



The barrel is designed as a prestressed concrete barrel. The inspection of the collapsed RCC barrel shows that the failure occurred at the midspan. As such it is clear that the failure is due to bending. In the barrel, total 17 numbers ducts have been casted for pre-stressing. 5 in the bottom slab and 6 on either side. No prestressing is proposed in the top slab. Thickness of the bottom slab is 61 cm, at top 45 cm and in sides 55 cm. The bottom slab of this span was casted on 2.4.2016, sides were casted between 19.4.2016 and 30.4.2016. The top slab was casted on 14.5.2016. It was proposed to prestress this barrel on 18.5.2016. But the supports failed on 16.5.2016 before the prestressing could have been done.

The supports are resting on a 30 cm thick concrete block of 6.60 m X 1.80 m. This concrete block rests on earthfill of about 6 m height. On 15.5.2015, in the night there was rainfall and again on the day of accident at about 2 PM it rained for about 20 minutes. The incident took place just after that.

Primarily it may be concluded that the failure occurred due to supports sinking due to rains. However a team of 3 Engineers from BODHI has been asked to go through all the aspects of design, drawing and construction.

On the day of inspection, the Contractor's prestressing expert Shri Mukesh Mishra of M/s. Usha Martin Limited met at site. The company's work of prestressing is about to start. It is planned to prestress span P/6, P/7 partly so that it may take its self load and partly live load. After doing this work in P/6, P/7, other spans will be taken-up.

I have also asked the contractor to get examine the piers P/7, P/8 by ultrasound method. It is expected that the team will come from Mumbai on 24th May 2016. It is also suggested that the concrete base for the staging in the midspan portion should be 9m X 3m instead of 6.6 m X 1.8 M to have broad distribution of load. The earthen embankment on which supports are resting should have atleast 2 m extra width beyond concrete blocks on either side for effective load dispersion. The

contractor is also planning to provide pile support for staging in spans P/8, P/9 i.e. in the river portion.

**Balancing Reservoir:-** The nalla closure of the balancing reservoir is in progress. Progress of sluice construction is slow, it should be improved. Head sluice has about 1300 cum concrete. Till date only 90 cum concrete has been done. This sluice is a double barrel of 2.45 m X 2.45 m size. Gates are to be casted and fixed by CMU Bhopal. Total earthwork involved is 2.13 lakh cum out of which 1.60 lakh cum is executed. This should be completed on priority so that part storage may be utilised.

  
(M.G. Choubey)  
Engineer in Chief,  
Water Resources Department,  
Bhopal (M.P.)

Endt. No. /34410657P-2/2007 Bhopal, Dated: 24 May, 2016

Copy is forwarded to:

1. The Additional Chief Secretary, GOMP, Water Resources Department, Bhopal.
2. Project Director, World Bank Projects, WRD, Bhopal
3. Chief Engineer, Ganga Basin, WRD, Rewa
4. Chief Engineer, BODHI, Water Resources Department, Bhopal
5. Chief Engineer, E&M, WRD, Bhopal.
6. Superintending Engineer, Bansagar Dam Circle, Deoland Rewa
7. Superintending Engineer, Major / Admn., E-in-C office.
8. Executive Engineer, Teonther Canal Division, Sirmour Distt. Rewa
- ✓ 9. Web Manager, WRD for ONLINE feeding.

  
(M.G. Choubey)  
Engineer in Chief,  
Water Resources Department,  
Bhopal (M.P.)