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EXPOSED RULE

PR-19,20 (40 FR 799) (25)

Exposure Levels for Fertile Women



Health Research Group Statement on Proposed AEC Regulations  
for the Radiation Exposure of Fertile Women  
(Federal Register, 1/3/75, pages 799-800)

For further information:

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January 20, 1975

The AEC's proposed regulations on radiation exposure for fertile women claim to implement the National Council on Radiation Protection and Measurements (NCRP) recommendations in Report No. 39, issued January 18, 1971. Those recommendations state that fertile "women should be employed only in situations where the annual dose accumulation is unlikely to exceed 2 or 3 rems..." According to the NCRP, with such a dose limit, exposure to the fetus would probably not exceed .5 rems before a woman recognized that she was pregnant. The NCRP states that such a limit is necessary because there is a positive relationship between fetal irradiation and childhood cancer.

According to the AEC's own data, however, 11.8% of all monitored workers in 1973 were exposed to levels of radiation in excess of 2 rems. The AEC does not state how many of these 3,435 individuals were women workers. Thus, a significant number of women may be currently exposed to levels of radiation that the AEC concedes may be harmful to their embryos or fetuses.

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Will the AEC proposed regulations correct this situation? We suggest that the regulations are mere window-dressing to make it appear that the AEC is taking affirmative though belated action to protect women employees. In fact, the proposed regulations are actually meaningless statements of philosophy that are virtually unenforceable because of the AEC's primary concern for the costs to the nuclear industry and secondary concern for the safety of workers under its jurisdiction.

The AEC has proposed two amendments to the current regulations. First, it has added one provision to its worker instruction regulations that would require employers to tell employees about the biological risks of radiation exposure to the fetus or embryo. The woman worker is thus placed with the burden of deciding whether or not to work at a potentially dangerous job. Clearly, a woman who is exposed to an annual dose of radiation exceeding 2 rems will have difficulty evaluating the risks she is taking, in that the AEC admits that such exposure is potentially hazardous, yet does not require that such exposure be forbidden (see paragraph below). The burden of insuring a safe workplace should be placed on the AEC.

Second, the AEC has added one other provision to its current regulations. The current regulations already ask that licensees "make every reasonable effort to maintain radiation exposures...as far below the limits specified in this part as possible." (The current annual maximum dose level is 5 rems.) The AEC proposed regulation would add the following: "[AEC licensees] should make particular efforts to keep the radiation exposure of an embryo or fetus to the very lowest practicable

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level during the entire gestation period...." The state of technology, as well as the costs of lowering the dose levels, are allowable considerations in determining the "lowest practicable levels," in both the current and amended regulations.

Two observations must be made. First, neither of the new provisions for women workers are mandatory requirements. Second, both the present regulations and their amendments hinge on the nuclear industry's own assessment of its financial capability to lower the radiation exposure to a safe level. The AEC's statement of reasons accompanying the proposed regulations already alleges, without any substantiation, that it is impracticable for the nuclear industry to lower the dose limits for all workers because it would cost "large sums of money." Thus, it is clear at the outset that the AEC never genuinely expects that the nuclear industry will guarantee that the radiation exposure for all fertile women is kept below the 2-3 rem hazard level.

How does the AEC currently enforce the provisions requiring that the levels of exposure be kept to the "lowest practicable level?" Since costs are such a prime factor in the AEC's proposal, it is necessary to review the AEC's Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures as Low as Practicable," to determine how the validity of economic claims made by industry are evaluated by the AEC.

The Regulatory Guide states that licensee management "should be committed to maintaining exposures as low as practicable." One aspect to this "commitment" is that

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modifications to operating and maintenance procedures and to plant equipment and facilities should be made where they will substantially reduce exposures at a reasonable cost. [emphasis added.]

Management must merely demonstrate that it has sought changes and implemented improvements "where practicable." During the past year the U.S. has witnessed what results when workers rely on management "commitments" to a safe workplace -- rather than strict regulations -- as evidence has accumulated showing workers dying from cancer after exposure to such chemicals as bis-chloromethyl ether, vinyl chloride, and arsenic.

