

NIT ROURKELA

ADVANCED SHORT TERM COURSE

ON

**DESIGN AND MANAGEMENT OF
ASH DYKES**

Course duration:
4TH – 6TH Nov. 2019



**Geotechnical Engineering Division
CIVIL ENGINEERING DEPARTMENT
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA- 769008**

Co-ordinator

Prof. Chittaranjan Patra

INTRODUCTION

NIT Rourkela has been providing trained manpower for different industries/ research organizations through B. Tech, M. Tech and Ph.D. programs. Specialized courses and workshops are also being organized under Continuing Education Program (CEP) to train personnel from Industries/Universities. In the past we have provided training to the personnel of thermal power industries in the field of coal ash management.

OBJECTIVE

Coal remains a dominant fuel for the generation of power in India and it is projected to remain as such beyond 2040. About more than 200 million tons of coal ash are produced annually and despite its various uses, there about 40% remains to be utilized. Coal ash management poses a serious problem in our country. The remaining ash is deposited in the vicinity of power plant as waste material covering several hectares of valuable land. This poses challenges for evolving eco-friendly techniques for safe disposal of unutilized flyash. The selection of disposal methods is an interdisciplinary process involving environmental, engineering and economic considerations. The site designer must keep in view various other aspects to develop a disposal method that is economical and which can accommodate changing technology. Mostly, the coal ash (fly ash and bottom ash) are transported from the plant to the site in the form of lean slurry, high concentrated slurry, or dry ash. To deposit at the site, ash dykes are constructed. Keeping this objective in mind, present course on Design and Management of Ash Dykes is undertaken. The uniqueness of this course is that, in addition to classroom lectures, emphasis is given to the discussion of design, management, and maintenance (during operation) with reference to various case studies.

COURSE OUTLINE (4th – 6th Nov., 2019)

- (1) Various ash disposal methods, its feasibility – Dry disposal; Wet disposal (lean slurry and HCSD); site selection for ash disposal facility, embankment material selection.
- (2) Introduction to basic idea about ash dyke material (soil and coal ash), Geotechnical investigations.
- (3) Wet-disposal system: Design considerations of Starter dam, Ash Dyke raising (up-stream, center-line and Down- stream method), internal drainage system, Stability of ash embankment, strengthening of active sliding area - case studies.
- (4) Dyke Inspection
- (5) Slope Stability with consideration to ash embankment, Numerical examples and use of softwares.
- (6) Retrofitting/strengthening of failed ash dykes, Buttressing and Peripheral dyke raising for capacity enhancement – case studies.
- (7) Field quality control guidelines, Field instrumentation, performance monitoring and evaluation.

THE FACULTY

Dr. Chittaranjan Patra, Professor of Geotechnical Engineering in the Department of Civil Engineering, NIT Rourkela and Dr. Umesh Dayal, Geotechnical Lead Rizo Associates, USA will be the primary instructors of the course. Prof. Patra and Dr. Dayal have over twenty five and forty five years of experiences respectively in the area of design and management of coal ash disposal in India. They have carried out several major consultancy projects on ash disposal systems for NTPC Ltd. at minimum more than seven sites; NTPC-SAIL Power Ltd. at three sites; Vedanta groups at four sites, Jindal groups, CSPGCL at four sites, MPPGCL; Aditya Alumina; SKS Power Ltd. Raigarh etc. They have handled several failure cases of ash dykes. Prof. Patra will be assisted by other faculty members of the institute.

APPLICATION FORM

ADVANCE SHORT TERM COURSE ON DESIGN AND MANAGEMENT OF ASH DYKES (4th - 6th November, 2019)

1. Name:
2. Date of Birth:
3. Designation:
4. Organisation:
5. Qualification:
6. Experience (Yrs.):
7. Address for Correspondence:
-
-
-
- Mobile no:
- Fax no.:
- Email:
8. Details of Draft:
- No Dated
- Drawn on.....

Signature

(This form may be xeroxed for more number of participation from same organization)

Please mail the complete form along with D.D. /online transaction receipt to

Prof. C R Patra
Co-ordinator
Design and Management of Ash Dykes
Department of Civil Engineering,
NIT Rourkela, 769008, Odisha
Email : crpatra19@yahoo.co.in
crpatra@nitrkl.ac.in

Phone : 0661-2462316 (office)
Fax : 0661-2472926
Mobile : 7008490561
9437085492

NIT ROURKELA



Last date for Application

24th October 2019

ELIGIBILITY

All practicing engineers working in private, public, government organization/industries are eligible to participate. Preference will be given to engineers working in thermal power industries.

REGISTRATION FEE/COURSE MATERIALS/CERTIFICATE

Participants are required to pay Rs. 30,000/- (Rupees Thirty Thousand Only) plus GST as per the prevailing rate. The course is a non-residential program and the participants are requested to make their own arrangements for boarding and lodging. The fee is to be paid in advance by a demand draft/online (State Bank of India, A/C No. 10138951784, IFSC-SBIN0002109) in favor of “Continuing Education, NIT Rourkela”, payable at Rourkela.

Note: Early bird discount Rs.3000/- will be applicable for those who register on or before 14th October 2019.

The above fees include:

Reading material/lecture notes

Program Registration Kit

Executive Lunch, Tea and Snacks during Program days

Grand Dinner

Institutional charges, charges for resource persons, travel and accommodation charges of resource personnel and other miscellaneous charges during the program

At the end of the course the institute will issue a certificate.

N:B: - Participants need to reach by 3rd November 2019.