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| STP AHWR Machine Layout Designing |
| Nuclear Fuel Complex Hyderabad |
| Prepared By-  JANGALA MANOJ KUMAR |



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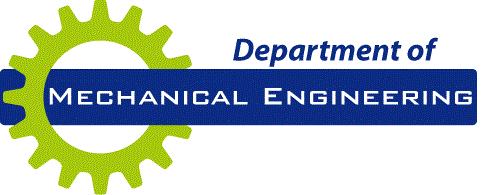
**HYDERABAD – 500062**

**PROJECT REPORT ON**

**STP AHWR MACHINE LAYOUT DESIGNING**

***A dissertation submitted for the partial fulfilment of the award of Bachelor’s Degree by***

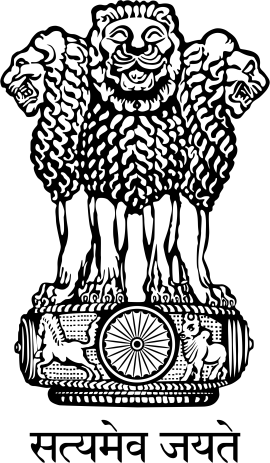
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**ANURAG GROUP OF INSTITUTIONS**

**GHATKESAR, HYDERABAD, TELANGANA STATE**



Government of India

Department of Atomic Energy

NUCLEAR FUEL COMPLEX

**BONAFIDE CERTIFICATE**

This is to certify that Mr. Jangala Manoj Kumar bearing roll number 12H61A03E7 from CVSR, AGI, Ghatkesar, Hyderabad has done his project under my guidance during the period from 12th May 2015 to 12th June 2015 in Special Tube Plant with reference to Nuclear Fuel Complex.

***It is ensured that the report does not contain classified or plant operational live data in any form.***

Place: Hyderabad Signature

Date: Name:

Designation:

Plant: Special Tube Plant

Approved by

The Assistant General Manager of the plant Office seal

**DECLARATION**

I hereby declare that the project entitled “STP AHWR Machine layout” submitted to Nuclear Fuel Complex, Hyderabad and CVSR College of Engineering, Anurag Group of Institutions, Ghatkesar, Hyderabad for the partial fulfilment of the award of Bachelor’s degree in Mechanical Engineering is prepared by me and my own efforts have been poured in to make this project successful.

The part of work which had to be studied from external sources have been referred in the reference section, apart from which no part has been copied or reedited in other manner from other sources.

Candidates’ Signature Guide’s Signature

Date:- Date:-

JANGALA MANOJ KUMAR Mr. G. N. Ganesha

Assistant General Manager

STP, NFC

**ACKNOWLEDGEMENTS**

I am extremely thankful to Shri N. Saibaba – CE and Chairman, NFC and Smt. Meena Ravindran – General Manager, STP, for giving me this opportunity to carry out the project in the Special Tube Plant (STP) of NFC.

I would also like to thank the STP’s Scientific Officers Shri G.N. Ganesha – Assistant General Manager, Shri Utpal Singha – Deputy Manager and all the staff for their assistance throughout my project work time.

I am perspicuous to divulge my sincere gratefulness to Shri H.R. Ravindra – DGM, HRD and Dr. B.N. Murthy, AGM, HRD, Q.Cir., & QIS for helping me to do my project in NFC and conducting awareness program on DAE and NFC activities at HRD.

My special thanks to my college HOD and Principal who have readily given the permission for doing my project in NFC.

Finally, I would like to thank all the unmentioned ones and invisible hands who helped me throughout my training.

**ABSTRACT**

Plant layout is a combination of both fields of art and science. It mainly involves in preparing a layout which is ergonomically sound and as well as effective i.e., reduces the traversing length of product manufactured thereby, saving the time of production.

There are basically four types of plant layout based on the manufacturing of product which are:-

* Product layout
* Process layout
* Ranking method
* Fixed layout

The first three deals with moving product across fixed machinery in the plant whereas, the latter deals with manufacturing a product which is fixed and the machinery is movable (e.g.:- ship building, etc.) but, the production of coolant tubes for PHWR reactors in NFC follows one of the first three layouts because tubes are movable.

NFC is planning to build a separate section for the production of coolant tubes for AHWR reactor which is adjacent to the existing STP plant and requires a suitable layout for machinery which was discussed above with the mentioned qualities.

The project mainly deals with study of existing plant and designing a layout for the AHWR plant which integrates with the existing and gives an estimation of the traversing length of tube and manufacturing time.

**ABOUT THE REPORT**

This report is the true hardship of the project done at ***Nuclear Fuel Complex - Hyderabad*** from 12th May to 12th June 2015. This report contains the details about the Special Tube Plant visited inside the factory and various mechanical processes going round the clock in the factory.

Report consists of a brief layout of AHWR plant which is the upcoming project of India’s three stage nuclear programme to be constructed near the STP in NFC to provide the hardware for AHWR, mainly pressure tubes. Report discusses about the layout of existing coolant tube manufacturing for PHWR, their process time and length traversed by each tube and some disadvantages of the existing layout of machinery in plant and how it is overcome in the proposed plant layout of AHWR.

Mechanical processes undergoing in the particular plant are explained in as detailed manner as possible so that a person can understand easily by brief scrutinising of this report. At most all processes starting from the head of the plant to its tail are discussed in clear manner. Some petty areas which don’t have the potentiality to make any mammoth difference in continuous chain processes in the factory are omitted in lieu of time schedule and for the completion the main project assigned.

***No confidential or classified part of the factory or the plant has been discussed in this report.***

**Report Prepared by**

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B.Tech Mechanical Engineering

III year II Semester

CVSR College of Engineering

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