August 1, 2001

NOTE TO: Docket File

FROM: David E. LaBarge, Senior Project Manager, Section 1 /RA/

Project Directorate II

Division of Licensing Project Management Office of Nuclear Reactor Regulation

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 RE: INFORMATION RELATED TO

PROPOSED TECHNICAL SPECIFICATION FOR A ONE-TIME CHANGE TO

THE CONTAINMENT INTEGRATED LEAK RATE SCHEDULE

(TAC NO. MB1377)

By letter dated March 5, 2001, Duke Energy Corporation (Duke) submitted a proposed one-time change to the Oconee Nuclear Station, Unit 3 Technical Specifications (TSs) to extend the containment integrated leak rate test interval. This extension is needed so that performance of two Type A tests will not be required in successive refueling outages, one at the TS-required interval and one following replacement of the once-through steam generators. The attached probabilistic risk analysis calculation was performed by the NRC staff and supplied to Duke as an example of the results that can be obtained using an analysis method designed by the staff and employing Oconee-specific data. It is preliminary (draft) information that has been used for discussion purposes. The purpose of this note is to make the information publicly available.

Docket No. 50-287

<u>Distribution</u>: PD II/I R/F DLaBarge

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IP3 calculation	to extend Type	A Test Interva	1				
	fears to 1 in 15		-				
			ainment Failure	Rin	<u> </u>		
	311 4114 313 114			<u> </u>			
From Table 1 o	on page 11 of IP	3's January 18,	2001 submittal				
CDF =	4.40e-05						
No containmen	t failure freque	ncy =	2.79e-05				
		Table 1 - Base	line Mean Conse	quence Measu	res		
Class	Description				Frequency	Person-Rem	Person-Rem
				Per Rx-yr		per year	
1	No Containme	nt Failure			2.42e-05	1.41e+06	3.41e+01
2	Large Cont Iso	lation Failures	(failure to close)		5.15e-09	4.94e+07	2.54e-01
3a	Small Isolation	Failure (Type	A test)		2.82e-06	1.41e+07	3.97e+01
3b	Large Isolation	Failure (Type	A test)		9.24e-07	4.94e+07	4.56e+01
6	Other Isolation	Failures (depe	ndent failures)		8.94e-09	4.94e+07	4.41e-01
7	Severe Accide	nt Phenomena (Early and Late)		1.36e-05	1.41e+08	1.92e+03
8	Containment B	Sypassed (SGTI	R)		2.43e-06	5.33e+09	1.30e+04
CDF					4.39e-05		14989.566
Class 1 frequen	ncy = D8-Class3	Ba-Class3b =			2.42e-05		
Class 2 frequen	ncy = From Tab	le 1=			5.15e-09		
	ency = .064*CD				2.82e-06		
Class 3b freque	ency = .021*CD	F =			9.24e-07		
	ncy = From Tab				8.94e-09		
Class 7 frequen	ncy = With Clas	s $3A$ and $3B =$			1.36e-05		
Class 8 frequen	cy = From Tab	le 1 =			2.43e-06		
Class 1 dose =	From Table 2 =	:		1.41e+06			
	From Table 2 =			4.94e+07			
	From Table 2		1.41e+07				
	From Table 2			4.94e+07			
Class 6 dose =	From Table 2 =	•		4.94e+07			
Class 7 dose =	From Table 2 =	:		1.41e+08			
Class 8 dose =	From Table 2 =			5.33e+09			

CCFP = 1 r	ninus (Class 1 plu	ıs Class 3a/CDF)	=	3.861e-01			
		Table 2 - Mear	Consequence I	Measures for 10	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr	1	per year
1	No Containn	nent Failure			2.38e-05	1.41e+06	3.35e+01
2	Large Cont Is	solation Failures	(failure to close))	5.15e-09	4.94e+07	2.54e-01
3a	Small Isolation	on Failure (Type	A test)		3.10e-06	1.41e+07	4.37e+01
3b	Large Isolation	on Failure (Type	A test)		1.02e-06	4.94e+07	5.02e+01
6	Other Isolation	on Failures (depe	ndent failures)		8.94e-09	4.94e+07	4.41e-01
7	Severe Accid	lent Phenomena (Early and Late)		1.36e-05	1.41e+08	1.92e+03
8	Containment	Bypassed (SGTI	R)		2.43e-06	5.33e+09	1.30e+04
CDF					4.39e-05		14997.569
Class 1 free	 uency = D8-Clas	s3a-Class3b =			2.38e-05		
	quency = From Ta				5.15e-09		
	equency = $.064*C$				3.10e-06		
	equency = .021*C				1.02e-06		
	quency = From Ta				8.94e-09		
	quency = With Cla				1.36e-05		
	quency = From Ta				2.43e-06		
CCFP = 1 r	ninus (Class 1 plu	ıs Class 3a/CDF)	=	3.882e-01			
		Table 3 - Mear	Consequence I	Measures for 15	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr	_	Per Year
1	No Containm	nent Failure			2.36e-05	1.41e+06	3.33e+01
2	Large Cont Is	Large Cont Isolation Failures (failure to clos			5.15e-09	4.94e+07	2.54e-01
3a	Small Isolation	Small Isolation Failure (Type A test)			3.24e-06	1.41e+07	4.57e+01
3b	Large Isolation	Large Isolation Failure (Type A test)			1.06e-06	4.94e+07	5.24e+01
6	Other Isolation	Other Isolation Failures (dependent failures)			8.94e-09	4.94e+07	4.41e-01
7	Severe Accid	Severe Accident Phenomena (Early and Lat			1.36e-05	1.41e+08	1.92e+03
8		Bypassed (SGTF	• •		2.43e-06		

CDF					4.39e-05		15001.571
CDI					1.570 05		13001.371
Class 1 frequer	ncy = D8-Class3	Ba-Class3b =			2.36e-05		
•	ncy = From Tab				5.15e-09		
•	ency = .064*CD				3.24e-06		
•	ency = .021*CD				1.06e-06		
_	ncy = From Tab				8.94e-09		
Class 7 frequer	ncy = With Clas	s 3A and 3B =	<u>, </u>		1.36e-05		
Class 8 frequer	ncy = From Tab	le 1 =			2.43e-06		
CCFP = 1 min	us (Class 1 plus	Class 3a/CDF)	=	3.893e-01			
		Table 4 - Mean	Consequence M	leasures for 20	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr	II.	Per Year
1	No Containme	nt Failure			2.34e-05	1.41e+06	3.30e+01
2	Large Cont Iso	lation Failures ((failure to close)		5.15e-09	4.94e+07	2.54e-01
3a	Small Isolation	Failure (Type .	A test)		3.38e-06	1.41e+07	4.76e+01
3b	Large Isolation	Failure (Type .	A test)		1.11e-06	4.94e+07	5.47e+01
6	Other Isolation	Failures (deper	ndent failures)		8.94e-09	4.94e+07	4.41e-01
7	Severe Acciden	nt Phenomena (Early and Late)		1.36e-05	1.41e+08	1.92e+03
8	Containment B	ypassed (SGTR	3)		2.43e-06	5.33e+09	1.30e+04
CDF					4.39e-05		15005.572
•	ncy = D8-Class3				2.34e-05		
-	ncy = From Tab				5.15e-09		
•	ency = .064*CD				3.38e-06		
•	ency = .021*CD				1.11e-06		
•	ncy = From Tab				8.94e-09		
	ncy = With Clas				1.36e-05		
Class 8 frequer	ncy = From Tab	le 1 =			2.43e-06		
CCFP = 1 min	us (Class 1 plus	Class 3a/CDF)	=	3.903e-01			

