AMERICAN NUCLEAR CORPORATION

William C. Salisbury, President
Telephone (307) 265-7912

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August 29, 1997

Joseph J. Holonich, Chief
High-Level Waste and Uranium Recovery
Projects Branch - MS-T7J9
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
11545 Rockville Pike
Rockville, Maryland 20555-0001

Re: Docket No. 40-4492
License No. SUA-667

Dear Mr. Holonich:

In accordance with the license conditions of SUA-667, American Nuclear submits the Semi-Annual Report for the first half of 1997.

If you have any questions, please advise.

Sincerely,

William C Salisbury

William C. Salisbury
President

Enclosures (5)

xc: Director of Radiation Safety and Safeguards
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

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AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT First Quarter 1997 Water Results					
Sample Location	Sample Type	Radionuclide	Radionuclide Concentration		Lower Limit of Detection
			µCi/mL	Error Est. ±	µCi/mL
Well TP 2-2	*Ground*	^{226}Radium ± ^{228}Radium Combined	3.1E-08	3.0E-09	1.0E-09
		^{230}Thorium	< 0.2E-9	-	2.0E-10
		Gross Alpha	2.3E-08	1.7E-09	1.0E-09
		^{Nat}Uranium	2.0E-08	-	2.0E-10
Well TP 2-3	*Ground*	^{226}Radium ± ^{228}Radium Combined	1.8E-08	2.5E-09	1.0E-09
		^{230}Thorium	< 0.2E-9	-	2.0E-10
		Gross Alpha	1.2E-08	7.0E-10	1.0E-09
		^{Nat}Uranium	7.7E-07	-	2.0E-10
Well R-4	*Ground*	^{226}Radium ± ^{228}Radium Combined	9.1E-08	2.8E-09	1.0E-09
		^{230}Thorium	2.0E-07	7.8E-09	2.0E-10
		Gross Alpha	2.0E-07	7.4E-09	1.0E-09
		^{Nat}Uranium	2.1E-06	-	2.0E-10
Willow Springs	*Surface*	SHORT LIST REQUIRED			

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AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT ***Second Quarter 1997 Water Results***					
Sample Location	Sample Type	Radionuclide	Radionuclide Concentration		Lower Limit of Detection
			μCi/mL	Error Est. $\pm$	μCi/mL
Well TP 2-2	*Ground*	^{226}Radium $\pm$ ^{228}Radium Combined	SHORT LIST REQUIRED		
		^{230}Thorium			
		Gross Alpha			
		^{Nat}Uranium			
Well TP 2-3	*Ground*	^{226}Radium $\pm$ ^{228}Radium Combined	SHORT LIST REQUIRED		
		^{230}Thorium			
		Gross Alpha			
		^{Nat}Uranium			
Well R-4	*Ground*	^{226}Radium $\pm$ ^{228}Radium Combined	SHORT LIST REQUIRED		
		^{230}Thorium			
		Gross Alpha			
		^{Nat}Uranium			
Willow Springs	*Surface*	SHORT LIST REQUIRED			

AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT Vegetation Sample Results For 1997				
Sample Location	Radionuclide	Radionuclide Concentration,		* Lower Limit of Detection
		µCi/kg	Error Est. ±	µCi/kg
#1 June 1997	^{226}Radium	4.4E-05	3.3E-06	5.0E-08
September	^{226}Radium	-	-	-
June	^{210}Lead	5.4E-05	5.8E-06	1.0E-06
September	^{210}Lead	-	-	-
#2 June 1997	^{226}Radium	2.5E-05	2.5E-06	5.0E-08
September	^{226}Radium	-	-	-
June	^{210}Lead	3.7E-05	5.4E-06	1.0E-06
September	^{210}Lead	-	-	-
#3 June 1997	^{226}Radium	1.8E-05	2.2E-06	5.0E-08
September	^{226}Radium	-	-	-
June	^{210}Lead	3.0E-05	5.2E-06	1.0E-06
September	^{210}Lead	-	-	-

The laboratory can obtain the detection limits as indictaed in Regulatory Guide 4.14, however, it is impractical to obtain approximately 17 pounds of vegetation to achieve the detection limit. The Regulatory Guide states "...the standard deviation estimated for random error of the analysis should be no greater than 10% of the measured value."

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AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT *Environmental TLD Summary for the First & Second Quarters of 1997* *All Readings in mR*				
Sample Location **(some locations are same as high volume air samplers)**	Third Quarter	Fourth Quarter	Total	Average per Quarter
#2 *Corrals* *Upwind restricted area boundary*	64	64	128	64.0
#3 *Pubble Springs Ranch*	NO SAMPLE REQUIRED			
#4 *Well #13* *Downwind restricted area boundary*	54	50	104	52.0
#5 *NECORA* *NE Corner of restricted area boundary*	40	39	79	39.5
#6 *LOCO Shop*	NO SAMPLE REQUIRED			
#7 *Office*	34	34	68	34.0
#8 *Control*	12	10	22	11.0

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AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT

