OFFSITE DOSE CALCULATION MANUAL

GRAND GULF NUCLEAR STATION

Revision No. 4

Date: July 30, 1984

GRAND GULF NUCLEAR STATION

OFFSITE DOSE CALCULATION MANUAL

SAFETY RELATED

EVALUATION APPLICABILITY

SAFETY EVALUATION	ENVIRONMENTAL EVALUATION
☐ APPLICABLE	☐ APPLICABLE
☒ NOT APPLICABLE	☒ NOT APPLICABLE

Reviewed/Approved: L. Barber for G.C. Smith, 7-30-84
Supervisor, Environmental Services — Date

Reviewed/Approved: James E Wallace Jr, 7/30/84
Supervisor, Radiological Services — Date

Reviewed/Approved: S R McKay, 7/30/84
Manager, Radiological & Environmental Services — Date

Reviewed/Approved: J McManus, 7/30/84
Vice President, Nuclear Support — Date

Reviewed/Approved: C.R. Hutchinson, 7/31/84
Chairman, Plant Safety Review Committee — Date

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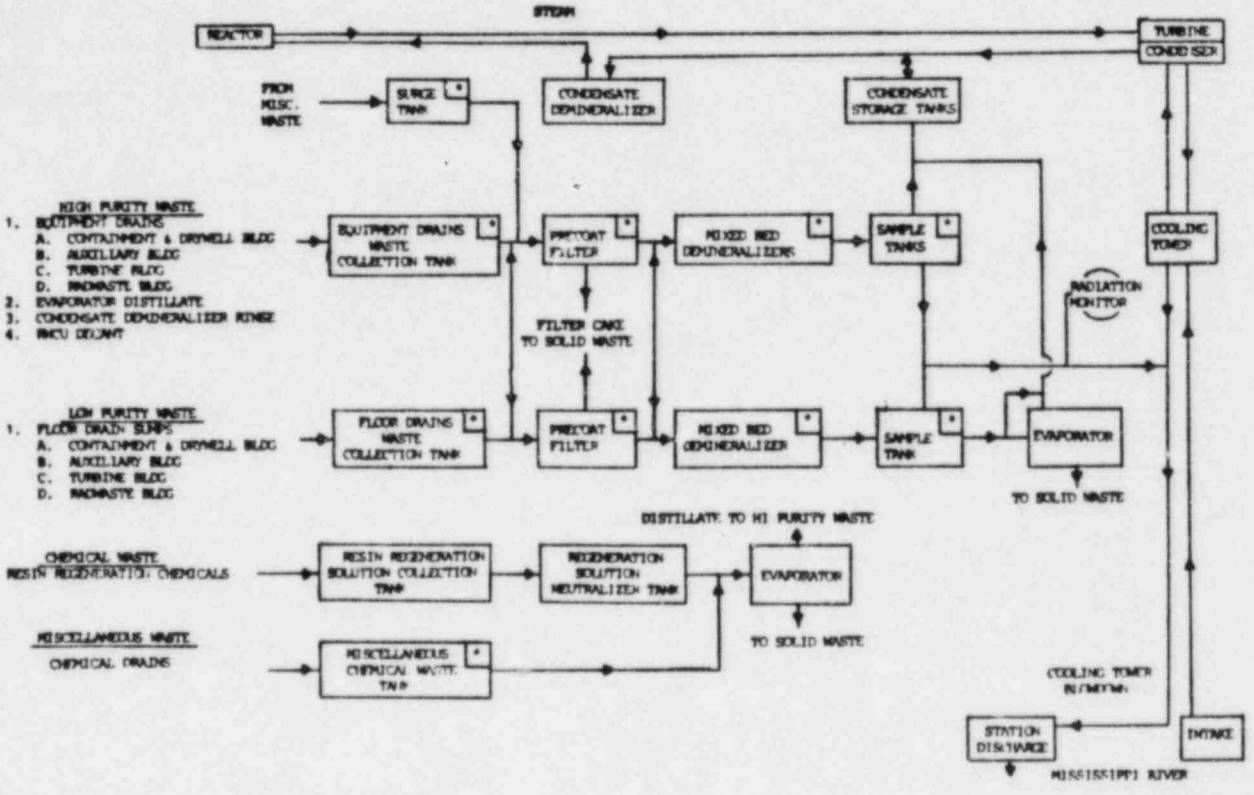
1.3 Liquid Radwaste Treatment System

The essential components of the liquid radwaste treatment system are indicated below by an asterisk (*). 4



NOTES

1. The essential components outlined above are those necessary to collect, process and sample liquid radwaste prior to discharge to the environment.
2. Only one of the following is required in order to process liquid waste.
   a. Equipment drain filter
   b. Floor drain filter
   c. Equipment drain demineralizer
   d. Floor drain demineralizer
3. One of the Waste Surge Tanks may be used to replace the Floor Drain Waste Collection Tank.

