SUFFICIENT ACCURACY COWORKER DOSE MODELING

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REGULATION

– Per 42 CFR § 83.13 (c)(1)(i), *Radiation doses can be reconstructed with sufficient accuracy if NIOSH has established that it has access to sufficient information to estimate the maximum radiation dose, for every type of cancer for which radiation doses are reconstructed, that could have been incurred in plausible circumstances by any member of the class or if NIOSH has established that it has access to sufficient information to estimate the radiation doses of members of the class more precisely than an estimate of the maximum radiation dose.*

CONSIDERATION OF EXPOSURE POTENTIAL

- WHAT ACCURACY IS SUFFICIENT?
- FOR LOW EXPOSURE POTENTIAL – IS LESS ACCURACY SUFFICIENT?
- EXAMPLE – RESIDUAL PERIOD.
- PROBLEM WITH EVALUATING COWORKER MODELS FOR STRATIFICATION

Co Worker Models – General Issues

- NOT INDIVIDUAL DOSE RECONSTRUCTION – USING ONE GROUP'S EXPOSURE TO PREDICT THAT OF OTHER PEOPLE

- LOTS OF STATISTICAL ISSUES

- HOW COMPLETE IS DATA SET BEING USED

- HOW MUCH DATA ARE BEING MODELED

ISSUES CONT.

- OPERATIONAL STABILITY DURING TIME PERIODS IN QUESTIONS
- SAMPLE SIZE (S)
- RANGE OF EXPOSURES BEING MODELED
- USUAL DATA ROBUSTNESS ISSUE
- STRATIFICATION

POTENTIAL ISSUES WITH STRATIFICATION EVALUATION

◆ REPRESENTATIVENESS AND COMPLETENESS OF DATA

◆ SIMILAR SAMPLING PROTOCOLS

◆ SIMILAR OPERATIONS

◆ USE OF OPOS (ONE PERSON ONE VALUE)

◆ CONFIDENCE LEVELS USED

◆ SMALL SAMPLE SIZES /POWER (RULE OF 30)