahl). Some thoughts on the spiritual damage is highly battled and is thought that most of these verses as commandments expressed as retaliation and Dyat has been stated (Such as 178, 179 verses in Sura Al-Baqara verse 92 of Sura Nisa). These verses contain methods to compensate moral damage caused by crimes and atrocities on the persons mentioned. In the narrative texts there are and pointed to several point and narrations such as; 1- Zarareh narrated from Imam Baqir (as) on the case of Samoreh Jondab that also known as disadvantage rule (Sheykh Hore Ameli, 19:182, 1367). 2- Ibn Abi Ameer narrated from Imam Sadiq (as) about who causes a camel's escape and the rider's fall, the causer must compensate the material and spiritual remedies.(Sheykh Hore Ameli,19:182,1367).3-Abi Al Sabah kanani narrated from Imam sadegh(AS) that is narrated for responsibility to the harm,"everything causes harm and damage to muslims must be compensated"(Sheykh Hore Ameli, 17:341, 1367) About the spiritual damage it was refered to two events;

First event: after the conquest of Mecca, the Prophet peace be upon him for peaceful inviting people to Islam, sent troops to nearby Mecca, Khalid bin Walid to the tribe of Bani Khuzeimah. When khalid entered the tribe, they were armed, Khalid said; Mecca was conquered and its people have embraced Islam, Surrendered and put your guns down, they do so, but Khalid killed them all. When prophet was announced of this event,he raised his hands and said;my God ,I hate what Khaled had done. Then sent Imam Ali (P.O.h) to that tribe with great deal of property to compensate their remedies and pay the deaths diyeh. It was quoted that Imam Ali paid even their dog's food dishes price and paid some amount of properties to compensate the deaths families, in turn their frightened women or disturbed children, (for fear and spiritual harms)(Majlessi, 1:140).

Second event : There was a person name Samoreh Jandab, had a palm tree in the house of an Ansari man, every time Samoreh entered the Ansari house for overseeing his palm and do this continuesly without permission, And this hurt Ansari man and complained to Prophet. Prophet sent someone to samoreh and told him if you want to see your tree take permission, but Samoreh refused it ,Prophet ask him to sell his Palm and samoreh refused, Prophet suggested him to take two palm trees instead his tree again he refused. He was willing to give him ten palm instead of a palm but refused to deal. Prophet said, I will give you a tree in heaven instead and Samoreh didn't accept. Finally, said to Ansari man: Go,take off the tree and put in front of Samoreh till planted it wherever he wanted.

The purpose of explaining these two events is to express a general rule that spiritual compensation is rational as well as material compensations and Islamic religion not only didn't prohibited it, but also confirm the necessity for spiritual care and compensation. What was Samoreh and Ansari conflict was a kind of moral damage due to lack of permission to enter the home, the Ansari man can't tolerate it so that the Prophet(P.O.H). The issue of moral damages also mentioned in many religious books and some of them have been discussed and analyzed it. Khonsari one of late Naini students had written the meaning of loss. Loss is the death of everything that man possesses, whether the soul or the body or property, or any organs of body, before him, the late Abdul Maraghi( Maraghi , 417 BC - 98 ) Writes of instances of harassment of the loss is real and so is harmless . It isn't a correct claim that loss consists property or money and doesn't include the spiritual violation, and fairly it must consisted property and spiritual disadvantage. Ayatollah Makarem Shirazi explain "loss" as; loss is everything that we possess and benefit from the blessings of life or self or property (Ayatollah Makarem Shirazi , 1:55, 1411 AD)

