

## Proactive vision for Caravan adjacent to the El Dab'a atomic reactor project

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### Introduction:

The interior design is mainly concerned with how the place is used as a tool for expression. The interior designer is the one who expresses the urban reality of the place. Wherever human beings are, the interior designer is found. He is the one who brings ideas, concepts and feelings to anyone who sees, uses, and occupies these places, as preempting the interior design and specialization is the basis of human life and therefore precedes the place and area to be searched. The study proposes to analyze the internal design, materials, and the human-ergonomic relationship, that is consistent with modern technological conditions on Egypt's land.

Choosing to be tight to the reactor project, one suggestion was that we should not leave any trace to live in the event of a radioactive leak. The possibility of permanent residence with all needs is therefore being studied and it is possible to move them as soon as possible to re-establish them in positions far from danger. The research is directed toward the study of caravans and internal design considerations, so that all internal content is compatible with the originator, and the best exploitation is invested in each part of the internal living space. The research has identified individual needs and has done some mass studies within the space of the caravan.

### 1- Egypt and the history of nuclear energy

Egypt is not considered a newly-established nation with nuclear energy, as the second half of the 20th century witnessed Egyptian efforts to adopt nuclear energy, as this period witnessed the Egyptian government's desire to cooperate with the Soviet and Chinese nuclear powers. The agreement was signed between Egypt and the Soviet Union on cooperation in the affairs of atomic energy and its peaceful applications. In September of the same year, Egypt signed an agreement with the Soviet Union on the establishment of a first 2-megawatt research reactor with the Soviet Union. Egypt's pursuit of its nuclear project is to possess the scientific cadres in the field of nuclear energy without any work, so it seeks to benefit from these idle abilities and the government's desire to ease pressure on natural gas. Our entry into the nuclear age is the creation of institutions and buildings, the preparation of cadres, paper research, and the use of

radiation in medicine, agriculture and industry, since nuclear technology is an integrated technology that only possesses the nuclear fuel cycle that involves the construction of power reactors.

## **2- The current position of nuclear force**

### **2-1- Reactor technology and development**

There are six different types of reactors developed to produce commercial electricity around the world, three of which are the most widely used and commissioned in the globe. These three species are the PWR Pressurized Water Reactor, the boiling Water Reactor, and the PWR Presumed Heavy Water Reactor. The first power station for civilian uses, was established in the former Soviet Union in the city of Obnensk and began operation on 27 of June, 1954. Many reactors were then produced, and the number (i) generation of reactors was produced in the 1960s; the number (ii) of reactors is the type that currently prevails, and many of them are still operating in some places. The generation of reactors (III) is few and the few are now operating and the rest is about to operate. The third generation is a development of the second generation with advanced security. The fourth generation of reactors (IV) is in the process of developing theoretical designs for nuclear reactors under research. Most of these designs are not expected to be available for commercial construction before 2030.

## **3- The reactor project in El Dab'a**

The location of the reactor was chosen based on extensive geological and environmental studies according to specific IAEA specifications, and an example of important conditions to be met which is the seismic activity in the zone, torrents and floods, the nature of groundwater and rock formations in the area. The Dubai area was therefore chosen as a privileged location for the reactor. Four 1,200-megawatt (Gen 3) VVVer reactors will be installed at the Egyptian nuclear plant, the latest and most secure reactor technology for the time being, and the reactors to be installed at the "El-Dah'a" plant will be successfully used at Russia's nuclear power plants. The VVVer-1200 technology outstrips many other technologies in many features, and features a unique balanced range of active and passive security systems that meet all international safety standards. These systems help to ensure smooth operation of nuclear power plants and avoid the risk of human error during operation. Each power unit has a dual protective shell with a reactor and spent fuel storage that sinks inside. Therefore, there will be no infiltration of radioactive material into the plant's surroundings, even if it is in a major accident.

### **3-1- Nature of radiological risks**

El Dab'a area nuclear plant project uses third-generation nuclear reactors, which hold a safe, fault-resistant design of the operator, i.e. the human element; the plant has unprecedented power to resist large-scale accidents and can cope with the crash of a 400-ton aircraft at 150 m/s speed; They also have a safe operation without any adverse effects on the environment through a number of filters and multiple barriers, and their ability to automatically fire without human intervention through a modern automated control system.

So, on that point is no antenna radiation from the station that permanently affects public health or buildings in normal operation. In cases where accidents occur one billion, the procedures are

the complete evacuation of the population at a distance of 5: 30 km depending on the amount of radiation. Where the greatest fear of the external pollution of the homes, as well as the insect and water bodies is due to the leak of the gas cloud or some of the materials deposited in the atmosphere. Building materials in buildings are sufficient to detect radiation, so residents are evacuated from accident areas for fear of external contamination from eating animals for grasses and their impact on meat and milk.

The gas cloud sometimes moves quickly and moves away from the scene, in which case the housing of populations in their homes until the gas cloud passes is the best solution instead of evacuation and driving through the open cloud, emphasizing the adequacy of buildings to prevent radiation. One suggestion was therefore that we should not leave any trace of accommodation in the area in the event of a radioactive leak; and consider the possibility of a rapidly relocating residential facility to reduce waste in resources.

The possibility of permanent accommodation with all needs was examined, with the ease of transport and relocating all that was vital for the residential establishment. Since the first man knew design and construction, he started to try to create a space for himself to achieve his human needs and his many requirements, and he increased the human interest in designing his space, both architectural and internal, so that he can express it as a living being in the space for him and his existence. The trend is shifting to the need to express, link to, and associate with, various forms, sizes, and dimensions, whether internal or external, which are well-considered, and which is designed randomly without study, and for each effect is different.

