			Exhibit A2 - 1			
			Is Subject to the FFD Program			
vity	Equation	Parameter Description	Parameter	Value	Source	Section
Progr		Subject to the Rule			Subpart A	26.4(g)
	These param	neters are used in the equations below:				
		Number of MROs per program	NUM mros	2	Assumption	
		% multiplier to spread compliance costs across all programs	PER compliance	25%	Assumption	
	Industry Pract	tices: One-time cost per program to subject MROs to pre-access drug and alcohol te	esting to comply with the former rule No additional parameters			
	Industry Pract	tices: One-time cost per program to pay for MRO travel to a licensee collection facilities.				
		Hours of MRO travel, waiting, and specimen collection time	HOURS travel	6.0 hr	Assumption	
	Industry Pract	tices: One-time cost per program to conduct FFD training and to administer the com Length of FFD program training for MROs	nprehensive examination on their MROs to comp HOURS training	aply with the former rule 2.0 hr	Assumption	
	Industry Pract	tices: Annual cost per program to administer a random drug and alcohol testing prog	gram for FFD program personnel to comply with PER random	h the former rule 50%	Dula requirement	
		% tested by a random drug program per year	PER random	50%	Rule requirement	
	Industry Pract	tices: Annual cost per program to pay for MROs selected for random drug and alcoh	hol testing to travel to the specimen collection fa	acility and provide a spec	cimen to comply with the form	er rule
	•	% tested by a random drug program per year	PER random	50%	Rule requirement	
		Hours of MRO travel, waiting, and specimen collection time	HOURS travel	6.0 hr	Assumption	
ividual	s Subject to A	Another Acceptable Program			Subpart A	26.4(j)
Ividual	-	neters are used in the equations below:			Oubpart A	20.7(j)
	rnoso param	Annual number of applicants for initial authorization covered by other federal or st program per unit	state NUM applicants	10	Assumption	
		% of fed or state programs that qualify	PER covered	50%	Assumption	
	·	gs per program from bypassing pre-access drug and alcohol testing for the percentag gs per program from bypassing the training and examination requirement for the perc	No additional parameters centage of applicants covered by an acceptable	e program		
		Length of non-supervisory level training	HOURS non-supervisory	2.00 hr	Assumption	
		Length of comprehensive examination	HOURS examination	0.5 hr	Assumption	
	Annual saving	gs per program from requiring fewer contracted trainer hours to conduct trainings and Length of non-supervisory level training	d examinations on the percentage of applicants HOURS non-supervisory	s who are covered by an	acceptable program Assumption	
		Length of comprehensive examination	HOURS examination	0.5 hr	Assumption	
		Hours of training preparation and examination grading	HOURS preparation	2.0 hr	Assumption	
	Annual savino	gs per program from not conducting remedial training and reexamining the percentag	ge of applicants who are covered by an accepta	able program and fail the	comprehensive examination	
	aar oavirig	Length of remedial supervisory-level training	HOURS remedial	0.75 hr	Assumption	
		Length of comprehensive examination	HOURS examination	0.5 hr	Assumption	
		% failing comprehensive exam	PER failing	10%	Assumption	
	Annual savino	gs per program from requiring fewer contracted trainer hours to conduct remedial trai	ining and reexamining those applicants covered	d by an acceptable progr	am that fail the comprehensiv	re examination
		Length of remedial supervisory-level training	HOURS remedial	0.75 hr	Assumption	
		Length of comprehensive examination	HOURS examination	0.5 hr	Assumption	
		Length of comprehensive examination		400/	A	
		% failing comprehensive examination	PER failing	10%	Assumption	
	Annual savino	ů i	9			
	Annual saving	% falling comprehensive exam	otable program to a duplicative random drug and			

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Backgroun	nd Checks, Ps	ychological Evaluations, Credit History, Criminal History			Subpart B	26.31(b)(1)(i)
	Base annual s	avings per program from eliminating the requirement to update background checks every				
		Base number of FFD program personnel per unit for each program	NUM personnel-base	1.5	Assumption	
		Cost of updating background investigation	COST background investigation update	\$150	Assumption	