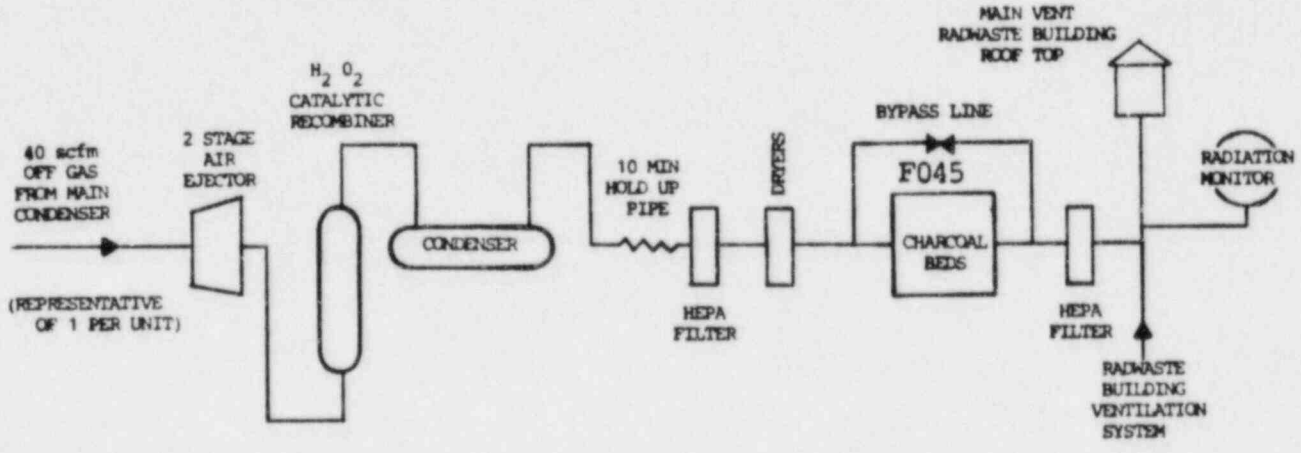
(A COMMON SYSTEM SCALED TO A PER UNIT BASIS)

2.5 GASEOUS RADWASTE TREATMENT SYSTEM

The instruments required to be checked by RETS 3/4.11.2.4 to ensure that the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM is functioning are:

1. Absorber train bypass switch (IN64-HS-M611)
2. Bypass valve indication (IN64-F045)

When the absorber train bypass switch is in the TREAT position and the bypass valve indicates closed, the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM is functioning.



NOTE

The charcoal beds may be bypassed provided the limits of Technical Specification 3.11.2.1 are not exceeded. The charcoal beds will be used as much as possible to ensure releases are as low as reasonably achievable.

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TABLE 3.0-1

AIR SAMPLER COLLECTION SITES

AIR SAMPLERS

NUMBER	FIGURE	LOCATION	
* AS-1 PG	3.0-3	Southeast of GGNS at the Port Gibson City Barn. (Sector G Radius 5.5 miles)	
AS-2 61N	3.0-2	North Northeast of GGNS, on Hwy 61 South across from the Yokena Church. (Sector B Radius 13 miles)	
* AS-3 61 VA	3.0-2	North Northeast of GGNS on Hwy 61 south at the Vicksburg Airport. (Sector B Radius 18 miles)	
AS-4 GJOE	3.0-1	Southwest of GGNS. Glodjo property on Waterloo Road. (Sector L Radius .9 miles)	4
AS-5 TC	3.0-1	South of GGNS behind MP&L training center building. (Sector J Radius .4 miles)	
* AS-6 PS	3.0-1	Northeast of GGNS, South of Grand Gulf Road. (Sector C Radius .8 miles)	4
* AS-7 MT	3.0-1	North of GGNS, located next to the Meteorological Tower. (Sector A Radius .8 miles)	
* AS-8 WR	3.0-1	East of GGNS, located at Maggie Jackson's trailer on Waterloo Road near the Eastern Site Boundary. (Sector E Radius .5 miles)	4
AS-9 GGMP	3.0-1	North of GGNS, located in Grand Gulf Military Park. (Sector A Radius 1.5 miles)	4
AS-10 NLT	3.0-3	West Northwest of GGNS, located at Newellton, Louisiana. (Sector P Radius 12.5 miles)	
AS-11 STJ	3.0-3	West Southwest of GGNS, located at St. Joseph, Louisiana. (Sector M Radius 13.0 miles)	

