



ACMUI Report on Dose Reconstruction

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Chair, DRS Subcommittee

Subcommittee Charge

- **Independently review Region 3's dose evaluation**
- **Review the alternate dose reconstruction methodology**
- **Make recommendations regarding dose reconstruction**

DRS SUBCOMMITTEE

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St. Joseph's Hospital Incident

- **285 mCi I-131 orally administered**
- **Daughter's exposure**
- **Reg III: Daughter's exposure = 15 rem**
- **SNM: too conservative**

ACMUI DRS SC Investigations

- **Review Reg III calculations,**
- **Review/critique Marcus/Siegel article**
- **Interview relevant parties and review documents**

Findings

- **15 rem: most conservative estimate possible that is not totally implausible**
- **Distance reconstruction**
- **DRS estimate: 9 rem for Reg III's dwell-time scenario**

Findings: continued

- **SJH disputes Reg III dwell-time scenario**
- **DRS: reduces DDE to 4-6 rem**
- **Inspection report improvement**

Siegel/Marcus Critique

- **Use more sophisticated DR tools, e.g., distance reconstruction**
- **Use EDE, not DDE, as regulatory endpoint**
- **DRS: overly simplistic approximations used**

SNM vs. ACMUI DR

- **Distance Reconstruction factor**
- **EDE vs. DDE factor**
- **Continuous decay factor**
- **Various other factors**

ACMUI Recommendations to NRC Staff

- Doses near regulatory limit**
- Licensee disputes NRC DR**
- Plausibility of findings is suspect**
- Usual approximations suspect**

ACMUI Recommendations to NRC Staff

- **Use EDE as DR regulatory endpoint for CFR 20 compliance**
- **Use EDE/DDE ranges and/or justify rejection of Licensee scenario**
- **Exempt caregivers**