		Factor to adjust the periodic cost (every three years) to an annual cost	PER annualized-1	33.3%	Calculated	
l	Additional savi	ings per program from performing fewer background check updates for programs with on	nsite testina			
		Additional number of FFD program personnel per facility with onsite testing	NUM personnel-onsite testing	1	Assumption	
		Cost of updating background investigation	COST background investigation update	\$150	Assumption	
		Factor to adjust the periodic cost (every three years) to an annual cost	PER annualized-1	33.3%	Calculated	
	Additional savi	ings per program from performing fewer background check updates for programs with on	asite collection			
	Additional Savi	Additional number of FFD program personnel per facility for programs with onsite	NUM personnel-onsite collection	0.5	Assumption	
		collection	TVOW personmer ensite concentent	0.0	7 toodinption	
		Cost of updating background investigation	COST background investigation update	\$150	Assumption	
		Percentage of facilities with onsite collection per program	PER collection	95.0%	Assumption	
					· ·	
		Factor to adjust the periodic cost (every three years) to an annual cost	PER annualized-1	33.3%	Calculated	
	Base annual s	avings per program from reducing the frequency of the psychological evaluation and crin	ninal history and credit check update			
		Base number of FFD program personnel per unit for each program	NUM personnel-base	1.5	Assumption	
		Cost of updating psychological evaluation	COST psychological evaluation update	\$300	Assumption	
		Cost of updating individual's credit and criminal history	COST criminal/credit update	\$50	Assumption	
		Factor to adjust the periodic savings to an annual savings	PER annualized-2	13.3%	Calculated	
	Additional per	program savings from reducing the frequency of the psychological evaluation and crimin	al history and credit check update for programs	with onsite testing		
		Additional number of FFD program personnel per facility with onsite testing	NUM personnel-onsite testing	1	Assumption	
		Cost of updating psychological evaluation	COST psychological evaluation update	\$300	Assumption	
		Cost of updating individual's credit and criminal history	COST criminal/credit update	\$50	Assumption	
		Factor to adjust the periodic savings to an annual savings	PER annualized-2	13.3%	Calculated	
	Additional savi	ings per program from reducing the frequency of the psychological evaluation and crimin	al history and credit check undate for programs	with onsite collecti	on	
	Additional Savi	Additional number of FFD program personnel per facility for programs with onsite	NUM personnel-onsite collection	0.5	Assumption	
		collection	NOW personner onsite concetion	0.5	Assumption	
		Cost of updating psychological evaluation	COST psychological evaluation update	\$300	Assumption	
		Cost of updating psychological evaluation Cost of updating individual's credit and criminal history	COST psychological evaluation update COST criminal/credit update	\$500 \$50	Assumption	
		Percentage of facilities with onsite collection per program	PER collection	95.0%	Assumption	
		referringe of facilities with offsite conceilor per program	1 Liv concention	33.070	Assumption	
		Factor to adjust the periodic savings to an annual savings	PER annualized-2	13.3%	Calculated	
DOT-Appro	oved Specime	n Collection Facilities			Subpart B	26.31(b)(2)
_ 3		s per program from allowing MROS and other offsite contracted personnel to utilize facili	ties conforming to DOT requirements			
	, unidai saving	Number of MROs per program	NUM mros	2	Assumption	
		% tested by a random drug program per year	PER random	50.0%	Rule requirement	
		% of contracted FFD personnel that live closer to a DOT-approved collection facility th		33.3%	Assumption	
		to a licensee's standard collection facility	an i Lit distance	JJ.J /0	Assumption	
İ		MRO hours of saved travel, waiting and specimen collection	HOURS travel	2.0 hr	Assumption	
					•	

		Written Pol	icies and Procedures			
tivity	Equation	Parameter Description	Parameter	Value	Source	Section
licy and	Procedure Ro	evisions - Overall Program			Subpart B	26.27(a)
	One-time cost	per program to account for FFD manager and clerical personnel time and to contract a leg	al consultant to revise FFD policies and	procedures		
