**SEISMIC EVALUATION OF IRREGULAR STRUCTURES**

**ABSTRACT**

Pushover analysis is a static, nonlinearprocedure using simplified nonlinear technique toestimate seismic structural deformations. It is anincremental static analysis used to determine theforce-displacement relationship, or the capacity curve, fora structure or structural element. Many buildings in thepresent scenario have irregular configuration both in planand elevation. This in future may subject to devastatingearthquake. In order to identify the most vulnerableamong the models considered, pushover analysis is carriedout. The analysis involves applying horizontal loads, in aprescribed pattern, to the structure incrementally, i.e.pushing the structure and plotting the total applied shearforce and associated lateral displacement at eachincrement, until collapse condition. The intensity of thelateral load is slowly increased and the sequence of cracks,yielding, plastic hinge formation, and failure of variousstructural components is recorded.

In this paper anattempt is made to study the seismic response of RCbuilding with plan irregularities in terms of performancepoint and the effect of earthquake forces on multi storybuilding frame with the help of pushover analysis. In thepresent study reinforced concrete framed buildings ofirregular plan (according to IS 1893-2002) such as Lshapes are analyzed and compared with regular plan(rectangular) with G+5 , G+10 and G+15 storied. Thepushover analysis of the building frame is carried out byusing software SAP 2000**.**