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Modern Techniques in Power Generation and Sea Water Treatment Technologies

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ABSTRACT

This research is more different from the dams that are built in Iran and the world and the method of dewatering of this dam is different. This dam with a big crater below the water and by opening it and the movement of water within the water pipes to the beach and confluence to the turbines and finally generate electricity. The water accumulation in the pond below the dam and before the entrance of the water into the pressure tanks and by entering once again, the electricity would generate and after accumulation within the tanks and before water purification, once again the electricity would generate. After these steps, water purification stage would be done. In addition, its result is the easy generation of electricity without using the rivers and the destruction of the environment.

Key words: *Modern Techniques, Power Generation, Sea Water, Technologies.*

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INTRODUCTION

By advancing of technology and daily increasing of human population and their needs, some scientists used old designs and they build a new form of formation and accumulation for human use, which causes to close some rivers and build dam in order to store water behind it and use the water at all times of the year. After a while and emerge of electricity from the water behind the dam, at first, they generated electricity and then using of the water and the dams are being advanced. In this progress, a series of victims were taken of the nature and over time the sudden atmospheric changes and improper use of waters cause these waters' amount, which would become less and the sudden changes in the environment has occurred. Of course, it should be noted that this is an obligatory requirement for human being and must be attained.
As sacred Hadith says, God Almighty and Exalted has said: I created everything for using of human being and the human being for myself. But here, right consuming and usage as much as needed is important. After that, getting low of the water and low rainfall and getting low of water behind the dams, this idea came to my mind to do this activity. Somewhere in the Qur'an, God said that; the seas have sources, which are never become dried.

Turbine
The water of sea enters the pipes by a pore that is below of the water, and they act and generate the electricity after reaching the generator turbines, such as water dam that occludes the river.

Advantages and disadvantages of installing turbines on the dam

That is an issue of how to dewater and transfer water. There are several methods for dewatering and generating electricity in the world, but this method is apart from other methods. There are many expenses for the construction of the dams on the river, but with the atmospheric changes after sometimes, these dams may not be used, but this plan has come even in worst weather and atmospheric conditions. By constructing this type of dam, it can be hit four birds with a one stone:

1) Generating electricity without the need of river and with lower cost
2) Generating of drinking water
3) Job creation for many people
4) Generating and purifying salt and minerals

The locations used for this type of dam are the places such as
Persian Gulf forever
Oman Gulf
The Caspian Sea
And all the places which have the ocean or the amount of water-storage of the lake was to the extent that after a while there is not the problem of dissolving the system.

Water turbine
The water turbine is motorized engine, which the moving water takes energy from it. These turbines have developed in nineteen centuries and before the electric turbines, they were the most important source of generating power in industries. Nowadays, these turbines are used mostly for generating electricity. These turbines are mostly used in the dams for generating kinetic energy and potential energy of water to electricity. [Figure 1]

