

8/29/66

LOSS MECHANISM FLOW SHEET

sewer
20 grams/month

A. Sewer Losses

process

Are sewer losses reported to the AEC on a routine basis? Yes No

If not, are there internal records to substantiate prior and current losses to the sewer? Yes No

Does each operating area measure its losses to the sewer: *samples* Yes No

Is there a central collection and measuring point? *lab records* Yes No

How is the quantity of sewer effluent determined? (1) volume basis (2) weight basis

How are sewer losses sampled? (1) thief (2) dip (3) drain line (4) other

How is the sampler operated? (1) manually (2) automatically (3) other

What is the sampling rate? (1) continuous (2) batch operation (3) specify other

Are samples composited for analysis? *continuous samples on creek for health & safety* Yes No

On what basis? _____

Who has the responsibility for sampling? *Production*

Who has the responsibility for analysis? *D & S*

What methods are used to determine the uranium and U-235 content? *fluor*

What are the units of measurement? (1) ppm *1 vol.* (2) g/l (3) d/m/ (4) other

Is there a form used for reporting sewer losses? Yes No

What is retention time for the forms? *permanent log book*

Are solutions from the Decontamination of laundry, respirators, etc., measured prior to disposition? Yes No

Review piping and tank layout prepared by facility for license application. *No* *5 microns filter*

Determine total sewer losses to date for the facility. *64 WAK & 6 AVR* *70 grams*

Document an opinion as to the adequacy of the facility's measurements. _____

Remarks: _____

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B. STACK & SCRUBBERS

Are stack losses reported to the AEC on a routine basis?
Are scrubber losses reported to the AEC on a routine basis?
If not, are there internal records to substantiate prior and current losses to the: (1) Stacks? (2) Scrubbers?

Yes No
Yes No
Yes No
Yes No

Are there systems where filters are used independently of scrubbers?
On what basis are the filters changed-out?
How is the uranium and U-235 content in these determined?

air flow + p.dif.
gamma spec. + analyzed

Are filters processed routinely?
Is the volume of air flow from the filters measured prior to venting thru the stacks?
If so, are the stacks sampled?
What is the sampling rate?
Who has the responsibility for sampling the stacks?
Who has the responsibility for analyzing the stack samples?
What are the units of measurement:

Yes No
Yes No
.5 CFM for 24 hrs
HP
HP
(1) ppm
(2) g/l gm/24 hr
(3) d/m
(4) Other uc/cc

Are there systems where filters are backed up by scrubbers?
If so, is the volume of air flow off the scrubbers measured prior to venting through the stacks?
Are the scrubber stacks sampled?
What is the sampling rate?
Who has the responsibility for: (1) Sampling scrubber stacks? (2) Analysis?

Yes No HF
Yes No
as needed + rate
0.5
plus

What are the units of Measurement?

(1) ppm
(2) g/l
(3) d/m
(4) Other

Are the scrubber contents changed out periodically?
Are scrubber contents sampled and analyzed for uranium and U-235 content?
What is the disposition of the scrubber contents?

Yes No
Yes No
depends

Is there a form used for recording and reporting: (1) Stack losses? (2) Scrubber losses?

yes
yes

Are radiation alarm devices used to indicate when excessive quantities of SS material are exited through the stacks?

no cont. alpha monitor
Yes No

Determine total stack losses to date for the facility 2 grams

Determine total scrubber losses to date for the facility 0

Document an opinion as to the adequacy of the facility's measurements

REMARKS:

Blank lines for remarks.

