

SPECIAL REPORT 81-1

Report on Results of 1981 Land Use  
Census for Sequoyah Nuclear Plant

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## SEQUOYAH NUCLEAR PLANT - RESULTS FROM LAND USE SURVEY

In response to land use survey reports received in April 1981, doses based on annual-average meteorology and design-basis source terms were calculated for air submersion, vegetable ingestion, and milk ingestion. The survey identified one location with a residence and garden closer to the plant than the nearest residences identified in the previous survey. The previous survey did not include gardens. The air submersion dose calculated for this location (2,800 meters NNE) was 0.06 mrem per year as compared with 0.05 mrem per year at the location 3,200 meters NNE identified in the previous survey. The vegetable ingestion dose at the new location was calculated to be 0.6 mrem per year.

In addition, the survey identified the locations with milk producing animals as indicated in the attached table. The table shows the D/Q and the calculated dose in mrem per year for each of the sectors containing milk-producing animals. All calculations are based on annual-average meteorology, design-basis source terms, and on the most conservative ingestion and animal feeding factors, that is, consumption of the milk by infants and no supplemental feeding of the animals. Efforts will be made in future surveys to obtain the ages of consumers and the feeding practices employed at each location. Three of the locations (locations numbered 1, 5, and 9) yielded doses higher than the projected doses from the locations being sampled. The owners of these three farms were contacted about providing a sample. The milk animal at location number 1 is not producing milk at the present time. The owner will be contacted again in the next survey. The small volume of milk being taken at locations numbered 5 and 9 does not permit the owners to provide a sample. Consequently monthly vegetation sampling is being initiated near the locations numbered 1, 5, and 9. These areas have the highest D/Q values of the locations not currently being sampled. If concentrations measured in these samples or in samples of milk from nearby locations indicate that concentrations in milk from locations numbered 1, 5, or 9 may be approaching reportable levels, efforts will be made to obtain samples of milk from the appropriate area. All of the locations identified in the survey will be considered in the routine predictive modeling program.

This report was prepared and submitted in accordance with Sequoyah Nuclear Plant unit 1 technical specification 3.12.2.

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SEQUOYAH NUCLEAR PLANT - MILCH ANIMAL LOCATIONS

<u>Location Number</u>	<u>Sector</u>	<u>Approximate Distance (Meters)</u>	<u>D/Q (1/m<sup>2</sup>)</u>	<u>Animal Dose from Milk Ingestion (mrem/year)</u>
1	N	4220	1.1	1.2
2	NNE	4530	1.6	1.7 <sup>a,b</sup>
3	NE	5625	1.0	1.1 <sup>a,b</sup>
4	S	7030	0.3	0.4
5	SSW	3595	2.9	3.2
6	WNW	1875	0.4	0.5 <sup>a</sup>
7	NW	2030	0.6	0.7 <sup>a</sup>
8	NW	5780	0.1	0.4 (Goat)
9	NNW	2440	0.9	3.7 (Goat)

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a. Locations from which samples are currently being obtained.

b. Dairy Farm.

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