

AUG 18 1969

Mr. Steve J. Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

Dear Mr. Gadler:

I am pleased to respond to your letter of June 30 addressed to Mr. Howard Shapar, Assistant General Counsel of the Atomic Energy Commission.

You expressed a concern that the conditions of 10 CFR 20 related to gaseous effluent release at the Monticello Nuclear Power Plant probably would not be able to be met if high activity during the holdup period, or unfavorable weather conditions prevailed. In this regard, the following discussion may help to clarify what appears to be a misunderstanding of the provisions of 10 CFR 20.

Under the provisions of 10 CFR 20 the effluent from a reactor facility is to be controlled and limited to such values that the cumulative whole body radiation dose to an individual at the theoretical point of highest exposure will not exceed the limit recommended by FRC and adopted by the AEC. Irrespective of weather conditions or gaseous effluent holdup time, an operator of a nuclear power plant is not permitted to exceed release rates conservatively calculated and specified as mandatory conditions of his license included to implement this principle.

To translate these requirements into plant operating conditions for each reactor plant, specific limits on rates of radioactive material (curies per second) which may be released from the stack are derived. An annual average release rate limit is established such that the concentration of radioactive gas released under monitored and controlled conditions, when averaged over the calendar year, will not result in exposure at any offsite location above the specified limit. To account for variations in plant operating characteristics and weather conditions, releases at rates above the average rate are permitted over short periods of time. Limits are also placed, however, on the levels to which these short term release rates may go. If release rates above the average are temporarily experienced, there must be corresponding periods during which release rates are below the average, so that the average release rate permitted for the year is not exceeded.

OFFICE ►

SURNAME ►

DATE ►

Mr. Steve J. Gadler

-2-

In developing the permissible annual average and maximum short-term release rate limits in any given case, the meteorological characteristics of the site (including inversions and other adverse conditions), the topography of the site environs, and the gaseous holdup time available in the plant off-gas system are considered. The limits so derived become the specified operating conditions within which the plant must operate.

Continuous radiation monitoring of the off-gas system provides the means to demonstrate compliance with the stack release rate limits. Radiation monitors are located before and after the holdup system. If radiation levels in excess of the allowable instantaneous release rate were detected an alarm would be actuated followed by isolation of the off-gas system from the stack. Thus, the high activity radioactive gas would be confined in the holdup system and would not be released to the stack until it could be ensured that the stack release rate limits would not be exceeded. If corrective measures to reduce the activity level could not be made within the time delay period of the holdup system, then under the conditions of the license the plant would need to be shut down.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Distribution:

Docket File

DR Reading

RL Reading

AEC Pub. Doc. Room - Rec in File room - 016-8-26-69

RPB-1 Reading

H. L. Price

C. K. Beck

M. M. Mann

C. L. Henderson

P. A. Morris

F. Western

F. Shapar

E. Price

V. Schmidt

D. R. Muller

D. B. Vassallo G. Ertter (DR-2248)

(Retyped at request of P. A. Morris)
See attached draft.

OFFICE ▶	DRL	RL	OGC	RBS	DDR	DR	DRL
	Vassallo	Muller	Shapar	L. Rogers	C. Beck	H. Price	P. Morris
SURNAME ▶	Schmidt						
DATE ▶	8/4/69	8/5/69	8/7/69	8/12/69	8/ /69	8/15/69	8/13/69

Mr. Steve J. Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

Dear Mr. Gadler:

I am pleased to respond to your letter of June 30 addressed to Mr. Howard Shapar, Assistant General Counsel of the Atomic Energy Commission.

You expressed a concern that the conditions of 10 CFR 20 related to gaseous effluent release at the Monticello Nuclear Power Plant would probably not be able to be met if high activity during the holdup period, or unfavorable weather conditions prevail. In this regard, I believe the following may help to clarify what appears to be a misunderstanding of the provisions of 10 CFR 20.

Under the provisions of 10 CFR 20 the effluent from a reactor facility must be controlled and limited to such values that the cumulative whole body radiation dose to an individual at the theoretical point of highest exposure would not exceed the limit recommended by FRC and adopted by the AEC. Irrespective of weather conditions or gaseous effluent holdup time, an applicant of an operating nuclear power plant will not be permitted to exceed release rates conservatively calculated and specified as mandatory licensed conditions to implement this principle.

To translate these requirements into plant operating conditions for each reactor plant, specific limits on rates of radioactive material (curies per second) which may be released from the stack are derived. An annual average release rate limit is established such that, the concentration of radioactive gas released under monitored and controlled conditions, when averaged over the calendar year, will not result in exposure at the highest offsite location above the specified limit. To account for variations in plant operating characteristics and weather conditions releases at rates above the average rate are permitted over short periods of time. However, limits are also placed on the levels to which these short term release rates may go. Whatever releases above the average are experienced, there must be corresponding periods below the average so that the average figure for the year is not exceeded.