* Technical Specification requirements

From Grand Gulf Nuclear Station's Annual Radiological Environmental Operating Report.

TABLE 3.0-2 (CONTINUED)

	Figure		
SURFACE WATER			
Upstream *	3.0-4	4500 ft. upstream of the GGNS outfall to allow adequate mixing of the Mississippi and Big Black Rivers. (Sector Q)	
Downstream *	3.0-4	5000 ft. downstream of GGNS outfall, near the most southern radial well. (Sector N)	
Discharge Basin *	3.0-4	West of GGNS, 0.5 miles, Sector P	
VEGETATION			
Broad Leaf Vegetation*	3.0-4	South of GGNS near the training center (Sector J, 0.4 miles) and North Northwest of GGNS near the Meteorological Tower (Sector R, 0.8 miles)	4
		Alcorn State University Southwest of GGNS (Sector K, 10.5 miles)	4
FISH SAMPLES			
Commercially or recreationally important species *	3.0-4	Downstream of the discharge point in the Mississippi River	4
	3.0-4	Upstream of Discharge Point uninfluenced by Plant Operations.	

* Technical Specification requirements
From Grand Gulf Nuclear Station's Annual Radiological Environmental Operating Report.

OFFSITE DOSE CALCULATION MANUAL

GRAND GULF NUCLEAR STATION

MARKUP

Revision No. 4

Date 8/5/84

GRAND GULF NUCLEAR STATION

OFFSITE DOSE CALCULATION MANUAL

SAFETY RELATED

EVALUATION APPLICABILITY			
SAFETY EVALUATION		ENVIRONMENTAL EVALUATION	
☐	APPLICABLE	☐	APPLICABLE
☒	NOT APPLICABLE	☒	NOT APPLICABLE

Reviewed/Approved: Susan O. Smith 4/10/84
Supervisor of Environmental Services/Date

Reviewed/Approved: James C. Wallace Jr 4/10/84
Supervisor of Radiological Services/Date

Reviewed/Approved: J R McKay 4/10/84
Manager of Radiological & Environmental Services/Date

Reviewed/Approved: L F Dale 4/16/84
~~Manager of Nuclear Services~~ Vice President, Nuclear Support/Date

Reviewed/Approved: C. R. Hutchinson 4/25/84
Chairman, Plant Safety Review Committee/Date

