**AVN INSTITUTE OF ENGINEERING & TECHNOLOGY**

**PATEL GUDA, KOHEDA ROAD, IBRAHIMPATNAM (M), R.R.Dist., 501 510, A. P.**

**Ph.No. 08415 – 201555, Cell No.:9246172317,** www.avniet.ac.in**, Email:avn.principal@gmail.com**

**DEPARTMENT OF CIVIL ENGINEERING**

# Report on site visit
# NAGARJUNA SAGAR HYDRO POWER PLANT

## on

## 2nd October 2014

AVNIET has been conducted one day technical visit to Nagarjuna Sagar Dam Hydro power plant on 2nd October 2014. More than 50 students & 6 faculties visited Nagarjuna Sagar Power Plant. This Industry-Institute Relationship visit organized by department of Civil Engineering, AVNIET, Hyderabad.

## Details of visit

| | |
|---|---|
| **Name of the place** | **:** Nagarjuna Sagar |
| **Name of the project** | **:** Nagarjuna Sagar Dam Hydro power plant |
| **Name of the works** | **:** Earth-cum-gravity dam, Spillway Gates, Hydroelectric projects, Channels |
| **ORAGANISATION** | : Department of Civil Engineering |
| **Date of visit** | : 02-10-2014 |
| **No of stufents visited** | : 50 |
| **No of Faculties visited** | : 6 |
| **Batch** | : Final Year Students 2011-15 |
| **Incharge** | : Prof. Shivarajappa |

# About Naagarjun Sagar Dam:

**Nagarjuna Sagar Dam**, one of the world's largest and tallest Masonry dam built across the Krishna river at Nagarjuna Sagar which is in Nalgonda District, Telangana State. Construction was between 1955 and 1967,the dam created a water reservoir with gross storage capacity of 11.472 billion cubic metres ($405.1\times10^9$ cu ft). The dam is 590 feet (180 m) tall from its deepest foundation and 0.99 miles (1.6 km) long with 26 flood gates which are 42 feet (13 m) wide and 45 feet (14 m) tall.

Nagarjuna Sagar was the earliest in the series of large infrastructure projects termed as "modern temples" initiated for achieving the Green Revolution in India. It is also one of the earliest multi-purpose irrigation and hydro-electric projects in India. The dam provides irrigation water to the Nalgonda, Suryapet, Krishna, Khammam, West Godavari , Guntur and Prakasam districts along with hydro electricity generation. Nagarjuna Sagar dam is designed and constructed to use all the water impounded in its reservoir of 312 TMC gross storage capacity which is the second biggest water reservoir in India.

## Construction

Project construction was officially inaugurated by Prime Minister [Jawaharlal Nehru] on 10 December 1955 and proceeded for the next twelve years.

The construction of the dam submerged an ancient Buddhist settlement, Nagarjunakonda, which was the capital of the Ikshvaku dynasty in the 1st and 2nd centuries, the successors of the Satavahanas in the Eastern Deccan. Excavations here had yielded 30 Buddhist monasteries, as well as art works and inscriptions of great historical importance. In advance of the reservoir's flooding, monuments were dug up and relocated. Some were moved to Nagarjunakonda, now an island

in the middle of the reservoir. Others were moved to the nearby mainland village called Anupu.

The reservoir water was released into the left and right bank canals by Prime Minister Indira Gandhi in 1967 August 4.[6] Construction of the hydropower plant followed, with generation increasing between 1978 and 1985, as additional units came into service.

- Catchment Area : 214,185 $km^2$ (82,697 sq mi)
- Full Reservoir Level (FRL): 179.83 metres (590 ft) msl
- Water spread area at FRL: 285 $km^2$
- Gross storage capacity at FRL: 312 TMC
- MDDL of river sluices: 137.3 metres (450 ft) msl
- **Masonry dam**
  - Spillway of dam : 471 m
  - Non-over flow dam : 979 m
  - Length of Masonry dam : 1450 m
  - Maximum height : 125 m
- **Earth dam**
  - Total Length of Earth dam : 3414 m
  - Maximum height : 128 m