Delta LERF going from 3 in 10 y	year test interv	al to 1 in 15 yea	r test interval =	=		
Difference in Class 3b frequency	y =	1.39e-07				
Delta LERF going from 3 in 10 y		•	r test interval =	=		
Difference in Class 3b frequency	y =	1.85e-07				
Delta LERF going from 3 in 10 y		al to 1 in 15 yea		=		
Using IP3 Methodolgy = Class3t	bBase*.12 =		1.11e-07			
Delta I EDE sains from 1 in 10 s		al to 1 in 15 was				
Delta LERF going from 1 in 10 y Difference in Class 3b frequency		4.62e-08	i test intervar –	-		
Difference in Class 30 frequency	y —	4.020-08				
Delta LERF going from 1 in 10 y	vear test interv	al to 1 in 15 vea	r test interval =	 =		
Using IP3 Methodolgy = Class3t			5.08e-08			
S to the gy						
Delta person-rem/year going from	m 3 in 10 year	test interval to	in 15 year into	erval =		12.00474
Percentage increase = ((Total15	- Total Base)/	Γotal Base)*100	=		0.08%	
Delta person-rem/year going from	m 1 in 10 year	test interval to	in 15 year inte	erval =		4.00158
Percentage increase = ((Total15	- Total10)/Tot	al10)*100 =		0.03%		
Delta increase in CCFP going from	om 3 in 10 yea	r test interval to	1 in 15 year in	terval =		0.32%
Delta increase in CCFP going fro	om 1 in 10 vea	r test interval to	1 in 15 year in	terval =		0.11%
Delta mercase in Cerr going ne	om 1 m 10 yea	r test interval to	1 III 13 year III	ter var		0.1170
For a plant with CDF =	1e-04					
Class 3b frequency = 0.021*CDI	F =	0.0000021				
Class 3b frequency for 15 year in	nterval = 0.021	*CDF*1.15 =		0.0000024		
Class 3b frequency for 20 year in	nterval = 0.021	*CDF*1 2 =		0.0000025		
	0.021					
Delta LERF going from 3 in 10 y	year test interv	al to 1 in 15 yea	r test interval =	=		
Difference in Class 3b frequency		3.15e-07				
Delta LERF going from 3 in 10 y	year test interv	al to 1 in 20 yea	r test interval =	:	ı	
Difference in Class 3b frequency	y =	4.20e-07				

If data base w	vas 1 large failure	out of 145 tests	then:				
D 1 .	id GDE	1 04					
For a plant w	rith CDF =	1e-04					
Class 3h fred	uency = 0.033*C	DF =	0.0000033				
Class 50 ffcq	<u>uchey = 0.033 Cl</u>		0.0000033				
Class 3b freq	uency for 15 year	interval = 0.03	3*CDF*1.15 =		0.0000038		
,							
Class 3b freq	uency for 20 year	interval = 0.033	3*CDF*1.2 =	1	0.000004		
Delta LERF	going from 3 in 10	year test interv	al to 1 in 15 ye	ear test interval	=		
Difference in	Class 3b frequen	cy =	4.95e-07				
Delta LERF	going from 3 in 10	year test interv	al to 1 in 20 ye	ear test interval	=	T	T
Difference in	Class 3b frequen	cy =	6.60e-07				
Reproduction	n of IP3 calculatio	n to extend Typ	e A Test Interv	ral			
From 1 in 10	Years to 1 in 15	Years For Cryst	al River Increas	sing No Contair	ment Failure F	requency	T
From Table 6	on page 9 of Cry	stal River's Apr	ril 25, 2001 sub	mittal	T	T	
GD F	1.20.05						
CDF =	1.38e-05		7 00 06				
No containm	ent failure freque	ncy =	7.80e-06				
		Toble 1 Decal	ina Maan Cana	sequence Measu	urag.		
		Table 1 - Basel	me Mean Cons	lequence ivieasu	iles		
Class	Description				Frequency	Person-Rem	Person-Rem
	2 GS GTT P GT GT				Per Rx-yr	1 010011 110111	per year
1	No Containme	nt Failure			6.63e-06	1.97e+03	
3a	small liner brea	ach			8.83e-07	9.87e+03	8.72e-03
3b	large liner brea	ich			2.90e-07	3.45e+04	1.00e-02
7	Severe Acciden	nt Phenomena (Early and Late)		5.36e-06	9.87e+04	5.29e-01
8	Containment B	ypassed (SGTR	.)		6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		0.69598
•	ency = RC8 + RC9			6.63e-06			
•	uency = .064*CD		8.83e-07				
-	uency = .021*CD		2.90e-07				
Class 7 frequ	ency =	5.36e-06		From Table 6			

Class 8 frequenc	ey =	6.69e-07		From Table 6			
Class 1 dose = 9	87 person-rem	*2La =		1.97e+03			
Class 3a dose =	987 person-ren	n*10La =		9.87e+03			
Class 3b dose =	987 person-rer	n*35La =		3.45e+04			
Class $7 \text{ dose} = 9$	Class 7 dose = 987 person-rem*100La =			9.87e+04			
Class 8 dose =				2.02e+05			
CCFP = 1 minus	s (Class 1 plus	Class 3a/CDF)	=	4.569e-01			
		Table 2 - Mean	Consequence 1	Measures for 10	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr		per year
1	No Containme	nt Failure			6.51e-06	1.97e+03	1.29e-02
3a s	small liner brea	ach			9.72e-07	9.87e+03	9.59e-03
3b 1	large liner brea	ch			3.19e-07	3.45e+04	1.10e-02
7	Severe Acciden	nt Phenomena (l	Early and Late)		5.36e-06	9.87e+04	5.29e-01
8	Containment B	ypassed (SGTR	.)		6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		0.6976213
Class 1 frequence	ev = RC8+RC9	-Class3a-Class3	Bb=	6.51e-06			
Class 3a frequen	•		9.72e-07				
Class 3b frequer	•		3.19e-07				
Class 7 frequenc	•	5.36e-06					
Class 8 frequence	ey =	6.69e-07					
CCFP = 1 minus	s (Class 1 plus	Class 3a/CDF)	=	4.590e-01			
		Table 3 - Mean	Consequence 1	Measures for 15	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr		Per Year
1	No Containme	nt Failure			6.45e-06	1.97e+03	1.27e-02
3a s	small liner brea	nch			1.02e-06	9.87e+03	1.00e-02
3b 1	large liner brea	ch			3.33e-07	3.45e+04	1.15e-02

7 Se	evere Accide	nt Phenomena (Early and Late)		5.36e-06	9.87e+04	5.29e-01
8 C	ontainment B	ypassed (SGTR	3)		6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		0.6984419
Class 1 frequency	r = RC8 + RC9)-Class3a-Class3	3b=	6.45e-06			
Class 3a frequenc	y = .064*CD	F*1.15 =		1.02e-06			
Class 3b frequenc	y = .021*CD	F*1.15 =		3.33e-07			
Class 7 frequency	<i>y</i> =			5.36e-06			
Class 8 frequency	· =			6.69e-07			
CCEP 1 :	/Cl 1 1	Cl. A (CDE)		4.60101			
CCFP = 1 minus ((Class I plus	Class 3a/CDF)	=	4.601e-01			
Delta LERF going	g from 3 in 10	year test interv	val to 1 in 15 ye	ar test interval =	=		
Difference in Clas	ss 3b frequen	cy =	4.35e-08				
Delta LERF going		•	val to 1 in 15 ye		=		
Using IP3 Method	dolgy = Class	3bBase*.12 =		3.48e-08			
Dalta LEDE a disc	- C 1 : 1/) 44 :4	14- 1: 15		_		
Delta LERF going		•	·	ar test interval =	=		
Difference in Class	ss 36 frequen	cy =	1.45e-08				
Delta LERF going	2 from 3 in 10) vear test interv	val to 1 in 15 ve	ar test interval =	 =		
Using IP3 Method				1.59e-08			
Delta person-rem	vear going fi	om 3 in 10 year	test interval to	1 in 15 year into	erval =		0.0024619
Percentage increa		_		_		0.35%	
			,				
Delta person-rem	year going fr	om 1 in 10 year	test interval to	1 in 15 year into	erval =		0.0008206
Percentage increa	se = ((Total1)	5 - Total10)/To	tal10)*100 =		0.12%		
Percent increase i	n CCED goin	a from 2 in 10 x	your tost intoryo	I to 1 in 15 woor	interval –		0.69%
reicent increase i	ii CCFF goiii	g 110111 3 111 10 y	real test interva	1 to 1 iii 13 year	interval –		0.0970
Percent increase i	n CCFP goin	g from 1 in 10 y	year test interval	I to 1 in 15 year	interval =		0.23%

			1

1.38e-05		4.00e-06				
1.38e-05						
0 2 7		rii 25, 2001 subi	mıttal			
	4 1 D' 1 4	11.25, 2001	'u 1			
of Crystal River	calculation to e	extend Type A T	Test Interval	I		
	Years to 1 in 15	Vears to 1 in 15 Years	Vears to 1 in 15 Years		Vears to 1 in 15 Years	Vears to 1 in 15 Years