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C. Discards To Pit

they send to burial and this is recorded none

Are pit discards reported to the AEC on a routine basis? Yes ___ No ___
If not, are there internal records to substantiate prior and current losses to the pit? Yes ___ No ___
Does each operating area measure its losses to the pit? Yes ___ No ___
Is there a central collection and measuring point? Yes ___ No ___
How are discard quantities to the pit determined? _____
How are discards to the pit sampled? _____
What is the sampling rate? _____
Are samples composited for analysis? Yes ___ No ___
On What basis? _____

Who has the responsibility for (1) sampling? _____
(2) analysis? _____

What methods are used to determine the (1) uranium content? _____
(2) U-235 content? _____

What are the units of measurement? _____

Is there a form used for recording and reporting pit discards? Yes ___ No ___

What is the retention time for the forms? _____

Determine total discards to the pit to date for the facility _____

Document an opinion as to the adequacy of the facility's measurements on discards to the pit _____

D. Discards to Holding Pond

Same as sewer

Are discards to the holding pond reported to the AEC on a routine basis? Yes ___ No ___

If not, are there internal records to substantiate prior and current losses to the holding pond? Yes ___ No ___

Does each operating area measure its discards to the holding pond? Yes ___ No ___

Or is there a central collection and measuring point? Yes ___ No ___

How are discard quantities to the holding pond determined? _____

How are discards to the holding pond sampled? _____

Are samples composited for analysis? Yes ___ No ___

On what basis? _____

Who has the responsibility for (1) sampling? _____

(2) analysis? _____

What methods are used to determine the uranium and U-235 content? _____

What are the units of measurement? _____

Is there a form used for recording and reporting discards to the holding pond? Yes ___ No ___

What is the retention time for the forms? _____

Determine total discards to the holding pond to date for the facility _____

How do pond effluents leave facility boundaries? creek

Are these effluents sampled? Yes No ___

Document an opinion as to the adequacy of the facility's measurements on discards to holding pond _____

Has an evaluation been made to determine track-out of SS material? Yes No

If so, determine total loss by track-out to date for the facility insignificant

REMARKS: _____

show results
↓
smear half & office which runs < 50 dpm

LOSS MECHANISM FLOW SHEET

A. Sewer Losses

Are sewer losses reported to the AEC on a routine basis?	Yes	No
If not, are there internal records to substantiate prior and current losses to the sewer?	Yes	No
Does each operating area measure its losses to the sewer: or	Yes	No
Is there a central collection and measuring point?	Yes	No
How is the quantity of sewer effluent determined?	(1) volume basis (2) weight basis	
How are sewer losses sampled?	(1) thief (2) dip (3) drain line (4) other	
How is the sampler operated?	(1) manually (2) automatically (3) other	
What is the sampling rate?	(1) continuous (2) batch operation (3) specify other	
Are samples composited for analysis? On what basis?	Yes	No
Who has the responsibility for sampling?	_____	
Who has the responsibility for analysis?	_____	
What methods are used to determine the uranium and U-235 content?	_____	
What are the units of measurement?	(1) ppm (2) g/l (3) d/m/ (4) other	
Is there a form used for reporting sewer losses?	Yes	No
What is retention time for the forms?	_____	
Are solutions from the Decontamination of laundry, respirators, etc., measured prior to disposition?	Yes	No
Review piping and tank layout prepared by facility for license application.	_____	
Determine total sewer losses to date for the facility	_____	
Document an opinion as to the adequacy of the facility's measurements.	_____	
Remarks:	_____	

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B. STACK & SCRUBBERS

Are stack losses reported to the AEC on a routine basis? Yes ___ No ___
Are scrubber losses reported to the AEC on a routine basis? Yes ___ No ___
If not, are there internal records to substantiate prior and
current losses to the: (1) Stacks? Yes ___ No ___
(2) Scrubbers? Yes ___ No ___

Are there systems where filters are used independently of scrubbers? Yes ___ No ___
On what basis are the filters changed-out? _____
How is the uranium and U-235 content in these determined? _____

Are filters processed routinely? Yes ___ No ___
Is the volume of air flow from the filters measured prior to
venting thru the stacks? Yes ___ No ___
If so, are the stacks sampled? Yes ___ No ___
What is the sampling rate? _____
Who has the responsibility for sampling the stacks? _____
Who has the responsibility for analyzing the stack samples? _____
What are the units of measurement: _____

