The construction of Udhampur – Srinagar – Baramulla Railway Project is vital for acceleration of socio-economic development of Jammu & Kashmir.

The bridge on the Chenab River on the upstream of Salal Dam is situated near Kauri Village. The railway line crosses the river at about 359 m above the bed level. The total length of the bridge is 1,315 m consisting of an arch span of 469 m across the Chenab.

The bridge has to be designed and constructed considering many parameters that are unique to this bridge. Some of the considerations are the high wind forces, location of the bridge in highly active seismic zone of India, possibility of terrorist attacks, provision for future track, continuous monitoring systems etc. All these features make the bridge unique and once completed it will be one of the tallest bridges constructed for the first time in the world. While Northern Railway owns the total project, Konkan Railway Corporation is executing the project on behalf of Northern Railway and the Chenab Bridge Project Undertaking a joint venture company of Afcons, Ultra and VSL bagged the prestigious project in 2004.

The main span of the Chenab Bridge is proposed as a arch, made from large steel trusses. The chords of the trusses will be sealed steel boxes, filled with concrete to assist in controlling wind-induced forces on the bridge. The boxes will be stiffened internally. The designers have considered the aesthetic merit of the bridge and made a strong attempt to bring a natural cadence to the site.

**Design**

For the Chenab Bridge, there is a greater emphasis on the structural response to wind forces. Wind Tunnel Tests were conducted at Force Technology Laboratory, Norway to establish the topographic effects of the site on the reference wind speed, the static force coefficients: the occurrence of any aeroelastic effects such as vortex shedding, galloping and flutter; the effects of gust-buffeting.

The design of the bridge is being carried out as per the approved design basis note prepared specially for this bridge drawing the experiences gained from various projects abroad and international codes and practices. BS:5400 is the basic platform on which the design and construction of the Chenab Bridge will be carried out.

**Construction**

World over bridges are incrementally launched either on straight alignment or on curved alignment of uniform radius. Never the bridges are incrementally launched from one end when the bridge is partly on straight and partly on curve and more so when the bridge is on transition curve with varying radius. The deck on the viaduct of Chenab Bridge is partly in straight, partly in circular curve and partly on transition curve. This is first time in the world that incremental launching is attempted on a transition curve.

The arch span will be constructed using cable cranes and derrick moving on the already erected portion of the viaduct.