Experience with the LEP Vacuum System during Operation at Energies above 90 GeV and Future Expectations, J.C. BILLY, J.P. BOJON, N. HILLERET, M. JIMENEZ, I. LAUGIER, CERN - The LEP storage ring has been operated at energies above 90 GeV for more than 1000 hours during 1997. Because of the rapid increase with the beam energy of the power radiated by synchrotron light, the vacuum system has been submitted to very stringent conditions as far as power evacuation and photon stimulated gas desorption are concerned. The operational experience acquired under these, up to now unexplored, conditions will be reviewed together with an outline of the limitations which were experienced at these high levels of radiation in the use of the available vacuum instrumentation. Based on the available data detailed predictions concerning the beam lifetime, gas desorption and beam cleaning of the vacuum system under the impact of photons with a critical energy approaching 1 MeV will be formulated.