		Hours of FFD program manager labor to develop and revise policies and procedures	HOURS manager	370.0 hr	Assumption	
		Hours of clerical personnel support of revision of policies and procedures	HOURS clerical	95.0 hr	Assumption	
		Hours of legal assistance to review and revise policies and procedures	HOURS legal	95.0 hr	Assumption	
	One-time cost	per program to account for facility supervisor time to implement the corporate policies at t	he facility level			
		Hours of facility supervisor time to implement revised corporate policies and procedures	HOURS facility supervisor	40.0 hr	Assumption	
			. ,			
censee 1		y Policy and Procedure Revisions	<u> </u>		Subpart E	26.127
censee 1		s per FFD program with onsite testing			Subpart E	26.127
censee 1		s per FFD program with onsite testing Hours FFD manager	HOURS FFD manager	120.0 hr	Subpart E Assumption	26.127
censee 1		s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor	HOURS lab supervisor	160.0 hr	Subpart E Assumption Assumption	26.127
censee 1		s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor Hours Clerical	HOURS lab supervisor HOURS clerical	160.0 hr 40.0 hr	Subpart E Assumption Assumption Assumption	26.127
censee 1		s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor	HOURS lab supervisor	160.0 hr	Subpart E Assumption Assumption	26.127
	One time cost	s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor Hours Clerical	HOURS lab supervisor HOURS clerical	160.0 hr 40.0 hr	Subpart E Assumption Assumption Assumption	26.127
	One time costs mentation - O	s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor Hours Clerical Hours Legal	HOURS lab supervisor HOURS clerical	160.0 hr 40.0 hr	Subpart E Assumption Assumption Assumption	26.127
	One time costs mentation - O	s per FFD program with onsite testing Hours FFD manager Hours Lab supervisor Hours Clerical Hours Legal me-time Revision of Inspection Procedures	HOURS lab supervisor HOURS clerical	160.0 hr 40.0 hr	Subpart E Assumption Assumption Assumption	26.127

			hibit A2 - 3			
41 14			and Examinations			0 ''
ctivity	Equation	Parameter Description	Parameter	Value	Source	Section
evise and	•	raining, Including Behavioral Observation			Subpart B	26.29(a)
	These parame	eters are used in the equations below:				
		Number of training sessions per unit	NUM sessions	50	Assumption	
		% of cost applied to a given facility	PER cost	25%	Assumption	
		% of employees trained at the non-supervisory level under the former rule	PER non-supervisory	85%	Assumption	
		Length of FFD program training	HOURS training	4.00 hr	Assumption	
		Length of comprehensive examination	HOURS examination	0.5 hr	Assumption	
	One-time cost	per program associated with revising the training program and training materials to account	nt for new FFD provisions in the final rule			
		Hours of trainer time per program to revise the training program and training materials	HOURStrainer	20.0 hr	Assumption	
		Hours of training manager time per program to revise the training program and training materials	HOURStraining manager	2.0 hr	Assumption	
		Hours of FFD program manager time per program to revise the training program and training materials	HOURSmanager	2.0 hr	Assumption	
		Hours of clerical personnel to support the revision of the training program and training materials	HOURSclerical	4.0 hr	Assumption	
	One-time cost	per program associated with revising the training program to include fatigue KAs				
		Hours of FFD program manager time per program revise the training program to include fatigue KAs	HOURS ffd manager-fatigue	60.0 hr	Assumption	
		Hours of clerical personnel to support the revision of the training program to include fatigue KAs	HOURS clerical-fatigue	8.0 hr	Assumption	
	One-time costs	s per program to retrain existing employees on the fatigue-related KAs				
		Length of training increment addressing the fatigue-related KAs	HOURS training-fatigue	1.00 hr	Assumption	
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr	Assumption	
	One-time costs	s per program for trainers to adminster the training on the fatigue-related KAs				
	One time costs	Length of training increment addressing the fatigue-related KAs	HOURS training-fatigue	1.00 hr	Assumption	
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr	Assumption	
		Hours of preparation and examination grading	HOURS preparation-fatigue	0.50 hr		
