

Part E. Radiological Impact on Man

The calculated individual doses in this section are based on actual locations of nearby residents and farms. The population dose impact is based on historical site specific data i.e., food production, milk production, feed for milk animals and seafood production.

The doses were calculated using methods described in Regulatory Guide 1.109 and represent calculations for the six month reporting interval. Doses from batch and continuous releases were calculated using the meteorological dispersion coefficient X/Q for the six month reporting interval.

Liquid Pathways

Doses to individuals in the population from liquid releases are primarily from the seafood ingestion pathway. The total body dose to an individual was calculated to be $3.6E-01$ mrem. The calculated highest organ dose from liquid releases was 2.37 mrem to the gastrointestinal tract. The calculated population total body dose was $1.46E-01$ person-rem. The calculated average total body dose to the population within fifty miles of the site was $2.7E-5$ mrem/person.

Air Pathways

The resulting whole body and skin doses to an individual were calculated to be $1.43E-02$ mrem and $3.36E-02$ mrem respectively. The highest organ dose due to radioiodines and particulates with a greater than eight day half-life was $2.12E-02$ mrem to the thyroid. The calculated population total body dose was $1.01E+00$ person-rem. The average total body dose to the population within fifty miles of the site was $2.70E-05$ mrem/person.

Direct Radiation

Direct radiation may be estimated by thermoluminescent dosimetric (TLD) measurements. One method for comparing TLD measurements is by comparison with preoperational data.

TLD's at onsite locations 2S-2 and 5S-1 which are 0.3 miles and 0.9 miles from the reactor containment, averaged 4.9 and 4.6 mrad/month respectively. The values for stations 2S-1 and 5S-1 are within the statistical variation associated with the preoperational program results.

All offsite monitoring locations remained within preoperational ranges. It should be noted that the nearest resident is 3.5 miles away. It can thus be concluded that there was no measurable dose to any offsite locations from direct radiation.