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Cryolines and Warmlines for ITER Project

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ITER (www.iter.org) is an international collaborative project to harness controlled nuclear fusion of Hydrogen isotopes to produce energy. It is an important step towards an alternative and virtually limitless source of clean energy. ITER-India (www.iter-india.org), part of the Institute for Plasma Research under the Dept. of Atomic Energy, is responsible for Indian contributions to the project. ITER employs a magnetic "cage"to contain the hot plasma. This cage makes use of superconducting magnets, which must be cooled to minus 269 deg-C, just 4 degrees above absolute zero. ITER will employ the biggest Cryoplant in the world coupled to a Nuclear Facility, and the liquid helium & nitrogen produced by this plant will be distributed to the magnets through a massive network of "cryolines". Approximately 4 km of Cryolines, operating at temperatures ranging from minus 269 to minus 193 deg-C, and about 6 km of return lines for warm gases, have been manufactured by M/s INOXCVA (www.inoxcva.com) in India and then dispatched to the ITER Worksite in France. These Cryolines are made to stringent Nuclear standards.

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India

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