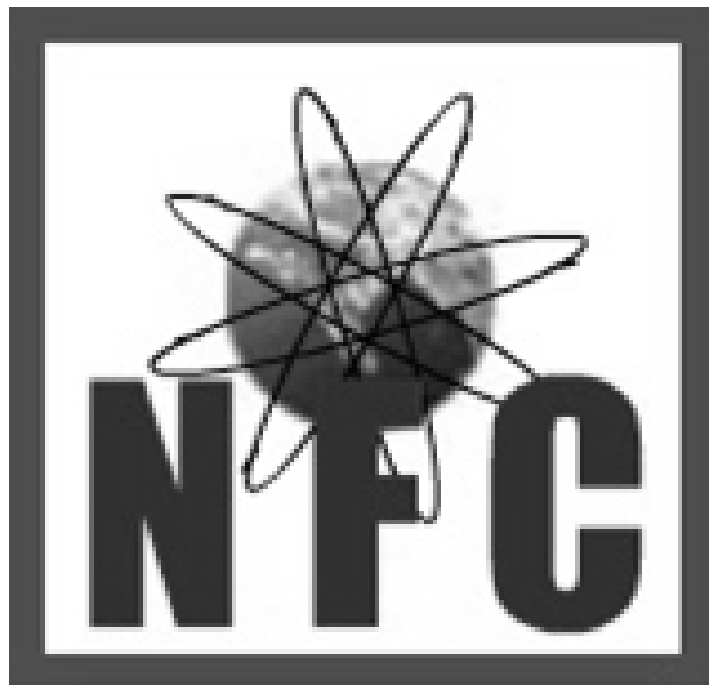

STP AHWR Machine Layout Designing

Nuclear Fuel Complex
Hyderabad

Prepared By-
JANGALA MANOJ KUMAR





NUCLEAR FUEL COMPLEX
Hyderabad
(Department of Atomic Energy)
Government of India
AN ISO 9001:2008 ORGANIZATION
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

JANGALA MANOJ KUMAR

Roll no: - 12H61A03E7



ANURAG GROUP OF INSTITUTIONS

GHATKESAR, HYDERABAD, TELANGANA STATE



सत्यमेव जयते
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
Date:

Signature
Name:
Designation:
Plant: Special Tube Plant

Approved by
The 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

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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 reactors, mainly coolant tubes. Report discusses about the layout of existing coolant tube manufacturing for PHWR reactors, 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.

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CONTENTS

<i>Declaration</i>	[i]
<i>Acknowledgements</i>	[ii]
<i>Abstract</i>	[iii]
<i>About the report</i>	[iv]

Chapter 1.....I

1.1 About Department of Atomic Energy.....	1-2
1.2 How nuclear reactor generates electricity.....	3
1.3 India's three stage nuclear power programme.....	4
1.4 About Nuclear Fuel Complex (NFC).....	5
1.5 Material flow process in NFC.....	6-7

Chapter 2.....II

2.1 Special Tube Plant (STP).....	8
2.2 Properties of Zirconium.....	9-10
2.3 Project Statement.....	11

Chapter 3.....III

3.1 Study of existing plant layout.....	12-14
3.2 Machine operations and instruments in STP.....	15-17
3.3 Manufacturing of tubes in STP.....	18-21

Chapter 4.....IV

4.1 Design for AHWR and implementation of study.....	22
4.2 Plant layout Designing.....	23-26
4.3 Study of layouts.....	27-28
4.4 Designing optimised layout.....	29-31
4.5 Reasons for machines' position.....	32-35
4.6 Choosing best layout.....	36-38
4.7 Conclusion.....	39
4.8 References.....	40