Class	Description	T.			Frequency	Persn-Rem	Persn-Rem
	_				per l	Rx-yr	per year
1	No Containme	nt Failure			2.81e-06	9.87e+02	2.78e-03
2	Large Cont Iso	olation Failures	(failure to close)		9.24e-08	6.58e+05	6.08e-02
3a	Small Isolation	Failure (Type	A test)		8.83e-07	9.87e+03	8.72e-03
3b	Large Isolation	n Failure (Type	A test)		2.90e-07	3.45e+04	1.00e-02
6	Other Isolation	Failures (deper	ndent failures)		1.38e-08	3.45e+04	4.77e-04
7	Severe Accide	nt Phenomena (Early and Late)		9.06e-06	1.97e+05	1.78e+00
8	Containment E	ypassed (SGTF	2)		6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		2.0027389
Class 1 fre	quency = RC9-Clas	s3a-Class3b-Cla	ass6 =		2.81e-06		
Class 2 fre	quency =				9.24e-08		
Class 3a fr	equency = $.064*CD$	F=			8.83e-07		
Class 3b fr	requency = $.021*CD$)F =			2.90e-07		
Class 6 fre	quency =				1.38e-08		
Class 7 fre	quency = From Tab	le 6 =			9.06e-06		
Class 8 fre	quency = From Tab	le 6 =			6.69e-07		
	se = 987 person-rem	n*La =		9.87e+02			
	se = CR Level 3 =			6.58e+05			
Class 3a do	ose = 987 person-representation = 987 person-representat	m*10La =		9.87e+03			
Class 3b de	ose = 987 person-re	m*35La =		3.45e+04			
Class 6 dos	se = 987 person-rem	n*35La =		3.45e+04			
Class 7 dos	se = CR Level 3 =			1.97e+05			
Class 8 dos	se = CR Level 3 =			2.02e+05			
CCFP = 1	minus (Class 1 plus	Class 3a/CDF)	=	7.326e-01			
		Table 2 - Mear	n Consequence M	leasures for 10	Year Test Inte	rval	
Class	Description				Frequency	Persn-Rem	Persn-Rem
					per l	Rx-yr	per year
1	No Containme	nt Failure			2.70e-06	9.87e+02	2.66e-03
2	Large Cont Iso	olation Failures	(failure to close)		9.24e-08	6.58e+05	6.08e-02
3a	Small Isolation	Failure (Type	A test)		9.72e-07	9.87e+03	9.59e-03

3b	Large Isolation Failure (Type A test)		3.19e-07	3.45e+04	1.10e-02
6	Other Isolation Failures (dependent failures)		1.38e-08	3.45e+04	4.77e-04
7	Severe Accident Phenomena (Early and Late)		9.06e-06	1.97e+05	1.78e+00
8	Containment Bypassed (SGTR)		6.69e-07	2.02e+05	1.35e-01
CDF			1.38e-05		2.0044959
Class 1 frequ	uency = RC9-Class3a-Class3b-Class 6 =		2.70e-06		
Class 2 frequ	uency =		9.24e-08		
Class 3a freq	quency = .064*CDF*1.1=		9.72e-07		
Class 3b free	quency = .021*CDF*1.1 =	3.19e-07			
Class 6 frequ	uency =		1.38e-08		
Class 7 frequ	uency = From Table 6 =		9.06e-06		
Class 8 frequ	uency = From Table 6 =		6.69e-07		
CCFP = 1 m	ninus (Class 1 plus Class 3a/CDF) =	7.347e-01			
	Table 3 - Mean Consequence 1	Measures for 15	Year Test Inte	rval	
Class	Table 3 - Mean Consequence 1 Description	Measures for 15	Year Test Inte	rval Persn-Rem	Persn-Rem
Class		Measures for 15	Frequency		Persn-Rem per year
Class		Measures for 15	Frequency	Persn-Rem	
Class 1 2	Description		Frequency per F	Persn-Rem Rx-yr 9.87e+02	per year 2.60e-03
Class 1 2 3a	Description No Containment Failure Large Cont Isolation Failures (failure to close Small Isolation Failure (Type A test)		Frequency per F 2.64e-06	Persn-Rem Rx-yr 9.87e+02 6.58e+05	per year 2.60e-03 6.08e-02
1 2	Description No Containment Failure Large Cont Isolation Failures (failure to close)		Frequency per F 2.64e-06 9.24e-08	Persn-Rem Rx-yr 9.87e+02 6.58e+05	per year 2.60e-03 6.08e-02 1.00e-02
1 2 3a	Description No Containment Failure Large Cont Isolation Failures (failure to close Small Isolation Failure (Type A test)		Frequency per F 2.64e-06 9.24e-08 1.02e-06	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02
1 2 3a 3b	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test)		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04
1 2 3a 3b	Description No Containment Failure Large Cont Isolation Failures (failure to close Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures)		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 3.45e+04	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00
1 2 3a 3b 6 7	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late)		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 3.45e+04 1.97e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00
1 2 3a 3b 6 7 8 CDF	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late)		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01
1 2 3a 3b 6 7 8 CDF	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late) Containment Bypassed (SGTR) uency = RC9-Class3a-Class3b-Class6 =		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07 1.38e-05	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01
1 2 3a 3b 6 7 8 CDF Class 1 frequ Class 2 frequ	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late) Containment Bypassed (SGTR) uency = RC9-Class3a-Class3b-Class6 =		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07 1.38e-05	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01
1 2 3a 3b 6 7 8 CDF Class 1 frequ Class 2 frequ Class 3a freq	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late) Containment Bypassed (SGTR) uency = RC9-Class3a-Class3b-Class6 = uency =		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07 1.38e-05	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01
1 2 3a 3b 6 7 8 CDF Class 1 frequ Class 2 frequ Class 3a freq	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late) Containment Bypassed (SGTR) uency = RC9-Class3a-Class3b-Class6 = uency = quency = .064*CDF*1.15 = quency = .021*CDF*1.15 =		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07 1.38e-05 2.64e-06 9.24e-08 1.02e-06	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01
1 2 3a 3b 6 7 8 CDF Class 1 frequ Class 2 frequ Class 3a freq Class 3b frec Class 6 frequ	Description No Containment Failure Large Cont Isolation Failures (failure to close) Small Isolation Failure (Type A test) Large Isolation Failure (Type A test) Other Isolation Failures (dependent failures) Severe Accident Phenomena (Early and Late) Containment Bypassed (SGTR) uency = RC9-Class3a-Class3b-Class6 = uency = quency = .064*CDF*1.15 = quency = .021*CDF*1.15 =		Frequency per F 2.64e-06 9.24e-08 1.02e-06 3.33e-07 1.38e-08 9.06e-06 6.69e-07 1.38e-05 2.64e-06 9.24e-08 1.02e-06 3.33e-07	Persn-Rem Rx-yr 9.87e+02 6.58e+05 9.87e+03 3.45e+04 1.97e+05 2.02e+05	per year 2.60e-03 6.08e-02 1.00e-02 1.15e-02 4.77e-04 1.78e+00 1.35e-01

CCFP = 1 1	ninus (Class 1 plus	Class 3a/CDF)	=	7.357e-01			
		Table 4 - Mean	Consequence N	leasures for 20	Year Test Inte	rval	
Class	Description				Frequency	Persn-Rem	Persn-Rem
					per I	Rx-yr	per year
1	No Containme	ent Failure			2.58e-06	9.87e+02	2.55e-03
2	Large Cont Iso	olation Failures ((failure to close)		9.24e-08	6.58e+05	6.08e-02
3a	Small Isolation	n Failure (Type .	A test)		1.06e-06	9.87e+03	1.05e-02
3b	Large Isolation	n Failure (Type .	A test)		3.48e-07	3.45e+04	1.20e-02
6	Other Isolation	n Failures (deper	ndent failures)		1.38e-08	3.45e+04	4.77e-04
7	Severe Accide	ent Phenomena (Early and Late)		9.06e-06	1.97e+05	1.78e+00
8	Containment I	Sypassed (SGTR	3)		6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		2.006253
Class 1 free	quency = RC9-Clas	s3a-Class3b-Cla	nss6 =		2.58e-06		
Class 2 free	quency =				9.24e-08		
Class 3a fre	equency = .064*CI	0F*1.2 =			1.06e-06		
Class 3b fro	equency = .021*CI	0F*1.2 =			3.48e-07		
Class 6 free	quency =				1.38e-08		
Class 7 free	quency = From Tab	ole 6 =			9.06e-06		
Class 8 free	quency = From Tab	ole 6 =			6.69e-07		
Delta LERI	F going from 3 in 1	0 year test interv	val to 1 in 15 yea	r test interval	=		
Difference	in Class 3b frequer	ncy =	4.35e-08				
Delta LERI	F going from 3 in 1	0 year test interv	val to 1 in 20 year	r test interval	=		
Difference	in Class 3b frequer	ncy =	5.80e-08				
Delta LERI	F going from 3 in 1	0 year test interv	val to 1 in 15 year	r test interval	=		
	Methodolgy = Clas	*		3.48e-08			
Delta LERI	F going from 1 in 1	0 year test interv	val to 1 in 15 year	r test interval	=		
	in Class 3b frequer	*	1.45e-08				
	•						
-		*			•	•	

