

TABLE 4.8.1
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MONTICELLO NUCLEAR GENERATING PLANT
RADIATION ENVIRONMENTAL MONITORING PROGRAM
SAMPLE COLLECTION AND ANALYSIS

<u>Type of Sample</u>	<u>Type of Analysis</u>	<u>Collection Site</u>	<u>Collection Frequency</u>
Surface Water	GS (M)	1 Sample upstream within 1000 ft of intake canal 1 Sample downstream within 1000 ft of discharge canal	Monthly composite of weekly samples (water & ice conditions permitting)
	^3H (Q)		Quarterly composite of monthly composite
Drinking Water	CB, GS (M)	1 Sample from the City of Minneapolis Water Supply	Monthly composite of weekly samples
	^3H (Q), $^{89,90}\text{Sr}$		Quarterly composite of monthly composite
Well Water	GS, ^3H	3 Samples from wells within 5 miles of plant site including the City of Monticello well 1 Sample from a well greater than 10 miles away	Quarterly
River Bottom Sediment Shoreline sediment	GS	1 Sample upstream of plant 1 Sample downstream of plant 1 Sample from the shoreline at a recreational area	Semi-annually (when available)
Periphyton or Macroinvertebrates	GS, $^{89,90}\text{Sr}$	1 Sample upstream of plant 1 Sample downstream of plant	Semi-annually (when available)

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<u>Type of Sample</u>	<u>Type of Analysis</u>	<u>Collection Site</u>	<u>Collection Frequency</u>
Aquatic Vegetation	GS	1 Sample upstream of plant 1 Sample downstream of plant	Semi-annually (when available)
Clams	GS	1 Sample upstream of plant 1 Sample downstream of plant	Semi-annually (when available)
Fish (1 sample each of two game specie)	GS	2 Samples upstream of plant 2 Samples downstream of plant	Semi-annually (when available, water & ice conditions permit- ting)
Milk	^{131}I , ^{137}Cs ,* $^{89,90}\text{Sr}$ *	1 Sample at the offsite dairy farm having the highest X/Q 3 Samples from dairy farms calc- ulated to have doses from ^{131}I > 1 mrem./yr 1 Sample from 10-20 mile location	Monthly
Topsoil	GS, ^{90}Sr	From the 7 air sampling locations, and from 5 fields in the vicinity of the plant, including at least 2 fields irrigated with river water downstream of the plant.	Once every 3 years
Natural Vegetation	GS, ^{131}I	1 Sample from field having highest X/Q (same as for milk) 1 Sample from a field northwest of the plant (within 2 miles) 1 Sample from 10-20 mile location (Same as for milk)	Semi-annually

*Performed only on X/Q and Control Samples

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<u>Type of Sample</u>	<u>Type of Analysis</u>	<u>Collection Site</u>	<u>Collection Frequency</u>
Small Mammal	CS (Flesh & Liver)	1 Sample within 1 mile of site 1 Sample 10-20 miles from the site	Semi-annually
Calculated Crops	1311	1 Sample from nearest garden 1 Sample from 10-20 mile location	Annually (at harvest, if available)
Leafy Green Vegetables	CS	1 Sample from highest X/Q farm 1 Sample from 10-20 mile location	Annually (at harvest, if available)
Corn	CS	1 Sample from field irrigated with river water 1 Sample from 10-20 mile location	Annually (at harvest, if available)
Potatoes	CS	3 off-site locations in different sectors having the highest calculated ground level concentrations level concentrations 1 location near residence having highest X/Q value 1 location near closest community 2 locations within 8-20 miles	Weekly
Air (Particulates)	GB, GS(M)		

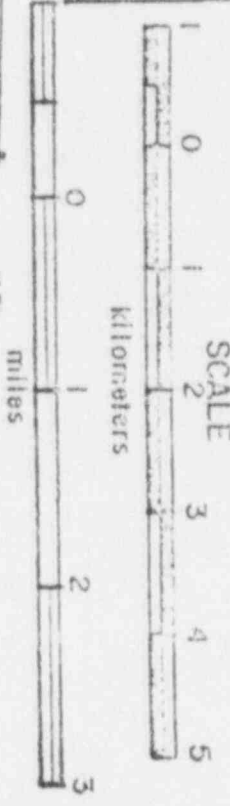
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<u>Type of Samples</u>	<u>Type of Analysis</u>	<u>Collection Site</u>	<u>Collection Frequency</u>
Air (Radioiodine)	^{131}I	1 location near residence having highest K/Q value 1 location near closest community 1 location within 10-20 miles	Weekly
Air (TLD)	Gamma dose	2 dosimeters at each air particulate sampling location	Quarterly

