# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**
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## NRC REVISES SKIN DOSE LIMITS FOR WORKERS AT NUCLEAR FACILITIES

The Nuclear Regulatory Commission is revising its regulations for dose limits to the skin of the whole body and extremities. This changes the method used for calculating the amount of radiation to the skin that workers could potentially receive when conducting certain licensed activities.

The agency's final rule revises Part 20 of the Commission's regulations and is based on recommendations from the National Council on Radiation Protection and Measurements (NCRP Report No. 130 and Statement No. 9). It establishes a more risk-informed limit for potential doses received from small radioactive particles, sometimes known as "hot particles," which can result in doses to very small areas of the skin.

Publication of the proposed rule appeared in the *Federal Register* on July 12, requesting public comment. Nine letters were received, all supporting the proposed action.

Under the final rule, the dose to the skin will be averaged over the most highly exposed, 10 square centimeters instead of being averaged over one square centimeter, as is currently required. This change is based on scientific studies that demonstrate that risks from doses to small areas of the skin are less than risks to larger areas from the same dose.

Previously, rules required frequent monitoring of workers to detect hot particles and small area exposures that had insignificant health implications. To avoid exceeding the skin dose limit, workers were required to wear multiple layers of protective clothing and cumbersome gloves that resulted in workers being subjected to non-radiological hazards, such as heat stress. In addition, workers' mobility and dexterity were hampered by the excessive use of protective equipment and clothing which required them to spend more time completing a job in radiation areas. This increased the workers' whole-body dose. The health effects from small-area skin hot particle exposures, such as reddening of the skin, are considered by the NCRP to be very small when compared to the increased external dose and risk from frequent monitoring. Therefore, the excessive use of protective clothing and other equipment to avoid skin contamination may in fact expose workers to more significant hazards than are being avoided.

The agency's revision of the skin dose limit establishes a risk-informed approach for all sources of shallow radiation exposures, including hot particles and small area skin contaminations. The rule

also lessens physical stress and reduces whole-body doses to workers by reducing the frequency of monitoring for hot particles.

This rulemaking is expected to result in a decrease in the use of protective equipment used by nuclear power plant workers and others potentially exposed to skin contamination which will in turn lead to a reduction in an external occupational dose to workers onsite. This would be expected to result in an increase in worker safety, as well as a cost-effective reduction in unnecessary regulatory burden with little to no impact on worker safety.

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