Using IP3 Methodolgy = Class3b10)5 =	1.59e-08		
Delta person-rem/year going from 3	10 year test interval to 1 in	15 year interval =		0.0026356
Percentage increase = ((Total15 - T			0.13%	
Delta person-rem/year going from	10 year test interval to 1 in	n 15 year interval =		0.0008785
Percentage increase = ((Total15 - T		0.0	4%	
Delta increase in CCFP going from	n 10 year test interval to 1	in 15 year interval =		0.31%
Delta increase in CCFP going from	n 10 year test interval to 1	in 15 year interval =		0.10%
				-

	of Crystal River cal						
From 1 in 10	Years to 1 in 15	Years and Incre	asing Class 6 Do	oses			
From Table	6 on page 9 of Cry	rstal River's Apr	ril 25, 2001 subr	nittal			
	4.00.00						
CDF =	1.38e-05						
No containn	nent failure frequer	ncy =	4.00e-06				
		Table 1 - Baseline Mean Consequence Meas					
CI	D : 1:				Б	D D	D D
Class	Description					Person-Rem	Person-Rem
1	N. C	4 E 3			Per Rx-yr	0.07.+02	per year
1	No Containmen		(6:1 (1)		2.81e-06	9.87e+02	2.78e-03
2			(failure to close)	1	9.24e-08	6.58e+05	
3a		Failure (Type			8.83e-07	9.87e+03	
3b		Failure (Type	•		2.90e-07	3.45e+04	
6		Failures (depe			1.38e-08	6.58e+05	
7			Early and Late)		9.06e-06	1.97e+05	
8	Containment B	sypassed (SGTF	(3)		6.69e-07	2.02e+05	
CDF					1.38e-05		2.0113426
Class 1 frequ	uency = RC9-Class	 	 		2.81e-06		
Class 2 frequency	•				9.24e-08		
•	quency = $.064*CD$	F=			8.83e-07		
	quency = $.004$ CD				2.90e-07		
Class 6 frequency					1.38e-08		
•	uency = From Tab	le 6 =			9.06e-06		
•	uency = From Tab				6.69e-07		
21035 6 1104					0.070 07		
Class 1 dose	= 987 person-rem	*La =		9.87e+02			
	Class 2 dose = CR Level 3 = 6.58e+05						
Class 3a dose = 987 person-rem*10La = 9				3.500 : 05			

Class 3b dose	= 987 person-re	m*35La =		3.45e+04			
Class 6 dose	= Similar to Class	s 2 =		6.58e+05			
Class 7 dose =	= CR Level 3 =			1.97e+05			
Class 8 dose =	= CR Level 3 =			2.02e+05			
CCFP = 1 min	nus (Class 1 plus	Class 3a/CDF)	=	7.326e-01			
		Table 2 Maon	Consequence M	Sagurag for 10	Voor Tost Into	w.ol	
		Table 2 - Mean	Consequence iv	leasures for TC	Year Test Inte	rvai	
Class	Description				Frequency	Person-Rem	Person-Rem
	-				Per Rx-yr		per year
1	No Containme	nt Failure			2.70e-06	9.87e+02	2.66e-03
2	Large Cont Isolation Failures (failure to close)				9.24e-08	6.58e+05	6.08e-02
3a	Small Isolation	n Failure (Type A	A test)		9.72e-07	9.87e+03	9.59e-03
3b	Large Isolation	Large Isolation Failure (Type A test)			3.19e-07	3.45e+04	1.10e-02
6	Other Isolation	Other Isolation Failures (dependent failures)			1.38e-08	6.58e+05	9.08e-03
7	Severe Accide	Severe Accident Phenomena (Early and Late)			9.06e-06	1.97e+05	1.78e+00
8	Containment Bypassed (SGTR)				6.69e-07	2.02e+05	1.35e-01
CDF					1.38e-05		2.0130996
Class 1 freque	ency = RC9-Clas	s3a_Class3h_Cla	uss 6 =		2.70e-06		
Class 2 freque	•	55a-C1a5550-C1a	33 0 -		9.24e-08		
*	uency = .064*CD)F*1 1=			9.72e-07		
•	uency = $.004^{\circ}$ CD				3.19e-07		
Class 6 freque	•	1.1			1.38e-08		
•	ency = From Tab	le 6 =			9.06e-06		
	ency = From Tab				6.69e-07		
Class o Il equi					0.05 € 07		
CCFP = 1 min	nus (Class 1 plus	Class 3a/CDF)	=	7.347e-01			
		Table 3 - Mean	Consequence M	leasures for 15	Year Test Inte	rval	
Class	Description				Frequency	Person-Rem	Person-Rem
					Per Rx-yr	I	Per Year
1 No Containment Failure					2.64e-06		
2 Large Cont Isolation Failures (failure to close)					9.24e-08	6.58e+05	6.08e-02

3a	Small Isolation Failure (Type A	test)		1.02e-06	9.87e+03	1.00e-02		
3b	Large Isolation Failure (Type A	test)		3.33e-07	3.45e+04	1.15e-02		
6	Other Isolation Failures (depend	ent failures)		1.38e-08	6.58e+05	9.08e-03		
7	Severe Accident Phenomena (Ea	rly and Late)		9.06e-06	1.97e+05	1.78e+00		
8	Containment Bypassed (SGTR)			6.69e-07	2.02e+05	1.35e-01		
CDF				1.38e-05		2.0139781		
Class 1 freque	ency = RC9-Class3a-Class3b-Class	s6 =		2.64e-06				
Class 2 freque	ency =			9.24e-08				
Class 3a frequ	uency = .064*CDF*1.15 =			1.02e-06				
Class 3b frequ	uency = .021*CDF*1.15 =			3.33e-07				
Class 6 freque	ency =			1.38e-08				
Class 7 freque	ency = From Table 6 =			9.06e-06				
Class 8 freque	ency = From Table 6 =			6.69e-07				
CCFP = 1 min	nus (Class 1 plus Class 3a/CDF) =		7.357e-01					
Delta LERF g	going from 3 in 10 year test interval	l to 1 in 15 year	ar test interval =					
Difference in	Class 3b frequency =	4.35e-08						
Delta LERF g	going from 3 in 10 year test interval	l to 1 in 15 year	ar test interval =					
Using IP3 Me	ethodolgy = Class3bBase*.12 =		3.48e-08					
Delta LERF g	going from 1 in 10 year test interval	l to 1 in 15 year	ar test interval =					
Difference in	Class 3b frequency =	1.45e-08						
Delta LERF g	going from 1 in 10 year test interval	l to 1 in 15 year	ar test interval =					
Using IP3 Me	ethodolgy = Class3b10*.05 =		1.59e-08					
Delta person-	rem/year going from 3 in 10 year to	est interval to	1 in 15 year inte	rval =		0.0026356		
Percentage in	crease = ((Total15 - Total Base)/Total Base)	otal Base)*100	0 =		0.13%			
Delta person-	rem/year going from 1 in 10 year to	est interval to	1 in 15 year inte	rval =	_	0.0008785		
Percentage increase = ((Total15 - Total10)/Total10)*100 = 0.04%								
Delta increase	e in CCFP going from 3 in 10 year	test interval to	o 1 in 15 year int	erval =		0.31%		
			-					
Delta increase in CCFP going from 1 in 10 year test interval to 1 in 15 year interval =								