Quarterly Water Quality

1st & 2nd Quarters 1997

Well I.D.		**TP-2-2**	**TP-2-2**
Type		Ground	Ground
Water Level		40.1	39.9
Quarter		First	Second
Lab I.D. 1997		16546	28294
Parameters, mg/L	***Detection Limit***		
Sulfate	1.0	582	563
Chloride	1.0	21.2	25.8
Nitrate + Nitrite as N	0.10	0.36	3.85
TDS	1.0	1140	1240
pH, std. units	1-14	6.86	7.36
Beryllium	0.01	<0.01	
Cadmium	0.01	<0.01	
Cyanide	0.005	<0.005	
Nickel	0.05	<0.05	
Selenium	0.001	0.026	
Vanadium	0.10	<0.10	
Radiochemical			
^{natl}Uranium, mg/L	0.0003	0.030	
^{226}Radium, pCi/L	0.2	14.0	
^{226}Ra +/-	-	0.9	
^{225}Radium, pCi/L	1.0	16.6	
^{228}Ra +/-	-	2.1	
^{230}Thorium, pCi/L	0.2	<0.2	
^{230}Th +/-	-	-	
Gross Alpha, pCi/L	1.0	22.9	
GA +/-	-	1.7	

AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT *Quarterly Water Quality* *1st & 2nd Quarters 1997*			
Well I.D.		**TP-2-3**	**TP-2-3**
Type		Ground	Ground
Water Level		108.0	109.0
Quarter		First	Second
Lab I.D. 1997		16547	28295
Parameters, mg/L	***Detection Limit***		
Sulfate	1.0	974	1010
Chloride	1.0	64.0	61.8
Nitrate + Nitrite as N	0.10	4.65	5.39
TDS	1.0	1770	1920
pH, std. units	1-14	6.94	7.06
Beryllium	0.01	<0.01	
Cadmium	0.01	<0.01	
Cyanide	0.005	<0.005	
Nickel	0.05	<0.05	
Selenium	0.001	0.010	
Vanadium	0.10	<0.10	
Radiochemical			
^{238}Uranium, mg/L	0.0003	1.150	
^{226}Radium, pCi/L	0.2	6.3	
^{226}Ra +/-	-	0.6	
^{228}Radium, pCi/L	1.0	11.8	
^{228}Ra +/-	-	1.9	
^{230}Thorium, pCi/L	0.2	<0.2	
^{230}Th +/-	-	-	
Gross Alpha, pCi/L	1.0	11.6	
GA +/-	-	0.7	

AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT

Quarterly Water Quality

1st & 2nd Quarters 1997

Well I.D.		**R-4**	**R-4**
Type		Ground	Ground
Water Level		-	Pumping
Quarter		First	Second
Lab I.D. 1997		16716	28296
Parameters, mg/L	***Detection Limit***		
Sulfate	1.0	6270	5850
Chloride	1.0	464	292
Nitrate + Nitrite as N	0.10	12.2	1.24
TDS	1.0	9630	8740
pH, std. units	1-14	3.62	3.75
Beryllium	0.01	0.18	
Cadmium	0.01	0.14	
Cyanide	0.005	0.008	
Nickel	0.05	2.86	
Selenium	0.001	0.171	
Vanadium	0.10	0.50	
Radiochemical			
^{nat}Uranium, mg/L	0.0003	3.140	
^{226}Radium, pCi/L	0.2	90.3	
^{226}Ra +/-	-	2.8	
^{228}Radium, pCi/L	1.0	<1.0	
^{228}Ra +/-	-	-	
^{230}Thorium, pCi/L	0.2	200	
^{230}Th +/-	-	7.8	
Gross Alpha, pCi/L	1.0	202	
GA +/-	-	7.4	

AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT

Quarterly Water Quality

1st & 2nd Quarters 1997

Well I.D.		**Willow Springs**	**Willow Springs**
Type		Surface	Surface
Water Level		-	-
Quarter		First	Second
Lab I.D. 1997		-	28297
Parameters, mg/L	***Detection Limit***		
Sulfate	1.0	NOT REQUIRED	1770
Chloride	1.0		121
Nitrate + Nitrite as N	0.10		2.80
TDS	1.0		3610
pH, std. units	1-14		7.21
Beryllium	0.01		
Cadmium	0.01		
Cyanide	0.005		
Nickel	0.05		
Selenium	0.001		
Vanadium	0.10		
Radiochemical			
^{234}Uranium, mg/L	0.0003		
^{226}Radium, pCi/L	0.2		
^{226}Ra +/-	-		
^{228}Radium, pCi/L	1.0		
^{228}Ra +/-	-		
^{230}Thorium, pCi/L	0.2		
^{230}Th +/-	-		
Gross Alpha, pCi/L	1.0		
GA +/-	-		

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: AMERICAN NUCLEAR CORPORATION

