

# SIEMENS

L30978  
IFUS

May 22, 1997  
JBE:97:099

U.S. Nuclear Regulatory Commission  
Attn: Ms. K. J. Hardin  
Licensing Branch  
Division of Fuel Cycle Safety and Safeguards, NMSS  
Washington, DC 20555

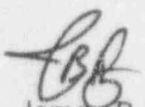
70-1257

Dear Ms. Hardin:

Siemens Power Corporation (SPC) will, in the near future, begin shipping  $UO_2$  powder and/or pellets in shipping containers that require a neutron absorbing sleeve inside of each inner powder and pellet container. The inner containers will contain powder and pellets in quantities and with moderator contents allowed by the shipping container certificate and will be stored for a short time prior to their being loaded into the shipping container. In order to describe the use of mechanical neutron absorbers in the approximately three and one-half gallon inner containers outside of shipping containers, Table I-4.1 of SPC's license application must be revised. SPC, therefore, requests that its license be amended to include a revised Table I-4.1 for this purpose. Enclosed in support of this request are six copies of revised Page 4-21 of SPC's license application.

If you have questions regarding the information presented, please call me at (509) 375-8663.

Very truly yours,



James B. Edgar  
Staff, Engineer, Licensing

/mah  
Enclosures

cc: C.A. Hooker, NRC Region IV  
WCFO

970-000329 970522  
PDR 400CK 07001257  
C PDR

05004

NFOY  
1/1



Siemens Power Corporation

Nuclear Division  
Engineering & Manufacturing

2101 Horn Rapids Road  
P.O. Box 130  
Richland, WA 99352-0130

Tel: (509) 375-8100  
Fax: (509) 375-8402

PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)													
COMPONENT	CONTROL TYPE											DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA	
	1	2											
Cylindrical Tanks, Filters, and Other Equipment													
Centrifuges (volume controlled)			X								X	X	
Calciner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X								X	The calciner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process
HX columns ≤ 22.25" nominal I.D.		X		X		X					X	X	
Containers nominal 5-gallon or less			X	X			X	X			X	X	
Mass controlled dissolvers and receiver vessels.	X							X				X	

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21

PART I - LICENSE CONDITIONS

REV.  
36

Table I-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE												DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA		
	1	2												
Cylindrical Tanks, Filters, and Other Equipment														
45-gallon drums				X			X				X	X		
Other unfavorable geometry solution tanks		X			X	X		X				X		
Complex Geometry Equipment														
Powder feed hoppers and discharge chutes	X	X					X					X	These complex geometry equipment have been shown to have a $k_{eff}$ of less than 0.97 at worst case credible accident conditions.	
Unfavorable geometry blenders					X		X		X	X		X		
Hammer mills							X			X		X		
Roll compactors							X			X		X		
Granulators							X			X		X		
Powder sieves	X						X			X		X		

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22

PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)

Table I-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE												DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA		
	1	2												
Cylindrical Tanks, Filters, and Other Equipment														
Centrifuges (volume controlled)			X								X	X		
Calciner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X								X	The calciner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process.	
IX columns ≤ 22.25" nominal I.D.		X		X		X					X	X		
Containers nominal 5-gallon or less			X	X			X	X			X	X		
Mass controlled dissolvers and receiver vessels.	X							X				X		

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21

## PART I - LICENSE CONDITIONS

REV.

36

Table I-4.1 (Cont'd.)

Table 1-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE												DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO	VOL		FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA		
		1	2											
Cylindrical Tanks, Filters, and Other Equipment														
45-gallon drums			X			X					X		X	
Other unfavorable geometry solution tanks	X			X	X			X					X	
Complex Geometry Equipment														
Powder feed hoppers and discharge chutes	X	X					X						X	These complex geometry equipment have been shown to have a $k_{sa}$ of less than 0.97 at worst case credible accident conditions.
Unfavorable geometry blenders				X		X			X			X		
Hammer mills						X				X			X	
Roll compactors						X				X			X	
Granulators						X				X			X	
Powder sieves	X					X				X			X	

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22



PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)													
COMPONENT	CONTROL TYPE											DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA	
	1	2											
Cylindrical Tanks, Filters, and Other Equipment													
Centrifuges (volume controlled)			X								X	X	
Calclner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X								X	The calclner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process.
IX columns ≤ 22.25" nominal I.D.		X		X		X					X	X	
Containers nominal 5-gallon or less			X	X			X	X			X	X	
Mass controlled dissolvers and receiver vessels.	X							X				X	

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21

## PART I - LICENSE CONDITIONS

REV.