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3b	Large Isolation	Failure (Type .	A test)		9.51e-08	2.90e+05	2.76e-02
3a	Small Isolation Failure (Type A test)				2.90e-07		2.41e-02
2	Large Cont Isolation Failures (failure to close)				_	4.98e+06	0.00e+00
1c		No Containment Failure (some TW like seqs)			7.38e-07		
1b		nt Failure (inclu			2.25e-08		7.38e-02
1a	No Containmen				1.79e-06		1.49e-02
						Rx-yr	per year
Class	Description				Frequency	Persn-Rem	Persn-Rem
		Table 1 - Basel	ine Mean Cons	equence Measu	res		
No containmen	t failure frequer	ncy =	2.94e-06				
CDF =	4.53e-06		• • • • • •				
			or submittai				
From Table 5-1	of Peach Botto	 	01 suhmittal				
	ears to 1 in 15				L		

6	Other Isolation	Failures (deper	ndent failures)			4.98e+06	0.00e+00
7	Severe Acciden	nt Phenomena (Early and Late)		1.59e-06	3.70e+06	5.88e+00
8	Containment B	Sypassed (Event	: V)		2.30e-09	3.78e+06	8.69e-03
CDF					4.53e-06		6.2859586
Class 1a freque	ency = D7-Class	1a-Class1b-Cla	ıss3a-Class3b =		1.79e-06		
Class 1b freque	ency =				2.25e-08		
Class 1c freque	ency =				7.38e-07		
Class 2 frequer	ncy = From Tab	le 5-1 =			n/a		
Class 3a freque	ency = .064*CD	F=			2.90e-07		
Class 3b freque	ency = .021*CD	F =			9.51e-08		
Class 6 frequer	ncy = From Tab	le 5-1 =			n/a		
Class 7 frequer	ncy = From Tab	le 5-1 =			1.59e-06		
Class 8 frequency = From Table 5-1 =					2.30e-09		
Class 1a dose =	From Table 5-	2 =		8.30e+03			
Class 1b dose =	From Table 5-	2 =		3.28e+06			
Class 1c dose =	From Table 5-	2 =		3.44e+05			
Class 2 dose =	From Table 5-2	; =		4.98e+06			
Class 3a dose =	= 8.30E+03 pers	son-rem*10La =	=	8.30e+04			
Class 3b dose =	= 8.30E+03 pers	son-rem*35La =	=	2.90e+05			
Class 6 dose =	From Table 5-2	; =		4.98e+06			
Class 7 dose =	From Table 5-2	, =		3.70e+06			
Class 8 dose =	From Table 5-2	; =		3.78e+06			
CCFP = 1 minu	us (Class 1 plus	Class 3a/CDF)	=	3.723e-01			
		,					
		Table 2 - Mear	Consequence	Measures for 10	Year Test Inte	rval	
			•				
Class	Description				Frequency	Persn-Rem	Persn-Rem
					per I	Rx-yr	per year
1a	No Containme	nt Failure			1.76e-06	8.30e+03	1.46e-02
1b	No Containment Failure (including suc ventin				2.25e-08	3.28e+06	7.38e-02
1c	No Containment Failure (some TW like seqs)				7.38e-07	3.44e+05	2.54e-01
2	Large Cont Isolation Failures (failure to close)					4.98e+06	0.00e+00
3a	Small Isolation Failure (Type A test)				3.19e-07	8.30e+04	2.65e-02
3b	Large Isolation	Failure (Type	A test)		1.05e-07	2.90e+05	3.04e-02

6	Other Isolation	Failures (dependent failures)			4.98e+06	0.00e+00
7	Severe Accide	nt Phenomena (Early and Late)		1.59e-06	3.70e+06	5.88e+00
8	Containment E	Bypassed (Event V)		2.30e-09	3.78e+06	8.69e-03
CDF				4.53e-06		6.2908088
Class 1a fr	raguanay = D7 Class	s1a-Class1b-Class3a-Class3b =		1.76e-06		
Class 1a fr		STA-ClassTO-Class3a-Class30 =		2.25e-08		
Class 16 fr				7.38e-07		
		1051-				
	quency = From Tab			n/a		
	requency = $.064*CD$			3.19e-07		
	requency = $.021*CD$		1.05e-07			
	quency = From Tab		n/a			
	quency = From Tab			1.59e-06		
Class 8 fre	quency = From Tab	le 5-1 =		2.30e-09		
CCFP = 1	minus (Class 1 plus	Class 3a/CDF) =	3.744e-01			
		Table 3 - Mean Consequence M	leasures for 15	Year Test Inte	rval	
Class	Description			Frequency	Persn-Rem	Persn-Rem
				per I	Rx-yr	Per Year
1a	No Containme	nt Failure		1.74e-06	8.30e+03	1.44e-02
1b	No Containme	nt Failure (including suc venting)	2.25e-08	3.28e+06	7.38e-02
1c	No Containme	nt Failure (some TW like seqs)		7.38e-07	3.44e+05	2.54e-01
2		plation Failures (failure to close)			4.98e+06	0.00e+00
3a	Small Isolation	r Failure (Type A test)		3.33e-07	8.30e+04	2.77e-02
3b		r Failure (Type A test)		1.09e-07	2.90e+05	
6		Failures (dependent failures)			4.98e+06	
7		nt Phenomena (Early and Late)		1.59e-06	3.70e+06	
8		Bypassed (Event V)		2.30e-09	3.78e+06	
CDF				4.53e-06		6.293234
Class 1a fr	requency = D7-Class	s1a-Class1b-Class3a-Class3b =		1.74e-06		
Class 1b fr		CILL CIMOSTO CIMOSOM CIMOSO		2.25e-08		
Class 1c frequency =				7.38e-07		
Class 2 frequency = From Table 5-1 =				,.500	I .	1

Class 3a frequency = .064*CDF*1.15 =	3.33e-07
Class 3b frequency = .021*CDF*1.15 =	1.09e-07
Class 6 frequency = From Table 5-1 =	n/a
Class 7 frequency = From Table 5-1 =	1.59e-06
Class 8 frequency = From Table 5-1 =	2.30e-09
CCFP = 1 minus (Class 1 plus Class 3a/CDF) =	3.755e-01
Delta LERF going from 3 in 10 year test interval to 1 i	15 year test interval =
	e-08
Delta LERF going from 3 in 10 year test interval to 1 i	15 year test interval =
Using IP3 Methodolgy = Class3bBase*.12 =	1.14e-08
Delta LERF going from 1 in 10 year test interval to 1 i	15 year test interval =
	e-09
Delta LERF going from 1 in 10 year test interval to 1 i	15 year test interval =
Using IP3 Methodolgy = Class3b10*.05 =	5.23e-09
Delta person-rem/year going from 3 in 10 year test into	val to 1 in 15 year interval = 0.0072754
Percentage increase = ((Total15 - Total Base)/Total Base	e)*100 = 0.12%
Delta person-rem/year going from 1 in 10 year test into	ral to 1 in 15 year interval = 0.0024251
Percentage increase = ((Total15 - Total10)/Total10)*1	0.04%
Delta increase in CCFP going from 3 in 10 year test in	rval to 1 in 15 year interval = 0.31%
Delta increase in CCFP going from 1 in 10 year test in	val to 1 in 15 year interval = 0.10%

			extend Type A T			
From 1 in 10 Y	ears to 1 in 15	Years Using Wa	aterford Plant S	pecific Data	T	

From Table 5-2	2 and 5-6 of CEO	OG topical repo	ort dated July 19,	2001			
CDF =	2.54e-05						
No containmen	nt failure frequer	ncy =	1.31e-05				
		Table 1 - Base	line Mean Conse	quence Measu	res		
Class	Description				Frequency	Persn-Rem	Persn-Rem
					per I	Rx-yr	per year
1	No Containmen	nt Failure			1.09e-05	6.73e+04	7.36e-01
2	Large Cont Iso	lation Failures	(failure to close)		2.54e-08	6.73e+06	1.71e-01
3a	Small Isolation	Failure (Type	A test)		1.63e-06	6.73e+05	1.09e+00
3b	Large Isolation	Failure (Type	A test)		5.33e-07	2.36e+06	1.26e+00
6	Other Isolation	Failures (depe	ndent failures)		4.78e-10	2.36e+06	1.13e-03
7	Severe Accident Phenomena (Early and Lat				1.08e-05	1.88e+07	2.04e+02
8	Containment Bypassed (SGTR)				1.47e-06	1.08e+08	1.59e+02
CDF					2.54e-05		365.53405
Class 1 frequency = D7-Class3a-Class3b =					1.09e-05		
Class 2 frequer	ncy = From Tabl	le 5-2 =			2.54e-08		
	ency = .064*CD				1.63e-06		
•	ency = .021*CD				5.33e-07		
	ncy = From Tabl				4.78e-10		
	ncy = From Tabl				1.08e-05		
	ncy = From Tabl				1.47e-06		
Class 1 dose =	La =			6.73e+04			
Class 2 dose =				6.73e+06			
Class 3a dose =				6.73e+05			
Class 3b dose =				2.36e+06			
Class 6 dose =				2.36e+06			
Class 7 dose =				1.88e+07			
Class 8 dose =				1.08e+08			
CCFP = 1 minu	CCFP = 1 minus (Class 1 plus Class 3a/CDF) =			5.052e-01			
		Table 2 - Mear	n Consequence M	leasures for 10	Year Test Inte	rval	