	Annual costs n	per program for incoming employees to take the training for fatigue-related KAs				
	, ii ii iaa, oooto p	Length of training increment addressing the fatigue-related KAs	HOURS training-fatigue	1.00 hr	Assumption	
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr	Assumption	
			-		<u> </u>	
	Annual costs p	per program for trainers to administer the training course for fatigue-related KAs	HOURS welster for	4 00 1	A	
		Length of training increment addressing the fatigue-related KAs	HOURS training-fatigue	1.00 hr	Assumption	
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr	Assumption	
	Annual cost pe	er program for employees to take the refresher training increment addressing fatigue-relate	ed KAs			
		Length of fatigue-related KA refresher training modules	HOURS training-fatigue	0.50 hr	Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
		r program for trainers to administer the refresher training increment addressing fatigue-rela	ated KAs			
		Length of fatigue-related KA refresher training modules	HOURS training-fatigue	0.50 hr	Assumption	
		Hours of training preparation and examination grading for fatigue-related increment	HOURS preparation-fatigue	1.50 hr	·	
	A		Landard Color and Color			
	Annual costs p	er program for employees to take the comprehensive challenge examination increment add Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr		
		% of employees taking the challenge examination	PER examination	80%	Assumption	
		% of employees taking the challenge examination	FEN examination	00 %	Assumption	
	Annual costs p	er program for trainers to administer the comprehensive challenge examination				
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS examination-fatigue	0.08 hr		
		Hours of examination grading	HOURS grading	0.08 hr		
		% of employees taking the challenge examination	PER examination	80%	Assumption	
	Pre-Order Ras	eline: One-time cost per program associated with revising the training program				
	TTC-Older Bas	Hours of FFD program manager time per program to make knowledge and abilities	HOURS trainer	12.0 hr	Assumption	
		revisions to training program	TICONO (Idillo)	12.0111	7.00dinption	
		Hours of training manager time per program to review knowledge and abilities revisions to	c HOURStraining manager	2.0 hr	Assumption	
		training program	arroon chammig manager	2.0	7.000	
		Hours of FFD program manager time per program to review knowledge and abilities	HOURS ffd manager	2.0 hr	Assumption	
		revisions to training program	·····			
		Hours of clerical personnel time to support training program revisions process	HOURS clerical	4.0 hr	Assumption	
	Pre-Order Bas	eline: One-time cost per program for employees not previously trained at the supervisory l	evel to take updated supervisory-level training a No additional parameters	and a comprehensi	ive examination	
	Pro-Order Res	eline: One-time cost per program for trainers to administer supervisory-level training on the	•	nenvisony level		
	Fie-Older bas	Hours of training preparation and examination grading	HOURS preparation	2.0 hr	Assumption	
		riours of training preparation and examination grading	1100113 preparation	2.0 111	Assumption	
	Pre-Order Bas	eline: Annual cost per program for incoming employees to take the longer supervisory-leve	el training course			
		Length of supervisory-level training	HOURS supervisory	4.00 hr	Assumption	
		Length of non-supervisory-level training	HOURS non-supervisory	2.00 hr	Assumption	
		3	, , , , , , , , , , , , , , , , , , , ,			
	Pre-Order Bas	eline: Annual cost per program for trainers to administer the longer supervisory-level traini	ng course on incoming employees			
		Length of supervisory-level training	HOURS supervisory	4.00 hr	Assumption	
		Length of non-supervisory-level training	HOURS non-supervisory	2.00 hr	Assumption	
		Hours of training preparation and examination grading	HOURS preparation	2.00 hr	Assumption	
	Pro Ordor Poo	eline: Annual cost per program for employees to take the longer supervisory-level refreshe	or training			
	Pre-Order bas	eiline. Arithual cost per program for employees to take the longer supervisory-level refreshe % of employees taking the refresher training course	PER refresher	20%	Assumption	
		Length of supervisory-level refresher training	HOURS supervisory	4.0 hr	Assumption	