REPORT DATE: August 5, 1997

SAMPLE ID: CORRALS

Quarter/Date Sampled Air Volume	Radionuclide	Conc. µCi/mL	Error Est. µCi/mL	L.L.D. µCi/mL	Eff. Conc.* µCi/mL	% Eff. Conc. %
97-21721	U-Nat	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
12/29/97 - 03/31/97	Th-230	1.04E-16	3.47E-17	1.00E-16	3.00E-14	3.47E-01
Air Volume in mLs	Ra-226	1.73E-16	2.31E-17	1.00E-16	9.00E-13	1.93E-02
8.65E+09	Pb-210	3.69E-15	3.01E-16	2.00E-15	6.00E-13	6.15E-01
	Radon	Background = 3.0E-9				
97-40274	U-Nat	1.19E-16	N/A	1.00E-16	9.00E-14	1.32E-01
03/31/97 - 06/25/97	Th-230	< 1.00E-16	NA	1.00E-16	3.00E-14	< 3.33E-01
Air Volume in mLs	Ra-226	2.08E-16	4.46E-17	1.00E-16	9.00E-13	2.31E-02
6.73E+09	Pb-210	7.49E-15	8.17E-16	2.00E-15	6.00E-13	1.25E+00
	Radon	Background = 2.9E-9				

Final sample volume is 1.00 liter
LLD's are from Reg. Guide 4.14
Effluent Concentration from the NEW CFR10 Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: AMERICAN NUCLEAR CORPORATION

REPORT DATE: August 5, 1997

SAMPLE ID: NECOR

Quarter/Date Sampled Air Volume	Radionuclide	Conc. µCi/mL	Error Est. µCi/mL	L.L.D. µCi/mL	Eff. Conc.* µCi/mL	% Eff. Conc. %
97-21721	U-Nat	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
12/29/97 - 03/31/97	Th-230	< 1.00E-16	N/A	1.00E-16	3.00E-14	< 3.33E-01
Air Volume in mLs	Ra-226	1.50E-16	1.87E-17	1.00E-16	9.00E-13	1.66E-02
1.07E+10	Pb-210	6.04E-15	5.05E-16	2.00E-15	6.00E-13	1.01E+00
	Radon	< Background				
97-40275	U-Nat	2.04E-16	N/A	1.00E-16	9.00E-14	2.27E-01
03/31/97 - 06/25/97	Th-230	< 1.00E-16	N/A	1.00E-16	3.00E-14	< 3.33E-01
Air Volume in mLs	Ra-226	1.09E-16	4.08E-17	1.00E-16	9.00E-13	1.21E-02
7.35E+09	Pb-210	< 2.00E-15	NA	2.00E-15	6.00E-13	< 3.33E-01
	Radon	< Background				

Final sample volume is 1.00 liter
LLD's are from Reg. Guide 4.14
Effluent Concentration from the NEW CFR10 Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: AMERICAN NUCLEAR CORPORATION

REPORT DATE: August 5, 1997

SAMPLE ID: WELL #13

Quarter/Date Sampled Air Volume	Radionuclide	Conc. µCi/mL	Error Est. µCi/mL	L.L.D. µCi/mL	Eff. Conc.* µCi/mL	% Eff. Conc. %
97-21721	U-Nat	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
12/29/97 - 03/31/97	Th-230	< 1.00E-16	N/A	1.00E-16	3.00E-14	< 3.33E-01
Air Volume in mLs	Ra-226	1.21E-16	2.01E-17	1.00E-16	9.00E-13	1.34E-02
9.94E+09	Pb-210	5.65E-15	5.23E-16	2.00E-15	6.00E-13	9.42E-01
	Radon	< Background				
97-40276	U-Nat	1.34E-16	N/A	1.00E-16	9.00E-14	1.49E-01
03/31/97 - 06/25/97	Th-230	< 1.00E-16	N/A	1.00E-16	3.00E-14	< 3.33E-01
Air Volume in mLs	Ra-226	< 1.00E-16	NA	1.00E-16	9.00E-13	< 1.11E-02
8.96E+09	Pb-210	5.78E-15	6.25E-16	2.00E-15	6.00E-13	9.64E-01
	Radon	< Background				

Final sample volume is 1.00 liter
LLD's are from Reg. Guide 4.14
Effluent Concentration from the NEW CFR10 Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

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AMERICAN NUCLEAR CORPORATION - GAS HILLS PROJECT *Soil Sample Results For 1997*				
Sample Location **(same locations as high volume air samplers)**	Radionuclide	Radionuclide Concentration		Lower Limit of Detection
		μCi/gm	Error Est. ±	μCi/gm
#2 *Corrals*	^{226}Radium	8.3E-06	2.0E-07	4.0E-08
	^{210}Lead	3.2E-06	3.0E-07	4.0E-08
	^{Nat}Uranium	1.4E-05	-	4.0E-08
#3 *Pubble Springs*	NO SAMPLE REQUIRED			
#4 *Well #13*	^{226}Radium	1.3E-05	2.0E-07	4.0E-08
	^{210}Lead	5.9E-06	3.0E-07	4.0E-08
	^{Nat}Uranium	1.3E-05	-	4.0E-08
#5 *NECORA*	^{226}Radium	2.7E-06	1.0E-07	4.0E-08
	^{210}Lead	1.5E-0[illegible]	2.0E-07	4.0E-08
	^{Nat}Uranium	4.0E-06	-	4.0E-08
#6 *LOCO Shop*	NO SAMPLE REQUIRED			

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