Class	Description				Frequency	Persn-Rem	Persn-Rem	
					per I	Rx-yr	per year	
1	No Containme	ent Failure			1.07e-05	6.73e+04	7.22e-01	
2	Large Cont Is	olation Failures	(failure to close)		2.54e-08	6.73e+06	1.71e-01	
3a	Small Isolatio	n Failure (Type	A test)		1.79e-06	6.73e+05	1.20e+00	
3b	Large Isolatio	n Failure (Type	A test)		5.87e-07	2.36e+06	1.38e+00	
6	Other Isolation	n Failures (deper	ndent failures)		4.78e-10	2.36e+06	1.13e-03	
7		ent Phenomena (1.08e-05	1.88e+07	2.04e+02	
8	Containment 1	Bypassed (SGTR	(3)		1.47e-06	1.08e+08	1.59e+02	
CDF					2.54e-05		365.75456	
Class 1 free	quency = D7-Class	3a-Class3b =			1.07e-05			
Class 2 free	quency = From Tal	ble 5-2 =			2.54e-08			
Class 3a fre	equency = .064*CI	DF*1.1 =			1.79e-06			
Class 3b frequency = .021*CDF*1.1 =					5.87e-07			
Class 6 frequency = From Table 5-2 =					4.78e-10			
Class 7 frequency = From Table 5-2 =					1.08e-05			
	quency = From Tab				1.47e-06			
CCFP = 1 1	minus (Class 1 plus	s Class 3a/CDF)	=	5.073e-01				
		,						
		Table 3 - Mear	Consequence N	Measures for 15 Year Test Interval				
						- ,		
Class	Description				Frequency	Persn-Rem	Persn-Rem	
Clubb	2 Courpoin				· · ·	Rx-yr	per year	
1	No Containme	ent Failure			1.06e-05			
2		olation Failures	(failure to close)		2.54e-08			
3a		n Failure (Type	,		1.87e-06		1.26e+00	
3b		n Failure (Type	· · · · · · · · · · · · · · · · · · ·		6.13e-07			
6		n Failures (depen			4.78e-10			
7		ent Phenomena (1.08e-05		2.04e+02	
8		Bypassed (SGTR	<u> </u>		1.47e-06			
CDF	Contaminant	passea (SGTI			2.54e-05		365.86482	
					2.540-03		303.00402	
Class 1 free	quency = D7-Class	3a-Class3b =			1.06e-05			
21000 1 1100	-1				1.000 03	<u> </u>	1	

Class 2 frequer	ncy = From Tab	le 5-2 =			2.54e-08		
•	ency = .064*CD				1.87e-06		
•	ency = .021*CD				6.13e-07		
•	ncy = From Tab				4.78e-10		
	ncy = From Tab				1.08e-05		
•	ncy = From Tab				1.47e-06		
CCFP = 1 minu	us (Class 1 plus	Class 3a/CDF)	=	5.083e-01			
		Table 4 - Mean	Consequence M	easures for 20	Year Test Inte	rval	
Class	Description	T			1 1	Persn-Rem	Persn-Rem
					per F	•	per year
1	No Containme	nt Failure			1.05e-05	6.73e+04	
2	Large Cont Iso	lation Failures (failure to close)		2.54e-08	6.73e+06	1.71e-01
3a	Small Isolation	Failure (Type A	A test)		1.95e-06	6.73e+05	1.31e+00
3b	Large Isolation Failure (Type A test)				6.40e-07	2.36e+06	1.51e+00
6	Other Isolation Failures (dependent failures)				4.78e-10	2.36e+06	1.13e-03
7	Severe Accide	nt Phenomena (Early and Late)		1.08e-05	1.88e+07	2.04e+02
8	Containment B	Sypassed (SGTR	2)		1.47e-06	1.08e+08	1.59e+02
CDF					2.54e-05		365.97508
Class 1 frequer	ncy = D7-Class3	Ba-Class3b =			1.05e-05		
Class 2 frequer	ncy = From Tab	le 5-2 =			2.54e-08		
Class 3a freque	ency = .064*CD	F*1.2 =			1.95e-06		
Class 3b freque	ency = .021*CD	F*1.2 =			6.40e-07		
Class 6 frequer	ncy = From Tab	le 5-2 =			4.78e-10		
Class 7 frequer	ncy = From Tab	le 5-2 =			1.08e-05		
Class 8 frequer	ncy = From Tab	le 5-2 =			1.47e-06		
Delta LERF go	ing from 3 in 10	year test interv	val to 1 in 15 year	r test interval	=		
Difference in C	Class 3b frequen	cy =	8.00e-08				
Delta LERF go	ing from 3 in 10) year test interv	val to 1 in 20 year	r test interval	=		
Difference in C	Class 3b frequen	cy =	1.07e-07				

Delta LERF going fr	om 1 in 10 year test inte	rval to 1 in 15 year test inte	erval =	
Difference in Class 3	Bb frequency =	2.67e-08		
Delta person-rem/yea	ar going from 3 in 10 ye	ar test interval to 1 in 15 ye	ar interval =	0.3307728
Percentage increase	= ((Total 15 - Total Base)/Total Base)*100 =		0.09%
Delta person-rem/yea	ar going from 1 in 10 ye	ar test interval to 1 in 15 ye	ar interval =	0.1102576
	= ((Total15 - Total10)/T		0.03%	
Delta increase in CC	FP going from 3 in 10 y	ear test interval to 1 in 15 y	ear interval =	0.32%
Delta increase in CC	FP going from 1 in 10 y	ear test interval to 1 in 15 y	ear interval =	0.11%

				_			
-	on of Waterford cal		• • •				
From 1 in 1	0 Years to 1 in 15 Y	Years Using CI	EOG topical rep	ort dated July 1	9, 2001		
From Table	5-2 and 5-6 of CEO	OG topical repo	ort dated July 19	9, 2001			
CDF =	2.54e-05						
No containr	nent failure frequer	ncy =	1.31e-05				
		Table 1 - Base	eline Mean Cons	equence Measu	ires	Г	
Class	Description	T			Frequency	Persn-Rem	Persn-Rem
					•	Rx-yr	per year
1	No Containmen				1.27e-05		
2	Large Cont Iso	lation Failures	(failure to close	·)	2.54e-08	1.35e+07	3.42e-01
3a	Small Isolation	Failure (Type	A test)		3.67e-07	1.68e+06	6.17e-01
3b	Large Isolation	Failure (Type	A test)		2.20e-09	1.35e+07	2.96e-02
6	Other Isolation	Failures (depe	endent failures)		4.78e-10	4.71e+06	2.25e-03
7	Severe Acciden	nt Phenomena ((Early and Late)	1	1.08e-05	3.77e+07	4.07e+02
8	Containment B	ypassed (SGTI	R)		1.47e-06	1.08e+08	1.59e+02
CDF					2.54e-05		567.63841
Class 1 freq	uency = D7-Class3	Sa-Class3b =			1.27e-05		
Class 2 freq	uency = From Tabl	le 5-2 =			2.54e-08		
	quency = From Tab				3.67e-07		
	equency = From Tal				2.20e-09		
	uency = From Tabl				4.78e-10		