36

Table I-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE										DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE			
	GEO	VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA			
Cylindrical Tanks, Filters, and Other Equipment														
45-gallon drums			X			X				X	X			
Other unfavorable geometry solution tanks	X			X	X		X							
Complex Geometry Equipment														
Powder feed hoppers and discharge chutes	X	X				X					X			
Unfavorable geometry blenders				X				X		X				
Hammer mills														
Roll compactors										X				
Granulators										X				
Powder sieves	X									X				

These complex geometry equipment have been shown to have a  $K_{\text{eff}}$  of less than 0.97 at worst case credible accident conditions.

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22

## PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)

Table 1-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE												DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	APA	SPA		
	1	2												
Cylindrical Tanks, Filters, and Other Equipment														
Centrifuges (volume controlled)		X										X	X	
Calciner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X									X	The calciner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process.
IX columns ≤ 22.25" nominal I.D.		X		X		X						X	X	
Containers nominal 5-gallon or less			X	X			X					X	X	
Mass controlled dissolvers and receiver vessels.	X								X				X	

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21



## PART I - LICENSE CONDITIONS

REV.

36

Table I-4.1 (Cont'd.)													
COMPONENT	CONTROL TYPE										DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE		
	GEO	VOL		FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA	
		1	2										
Cylindrical Tanks, Filters, and Other Equipment													
45-gallon drums				X			X				X	X	
Other unfavorable geometry solution tanks		X			X	X		X				X	
Complex Geometry Equipment													
Powder feed hoppers and discharge chutes	X	X					X					X	These complex geometry equipment have been shown to have a $K_{acc}$ of less than 0.97 at worst case credible accident conditions.
Unfavorable geometry blenders					X		X		X	X		X	
Hammer mills							X			X		X	
Roll compactors							X			X		X	
Granulators							X			X		X	
Powder sleeves			X				X			X		X	

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22

PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)													
COMPONENT	CONTROL TYPE											DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA	
	1	2											
Cylindrical Tanks, Filters, and Other Equipment													
Centrifuges (volume controlled)			X								X	X	
Calciner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X								X	The calciner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process.
IX columns ≤ 22.25" nominal I.D.		X		X		X					X	X	
Containers nominal 5-gallon or less			X	X			X	X			X	X	
Mass controlled dissolvers and receiver vessels.	X							X				X	

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21

## PART I - LICENSE CONDITIONS

REV.

36

Table I-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE										DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE			
	GEO	VOL		FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA		
		1	2											
Cylindrical Tanks, Filters, and Other Equipment														
45-gallon drums				X			X				X	X		
Other unfavorable geometry solution tanks		X			X			X				X		
Complex Geometry Equipment														
Powder feed hoppers and discharge chutes	X	X										X		These complex geometry equipment have been shown to have a $K_{eff}$ of less than 0.97 at worst case credible accident conditions.
Unfavorable geometry blenders					X		X			X		X		
Hammer mills							X			X		X		
Roll compactors							X			X		X		
Granulators							X			X		X		
Powder sieves	X						X			X		X		

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22

PART I - LICENSE CONDITIONS

REV.

Table I-4.1 (Cont'd.)													
COMPONENT	CONTROL TYPE											DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO		VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SPA	
	1	2											
Cylindrical Tanks, Filters, and Other Equipment													
Centrifuges (volume controlled)			X								X	X	
Calciner ≤ 10" nominal I.D. 0.5" wall of HX or HP alloy	X			X								X	The calciner diameter combined with the materials of construction provide criticality safety as a passive feature for all densities and moderator contents of ADU / Urania powder that can be produced by the process.
IX columns ≤ 22.25" nominal I.D.		X		X		X					X	X	
Containers nominal 5-gallon or less			X	X			X	X			X	X	
Mass controlled dissolvers and receiver vessels.	X							X				X	

AMENDMENT APPLICATION DATE:

May 22, 1997

PAGE NO.:

4-21



## PART I - LICENSE CONDITIONS

REV.

36

Table I-4.1 (Cont'd.)

Table 1-4.1 (Cont'd.)														
COMPONENT	CONTROL TYPE												DISCUSSION OF ANY SPECIAL CONTROLS USED / ADDITIONAL EXPLANATION OF CONTROL TYPE	
	GEO	VOL	FNA	NAA	CCU	CCM	MCU	MCM	PPC	ARA	SFA			
												1		2
Cylindrical Tanks, Filters, and Other Equipment														
45-gallon drums			X			X				X		X		
Other unfavorable geometry solution tanks	X			X	X		X						X	
Complex Geometry Equipment														
Powder feed hoppers and discharge chutes	X	X				X							X	These complex geometry equipment have been shown to have a $k_{acc}$ of less than 0.97 at worst case credible accident conditions.
Unfavorable geometry blenders				X		X				X		X		
Hammer mills						X				X			X	
Roll compactors						X				X		X		
Granulators						X				X		X		
Powder sieves	X					X				X		X		

AMENDMENT APPLICATION DATE:

October 28, 1996

PAGE NO.:

4-22