## 2- The necessity of spiritual compensation

Some Islamic jurists interpret the rule of Loss that is the most important and famous rule in Islam believe the purpose of this rule is the great prophet statement of the in the event of aggression to the individual rights and family privacy and is one of the prophet' fellowships, the event is as follow: 1-The moral condemnation of the aggression and destructive acts against others (Almaraghi, 112,417m). 2- Emphasis on respecting and preserving human pride and refrain from acts violating the privacy of other's spiritual realm (Ansari, 327, 1375) 3- emphasized on the necessity to compensate any damage, whether material or spiritual damage for each person(AlMaraghi,11, 417M). In emphasizing on this rule, Bojnordi Moussaoui as an answer to the objection raised in the Samoreh Ben Jondab case instead punishment, ordered to cut the palm tree and throwing it out, stated that the Priority of Ansar rights to Samoreh right is based on the significance and importance of no harm rule in Islam that is a clear example of spiritual loss (Mousavi Bojnordi,1:63, 1391).

In addition to the above aspects that are considered as traditional reasons, there are rational legislator reasons for the necessity of compensation for moral and spiritual loss.

a. Comparing what is known as property in law science with what is related to the human dignity, honor and worth, concluded that these two categories are very different. Although the property is very valuable and highly important, but the human spirit and

mental is much more valuable just like a drop of water in an ocean.

b.The injuries to men from anthers (including mental, emotional, physical, and spiritual injury). This damage usually is more unchangeable than financial damage and evolution.

C. As more complex as social relationships become, will be growing stylized human spirit, on the other hand, further consideration of human dignity cause objection raised and more spiritual damage to people happened, The compensation of financial losses incurred by the parties is necessary to compensate for these losses through legal and legislative. if these losses didn't compensate will led to the nullification of the rights of injured victims and the aggressors will be more blunt .Because if in all situations or for all individuals compensation for property damages were not possible, moral damages to the people is necessary. If some people without the slightest concern to allow others to insult, slander, corrupt, they reveal the secrets of others, emotional alliances distort seduced by their children. Formation of moral corruption and spreading lies are common, usually due to low attention that the most legal authorities have, to provide effective sanctions for such damages, moral corruption grows. So the rights of society bind punishing those who violated the moral damages.

Experts in this field need to prepare for any spiritual damages potentialities as well as property losses. Here are two examples of legal analysis based on the rules of law which are very effective tools in finding legal provisions deal with this kind of damage;

### Citing to the no loss rule

The no loss rule in Islamic Law is very useful. The main aim of legislating this important rule is to provide grounds for compensation the individuals' damages especially the clear one spiritual damages. According the historic documentary, in Samoreh event, the great Islam Prophet (P.B.H) intended to prevent the invasion of personal privacy and family and command that to remove the tree from the root and derived this Muslim rule from it. As we know the palm tree owner, Szemere Ben Jondab abused of his ownership right and entered in the Ansar courtyard house on and on and caused defamatory family, at first the holy propht sought several advices and as samoreh didn't listen to these advices and insisted on bothering Ansar family, the holy prophet ordered digging of tree and drying the root of corruption moral (spiritual) damage.

### Citing to the no hardship rule

No hardship rule has the same concept as no harm or loss rule, this means anything that may cause stiffness or difficulty and hardship in Islam is negated. So as Ayatollah Marashi stated" ... it is clear that if a person causes physical or financial damage to someone else and doesn't compensate it, put that person into

narrowness and tightness massively. This is legally prohibited (Ayatollah Marashi, 19, 1370).

### **Methods of Compensations in Islamic Jurisprudence**

Compensation methods in Islamic jurisprudence and due to the different points of view in the payment Compensation in excess of “diyeh” there are different methods of compensations as follow;

1- Arsh, the amount of which is determined by the legislator and from person to another person or time and place in another time and place cannot be modified and is fix,

2- Treatment costs, these costs from person to person, time to time and place to place differ and the amount and extent of the injury must be proven to be compensated,

3- Pain and suffering damages (moral damages), resulting from injury to someone sense or organs shall be compensated, Hanbali jurists stated to the liability of loss.

4- Damage resulting from the loss of working benefit which is the injured loss of profit and payment of his job, from the beginning time of incident till his recovery and for death person from the time of injured and death till the time he may be alive and work. The document of this view is loss rule which emphasized on compensating any damage, loss or harm (Seraj, 158, 1414).