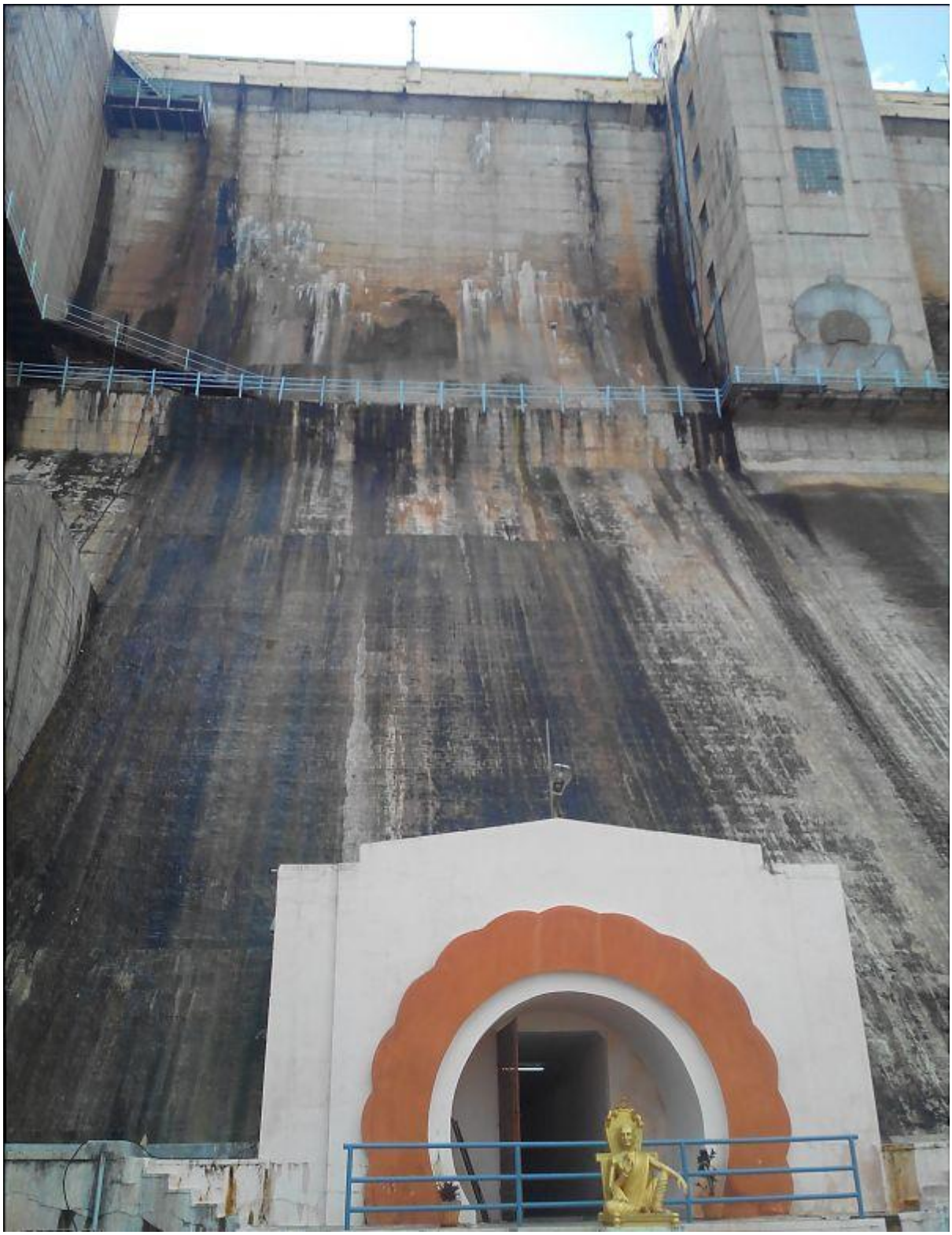
**Power Generation**

- **Power Units** : 1 No. conventional (110 MW capacity), 7 no.s Reversible (100 MW capacity)

**Canal power house**

- Right side : 3 units 30 MW (each)
- Left side : 2 units 30 MW (each)

Nagarjuna Sagar dam &  Hydro Power Plant visit photos




Final year students (2011-15 Batch)