		Length of non-supervisory-level refresher training Length of non-supervisory-level refresher training	HOURS non-supervisory	2.0 hr	Assumption	
		Length of horr-supervisory-level refresher training	110013 Hon-supervisory	2.0 111	Assumption	
	Pre-Order Bas	eline: Annual cost per program for trainers to administer the longer supervisory-level refres	sher training			
		% of employees taking the refresher training course	PER refresher	20%	Assumption	
		Length of supervisory-level refresher training	HOURS supervisory	1.5 hr	Assumption	
		Length of non-supervisory-level refresher training	HOURS non-supervisory	2.0 hr	Assumption	
Urine and	Alcohol Collec	etor Training			Subpart E	26.85(a),(b)
offine and /		•			Ouspail L	20.03(a),(b)
	One time cost	per facility Number of collectors per collection site	NUM collectors	4	Assumption	
			HOURS collector training	8.0 hr	Assumption	
		Duration of training course Number of training courses per facility	NUM courses per facility	6.0 III 1	Assumption	
		On-site Training of Collection Personnel, supplied by commercial vendor			Assumption	
		Off-site Training of Collection Fersonner, supplied by Confinercial Vendor	COST training course	φ 1,000	Assumption	
Initial Valid	lity Testing - C	Onsite Licensee Testing Facilities			Subpart F	26.131(b)
	One time cost	per onsite licensee testing facility				
		Number of laboratory technicians per licensee testing facility	NUM technicians	4	Assumption	
		Duration of training course	HOURS technician training	4.0 hr	Assumption	
		Number of training courses per licensee testing facility	NUM courses per facility	1	Assumption	
		Cost per training course	COST training course	\$ 500.00	Assumption	
I						

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Comprehe	nsive Examir	nation			Subpart B	26.29(b)
	These param	eters are used in the equations below:				
		% employees failing exam	PER failing	10%	Assumption	
		% of employees trained at the non-supervisory level under the former rule	PER non-supervisory	85%	Assumption	
		Length of remedial supervisory-level training	HOURS remedial	0.75 hr	Assumption	
	One-time cos	t per program for employees to take remedial training after failing the initial comprehensive	examination when updating their training No additional parameters			
	One-time cos	t per program for trainers to administer remedial training on those employees who fail the i	•	g training		
	Annual cost p	er program for applicants to take remedial training after failing the initial comprehensive ex				
	A 1 4		No additional parameters			
	Annuai cost p	ner program for trainers to administer remedial training on applicants who fail the initial com	prenensive examination No additional parameters			
			No additional parameters			
Comprehe	nsive Examir	nation in Lieu of Refresher Training			Subpart B	26.29(c)(2)
	These param	eters are used in the equations below:				
		% of employees choosing to take comprehensive refresher exam in lieu of refresher training	PER examination	80%	Assumption	
		Length of comprehensive examination	HOURS exam	0.5 hr	Assumption	
		Trainer time to prepare for training course	HOURS preparation	1.0 hr	Assumption	
		Trainer time to prepare for exam and grade	HOURS grading	0.5 hr	Assumption	
	Annual saving	gs per program for those employees choosing to take the shorter comprehensive examinat	ion in lieu of non-supervisony-level refresher tra	inina		
	Annuai saving	% of employees trained at the non-supervisory level under the former rule	PER non-supervisory	85%	Assumption	
		Length of non-supervisory-level refresher training	HOURS non-supervisory	2.0 hr	Assumption	
		g				
	Annual saving	gs per program for those employees choosing to take the shorter comprehensive examinat	ion in lieu of supervisory-level refresher training	1		
		% of employees trained at the supervisory-level under the former rule	PER supervisory	15%	Assumption	
		Length of supervisory-level refresher training	HOURS supervisory	4.0 hr	Assumption	
	Annual caving	gs per program from reduced training costs due to employees choosing to take the shorter	comprehensive examination in lieu of non-sund	nvison-level refre	shor training	
	Allitual Savilig	% of employees trained at the non-supervisory-level under the former rule	PER non-supervisory	85%	Assumption	
		Length of non-supervisory-level refresher training	HOURS non-supervisory	2.0 hr	Assumption	
			• •			