Coding System
 GB - Gross beta
 GS - Gamma scan
 M - Monthly
 Q - Quarterly

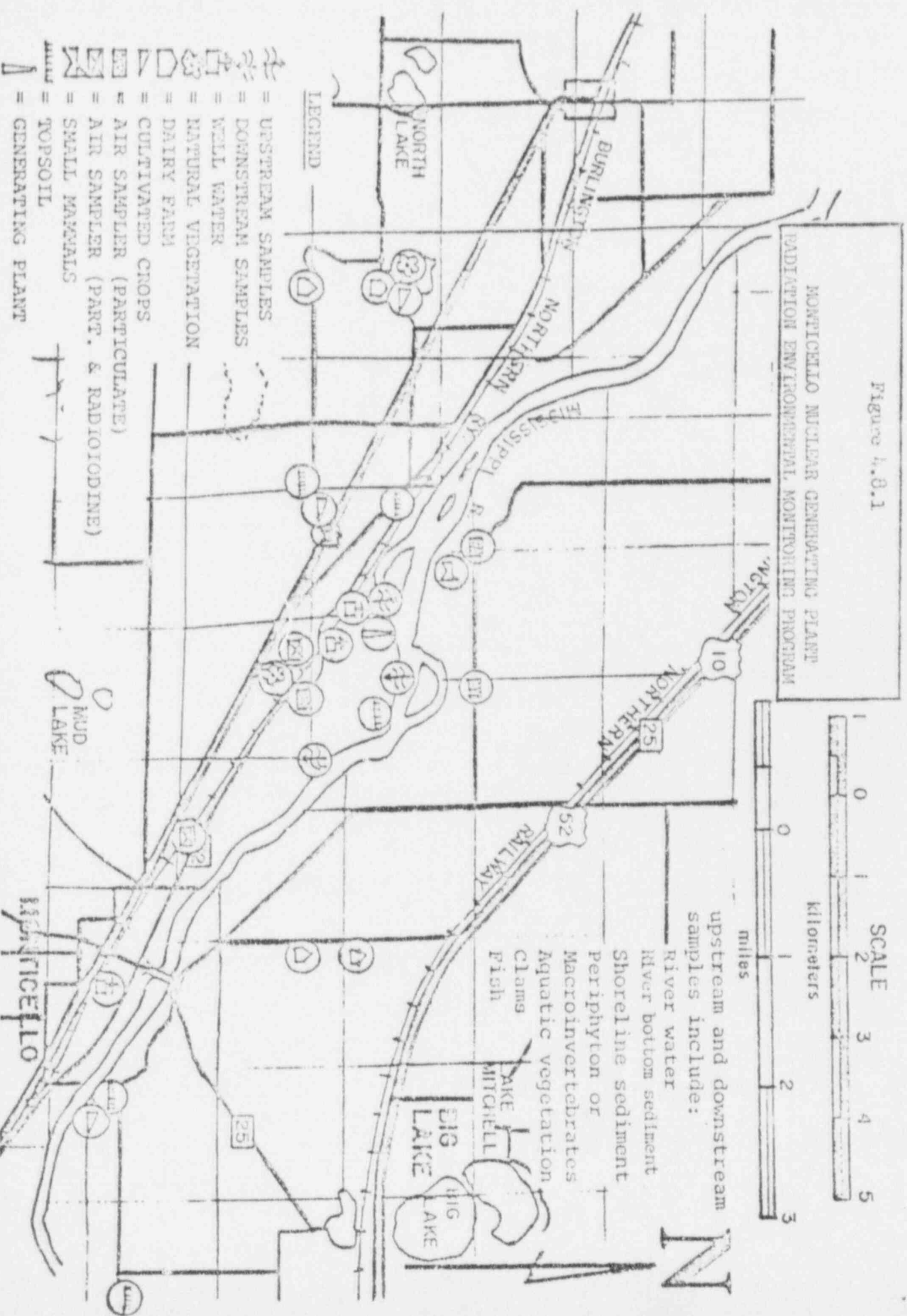
Figure 4.8.1

MONTECELLO NUCLEAR GENERATING PLANT
RADIATION ENVIRONMENTAL MONITORING PROGRAM



upstream and downstream samples include:

- River water
- River bottom sediment
- Shoreline sediment
- Periphyton or Macroinvertebrates
- Aquatic vegetation
- Clams
- Fish



LEGEND

- = UPSTREAM SAMPLES
- △ = DOWNSTREAM SAMPLES
- = WELL WATER
- = NATURAL VEGETATION
- = DAIRY FARM
- = CULTIVATED CROPS
- = AIR SAMPLER (PARTICULATE)
- = AIR SAMPLER (PART. & RADIOIODINE)
- = SMALL MAMMALS
- = TOPSOIL
- = GENERATING PLANT





MONTICELLO NUCLEAR GENERATING PLANT
 RADIATION ENVIRONMENTAL MONITORING PROGRAM
 FIGURE 4.8.2

Bases

4.8 Radiation Environmental Monitoring Program

The types of samples, the number and distribution of collection sites, and the types of analysis specified will provide data, which compared with preoperational background data, will verify the effectiveness of plant effluent control and indicate any measurable changes in environmental radioactivity due to plant operation.

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