- (1) ppm _____
- (2) g/l _____
- (3) d/m _____
- (4) Other _____

Are there systems where filters are backed up by scrubbers? Yes ___ No ___
If so, is the volume of air flow off the scrubbers measured prior
to venting through the stacks? Yes ___ No ___
Are the scrubber stacks sampled? Yes ___ No ___
What is the sampling rate? _____
Who has the responsibility for: (1) Sampling scrubber stacks? _____
(2) Analysis? _____

What are the units of Measurement? (1) ppm _____
(2) g/l _____
(3) d/m _____
(4) Other _____

Are the scrubber contents changed out periodically? Yes ___ No ___
Are scrubber contents sampled and analyzed for uranium and
U-235 content? Yes ___ No ___
What is the disposition of the scrubber contents? _____

Is there a form used for recording and reporting: (1) Stack losses? _____
(2) Scrubber losses? _____

Are radiation alarm devices used to indicate when excessive
quantities of SS material are exited through the stacks? Yes ___ No ___

Determine total stack losses to date for the facility _____

Determine total scrubber losses to date for the facility _____

Document an opinion as to the adequacy of the facility's measurements _____

REMARKS:

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C. Discards To Pit

Are pit discards reported to the AEC on a routine basis? Yes ___ No ___
If not, are there internal records to substantiate prior and current losses to the pit? Yes ___ No ___
Does each operating area measure its losses to the pit? Yes ___ No ___
Is there a central collection and measuring point? Yes ___ No ___
How are discard quantities to the pit determined? _____
How are discards to the pit sampled? _____
What is the sampling rate? _____
Are samples composited for analysis? Yes ___ No ___
On What basis? _____

Who has the responsibility for (1) sampling? _____
(2) analysis? _____

What methods are used to determine the (1) uranium content? _____
(2) U-235 content? _____

What are the units of measurement? _____

Is there a form used for recording and reporting pit discards? Yes ___ No ___
What is the retention time for the forms? _____
Determine total discards to the pit to date for the facility _____
Document an opinion as to the adequacy of the facility's measurements on discards to the pit _____

D. Discards to Holding Pond

Are discards to the holding pond reported to the AEC on a routine basis? Yes ___ No ___
If not, are there internal records to substantiate prior and current losses to the holding pond? Yes ___ No ___
Does each operating area measure its discards to the holding pond? Yes ___ No ___
Or is there a central collection and measuring point? Yes ___ No ___
How are discard quantities to the holding pond determined? _____

How are discards to the holding pond sampled? _____

Are samples composited for analysis? Yes ___ No ___
On what basis? _____

Who has the responsibility for (1) sampling? _____
(2) analysis? _____

What methods are used to determine the uranium and U-235 content? _____
What are the units of measurement? _____

Is there a form used for recording and reporting discards to the holding pond? Yes ___ No ___
What is the retention time for the forms? _____

Determine total discards to the holding pond to date for the facility _____

How do pond effluents leave facility boundaries? _____
Are these effluents sampled? Yes ___ No ___
Document an opinion as to the adequacy of the facility's measurements on discards to holding pond _____

Has an evaluation been made to determine track-out of SS material? Yes ___ No ___
If so, determine total loss by track-out to date for the facility _____

REMARKS: _____

MEMO ROUTE SLIP Form AEC-98 (Rev. May 14, 1947)		See me about this. Note and return.	For concurren For signature.	For action. For information.
TO (Name and unit) C. A. Keller Director Production Division ORCO	INITIALS	Enclosed are copies of the Sample Verification Data and check weight sheets which were completed at the Union Carbide Plant in Lawrenceburg, Tennessee.		
	DATE			
TO (Name and unit) ATTENTION: John W. Bates, Nuclear Materials Control Branch	INITIALS			
	DATE			
TO (Name and unit)	INITIALS	REMARKS		
	DATE			
FROM (Name and unit) Paul R. Guinn Radiation Specialist CO:II	REMARKS			
	<i>File: Union Carbide JNM-724</i>			
PHONE NO.	DATE 8/29/66			

USE OTHER SIDE FOR ADDITIONAL REMARKS

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