OFFICE ►

SURNAME ►

DATE ►

In developing the permissible annual average and maximum short-term release rate limits in any given case, the AEC's regulatory staff takes into account the meteorological characteristics of the site (including inversions and other adverse conditions), the topography of the site environs, and the gaseous holdup time available in the plant off-gas system. The limits so derived become the specified operating conditions within which the plant must operate.

Continuous radiation monitoring of the off-gas system provides the means to demonstrate compliance with the stack release rate limits. Radiation monitors are located before and after the holdup system. If radiation levels in excess of the allowable instantaneous release rate were detected before the holdup system an alarm would be actuated followed by isolation of the off-gas system from the stack. Thus, the high activity radioactive gas would be confined in the holdup system and would not be released to the stack until it could be ensured that the stack release rate limits would not be exceeded. If corrective measures to reduce the activity level cannot be made within the time delay period of the holdup system, then under terms of the license the plant would be shut down.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Distribution:

Docket File
DR Reading
RL Reading
AEC Pub. Doc. Room
RPB-1 Reading
H. L. Price
C. K. Beck
M. M. Mann
C. L. Henderson
P. A. Morris
F. Western
F. Shapar
E. Price
V. Schmidt
D. R. Muller
D. B. Vassallo
G. Ertter (DR-2248)

RL:RP
Boyd

7/ /69

OFFICE ▶	DRL	RL	OGC	DRL	RES	DDR	DR
SURNAME ▶	Vassallo	Schmidt	Muller Shapar	P. Morris	L. Rogers	Beck	HPrice
DATE ▶	7/29/69	7/29/69	7/30/69	7/ /69	7/29/69	7/29/69	8/1/69

Docket No. 50-263

Mr. Steve J. Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

Distribution:
HL
CKBeck
MMann
CLHenderson
PAMorris
FWestern
HShapar
EPrice
PDR
DR Reading
Gertter (DR-2248)
VOSchmidt
DVossallo

Dear Mr. Gadler:

I am pleased to respond to your letter of June 30 addressed to Mr. Howard Shapar, Assistant General Counsel of the Atomic Energy Commission.

For each reactor specific limits on rates of radioactive material which may be released from the stack are developed and are made conditions of the operating license. As permitted by the Commission's regulations (10 CFR 20), radioactive effluent concentrations that may be released can be averaged over a period of one calendar year. In this regard the cumulative dose to an individual would not exceed the radiation protection guidance for an individual in the population if that individual were continuously present throughout the year at a point of highest dose rate at the boundary of the site.

An annual average release rate limit and maximum short-term release rate limit will be established for the Monticello plant. In developing these stack release rate limits, the AEC's regulatory staff will take into account:

- (1) the range of any unfavorable meteorological conditions (including inversions) that may be predicted for the site on the basis of onsite meteorological studies, and
- (2) the holdup time that will be provided in the Monticello off-gas system

By taking these factors into account in establishing the release rate limits, under terms of the license, the applicant would not be permitted to exceed these limits even under unfavorable weather conditions.

Continuous monitoring of radioactive gases by the plant stack and air ejector monitors will provide the means for obtaining information on stack release for demonstrating compliance with the stack release rate limits. When warranted, the reactor can be isolated from the plant stack, and the plant shut down.

Sincerely,

OFFICE ▶	DR/DRL	OGG	DRL	RRPS	DDR	DR
SURNAME ▶	VOSchmidt/ DVossallo:jdw	HKS said to be sent to Shapar w/o his concurrence	PAMorris	L. Rogers Peter A. Morris, Director Division of Reactor Licensing	CKBeck	HLPrice
DATE ▶	7/15/69	7/17/69	7/17/69	7/18/69		

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON

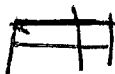
July 18, 1969

NOTE FOR LES ROGERS

In view of our previous correspondence with Mr. Gadler, I want to be sure you concur in the enclosed letter.

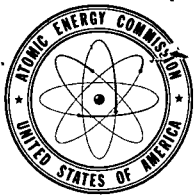
C. L. Henderson

Enclosure



*LRR Concurred
7/18/69*

in $\mu\text{c}/\text{sec}$.



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Mr. Steve J. Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

Dear Mr. Gadler:

I am pleased to respond to your letter of June 30 addressed to Mr. Howard Shapar, Assistant General Counsel of the Atomic Energy Commission.

You expressed a concern that the conditions of 10 CFR 20 related to gaseous effluent release at the Monticello Nuclear Power Plant would probably not be able to be met if high activity during the holdup period, or unfavorable weather conditions prevailed. In this regard, ~~I believe~~ the following may help to clarify what appears to be a misunderstanding of the provisions of 10 CFR 20.

