

# Non-Conventional Automatic Opening and Closing of Door DAM Mechanism to Storage the Water in A DAM

Mr. Doshi Sahil Sanjeevkumar<sup>1</sup> Mr. Deokar Dattatray Parasaram<sup>2</sup> Mr. Tathe Pradip G<sup>3</sup>

<sup>1,2</sup>Student <sup>3</sup>Head of Department

<sup>1,2,3</sup>Department of Mechanical Engineering

<sup>1,2,3</sup>SCSCOE, Rahuri, India

**Abstract**— Dams are typically constructed with a drain & similar mechanism to control water levels in an impoundment for normal maintenance or emergency purposes. By define a disaster is any event that causes great harm or damage serious sudden misfortune. Automatic door opening and closing is depend on many mechanical system this mechanical system are given by,

- 1) By using centrifugal governing
- 2) By using rope mechanism
- 3) By using gear mechanism
- 4) By using sensor

Our project topic is run on by using gear mechanism. the project topic of Automatic closing opening of door dam. This project topic is totally work on water level in the storage tank in dam

- 1) When the water level go up the dam door will be open automatically.
- 2) When the water level drops down the dam door will be close automatically.

**Key words:** Non-Conventional Automatic Opening, Door DAM Mechanism

## I. INTRODUCTION

Dams are man-made or artificial barriers are a constructed across the stream channel to impound water. Dams are typically provided with spillway systems to safely purpose to pass a broad range of flows over around the dam. The various materials are used for dam construction such as timbers rocks concrete earth steel and the combination of these are materials. However in Connecticut most dams are constructed of earth & combinations of earth or other materials like Spillways are commonly constructed of non-erosive materials such as the concrete an also the rocks. Dams are typically constructed with a drain or similar mechanism to control water levels in an impoundment for at the normal maintenance as an the emergency type of purposes. These are the define as an a disaster is any event that they are causes to the great harm an also a damage of an the serious part of the sudden miss-fortunes. The Dam are failures clearly fit this define are part of the sudden an unexpected manner are in which the dam are to be a failures can occur they are potentially as destructive as an the earthquakes are in the hurricanes an are to the tornado.

In order to maximize a reservoir usage of an a river it is that essential to make an all-embracing plan that considers long-term of prospects an to the proceeds with the project as planned. The selection of dam type should be based on full consideration of that are all types an Topographical geological-conditions hydrological features availability of an construction materials safety environmental issues economic evaluation. The dams have sustained human lives for more than three thousand years. The selection of dam type has altered the over time are

depending up on the feasible an most useful part of the time. A selection of an modern type of the dam are is to be described as per information data. In order to maximize a reservoir usage of an a river it is that essential to draw up a total plan that are considers all aspects as an long times of an the topic prospects. Once approved it is necessary to proceed with the project strictly as an plann. The site for the dam are must be determined by the investigating all possible locations making case studies on an the single and the multiple cases an at the various scales, an comparing their advantages or the disadvantages are as very carefully so that maximum types of benefit can be achieved at an very minimum cost an also at a minimum risk in accordance with are the total project plans an the Problems before during or after construction may go beyond more technical as an one an the extend to that are those are the relating to the local communities the economy these are the natural environment and in some parts are the political issues. It is natural that the way of thinking about the selection of the dam sites differs are according to the purpose of the project data. If these dam is intended for the flood control the water supply to an a irrigation it is an preferable that as on a site is sought as close as possible to the place of that will be benefit it is in the middle and the lower reaches of the river from the perspective of ensuring as an stable effect. On the other hand an if these dam is intended for electric power generation, an also attention is focused on the upper parts of reaches and also they are in situations with a large water head even they if it is an as very long way from the place of as per the demand. Once the dams are as constructed they have a great part of economic effect on the surrounding or near region, according to there are a intended purposes. No matter how ideal as an proposed the dam site is, if they affect any large scale of an also important to a farmlands, an other ways of value villages railroads mine power-station forest fisher sightseeing areas or an the cultural assets, reconsideration may be unavoidable. Also the dams are designed to control rivers artificially an they are must be concerned with the users and they are who have to be the vested right. Therefore as an the selection of a dam site requires full consideration of it is the part of an potential impact on the any complex social economy of the entire river of basin. When is a dam site has been selected for it is should be recognized that a dam is a very large artificial structures an are due to the attention are must be given are not only to it is position but are also to the harmony with the natural environment are particularly as regard of the dam height as an the different dam type. The natural sours of an environment is to be conserved of course that the main purpose of construction is to contribute to human development it is an important that a dam site is to be selected such that maximum harmony with nature can be achieved nature must be conserved where it is possible as an

also to the desired part of the results are have still to be an obtain.