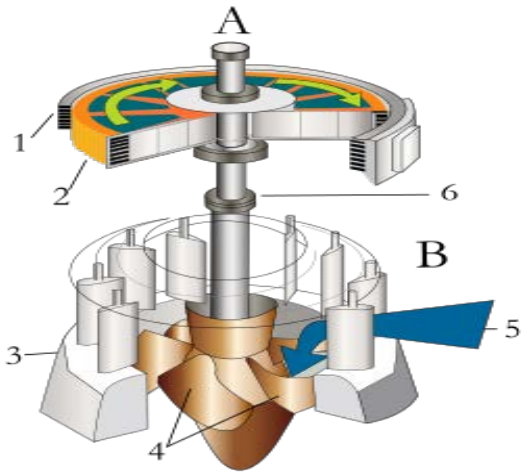

Figure 1: The shear view of Kaplan turbine and electrical generator

Water purification

Not all of the existing water in the Earth is drinkable, because of the different mineral solutes or water salinity. As you know, 70% of the waters on earth are saline and only 30% are fresh water, which some amount of it is ice and have scattered, that is not usable for all the people around the world. Due to the overcrowding and the progress of technology, the water has found a new face to itself. For example, for cooling systems and ... and even we as humans are a small part of using water that a massive part is in agriculture. It is true that by increasing the population, the need for agriculture becomes more, but with progression in the technologies, it could prevent the damages. In agriculture discussing, there is the possibility of drop irrigation and or there is the lack of planting products that need more water. [Figure 2]. If someone does not feel pity for himself, other people will not feel pity for him. With this regard, return to the discussion, the water attacks the turbine, and then enters the pond and the tanks, then enters the purification file and there, the water would be purified. Of course, we should be careful that where will be consumed the purified water (such as agriculture, drinking, cooling devices, etc.) please pay attention to the following information:

Always there must be effort in this regard that as much as possible, it is used the purest water resources, even if it has high price of transferring the water from the long routes and deliver it to the consumer, or with minor purification or with no purification. As well as maintaining the water quality, the water resources care is essential. But, all natural resources of water in order to match with the existing standards of supplying drinking water usually need purification [Figure 3].

Figure 2: water purifier

Figure 3: water purification process

The processes, which have been used for purification of drinking water would depend on the used source water's quality. Most of the groundwater is clear and without any pathogens and the lack of significant amounts of the material. [Figure 4]. Such waters can be used in drinking water systems by using minimum amount of chlorine to prevent plum in distribution network. But it is possible that, some groundwater contains large amounts of soluble solids, gases or excess amounts of iron, manganese, or even organic and microbe materials, which in this case there is need to the complex purification processes, the filtration systems commonly are used (for drinking) includes:

1- Aeration

2- Softening

3- Filtration

4- Disinfection

5- Storage

Figure 4: stages of water purification

The surface waters often have more variety of contaminants compared to groundwater and because of that, the processes of purification for such waters may be more complex. Most of the surface waters have more turbidity than the determined amount by the standards of the drinking water. Although the water streams move with high speed, they may be had larger material in suspended mode. But, most of the solids are colloidal in size and for isolation, the use of purification processes are

needed. The purification systems are normally be used, which includes:

1- Screening

2- Preliminary chemical purification

3- Preliminary sedimentation

4- Aeration

5- Coagulation and flocculation

6- Softening

7- Purification

8- Adsorption

9- Fluorination

10- Consolidation

11- Disinfection

Screening

With regard to the entrance of various particles in input water to refineries, especially the leaf loss in different seasons of the year, on the arrival of these particles to the refinery system causes damage or clogging of the pumps, valves, piping and other accessories. Therefore, in order to prevent the entrance of such particles to refinery units, it should be used the proper Screening system.

Currently, the used screening in the water channels of the refineries are built as the perforated plate or bar screen and they are with an angle of 45 to 60 degrees in the path of transferring water to channel or wastewater. Beneficiary mostly cleans these screenings manually and by using prong. In some cases, also the screening is as a kind of the mechanical type and equipped with frame and prong of collecting the garbage.

Therefore, due to this in most cases, there are large volumes of particles and solids in the input water to the refinery, lack of continuous collection causes the fast barred, and constantly it must be cleaned. In addition, many tiny and thin particles with passing this screening entered the refinery system. Therefore, in order to fix these problems and by using modern technology, it can be used more modern screening systems, which in addition to the high-efficiency of particle separation and tiny screening are capable of self cleaning. Therefore, these kinds of systems can be mentioned as step of screening.

The advantages and features of the screening system

- The ability of high water flow
- Create minimum pressure drop
- High efficiency in removing garbage and available particles in the water
- Ability to remove deposited particles from the floor of the channel
- High resistance to corrosive materials such as acid
- Control the smell due to being located in a closed compartment
- The lack of obstruction of the screening plates by seeds and particles
- Performance and maintenance free
- Low cost of operation

Manual Screening

Manual screening consists of two types of tiny network and coarse network.

The coarse network screening removes large solid particles from wastewater.

The tiny network screening typically is used to remove materials that may be created problems of maintenance and performance in continuous process of purifying.