Class 7 freq	uency = From Tab	ole 5-2 =			1.08e-05		
-	uency = From Tab				1.47e-06		
Class 1 dose	e = La =			6.73e+04			
	e = 100*La/0.5 =			1.35e+07			
	se = 25*La =			1.68e+06			
Class 3b do	se = 100*La/0.5 =			1.35e+07			
Class 6 dose	e = 35*La/0.5 =			4.71e+06			
Class 7 dose	e = 280*La/0.5 =			3.77e+07			
Class 8 dose	e = Table 5-4 =			1.08e+08			
CCED = 1 m	ninus (Class 1 nlus	Class 2s/CDE)	_	4.843e-01			
CCFP - 1 II	ninus (Class 1 plus	Class 3a/CDF)	_	4.8436-01			
		Table 2 - Mean	Consequence M	leasures for 10	Year Test Inte	rval	
G1	D					D D	D D
Class	Description				1 -	Persn-Rem	Persn-Rem
4						Rx-yr	per year
1	No Containme		(0.1)		1.20e-05		
2			(failure to close)		2.54e-08		
3a		n Failure (Type	•		1.10e-06		
3b		n Failure (Type			6.60e-09		
6		n Failures (deper			4.78e-10		
7		ent Phenomena (•		1.08e-05		
8	Containment I	Bypassed (SGTR	3)		1.47e-06	1.08e+08	
CDF					2.54e-05		568.88128
	D7.01	2 (1 21			1.20 .05		
-	$\underline{\text{puency} = \text{D7-Class}}$				1.20e-05		
	uency = From Tab				2.54e-08		
	equency = From Ta				1.10e-06		
	equency = From Tab Juency = From Tab				6.60e-09 4.78e-10		
•	quency = From Tab				1.08e-05		
•	uency = From Tab				1.47e-06		
CCFP = 1 n	ninus (Class 1 plus	Class 3a/CDF)	=	4.844e-01			

		Table 3 - Mear	Consequence N	Measures for 15	Year Test Inte	rval	I
Class	Description				Engavonav	Persn-Rem	Dagge Dage
Class	Description				Frequency		Persn-Rem
1	N. C. atain a	4 F- :1			•	Rx-yr	per year
1	No Containm		(6.1		1.14e-05		
2	_	olation Failures	`		2.54e-08		
3a		on Failure (Type			1.65e-06		
3b		on Failure (Type			9.90e-09		
6		n Failures (deper			4.78e-10		
7		ent Phenomena (1.08e-05		
8	Containment	Bypassed (SGTF	R)		1.47e-06		1.59e+02
CDF					2.54e-05		569.81383
Class 1 free	quency = D7-Class	3a-Class3b =			1.14e-05		
	quency = From Tal				2.54e-08		
Class 3a frequency = From Table 5-6 =					1.65e-06		
Class 3b frequency = From Table 5-6 =					9.90e-09		
Class 6 frequency = From Table 5-2 =					4.78e-10		
	quency = From Tal				1.08e-05		
	quency = From Tal				1.47e-06		
Class 6 IIC	quency – From Ta	bic 3-2 -			1.476-00		
CCFP = 1 1	minus (Class 1 plus	s Class 3a/CDF)	=	4.846e-01			
		Table 4 - Mear	n Consequence N	Measures for 20	Year Test Inte	rval	
CI	D				T.	D. D.	D D
Class	Description				Frequency	Persn-Rem	Persn-Rem
1	No Containm	ent Failure			1.09e-05	8x-yr 6.73e+04	7.33e-01
2		olation Failures	(failure to close)		2.54e-08		
3a		on Failure (Type	`		2.20e-06		
3b		on Failure (Type)			1.32e-08		
		on Failures (depe					
6		` .			4.78e-10		
0		ent Phenomena (1.08e-05		
8 CDF	Containment	Bypassed (SGTR	()		1.47e-06		
CDF					2.54e-05		570.74639

Class 1 frequency = D7-Class3a-Class3b =		1.09e-05				
Class 2 frequency = From Table 5-2 =		2.54e-08				
Class 3a frequency = From Table 5-6 =		2.20e-06				
Class 3b frequency = From Table 5-6 =	1.32e-08 4.78e-10					
Class 6 frequency = From Table 5-2 =						
Class 7 frequency = From Table 5-2 = 1.08e-05						
Class 8 frequency = From Table 5-2 =		1.47e-06				
Delta LERF going from 3 in 10 year test inte	rval to 1 in 15 year test is	nterval =				
Difference in Class 3b frequency =	7.70e-09					
Delta LERF going from 3 in 10 year test inter	rval to 1 in 20 year test is	nterval =				
Difference in Class 3b frequency =						
Delta LERF going from 1 in 10 year test inte	rval to 1 in 15 year test is	nterval =				
Difference in Class 3b frequency = 3.30e-09						
Delta person-rem/year going from 3 in 10 year	ar test interval to 1 in 15	year interval =	2.1754254			
Percentage increase = ((Total15 - Total Base)	\/Total Basa*100 -		200/			
11 crosmage mercase ((10tarro - 10tarroase)/ 10ta1 base) 100 –	(0.38%			
((Total Dase)/ Total Base)* 100 –	(0.38%			
			0.9325559			
Delta person-rem/year going from 1 in 10 year	ar test interval to 1 in 15	year interval =				
	ar test interval to 1 in 15					
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T	ar test interval to 1 in 15 otal10)*100 =	year interval = 0.16%	0.9325559			
Delta person-rem/year going from 1 in 10 year	ar test interval to 1 in 15 otal10)*100 =	year interval = 0.16%				
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15	year interval = 0.16% 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15	year interval = 0.16% 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15	year interval = 0.16% 5 year interval = 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15	year interval = 0.16% 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv	year interval = 0.16% 5 year interval = 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15	year interval = 0.16% 5 year interval = 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-1 Class 3b frequency = 0.021*CDF =	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021	year interval = 0.16% 5 year interval = 5 year interval =	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-10 Class 3b frequency = 0.021*CDF = 10.02	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021 21*CDF*1.10 =	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates 0.0000023	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-1 Class 3b frequency = 0.021*CDF =	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021 21*CDF*1.10 =	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0- Class 3b frequency = 0.021*CDF = Class 3b frequency for 10 year interval = 0.02 Class 3b frequency for 15 year interval = 0.02	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021 21*CDF*1.10 = 21*CDF*1.15 =	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates 0.0000023 0.0000024	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0-10 Class 3b frequency = 0.021*CDF = 10.02	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021 21*CDF*1.10 = 21*CDF*1.15 =	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates 0.0000023	0.9325559			
Delta person-rem/year going from 1 in 10 year Percentage increase = ((Total15 - Total10)/T Delta increase in CCFP going from 3 in 10 year Delta increase in CCFP going from 1 in 10 year For a plant with CDF = 1e-0- Class 3b frequency = 0.021*CDF = Class 3b frequency for 10 year interval = 0.02 Class 3b frequency for 15 year interval = 0.02	ar test interval to 1 in 15 otal10)*100 = ear test interval to 1 in 15 ear test interval to 1 in 15 4 The previously approv 0.0000021 21*CDF*1.10 = 21*CDF*1.15 = 21*CDF*1.2 =	year interval = 0.16% 5 year interval = 5 year interval = ed methodology estimates 0.0000023 0.0000024 0.0000025	0.9325559			

					per l	Rx-yr	per year
Class	Description				Frequency	Persn-Rem	Persn-Rem
		Table 1 - Basel	ine Mean Conso	equence Measu	ires	_	
ino containmer	nt failure frequer	ncy =	5.50e-06				
CDF =	2.60e-05		5.50~ 00				
CDE	2.50.05						
TIOHI I III IU Y	Cars to 1 III 13	rears Using OC	once riant spec	inc Data			
	of Crystal River Years to 1 in 15						
D 1 .*	60 15	1 1 2	. 1.00	T · · · · ·			
Difference in C	Class 3b frequen	cy =	6.60e-07				
Delta LERF go	oing from 3 in 10	year test interv	val to 1 in 20 ye	ar test interval	=		
	,	Ť					
	Class 3b frequen	•	4.95e-07				
Delta LERF go	oing from 3 in 10	year test interv	al to 1 in 15 ye	ar test interval	=	1	
Class 3b freque	ency for 20 year	interval = 0.033	3*CDF*1.2 =		0.000004		
Class 3b freque	ency for 15 year	interval = 0.033	3*CDF*1.15 =		0.0000038		
•	ency = 0.033*C		0.0000033				
•		DE	0.000002				
For a plant wit	h CDF =	1e-04					
ii data base wa	is I large lariure	out of 143 tests	tiicii.				
If data base we	s 1 large failure	out of 145 tests	then:				
to a 20 year tes	at interval to be		3.80e-08				
From page 5-19	9 CEOG topical	report estimate	s delta LERF in	going from a	10 year test inte	rval	
Difference in C	Class 3b frequen	cy =	2.10e-07				
	oing from 10 year		-	st interval =			
	Class 3b frequen	-	4.20e-07	ai test iiitei vai			
Dolto I EDE co	oing from 3 in 10) voor tost intor	val to 1 in 20 va	or tost interval	_		
Difference in C	Class 3b frequen	cy =	3.15e-07				

