JUL 1 4 1976

Docket No. 50-220
License No. DPR-63

Niagara Mohawk Power Corporation
ATTN: Mr. R. R. Schneider, Vice President
Electric Operations
300 Erie Boulevard West
Syracuse, New York 13202

Gentlemen:

This will acknowledge receipt of your letter dated May 19, 1976, reporting the apparent exposures of five individuals to radiation. This matter will be reviewed during a future inspection.

Sincerely,

Original signed by
D. Thompson

Dudley Thompson
Acting Director
Division of Field Operations
Office of Inspection and
Enforcement

bcc: w/cpy ltr dtd 5/19/76
PDR
LPDR
NSIC
TIC
J. C. Guibert, DOR
OSP:SAP
B. G. Brooks
E. Boyle
EDO Central Files
IE Files
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OFFICE	FCEB	C, FCEB	AD, DFO			
SURNAME	TWBrockett:mk	GWRoy	DThompson			
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bcc: w/copy ltr dtd 5/19/76
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E. Doyle
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Reactor Facilities Br.

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD, WEST
SYRACUSE, N. Y. 13202

May 19, 1976

Director of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

RE: Docket No. 50-220 DPR-63

Dear Sir:

In accordance with 10CFR20.405, the following report of apparent exposure to radiation in excess of applicable limits is provided.

On April 15, 1976, a telephone report of film badge results from the R. S.Landauer Company indicated exposure in excess of 3000 mrem, for the first calendar quarter, for five persons employed by a contractor. (See Attachment II) A telephone report of the incident was made to Mr. K. Plumlee, Region I-NRC, on the same day.

All individuals involved had completed NRC Form 4's and received training in site Radiation Protection Procedures, including use of respiratory equipment. Persons involved worked on replacement of sections of Reactor Clean-up System piping in radiation fields which varied between 50 and 1000 mr/hr. Individuals were supplied with self-reading dosimeters and TLD's, which were processed on site, in addition to film badges. Exposure records were kept up to date on a daily basis; exposure totals were assumed to be the accumulation of the higher results, TLD or dosimeter, for periods after the latest film badge results, if any, received for an individual. (See Attachment I)

Individual #1 worked in high radiation areas on 3/20, 3/21, 3/27, and 3/29. On 3/29, his indicated exposure (high total) had reached 2452 mrem and he was removed from active participation on the job (not allowed to work in any areas requiring a RWP). He appeared to have received additional exposure, as indicated by TLD, resulting in a possible total of 2714 mrem, with most likely exposure in the range of 2415 mrem to 2564 mrem. The film badge result does not agree with these results.

Individual #2 worked in high radiation areas for the period 3/26 through 3/29/76. He was not permitted re-entry on the job after receiving in excess of 2500 mrem for the quarter; it was not recognized that he had reached the administrative limit of 2500 mrem prior to exceeding it.

Individual #3 worked in high radiation areas 3/25 through 3/31/76. His TLD and dosimeter exposure indication was less than 2500 mrem.

Individual #4 worked in high radiation areas intermittently throughout the first quarter, and daily in the period 3/15 through 3/21, after which his film badge was sent for processing. His film results through 3/21 indicated 2450 mrem; high total of TLD and dosimeter readings indicated 2395 mrem. This result was one of five verifications, after the first phase of the Clean-up pipe job, that on-site dosimetry for this job agreed with film badge results within an error range of. < 1% to 6%.

Individual #5 worked in high radiation areas 3/27 through 3/30/76. On 3/30/76, he returned to work after receiving 100 mrem and received an additional 375 mrem in two separate work periods. The last periods of exposure should have been limited to 60 mrem.

For these individuals, exposures measured by TLD and pocket dosimeter were below 3000 mrem. Due to the short duration of the job and minimum three-day turnaround time for emergency badge processing, most of these exposures were received on one film badge. Film badge results were higher than TLD and pocket dosimeter esitmates, but within the error observed in a small fraction of badges. The relatively large discrepancy may be the result of geometry effects peculiar to the working positions dictated by the particular sections of piping worked on during the last few days of the month.

For three out of five persons, the comparison of total exposure received for the quarter with authorized exposure was not made on a timely basis, i.e. after each dosimeter reading. The current method of authorizing radiation exposures in excess of Company guidelines (100 mrem/week, 1000 mrem/quarter, 4000 mrem/year) relies on the individual and his supervisor to compare dose received with dose authorized in order to limit exposure.

The system of authorization and the Radiation Work Permit procedure are being reviewed to determine if a modification to them can be made, thus reducing the risk of inadvertantly exceeding authorized exposures.

Continued development of the Company's computerized dosimetry system should allow inclusion of visitors and contractors by the end of 1976. By that time, provisions will be made to include currently authorized quarterly exposure for each individual in the dose reports.

We are also investigating the possibility of writing future contracts for high-exposure jobs with provision for a full time contractor dosimetry coordinator to police adherance to authorized radiation exposures.

We are in the process of filling a vacant supervisory position in the Radiation Protection staff, with major responsibility in dosimetry. One of the first tasks of this individual will be to evaluate and extend quality control of dosimetry.

It is recognized, however, that with plant age, the number of high exposure jobs will increase. Working to an administrative limit of 2500 mrem is a well established practice which makes efficient use of available manpower, while maintaining total job exposure ALARA by reducing unnecessary "orientation exposure" for additional personnel. When the total exposure is received within a period of a few days, and when the discrepancy between the various modes of exposure indication exceeds 20%, there will be occasions when the film badge results may be expected to exceed 3000 mrem. There is no indication at this time that use of TLD's, as the primary mode of personnel monitoring, would decrease the risk of exceeding 3000 mrem/quarter.

Sincerely,

R. R. Schneider
Vice President
Electric Operations

RAS/na

Enc. - Attachments I & II

cc: NRC Region I
I & E Office

ATTACHMENT I, RECORD OF RADIATION EXPOSURE

INDIVIDUAL	PERIOD OF EXPOSURE	POCKET DOSIMETER	TLD	HIGH TOTAL	FILM BADGE	DISCREPANCY
1	3/20/76 - 3/31/76	2415	2564	2714	3810	29%
2	3/26/76 - 3/31/76	2600	2146	2604	3020	14%
3	3/25/76 - 3/31/76	2490	2036	2493	3090	19%
4	1/1/76 - 3/15/76				1300	
	3/15/76 - 3/21/76	1100	232	1100	1150	4%
	3/22/76 - 3/31/76	No RWP's	526	526	580	9%
5	3/26/76 - 3/31/76	2730	2455	2813	3240	13%

ATTACHMENT II, IDENTIFICATION OF INDIVIDUALS

In accordance with the provisions of 10CFR20.405(b), the following information is provided for persons who were involved in the radiation exposure incident:

INDIVIDUAL	NAME	SS#	DOB	EXPOSURE
1	Richard A. Audlin	132-42-4523	10/22/51	3810 mrem
2	Walter DeMocko	186-32-4994	8/4/41	3020 mrem
3	Patrick M. Mahaney	071-52-9639	5/5/54	3090 mrem
4	Herbert L. VanHout	116-30-6002	11/4/38	3030 mrem
5	Earl C. VanWie	056-20-4716	7/20/27	3240 mrem