The original research with invented plan s.o.sh

This kind of dam is a great transformation in the industry of generating electricity and purifying drinking water. This kind of dam (due to generating electricity and supplying drinking water as the dams of generating electricity, it is called (s.o.sh) dam, but it does not collect any water behind this dam). The working method of this dam that I called it s.o.sh dam does not need to close the river and it supplies its water through the sea. Here are few importan tips:

1) The region that the project is due on it
2) The amount of the crater that the water is in it
3) The amount of power pumping of water and guiding it to collision the generating turbine

There are different coastal-marine regions in Iran, such as rocky (stairway), flat (such as Kish beach), and the beaches such as Kangan, which has a stairway beach with neither low nor high slope.

This plan makes less the amount of distance to the turbine and the deepening down, and does not have much cost to scoop up and makes more amount of attacking water with turbines.

How to work the s.o.sh dam

For example, one crater in the shape of circular within 7 meters in the sea has installed at a distance of 8 km, for example, which is attached with the pipe from the crater input to turbines of generating electricity. Inside this pipe, there are series of bolts in order to increase the speed and after that there are water stations, which the flowing water reaches the generator turbines, which generates electricity and adds to the speed of the water (in order to be in one lines, there are series of foundations below this). The water reaches to the beach and attacks to the generating turbines, and electricity is directed to the transmission systems and the water has transferred to the ponds below the turbines that the water has transferred to the tanks. (The entrance of water to the tanks and exiting from the tanks are series of generating turbines that is because of the pressure and the suitability of the power to generate electricity and have easier control of water output from tanks).

After this stage, the water output is transferred to the purification system and its salt and minerals are taken and purified for consumption to the amount and type of consuming.

In this work, firstly the generating electricity and supplying drinking water and taking salt and minerals for marine fertilizer are for the country and job creation. For concerns of environment related to the water and not damaging it, wherever we want to perform the project. We produce shield in the sea, that the creatures are not limited in it and do not go to the crater and all the safety issues are observed. And, it should be noted

that with advancing technology in this project for saving on the cost of repairing and the system life of nano-steel has used to replace steel, iron and even low-resistance metal for any item and equipment, that is now, there is this kind of technology in Iran.

By progressing native technologies and the ones that we have at our disposal and giving the field to the geniuses in every issues that we would see ever-increasing advancements of technology, we will always be proud.

CONCLUSION

By progressing of the world, and increasing of the people, the needs are become more. Especially, the new technologies use the water for their many consumption and we have to plan in such a way that the water is kept for the future consumption in the industry. A general overview and a glimpse of this kind of dam:

In this dam, that is a crater below the water, and with opening it and transferring the water into the transferring pipe and its attack with generating turbines of generating electricity and eventually it generates electricity and dumped it into the tanks and water purification is quite healthy and hygienic.

The primary method of water purification will be done before the water chloride much modern, more comfortable, and newer. This is low-cost and convenient. If related organs cooperate, so this project will be done with much less cost than building a new dam and about rebuilding it, if the higher-performance materials in building dams, and these materials in restoration and rebuilding discussion have low cost and be more restoration, in which the costs will be saved and that is nano-technology. About this type of technology, we can say with determination that it works and all of the works are for creating comfort and convenience and is wholly native and Inshallah to be consumed properly.

According to the supreme leader's proposal about resilience economic program and management in the proper consumption discussion of natural mineral, water and giving price to the scientific elite and the designers of the idea. So, this idea is expressed and designed in line with resilience economic and in the discussion of the employment of virtuos and active young individuals of the country will have enormous share. In the Government's program, this idea is given for rebuilding and existing the issue of drought and youth employment. Also, the Government instead of building concrete dam or embankment with this issue, it will solve all the problems in the field of water. In this project, there are series of rules and standards for construction that Inshallah it will be expressed after government orders on construction and supplying the budget, that inshallah this will be happened soon. By construction this kind of dam, groups of inventors, innovators, and active writers of the country were shared in designing and organizing the idea and they did not hesitate to help in order to getting the results from this project. We appreciate them and want seeking forgiveness, mercy, healthy and successful life to the magnanimous that with all difficulties of this idea and their work's concern helped me impeccably.

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