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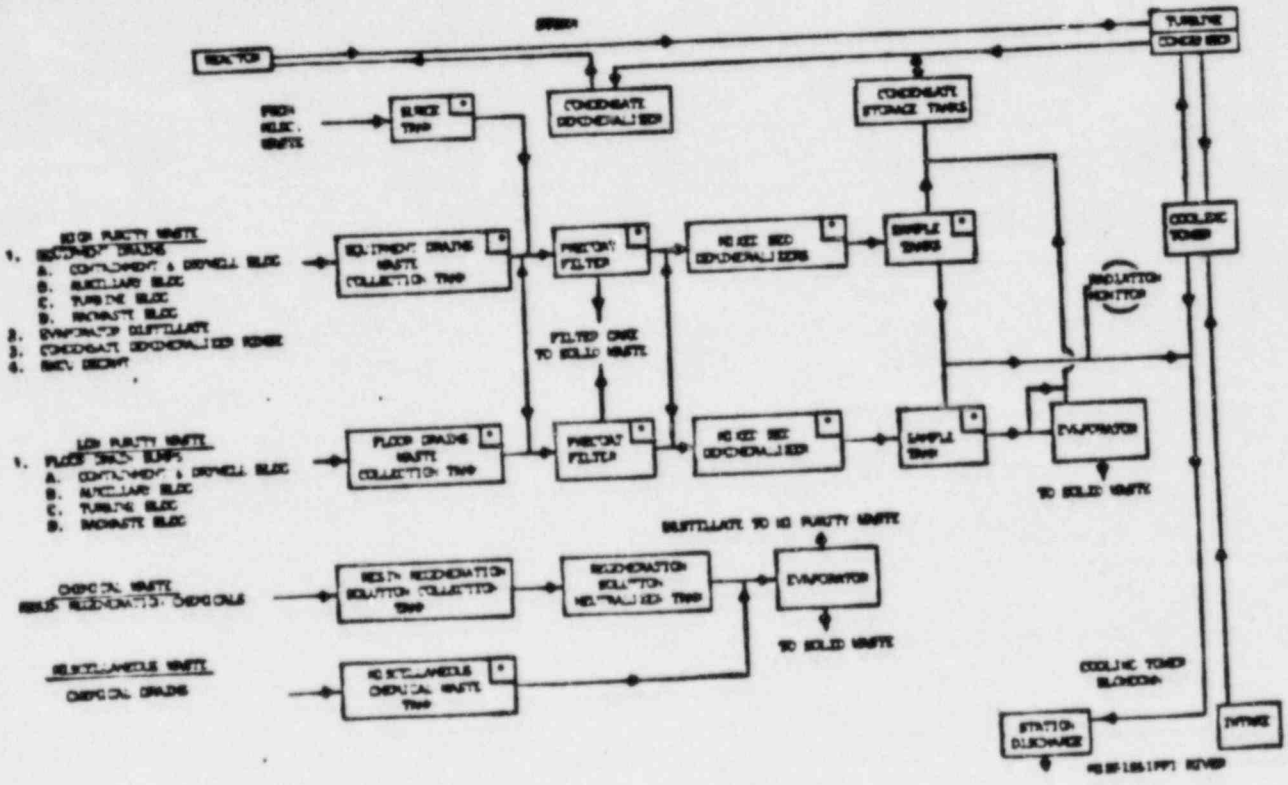
3.0-6b	3
3.0-6c	3
3.0-7	3
3.0-8	1
3.0-9	3
3.0-10	2

1.3 Liquid Radwaste Treatment System

The essential components of the liquid radwaste treatment system ~~for the OPERABILITY requirement of RETS Specification 3/4.11.1.3~~ are indicated below by an asterisk (*).



NOTES

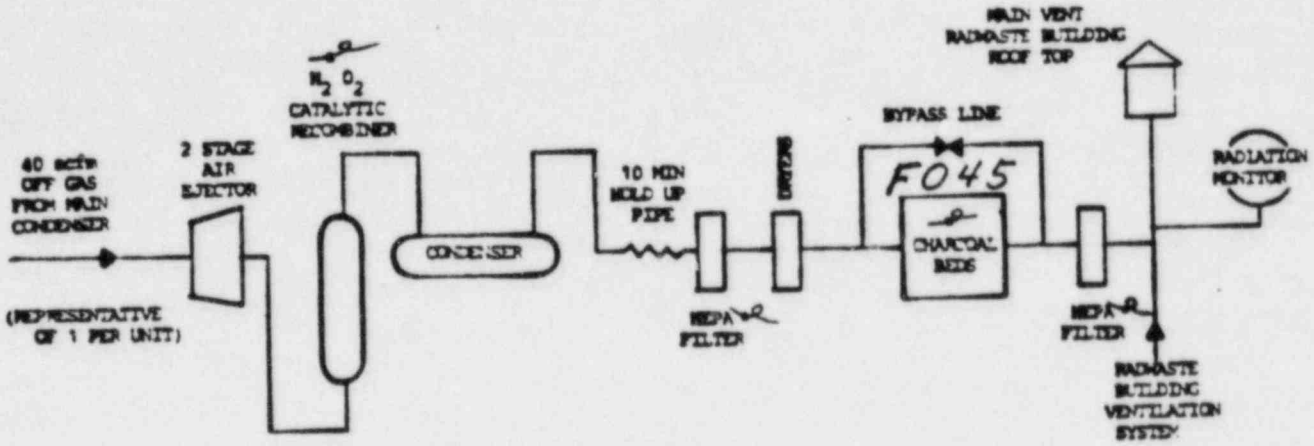
1. The essential components outlined above are those necessary to collect, process and sample liquid radwaste prior to discharge to the environment.
2. Only one of the following is required in order to process liquid waste.
   a. Equipment drain filter
   b. Floor drain filter
   c. Equipment drain demineralizer
   d. Floor drain demineralizer
3. One of the Waste Surge Tanks may be used to replace the Floor Drain Waste Collection Tank.