1	No Containme	nt Failure			3.29e-06	4.27e+02	1.40e-03
2	Large Cont Iso	lation Failures (failure to close)	7.09e-08	4.27e+05	3.03e-02
3a	Small Isolation	Failure (Type A	A test)		1.66e-06	4.27e+03	7.11e-03
3b	Large Isolation	n Failure (Type A	A test)		5.46e-07	1.49e+04	8.16e-03
6	Other Isolation	Failures (deper	ndent failures)		0.00e+00	1.49e+04	0.00e+00
7	Severe Accide	nt Phenomena (1	Early and Late)		2.01e-05	7.52e+04	1.51e+00
8	Containment B	Sypassed (SGTR	3)		4.17e-07	7.51e+05	3.13e-01
CDF					2.61e-05		1.8716314
Class 1 frequen	icy = D7-Class3	Ba-Class3b =			3.29e-06		
Class 2 frequen	ncy =				7.09e-08		
Class 3a freque	ency = .064*CD	F=			1.66e-06		
Class 3b freque	ency = .021*CD)F =			5.46e-07		
Class 6 frequen	icy = Included i	n Class 2 =			0.00e+00		
Class 7 frequen					2.01e-05		
Class 8 frequen					4.17e-07		
Class 1 dose =	La =			4.27e+02			
Class 2 dose =	1000*La =			4.27e+05			
Class 3a dose =	= 10*La =			4.27e+03			
Class 3b dose =	= 35*La =			1.49e+04			
Class 6 dose = :	35*La=			1.49e+04			
Class 7 dose =				7.52e+04			
Class 8 dose =				7.51e+05			
CCFP = 1 minu	ıs (Class 1 plus	Class 3a/CDF)	=	8.101e-01			
		Table 2 - Mean	Consequence 1	Measures for 10	Year Test Inte	rval	
Class	Description				Frequency	Persn-Rem	Persn-Rem
						Rx-yr	per year
1	No Containme	nt Failure			3.07e-06		
2	Large Cont Iso	lation Failures (failure to close)	7.09e-08	4.27e+05	3.03e-02
3a		Failure (Type A			1.83e-06	4.27e+03	7.82e-03
3b		Failure (Type A	*		6.01e-07		
6		Failures (deper			0.00e+00		
7		nt Phenomena (1			2.01e-05		

	quency = equency = .064*CD	ND*1 15 —			1.91e-06		
Class 1 fre	* ·	5a-C1a5550 —			7.09e-08		
Class 1 fre	quency = D7-Class3				2.96e-06		
CDF					2.61e-05		1.8737796
8 CDE	Containment E	Sypassed (SGTR)		4.17e-07	7.51e+05	
7		ent Phenomena (•		2.01e-05	7.52e+04	
6		n Failures (deper			0.00e+00		
3b		n Failure (Type A			6.28e-07	1.49e+04	
3a		Failure (Type A			1.91e-06		
2		olation Failures (7.09e-08		
1	No Containme		(C:1 / 1)		2.96e-06		
1	N. C.	(F. 7			_	Rx-yr	per year
Class	Description				1 7	Persn-Rem	Persn-Rem
		Table 3 - Mean	Consequence N	Measures for 15			
	2 332 2 7285						
CCFP = 1	minus (Class 1 plus	Class 3a/CDF)	=	8.122e-01			
Class 8 frequency =					4.17e-07		
Class 7 fre	quency =			2.01e-05			
Class 6 fre	quency = Included i	in Class 2 =		0.00e+00			
	equency = .021*CD				6.01e-07		
	equency = .064*CD)F*1.1 =			1.83e-06		
Class 2 fre					7.09e-08		
Class 1 fre	quency = D7-Class3	3a-Class3b =			3.07e-06		
CDF					2.61e-05		1.8730635
8 CDF	Containment E	Bypassed (SGTR	()		4.17e-07	7.51e+05	

		Table 4 - Mear	Consequence	Measures for 20	0 Year Test Inte	rval	
Class	Description	T			Frequency	Persn-Rem	Persn-Rem
					per l	Rx-yr	per year
1	No Containme	nt Failure			2.85e-06	4.27e+02	1.22e-03
2	Large Cont Iso	olation Failures	(failure to close)	7.09e-08	4.27e+05	3.03e-02
3a	Small Isolation	Small Isolation Failure (Type A test)				4.27e+03	8.53e-03
3b	Large Isolation	Large Isolation Failure (Type A test)				1.49e+04	9.79e-03
6	Other Isolation	Failures (depe	ndent failures)		0.00e+00	1.49e+04	0.00e+00
7	Severe Accide	Severe Accident Phenomena (Early and Late)				7.52e+04	1.51e+00
8	Containment E	Bypassed (SGTF	₹)		4.17e-07	7.51e+05	3.13e-01
CDF					2.61e-05		1.8744957
Class 1 frequency = D7-Class3a-Class3b = 2.85e-06							
Class 2 free				7.09e-08			
,	equency = $.064*CD$	F*1.2 =	2.00e-06				
	equency = $.021*CD$		6.55e-07				
	uency = Included i				0.00e+00		
Class 7 freq		III Class 2			2.01e-05		
Class 8 free					4.17e-07		
Class o freq	luchey				1.170 07		
Delta LERF	going from 3 in 1	0 year test inter	val to 1 in 15 ye	ear test interval	=		
	in Class 3b frequen	•	8.19e-08				
	,						
Delta LERF	going from 3 in 1	0 year test inter	val to 1 in 20 ye	ear test interval	=	l	1
Difference	in Class 3b frequen	ncy =	1.09e-07				
Delta LERF	going from 1 in 1	0 year test inter	val to 1 in 15 ye	ear test interval	=		
	in Class 3b frequen	-	2.73e-08				
Delta perso	n-rem/year going fi	rom 3 in 10 year	r test interval to	1 in 15 year in	terval =	I	0.0021482
•	increase = ((Total1	·		·		0.11%	
_ : : : :	((=====================================					232270	
Delta person	n-rem/year going fi	rom 1 in 10 vea	r test interval to	1 in 15 year in	terval =	<u> </u>	0.0007161
•	increase = $((Total1)$	·		- J	0.04%		
	((10:01)	1300110			3.0170		
		1	L	1	1	1	L

Delta increase in CCFP going from 3 in 10 year	year interval =	0.31%	
Delta increase in CCFP going from 1 in 10 year	r test interval to 1 in 15	5 vear interval =	0.10%
going non-time to you		- y • m 2110•2 ; m 2	3.1070
For a plant with CDF = 1e-04	The previously approve	ed methodology estimates	
Class 3b frequency = 0.021*CDF =	0.0000021		
	# CD F#1 10	0.0000022	
Class 3b frequency for 10 year interval = 0.021	*CDF*1.10 =	0.0000023	
Class 3b frequency for 15 year interval = 0.021	*CDF*1.15 =	0.0000024	
		3333333	
Class 3b frequency for 20 year interval = 0.021	*CDF*1.2 =	0.0000025	
Delta LERF going from 3 in 10 year test interv	· I	nterval =	
Difference in Class 3b frequency =	3.15e-07		
Dalla LEDE as in Grand 2 in 10 and 4 distance	-14- 1 :- 2044 :-	1	
Delta LERF going from 3 in 10 year test intervention. Difference in Class 3b frequency =	4.20e-07	nterval =	
Difference in Class 30 frequency –	4.206-07		
Delta LERF going from 10 year test interval to	1 in 20 year test interv	al =	
Difference in Class 3b frequency =	2.10e-07		
From page 5-19 CEOG topical report estimates	delta LERF in going f	rom a 10 year test interval	
to a 20 year test interval to be	3.80e-08		
If data base was 1 large failure out of 145 tests	then:		
For a plant with CDF = 1e-04			
Class 3b frequency = 0.033*CDF =	0.0000033		
Class 3b frequency for 15 year interval = 0.033	*CDF*1.15 =	0.0000038	
Class 3b frequency for 20 year interval = 0.033	*CDF*1.2 =	0.000004	
	1. 1. 15		
Delta LERF going from 3 in 10 year test interv		nterval =	
Difference in Class 3b frequency =	4.95e-07		

Delta LERF going from 3 in 10 year test interval to 1 in 20 year test interval =							
Difference in C	lass 3b frequen	cy =	6.60e-07				