Since the designer is the leisure maker, to achieve all this, he will lay out general foundations before the design process of any space starts, and the designer must consider the empty and mass feeling as two sides of the same coin to ensure integration of the creative process. The vacuum and mass are the main drivers of human feelings and walls and ceilings are key elements in the design of any space.

#### **4- The caravan**

It is a wheel-mounted, self-propels driven by a motor vehicle, combining a living space that is internally designed to relate to the shape and function, and its innovation comes from the interior of the vehicle, so that all internal contents are fixed with the originator. All supplies are available.

##### **4-1- Considerations for selecting the caravan**

The type of the evidence is chosen on the basis of several criteria, including:

###### **4-1-1- Understanding of the number of individuals**

$$\text{Average number of individuals} = \frac{\text{interior space size}}{\text{sleep during a bloat is needed which air size}}$$

###### **4-1-2- The social dimension**

According to the Central Agency for Public mobilization and Statistics of Egypt, the average number of Egyptian family members is four, so it is better to choose a 4-person-to-sleep environment.

###### **4-1-3- The economic dimension**

The self-draw block is expensive and therefore does not take into account the economic dimension of a consumer, and its operating expenses will also be high.

#### **4-1-4- The use dimension**

Moving the self-propelled block to a special driving skill as well as a distinctive driving license is a burden in terms of daily use due to its large size, as well as the presence of the self-engine and the driving evidence on the front of the block.

#### **4-2- caravan design considerations**

##### **4-2-1- Entrance**

The entrance usually determines the appearance of the house, which emphasizes the permanence of the first impression. It is expressed in a comfortable and secure manner, where the entrance is directly connected to the interior space as it is open, without penetrating any other secondary passages into the bottle.

##### **4-2-2- Sleeping space**

The bed space follows the size of the bed, because of its large area of space, the bed space must be intelligently exploited so that it does not become a deserted space. It is preferable to separate sleeping areas from the rest of the caravan by placing them in the mezzanine or at one end of the caravan.

##### **4-2-3- Living space**

This space serves a variety of uses, as it is one of the most important units of the house, which needs to be furnished with a high degree of flexibility to accommodate all activities while being comfortable.

##### **4-2-4- Kitchen space**

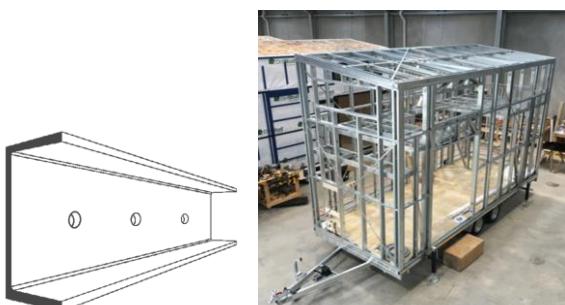
The kitchen space in the caravan is relatively small, so the medium, dimensions of the utensils and cabinets must be taken into account. It is best to have direct contact with the entrance door and good connection with the rest of the space.

##### **4-2-5- Bathroom space**

To ensure the privacy of the bathroom a closed door must be sealed with a lock to cut it off from the rest of the container, locating the hand sink and shower for the lighting. Separate the bathtub, and toilet. Take care of water circulation and reuse gray water, keeping water stored as long as possible.

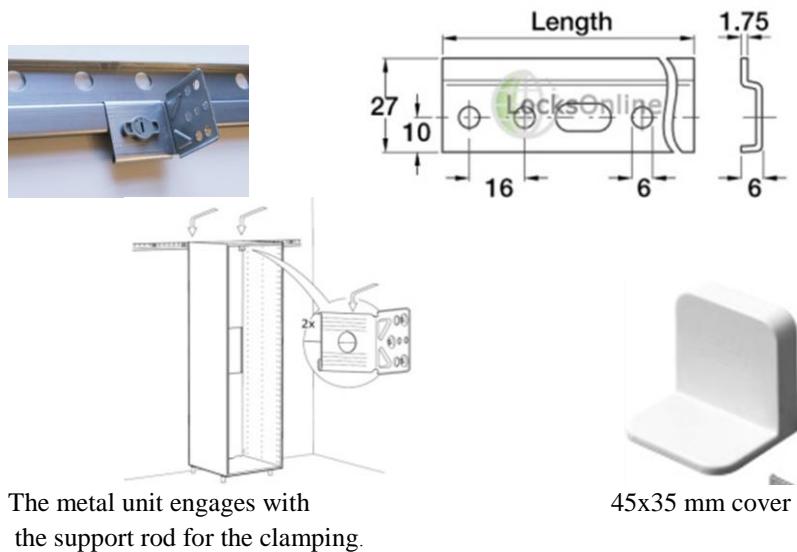
#### **4-3- Structure**

The use of metal construction, a non-traditional construction system, made up of durable metal pillars and moon, can be removed from place to place and is carried out at high speed in construction. A durable metal frame with occasional metal balls that give more force. The frame is made of metal jewelry made from the 8" x 2" section C.



**FIG.1: THE CHASSIS OF THE GALVANIZED STEEL LIVING STRUCTURE AND THE SECTOR USED FOR STRUCTURE.**

#### 4-4- Installing interior design elements into the structure of the caravan



**Fig.1: Dimensions of metal hung to attach the hanging cases to the object of the cheese.**

[Kitchen Cabinet Hanger Wall Rail 2032m Length Hanging Strips \(PACKS\).html](#)

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