Although some Shiite jurist Interpreted “diyeh” (death or injury compensation in Islam) as Superseded of life and sense (Shahid Thani , 421). The rules of loss and absolute responsibility refer to the remedies of the loss of treatment costs, suffering and death, loss of benefits which ”diyeh” doesn’t compensate it. If “diyeh” assumed to compensate all damages of death or injury by paying it no other compensation can be paid. In addition to the considerable and significant amount of diyeh, it will consist all damages. Thus in Islamic jurisprudence “diyeh” is paid instead the total compensation for damages to the injured or victim’s family. Pay it no longer condemned to be injurious to bear losses on the basis of the above arguments. Because the compensation received by victims, but if the paid amount were less than the treatment costs, due to the applicable loss rule, by proving the excess amount of remedy with the treatment documents.

### **H- Effects of Civil Liability of damages caused by nuclear radiation**

The previous sections discussed about the fundamentals of civil liability, it means that if all the conditions are fulfilled for incurred losses in turn goes to the fundamentals of losses, the responsible persons will have to pay the compensations. Here the payable remedies and the amount of compensations will be discussed:

#### **Nuclear Radiation Damages’ Assessment**

The purposes of civil liability are compensation and restore the affected person to his previous state, but since it is not possible to restore the previous position due to their special nature, first must prevent the occurrence of such damages and in case of any event just the compensation of that damage can be paid. Preventable Nuclear Radiation damages means damages of lack of safety precautions. These losses are preventable and we can prevent from some terrible events like Chernobyl and on the other hand prevent unrelated individuals to access the facilities, equipment and nuclear materials. Or damages caused by the atomic bombs that should be prevented from making these bombs. In some countries such as the united states of America and Israel, before happening any harmful and irreparable accidents destruct their atomic bombs, factories and plants to prevent nuclear losses and damages.

#### **Damage Concept**

The main difficulty in the definition of nuclear radiation damage is whether the victim is human sacrifice or the environment. For answering to this fundamental question it is necessary to consider that most of the environment damages are unknown. So an action or behavior may be assumed safe for human but during a long time or in future it clears harm or damages such as nuclear damage which is long-standing and affects environment and human health. In addition, since for any right there is a legal duty, for the right of taking advantage of environment it is necessary to keep it safe. Therefore if we use land and extraction uranium for nuclear power generation we must be careful in keeping it safe and clean and if any damages occurred it must be compensated and restore the natural conditions of environment before polluted it.

#### **Assessment of damages caused by nuclear radiation,**

Some Law professors argues that nuclear damages don’t have capability to assess and human and his environment have intrinsic value that have not capability of material assessment, All elements of a body affect each other, and a portion of it cannot be evaluated independently of any other. Personal damages are damages or harms on human’s race and we may have not the ability to recognize these harms and therefore there are no especial assent elements. These elements don’t correspond with assessment methods and its criteria for them. which for part of the environmental pollution, nuclear damages as mentioned earlier, has two regions, which caused due to long-standing ability to assess the impact of its generation at the moment understand the damage in a moment of time and space is impossible for us, There is no true standard for pricing, Although this is not consistent with the realities of social life today. Shall be assessed by evaluating the measure of damages will be determined by the progress of the day.

The evaluation of atomic radiation damage to personal effects and effects of generational distinction between, each of these effects is to assess the physical and spiritual effects will review each separately:

#### **Material damages of Personal effects of nuclear radiation**

In accordance with general rules of responsibility it is necessary to be a harmful act. In interpretation of Article 1 of civil liability Law, a harmful illegal act without authority of law and direct granted losses is sufficient and person can claim in court and ask to remedy it due to expert view.

