

TABLE 3.12-1 (Cont)

d. Sediment from Shoreline	L2, L3	2/year	Gamma Isotopic Analyses Semi-Annually.
4. Ingestion	Each indicator farm and a background farm*	At least once per 15 days when animals are on Pasture. At Least Once Per 31 Days at Other Times.	Gamma Isotopic and I-131 Analysis of Each Sample.
a. Milk			
b. Fish	Plant Site Off-Site	2/year	Gamma Isotopic Analysis on Edible Portion.
c. Food Products	Plant Site Off-Site (approx. 20 mi)	At time of Harvest One Sample of Each of the Following Classes of Food Products: 1. Grapes	Gamma Isotopic Analysis on Edible Portion.

<sup>a</sup> Particulate sample filters should be analyzed for gross beta 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air or water is greater than 10 times the yearly mean of control samples for any medium, gamma isotopic analysis should be performed on the individual samples.

\* An indicator farm is defined as the nearest milk producer in each of the land sectors within 8 miles of the plant site who is willing to participate in the radiological environmental monitoring program. A background farm is defined as a milk producer in one of the less prevalent wind directions at a distance greater than 15 miles but less than 25 miles who is willing to participate in the radiological environmental monitoring program. If at least three indicator milk samples and one background milk sample cannot be obtained, vegetation sampling will be performed as a replacement for the milk sampling and no milk samples will be required.

8802050074 880201  
PDR ADDOCK 05000315  
PDR

TABLE 3.12-1 (Cont)

Plant Site	At time of Harvest One sample of Broad Leaf Vegetation	Gamma Isotopic Analysis.
3 indicator samples of broad leaf vegetation grown nearest to the offsite locations of highest calculated annual average ground level D/Q if at least three indicator milk samples and one background milk sample cannot be obtained.	Monthly when available	Gamma Isotopic and I-131 monthly when available
1 background sample of each of the similar vegetation grown 15-25 miles distant and in one of the less prevalent wind directions if at least three indicator milk samples and one background milk sample cannot be obtained.	Monthly when available	Gamma Isotopic and I-131 monthly when available

## RADIOACTIVE EFFLUENTS

### BASES

---

3/4.11.1.3 LIQUID WASTE TREATMENT. The OPERABILITY of the liquid radwaste treatment system ensures that this system will be available for use whenever liquid effluents require treatment prior to release to the environment. The requirements that the appropriate portions of this system be used when specified provides assurance that the releases of radioactive materials in liquid effluents will be kept "as low as is reasonable achievable." This specification implements the requirements of 10 CFR Part 50.36a, General Design Criteria Section 11.1 of the Final Safety Analysis Report for the Donald C. Cook Nuclear Plant, and design objective Section II.D of Appendix I to 10 CFR Part 50. The specified limits governing the use of appropriate portions of the liquid radwaste treatment system were specified as a suitable fraction of the dose design objectives set forth in Section II.A of Appendix I, 10 CFR Part 50, for liquid effluents.

3/4.11.1.4 LIQUID HOLDUP TANKS. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

This specification, being applicable to outside temporary tanks, does not apply to the refueling water storage tank, primary water storage tank, or the condensate storage tank, since they are a part of the permanent plant design.

### 3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 DOSE RATE. This specification is provided to ensure that the dose rate at any time at the SITE BOUNDARY from gaseous effluents from all units on the site will be within the annual dose limits of 10 CFR Part 20 for UNRESTRICTED AREAS. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of an individual in an UNRESTRICTED AREA, to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b)). For individuals who may at times be within the SITE BOUNDARY, the occupancy of the individual will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the SITE BOUNDARY. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to an individual at or beyond the site boundary to less than or equal to 500 mrem/year to the total body or to less than or equal to 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via inhalation pathway to less than or equal to 1500 mrems/year. Iodine adsorbing media refers to silver zeolite cartridges in Table 4.11-2 or the industry standard.

This specification applies to the release of gaseous effluents from all reactors at the site. The gaseous effluents from the shared system are proportioned among the units sharing that system.