	Annual saving	gs per program from reduced training costs due to employees choosing to take the shorter				
		% of employees trained at the supervisory-level under the former rule	PER supervisory	15%	Assumption	
		Length of supervisory-level refresher training	HOURS supervisory	4.0 hr	Assumption	
NRC Imple	mentation - 0	One-time Training				
retto impio		op NRC staff training workshop				
		Hours of NRC staff time to develop training workshop curriculum and materials	NRC Staff Hours	40.0 hr	Assumption	
	Cost to train I	NRC staff from Rockville Headquarters				
		Hours to train NRC staff reviewers and inspectors	NRC HQ Staff Hours	24 hr	Assumption	
		Number of local NRC staff participating in training (including instructor)	NUM NRC HQ staff	3	Assumption	
	Cost to train I	NRC staff from regional NRC offices				
		Hours to train NRC staff reviewers and inspectors	HOUR training	24 hr	Assumption	
		Cost of roundtrip travel	COST travel	\$500	Assumption	
		Cost of lodging and per diem per night	COST lodging & food	\$150	Assumption	
		Number of nights of lodging for auditor to complete focused audit	NUM nights hotel	3	Assumption	
		Hours of roundtrip auditor travel per audit	HOURS travel	8 hr	Assumption	
		Number personnel from NRC regional offices	NUM NRC regional staff	4	Assumption	

		Ex	hibit A2 - 4				
		Audits, Inspections, Ce	ertifications and Corrective Action				
tivity	Equation	Parameter Description	Parameter	1	Value	Source	Section
dit Freq	uency					Subpart B	26.41(b)
	These parame	eters are used in the equations below:					
		% multiplier to yield annualized savings	PER annualized		50.0%	Calculated	
		Cost of roundtrip travel	COST travel		\$300	Assumption	
		Cost of lodging and per diem per night	COST lodging		\$150	Assumption	
	Annual hase s	saving per program from the reduced audit frequency					
	Alliadi base s	Contracted auditor hours at facility with offsite collection and testing	HOURS auditor-base		25.0 hr	NRC staff estimate	
		FFD program manager hours at facility with offsite collection and testing	HOURS manager-base		13.0 hr	NRC staff estimate	
		Clerical personnel hours at facility with offsite collection and testing	HOURS clerical-base		5.0 hr	NRC staff estimate	
	Additional ann	nual savings per program from audit frequency reduction that accrue to programs with onsi	to tosting				
	Auditional alli	Contracted auditor hours saved at facility with onsite testing	HOURS auditor-onsite collection		12.0 hr	NRC staff estimate	
		FFD program manager hours saved at facility with onsite testing	HOURS manager-onsite collection		7.0 hr	NRC staff estimate	
		, , ,	HOURS clerical-onsite collection		0.0 hr	NRC staff estimate	
		Clerical personnel hours saved at facility with onsite testing			5.0 hr	NRC staff estimate	
		Laboratory manager hours saved at facility with onsite testing	HOURS laboratory manager				
		Laboratory staff hours saved at facility with onsite testing	HOURS laboratory staff		2.0 hr	NRC staff estimate	
	Additional ann	nual savings per program from audit frequency reduction that accrue to programs with onsi					
		Contracted auditor hours saved at facility with onsite collection	HOURS auditor-onsite testing		5.0 hr	NRC staff estimate	
		FFD program manager hours saved at facility with onsite collection	HOURS manager-onsite testing		0.0 hr	NRC staff estimate	
		Clerical personnel hours saved at facility with onsite collection	HOURS clerical-onsite testing		0.0 hr	NRC staff estimate	
		Collection manager hours saved at facility with onsite collection	HOURS collection manager		2.0 hr	NRC staff estimate	
		Collection staff hours saved at facility with onsite collection	HOURS collection staff		1.0 hr	NRC staff estimate	
		Percentage of facilities with onsite collection per program			95.0%	Assumption	
	Base annual s	savings per program from reduced audit frequency					
		Base number of auditors per program audit	NUM auditors-base		1	Assumption	
		Number of auditor overnights saved at facility with offsite collection and offsite testing	NUM nights-base		3	NRC staff estimate	
		Contracted auditor hours traveling	HOURS travel		4.0 hr	Assumption	
	Additional ann	nual savings per program that accrue due to reduced auditor travel to facilities with onsite to	estina laboratories				
	/ laartior fair arm	Additional number of auditors per program with onsite testing laboratories	NUM auditors-onsite testing		1	Assumption	
