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Potential Changes to Radiation Protection Regulations

Comment On: NRC-2009-0279-0098
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General Comment

Revised Limit for the Declared Pregnant Worker. The proposed rules would follow the ICRP lead and reduce the allowable dose to the declared pregnant worker five fold, from 500 mrem over the course of the pregnancy to 100 mrem. The proposed limit would do little to protect the pregnant worker and her developing fetus, but would essentially put women of child bearing age at a profound disadvantage for many types of jobs. Jobs in radiopharmacies and in Nuclear Medicine and PET clinics entail some low level dose to the worker. For the PET and Nuclear Medicine technologist, the vast majority of the recorded dose is a result of contact with the dosed patient. Consequently, increased shielding would not reduce the dose. At the current limit of 500 mrem, the use of ALARA principles and having other technologists handle therapy patients is normally sufficient to ensure that the dose to the declared pregnant woman is below 500 mrem. This would not be the case at 100 mrem. This limit would challenge the lower limit of detection for some of the dosimetry systems and is almost impossible to meet for many busy clinics, even with limited work restrictions. The employer then, has reassignment as the only available option. For smaller clinics, this is no option. The clinics are not staffed to allow a worker to simply be reassigned to another area where there are no dosed patients. Indeed, for many imaging centers, there are no such locations.

As a result, this absurdly low limit will result in covert discrimination against women of child-bearing age for these entire classes of jobs. There is no justification for this in the literature. At 100 mrem, the dose is equivalent to the normal variation in background radiation found in different areas of the US (e.g. Denver vs. coastal regions). There is no evidence of increased risk in the high background areas, even though the whole population receives the dose. Risk, as estimated by the ICRP, is assumed risk which relies on broad extrapolation of risk factors over many orders of magnitudes of dose.

This dose limit should be left at the current, conservative value.