Thus, we have a situation where the AEC admits that (1) levels above 2-3 rems of radiation exposure are potentially hazardous to women of child-bearing age; (2) a special standard limiting the employment of women workers in AEC facilities would be discriminatory; but that (3) over 10% of workers are currently exposed to annual levels over 2 rems, even though current regulations require AEC licensees to keep the levels to the "lowest practicable level." Obviously, then the voluntary requirement that AEC licensees "make every reasonable effort" to minimize exposure has not to date resulted in creating a safe workplace for all [i.e., male and female] employees. Only a mandatory requirement that AEC facilities reduce exposure levels to an enforceable numerical limit for ALL employees will result in guarantee of a safe workplace, without discriminating against women employees.

At a time when health and safety requirements are already being compromised by threats of economic depression and job lay-offs, it seems improper for a government regulatory agency

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to publicly state, without full disclosure or substantiation, that the nuclear industry cannot practicably afford to protect its workers from the dangers of radiation exposure. These economic claims emerge as a weak excuse for the fact that neither the AEC nor the nuclear industry is truly committed to protecting the health of all workers who are exposed to radiation. Those women workers who are employed in AEC facilities should not be fooled by the AEC's empty assurances that women will be protected by the new regulations. These women should demand that the AEC require the nuclear industry to publicly testify with full disclosure of the actual costs of implementing meaningful safety regulations to protect all workers. As the regulations stand now, they protect the profits of the nuclear industry while providing no additional health assurances for fertile women workers.

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

March 12, 1976

MEMORANDUM FOR: Tom Rehn  
FROM: Ben Huberman  
SUBJECT: FERTILE WOMEN PAPER - ADDENDUM TO SECY-76-535  
(REHM MEMO, 2-17-76)

I believe that the paper provides the additional information requested by the Commission, and adequately scopes the alternatives available to the Commission.

Nevertheless, I think the paper does not do justice to the real strengths of the alternative which the paper recommends. These strengths include:

- First, while the paper adequately discusses the capability of the recommended alternative to minimize the possibility of sex discrimination in employment, the paper fails to give due emphasis to the primary motivation for that alternative, as for all the others; namely, NRC's concern for and responsibility to provide adequate protection for the fetus, in accord with the NRCP recommendation. Thus, the paper should make clearer that the aim of the alternative is primarily to provide radiological protection, and only secondarily to provide that protection with a minimum social impact.
- Second, it avoids the potential, which several of the other alternatives have, of shrinking the pool of skilled labor, which may cause an increase in total population exposure with a concomitant increase in all biological effects, including effects on fetuses. (In this connection we should not ignore the real impact of NRC's decision -- whatever it may be -- on the approach of other agencies responsible for radiation protection).
- Third -- and most important -- the recommended alternative is an effective step in further protection of the individual fetus. While it cannot, perhaps, be said to be the most effective alternative of those presented, it cannot be said to be ineffective nor should it be seen in that light. A sizeable fraction of women,

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having the somewhat greater risk assumed for the fetus, in the event of pregnancy, further work situations that would avoid the risk. Even if only 50% of the affected women were protected by another alternative were 100% effective, the effectiveness in protection of the fetus would be at best a factor of two - hardly a basis to consider the recommended approach as ineffective.

- Fourth, while the effectiveness is dependent on the woman, nevertheless the primary responsibility for the effectiveness of radiation protection measures is in this instance, as in all other instances, placed on the licensee. Specifically, the licensee is responsible for:

- Maintaining safe exposures
- Providing training for persons exposed occupationally, including, in particular, specific instructions to female workers concerning risks in pregnancy, and
- Providing alternative working conditions once the fact of pregnancy is known. (For example, a pregnant woman assigned to monitoring and film processing - hiring an individual in those rare instances above 0.5 rem followed by a period of time when times occur, that should not be considered as a premature conclusion. The period over which a lower exposure alternative would have to be maintained is not long - a few months at most - that an employer will be quick to unload a skilled worker upon the birth of a child within a matter of months.

In sum, with a relatively little effort, I believe the recommended alternative can be presented in a way that more fully substantiates its effectiveness - both technically and sociologically.

cc: Peter [unclear]  
Bob Midway  
Rc [unclear]  
B. [unclear]  
Wm. [unclear]

Enclosure "C"