#### **Moral damages of Personal effects of nuclear radiation**

Personal effects in addition to material damages have moral damages as well but there are some disagreements. Some law professors believe moral damages are not demandable and some believes that moral damages are demandable. Demanding moral (spiritual) damages in Iran law was repairable before Islamic Revolution and in some legal codifications such as Penal code, issuance of a check criminal procedure and civil liability claim intellectual property right was stipulated. But after the revolution, it was doubtful. The, criminal procedure and civil liability law was reiterated the need to compensate for it. The Commission of legal and jurisprudence Questions of law and the Supreme Court appointment of legal advisers announced moral damages claims have no legal authority. Guardian Council when examining the Press Act 1364 Clause 1 of Article 30, in which compensation of moral damage was predicted, announced this article is illegal in Islamic rules. Moreover, Article 171 of the Constitution law stated the claiming the moral damage is legal and the Guardian Council announced there is no interpretive theory of this principle that claim there is no significant loss of intellectual loss. Legal Department of Justice in its advisory opinion on this principle of spiritual loss, accepted this compensation. The court also voted on several occasions to the need for compensation for moral damage. The other rules may be judged necessary to remedy such damages. Laws enacted prior to the revolution that is considered claims to moral damages legitimate, as they are not announced inconsistent with Sharia by the Guardian Council, are still valid. The procedure code of Public and Revolutionary Courts, Article 9 (in Penal Matters) Act 1378 to replace the former Article 9 of the Code of Criminal Procedure have not stated to legitimation of the moral (spiritual) damages. Because the legislative may intent that with civil liability law that is the substantive law, it is not necessary to indicate to this remedy rule in criminal procedure law. <http://www.drasgharilawyer.blogfa.com> (URL: [www.drasgharilawyer.blogfa.com/8904.asp](http://www.drasgharilawyer.blogfa.com/8904.asp))

Among the methods discussed in the first part of compensation for moral damage the common ones are: 1- suppress or eliminate the source of the loss, 2- Orally apology of damaged, 3- practical or written or printed apology, expresses apology in the press 4- Rehabilitation of moral damaged by money, property or any other manner, 5- paying for every property or material damage, material compensation could be a good suggestion, but the best way is what aggrieved person chooses.

#### **Financial damages of generational effects of nuclear radiation**

Generational effects of atomic radiation due to being persistent over time and are not determined easily can't be evaluated. Because their effect appears in a certain period of time and its effects may appear in consecutive years (such as the Chernobyl power plant accident or nuclear power plant accident in Fukushima, In addition, the complexity of this type of damage also causes the consensus among experts. A general rule of liability verdict only on the compensation for all the damages however, despite the complexity of evaluating this type of damage that is specific legislation in this area is still needed. Review and determination of a suit at law, including some nuclear damage bill for the year 2010 (of which 10 years was estimated) French law or environmental damage (of which 30 years was estimated). It is not correct and should be compensated for damages.

#### **Moral damages generational effects of nuclear radiation**

Generational effects of nuclear radiation on the generation of the spiritual damage they cause, If a person makes moral damages and the complexity of the evaluation is twofold. What is certain is that all losses should be, But to offset this damage must innocent person would violate the law seems. If the operator is replaced with knowledge and awareness of responsible action is justified That person is responsible for compensation without informing the other is free of fairness in terms of a statute must be all of these things, But without the knowledge of the person responsible for additional compensation, Is free of fairness and in all these cases, a statute must be considered.

#### **Conclusions and recommendations**

Peaceful applications of nuclear science and technology, like other sciences isn't completely safe and has a possible loss. Some peaceful uses of nuclear science and technology are nuclear explosions which are done for aims of digging the channels and big tunnel, building big tanks and silos are used to stimulate oil recovery. For example, in the explosion of a nuclear power plant that provides electricity generation, as a result of natural disasters or terrorist acts or negligence and lack of proper protection of

operators of nuclear facilities, significant losses can be brought. Waste and radioactive wastes (which is produced by peaceful nuclear activities) have elements that its radiation can cause environmental pollution and the incidence of some diseases in humans. Radioactive materials in the wastes are harmful to human health and the environment and should be kept out of reach and in certain areas.

