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Developing Curriculum of Nuclear Civil Engineering Degree Programme at Graduate Level

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The paper suggests introduction of a new degree, namely nuclear civil engineering at graduate level for better utilization of civil engineers in nuclear power plant (NPP) design and construction. At present, both the Nuclear Engineering and the Civil Engineering degrees are offered at undergraduate and graduate levels in numerous renowned universities of the world. However, when a civil engineer, even after completion of nuclear engineering at postgraduate level, undertakes an assignment related to NPP design, he comes across various problems which are not covered in the present curricula. For instance, NPPs'siting issues, design of pre-stressed concrete containment against loads of Loss of Coolant Accident (LOCA), various impulsive and impactive loads (e.g. detonations, aircraft crash analysis, etc.) and shielding calculations are some of the core issues during nuclear power plant design. The paper highlights the importance of introduction of nuclear civil engineering degree at the graduate level. Besides, the contents of the proposed course work have also been discussed. Keeping in view the fact that, currently, no such degree is offered in any university of the world, the paper explores useful avenues to human resource development for introducing and expanding nuclear power programmes.

Country or International Organization

Pakistan

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