TABLE 3.12-1 (Cont)

d. Sediment from Shoreline	L2, L3	2/year	Gamma Isotopic Analyses Semi-Annually.
4. Ingestion			
a. Milk	Each indicator farm and a background farm*	At least once per 15 days when animals are on Pasture. At Least Once Per 31 Days at Other Times.	Gamma Isotopic and I-131 Analysis of Each Sample.
b. Fish	Plant Site Off-Site	2/year	Gamma Isotopic Analysis on Edible Portion.
c. Food Products	Plant Site Off-Site (approx. 20 mi)	At time of Harvest One Sample of Each of the Following Classes of Food Products: 1. Grapes	Gamma Isotopic Analysis on Edible Portion.

<sup>a</sup> Particulate sample filters should be analyzed for gross beta 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air or water is greater than 10 times the yearly mean of control samples for any medium, gamma isotopic analysis should be performed on the individual samples.

\* An indicator farm is defined as the nearest milk producer in each of the land sectors within 8 miles of the plant site who is willing to participate in the radiological environmental monitoring program. A background farm is defined as a milk producer in one of the less prevalent wind directions at a distance greater than 15 miles but less than 25 miles who is willing to participate in the radiological environmental monitoring program. If at least three indicator milk samples and one background milk sample cannot be obtained, vegetation sampling will be performed as a replacement for the milk sampling and no milk samples will be required.

TABLE 3.12-1 (Cont)

Plant Site	At time of Harvest One sample of Broad Leaf Vegetation	Gamma Isotopic Analysis.
3 indicator samples of broad leaf vegetation grown nearest to the offsite locations of highest calculated annual average ground level D/Q if at least three indicator milk samples and one background milk sample cannot be obtained.	Monthly when available	Gamma Isotopic and I-131 monthly when available
1 background sample of each of the similar vegetation grown 15-25 miles distant and in one of the less prevalent wind directions if at least three indicator milk samples and one background milk sample cannot be obtained.	Monthly when available	Gamma Isotopic and I-131 monthly when available

## RADIOACTIVE EFFLUENTS

### BASES

---

3/4.11.1.3 LIQUID WASTE TREATMENT. The OPERABILITY of the liquid radwaste treatment system ensures that this system will be available for use whenever liquid effluents require treatment prior to release to the environment. The requirements that the appropriate portions of this system be used when specified provides assurance that the releases of radioactive materials in liquid effluents will be kept "as low as is reasonable achievable." This specification implements the requirements of 10 CFR Part 50.36a, General Design Criteria Section 11.1 of the Final Safety Analysis Report for the Donald C. Cook Nuclear Plant, and design objective Section II.D of Appendix I to 10 CFR Part 50. The specified limits governing the use of appropriate portions of the liquid radwaste treatment system were specified as a suitable fraction of the dose design objectives set forth in Section II.A of Appendix I, 10 CFR Part 50, for liquid effluents.

3/4.11.1.4 LIQUID HOLDUP TANKS. Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

This specification, being applicable to outside temporary tanks, does not apply to the refueling water storage tank, primary water storage tank, or the condensate storage tank, since they are a part of the permanent plant design.

### 3/4.11.2 GASEOUS EFFLUENTS

3/4.11.2.1 DOSE RATE. This specification is provided to ensure that the dose rate at any time at the SITE BOUNDARY from gaseous effluents from all units on the site will be within the annual dose limits of 10 CFR Part 20 for UNRESTRICTED AREAS. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of an individual in an UNRESTRICTED AREA, to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b)). For individuals who may at times be within the SITE BOUNDARY, the occupancy of the individual will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the SITE BOUNDARY. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to an individual at or beyond the site boundary to less than or equal to 500 mrem/year to the total body or to less than or equal to 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via inhalation pathway to less than or equal to 1500 mrems/year. Iodine adsorbing media refers to silver zeolite cartridges in Table 4.11-2 or the industry standard.

This specification applies to the release of gaseous effluents from all reactors at the site. The gaseous effluents from the shared system are proportioned among the units sharing that system.