(A COMMON SYSTEM SCALED TO A PER UNIT BASIS)

Insert A →

2.5 GASEOUS RADWASTE TREATMENT SYSTEM

~~The essential components of the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM for the OPERABILITY requirement of RETS Specification 3/4.11.2.4 are indicated below by an asterisk (*).~~



3

NOTES

1. ~~The essential components included above are those necessary to process gaseous radwaste prior to discharge to the environment.~~
2. The charcoal beds may be bypassed provided the limits of Technical Specification 3.11.2.1 are not exceeded. The charcoal beds will be used as much as possible to ensure releases are as low as reasonably achievable.

Insert A to Section 2.5
Gaseous Radwaste Treatment System
Page 2.0-35

The instruments required to be checked by RETS 3/4.11.2.4 to ensure that the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM is functioning are:

1. Absorber train bypass switch (IN64-HS-M611)
2. Bypass valve indication (IN64-F045)

When the absorber train bypass switch is in the TREAT position and the bypass valve indicates closed, the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM is functioning.

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NUMBER	FIGURE	LOCATION	
* AS-1 PG	3.0-3	Southeast of GGNS at the Port Gibson City Barn. (Sector G Radius 5.5 miles)	3
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* AS-3 61 VA	3.0-2	North Northeast of GGNS on Hwy 61 south at the Vicksburg Airport. (Sector B Radius 18 miles)	
* AS-4 GJOE	3.0-1	Southwest of GGNS. Glodjo property on Waterloo Road. (Sector L Radius .9 miles)	
AS-5 TC	3.0-1	South of GGNS behind MP&L training center building. (Sector J Radius .4 miles)	3
* AS-6 RS	3.0-1	Northeast of GGNS, South of Grand Gulf Road. (Sector C Radius .8 miles)	
* AS-7 MT	3.0-1	North of GGNS, located next to the Meteorological Tower. (Sector A Radius .8 miles)	3
* AS-8 WR	3.0-1	East of GGNS, located at Maggie Jackson's trailer on Waterloo Road near the Eastern Site Boundary. (Sector E Radius .5 miles)	
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* Technical Specification requirements

** From Grand Gulf Nuclear Station's Annual Radiological Environmental Operating Report. | 3

TABLE 3.0-2 (CONTINUED)

	Figure		
SURFACE WATER			
Upstream *	3.0-4	4500 ft. upstream of the GGNS outfall to allow adequate mixing of the Mississippi and Big Black Rivers. (Sector Q)	3
Downstream *	3.0-4	5000 ft. downstream of GGNS outfall, near the most southern radial well. (Sector N)	3
Discharge Basin *	3.0-4	West of GGNS, 0.5 miles, Sector P	
VEGETATION			
Broad Leaf Vegetation*	3.0-4	South of GGNS ~~in the MP&L garden~~ near the training center, ~~or South Southwest in Glodjo garden, or areas adjacent to these gardens.~~ (Sector J, 0.4 miles)	
		~~Lake Claiborne Willis garden (Sector E, 3.0 miles)~~	
		~~Nelson Truck Farm (Sector E, 4.5 miles)~~	
		Alcorn State University Southwest of GGNS (Sector K, 10.5 miles)	3
FISH SAMPLES			
~~Catfish *~~	3.0-4	Downstream of the discharge point in the Mississippi River	
Commercially or recreationally important species	3.0-4	Upstream of Discharge Point uninfluenced by Plant Operations.	

and North Northwest of GGNS near the Meteorological Tower (Sector R, 0.8 miles)

* Technical Specification requirements From Grand Gulf Nuclear Station's Annual Radiological Environmental Operating Report. 3