Crumbling unsafe disposal of waste at seas or elsewhere could lead to contamination of the ecosystem and endanger human health. Governments of industrial and developed countries often with concluding secret bilateral agreements transferred their plants radioactive wastes to developing countries in return of payment. But this will cause in the not too distant future environmental and health problems for these states. Some actions to prevent potential losses in such harmful activities have been conducted. Including: prevention, safety information and deal with the damage and finally in the event of an accident to compensate the damages.

Although the International Atomic Energy Agency, have so far failed to fully ban on crumbling and landfill disposal and Standard nuclear and radioactive hazardous materials outside the government's jurisdiction and ban attacks on nuclear facilities in peacetime and all nuclear explosions in all the world. Effective mechanisms for monitoring on these borderlines and useful prohibitions and restrictions must be predicted, but Nuclear Non-Proliferation Treaty and other international treaties in the field of non-proliferation of nuclear weapon concerns International Atomic Energy Agency responsible for monitoring nuclear activities of governments and International Atomic Energy Agency has undertaken to act a reference to monitor the implementation of the government's commitment to preventing diversion of nuclear technology and nuclear weapons works.

### **Recommendations**

To compensate losses resulting from peaceful nuclear applications with considering these losses can predict some limitations and prohibitions till the goals to prevent losses and protect the environment and humans as well and preventing the proliferation of nuclear weapons can be achieved. Discussion of compensation following the nuclear accident in Japan's cities like Hiroshima and Nagasaki and Chernobyl Nuclear Power Plant attracts worldwide attention and legal academia. Numerous risks and cross-border impacts of explosions and nuclear radiation infinite require countries to enact and implement international conventions and specific rules to predict the occurrence of such events. Civil liability regime is trying to compensate the loss or damage is caused. Potential losses are attributable to the civil liability of operators of nuclear facilities, two fundamental aspects of

nuclear damage and the third pillar is related to the ability to determine the loss due to Islamic legal rules and general principles can be responsible for such losses personal or generation damages and must be recovered.

Considering the young Iran's Civil rights of Iran's nuclear rights, there are certain rules in the field of nuclear damage, including strategies to facilitate damage assessment. The legislator according to existing regulations can provide conventions, principles and jurisprudence, as approved by appropriate legislation. The tsunami disaster in Japan showed that the atomic device against such disasters like the earthquake must be retrofitting and the plants buildings must be resistant.

Nuclear bombs in some countries must be destructed by the International Atomic Energy Agency. Furthermore, although the losses resulting from peaceful nuclear activities are not assigned as IAEA responsibility, but at the regional oversight to prevent such activities must be permitted. Like the founding treaty of the European Atomic Energy Society which is responsible for monitoring the implementation of nuclear safety in European Member States which are members of the Commission. If these responsibilities extend and expand in the International Atomic Energy Agency or some similar authority in the world, some gaps and shortcomings in the legal governing systems can be fixed by prevention of hazards that may contribute to peaceful nuclear activities which are provided as the agency or authority and don't act as the exclusive representative of a particular state or group of influential governments and just be representatives of governments.

Due to the increasing development of atomic energy and nuclear technology in the world, the UN agencies are working together with the aim of securing greater rights and protecting governments and people and conserving and protecting the environment. The need to develop specific criteria and create a world system of International liability and compensation for damage caused by nuclear accidents. The idea of consisting global system of compensation and conservation must beat the global level should be on top of the basic aims of each organization. For establishing justice and compensation all losses with omitting time lapse and eliminated over timed can be recovered and complaints of damage to future generations that specified to a person will also be compensated.

Finally, if the compensation paid by the responsible of nuclear accidents is not enough to recover victims harms, other compensation arrangements should be made to complete the tragic incidents like Chernobyl and Fukushima damages to compensate survived victims. Finally, the existence of

such damages shall not uncertain the use of nuclear energy and with security and safety measures of all countries will benefit from this unique gift.

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