Almost every time of water in to a resources project has been reservoir to the diversion work of an the part of control the floods to the store of water for an irrigation to the power generation for the domestic or industrial water supply. As an spillway with are a control mechanism are is almost invariably to be provided for the release of waters as an during excess flood in to the flows. Releases of water may also to be carried out by control devices which are provided in the conduits in the body of the dam and tunnels. In order to achieve flow control of a gate or a shutter are is to be provided in which a leaf or a closure member are on the placed across the water way from an external position to the control of that flow of water. The Control of flow is in closed pipes is an such as penstocks conveying water for the hydro power is also to be done by the valves which are the different from the gate are in the sense that they are come in together with are the driving of an equipment where as an gate are require to a separate to drive as an hoisting equipment. Different types of the hydraulic gates are an a hoists which are also working on the different principles an mechanism are in use for the controlled to release of water through the spillways are sluice an takes to the regulator ducts tunnels. The Right selection of the gate are their hoisting arrangement are very important to the ensure that safety of the structure are also effectives to the control. The designer has to plan a gate an its hoisting arrangement are in the together. To the Separate of an plan of the gate an are the hoist sometimes that the results are in the unsatisfactory for the installation purpose. Though the choice for the gates and hoists depends on the several factors primarily safety ease in operation as well as the maintenance and the economy are the governing requirements in the same order. It is that the essential for the water resources to the engineer to be aware of that are a different factors are which are a largely as affects on the choice of the gates an hoists are as would be help in to the selection of the same things. In this lesson an introduction is provided on different gates specific type of purposes for which they are may be used to as a possible locations in to which to these are install an the suitable to hoists with which to operates. A brief outline is also provided on the common types of the valves are used to regulate flow in penstocks.

## II. LITERATURE SURVEY

The automatic closing an opening of door of dam is very important part regarding the dam. This is an automatic opening and closing of a dam door is also depending upon various types of methods and design parts. but my topic is based on mechanical systems. The project topic are required the following mechanical parts to run our project topic.

- 1) Rack and pinion
- 2) Lever
- 3) Storage tank
- 4) Gate
- 5) Gear
- 6) Manual valve
- 7) Chain drive

Our project topic is run on by using gear mechanism.to the project topic of an automatic opening and

closing door of a dam. This project topic is totally work on water level in the storage tank in dam

- 1) When the water level are go up the dam door will be open automatically.
- 2) When the water level drops down the dam door will be close automatically. This type of working run by using gear an mechanism with the help of the rack and pinion circular gear and chain drive and with the design.

## III. SITE SELECTION FOR A DAM

A dam is a huge structure requiring to the lot of fund.an the Extreme care shall be taken on while selecting the site of a dam.As are the wrong decision may be lead to the excessive cost of an any type difficulties in that of the construction are in a maintenance.Various factors those are should be the consider for the selecting the site of the dam.

## IV. SITE SELECTION FOR A DAM ARE DEPENDS ON

- Topography
- Suitable Foundation
- Good Site for a reservoir
- Large storage of capacity
- Shape of reservoir basin
- Water tightness of in the reservoir
- Good hydrological condition
- Deep of a reservoir
- Small submerged of an Area
- Low silt inflow
- No objectionable minerals
- Spillway site
- Availability of material
- Accessibility
- Healthy surroundings
- Minimum overall cost of an dam
- Other consideration.

## V. SCOPES

The automatic opening and closing the door of dam are also the most important part. This automatic system also work on many types like rope mechanism, sensor mechanism, centrifugal governor mechanism.

These type of system is also implement on the following places

- 1) Rivers
- 2) Dams
- 3) Sea

## VI. CONCLUSION

Hence we have conclude that the automatic opening and closing of a door dam is successfully operated on the mechanical system by using rack and pinion arrangement. And this is the accurate method of the operating the automatic opening and closing of a door dam.

## ACKNOWLEDGMENT

Every orientation of an work has an imprint of many people an this type of work is not different. This work gives us an opportunity to express deep gratitude for the same.While

preparing paper we received endless help form number of people. This paper would be incomplete if we do not convey my sincere thanks to all those who were involve. Finally we wish to thanks my friends and family for being supportive us. without whom this paper would not have been seen the light of day.

#### REFERENCES

- [1] <http://seminarprojects.com/s/how-dam-shutter-opens>
- [2] [http://seminarprojects.net/c/automatic-dam-shutter controller](http://seminarprojects.net/c/automatic-dam-shutter-controller)
- [3] <http://www.advantech.com.tw/catalogs/pdf/2012/07130829.pdf>
- [4] [http://article.wn.com/view/2014/02/27/General\\_Motors\\_set\\_to\\_move\\_out\\_India\\_head/](http://article.wn.com/view/2014/02/27/General_Motors_set_to_move_out_India_head/).