Under the provisions of 10 CFR 20 the effluent from a reactor facility ^{is to} ~~must~~ be controlled and limited to such values that the cumulative whole body radiation dose to an individual at the theoretical point of highest exposure ~~would~~ ^{will} not exceed the limit recommended by FRC and adopted by the AEC. Irrespective of weather conditions or gaseous effluent holdup time, an ~~applicant of an~~ ^{operator of a} operating nuclear power plant ~~will~~ ^{is} not ~~be~~ permitted to exceed release rates conservatively calculated and specified as mandatory licensed conditions ^{of his} to implement this principle. ^{included}

To translate these requirements into plant operating conditions for each reactor plant, specific limits on rates of radioactive material (curies per second) which may be released from the stack are derived. An annual average release rate limit is established such that the concentration of radioactive gas released under monitored and controlled conditions, when averaged over the calendar year, will not result in exposure at ~~the highest~~ ^{any} offsite location above the specified limit. To account for variations in plant operating characteristics and weather conditions, releases at rates above the average rate are permitted over short periods of time. ~~However,~~ ^{however,} limits are also placed on the levels to which these short term release rates may go. ~~What~~ ^{if} ~~over~~ releases above the average are experienced, there must be corresponding periods below the average, so that the average ~~figure~~ ^{release rate} for the year is not exceeded. ^{permitted}

rates

temporarily

during which release rates are

Mr. Steve J. Gadler

-2-

are considered.
In developing the permissible annual average and maximum short-term release rate limits in any given case, ~~the AEC's regulatory staff takes into account~~ the meteorological characteristics of the site (including inversions and other adverse conditions), the topography of the site environs, and the gaseous holdup time available in the plant off-gas system. The limits so derived become the specified operating conditions within which the plant must operate.

Continuous radiation monitoring of the off-gas system provides the means to demonstrate compliance with the stack release rate limits. Radiation monitors are located before and after the holdup system. If radiation levels in excess of the allowable instantaneous release rate were detected ~~before the holdup system~~ an alarm would be actuated followed by isolation of the off-gas system from the stack. Thus, the high activity radioactive gas would be confined in the holdup system and would not be released to the stack until it could be ensured that the stack release rate limits would not be exceeded. *could not*
If corrective measures to reduce the activity level ~~cannot~~ be made within the time delay period of the holdup system, then under ~~terms~~ *the conditions* of the license the plant would be shut down.


need to
Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

July 7, 1969

NOTE TO MR. HENDERSON

The attached letter came in just a minute before I had to leave the office for National Airport; the letter obviously requires a technical answer and should be answered as promptly as possible. Could you possibly put someone on it right away?



Howard K. Shapar

Attachment:
Ltr, 6-30-69, SJGadler to
Howard Shapar

2120 Carter Avenue
St. Paul, Minnesota

CONTROL NUMBER

ACTION COMPLETION DEADLINE

DATE OF DOCUMENT
6/30/69

FILE LOCATION

TO
H. Shaper

ACTION PROCESSING DATES

Acknowledged
Interim Report
Final 8/18/69

INFORMATIONAL COPY DISTRIBUTION

Chairman ADNS COM
GM ADA SS
Dep. Dir. OGC SLR
A. D. RL ML

DESCRIPTION

☐ Original

☐ Copy

☐ Other

Ref. ltr dtd 5/15/69 and requests info re release of
radioactive materials during periods of excessive activity
or weather inversions

REMARKS

Is notification to the JCRC
recommended? *yes*

(Signature)

147-10-3047-1 120

REFERRED TO

DATE

Henderson f/action 7/9/69

Cys: HPrice HPrice
Buck Fox (56-263)

Hann

Harrie

Western

Shaper

June 30, 1969

DR-2248

Mr. Howard Shapar
Assistant General Counsel
US Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Shapar:

During your surprise appearance before the monthly meeting of the Minnesota Pollution Control Agency on the 12th of May in St. Paul, Minnesota I requested information from you which, in my opinion, has not been provided by the attachment to your letter of May 15, 1969. The information is to a somewhat similar question.

In view of the importance of this matter to the health and safety of the populace the question is reduced to writing and submitted for your attention.

→ "if excessively high activities are detected during the holdup period, or if very unfavorable weather conditions prevail, release to the atmosphere will probably not be able to meet the conditions of Part 20". Since the Monticello plant's holdup tanks provide only a limited capability will the AEC be in violation of it's own regulations during weather inversions or during periods of excessive activity?

I thank you for your promptness to my original request and will appreciate your assistance in obtaining information to the question.

Sincerely

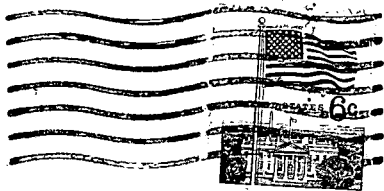

Steve J. Gadler

CC Mr. Robert C Tuveson

DR-2248

Rec'd Off. Dir. of Reg.

Date 7/7/69Time 3:45



Mr. Howard K Shapar
Assistant General Counsel
US Atomic Energy Commission
Washington, D.C.
20545