		Additional number of overnights per program with onsite testing	NUM nights-onsite testing		1	NRC staff estimate	
		, talifordi nambol of evernighte per program with enotic testing	TVOW Highto offolio toothing			Titto dan odimato	
	Additional ann	nual savings per program that accrue due to reduced auditor travel to facilities with onsite c	ollection facilities NUM auditors-onsite collection		0	A	
		Additional number of auditors per program with onsite collection facilities Additional number of overnights per program with onsite collection	NUM nights-onsite collection		0	Assumption NRC staff estimate	
	Annual	or program to conduct focused audito address:	·				
	Annuai cost pe	er program to conduct focused audits addressing problem areas of the FFD program	LIQUIDOlit		406-	NDO -1-#1'	
		Hours of contracted auditor time conducting a focused audit	HOURS auditor		4.0 hr	NRC staff estimate	
		Hours of FFD program manager time during a focused audit	HOURS manager		3.0 hr	NRC staff estimate	
		Hours of clerical personnel time during a focused audit	HOURS clerical		1.0 hr	NRC staff estimate	
		Number of auditors per program audit	NUM auditors	_	2	Assumption	
		Cost of lodging and per diem per night	COST lodging	\$		Assumption	
		Cost of roundtrip travel	COST travel	\$		Assumption	
		Number of nights of lodging for auditor to complete focused audit	NUM nights-focused		1	NRC staff estimate	
		Hours of roundtrip auditor travel per audit	auditor travel time		4.0 hr	Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Elimination	of Audit Dup	olication of HHS-Certified Laboratories			Subpart B	26.41(c)(2)
	Annual saving	s per program from eliminating audit duplication				
		Hours of contracted auditor time saved annually per program in elimination of audit duplication	HOURS auditor	7.0 hr	Assumption	
		Hours of FFD program manager time saved annually in elimination of audit duplication	HOURS manager	4.0 hr	Assumption	
		Hours of clerical personnel time saved annually in elimination of audit duplication	HOURS clerical	1.0 hr	Assumption	
Forensic To	oxicologist R	eview of More Stringent Cutoff Levels			Subpart B	26.31(d)(3)
	One time cost	per program to employ more stringent cutoff level(s) for drugs				
		Hours of review by forensic toxicologist of more stringent cut-off levels for drug testing	HOURS toxicologist	3.5 hr	Assumption	
		Hours of time for the forensic toxicologist to produce a certification statement regarding the more stringent cut-off levels	HOURS certification	0.5 hr	Assumption	
		Percentage of FFD programs that use more stringent cut-off levels for drug testing	PERmore stringent cutoffs	10%	Assumption	
		Percentage of FFD programs who use more stringent cut-off levels for drug testing, but have not reported to the Commission	PER non-report	25%	Assumption	
		Hours of time spent by FFD program manager to review the results of the forensic toxicologist's evaluation per FFD program	HOURS manager	0.5 hr	Assumption	
Pre-Award	Inspections of	of HHS-Certified Laboratories			Subpart G	26.153(e)
	Annual costs p	per FFD program				
		Hours per pre-award inspection for an HHS-certified lab conducted by licensee personne or a designate	I HOURS inspection	100 hr	Discussion with NEI staff, May 23, 2003	
		Percentage of FFD programs that must change to a new HHS lab because their current HHS-lab loses HHS certification	PER decertification	10%	Assumption	
		Percentage of instances in which a replacement HHS-certified lab is being used by another FFD program (a "known" HHS lab)	PER known	50%	Assumption	

			Exhibit A2 - 5 Authorizations			
vity	Equation	Parameter Description	Parameter	Value	Source	Section
al Autl	horization					
Discl	osure for Initia	ıl Applicants			Subpart C	26.55(a)(1)
	Pre-Order Bas	seline: Annual savings per program from reduced facility worker labor burden for		lf-disclosure relaxation		
		% of applicants for initial authorization qualifying for relaxation	PER qualifying	50%	Assumption	
		Facility worker hours saved in foregone self-disclosure	HOURS worker	0.25 hr	NRC staff estimate	
	Pre-Order Ras	seline: Annual savings per program from reduced clerical personnel labor burde	n hecause fewer self-disclosures submitted h	vinitial annlicants need to be	processed	
	1 10 Older Bac	% of applicants for initial authorization qualifying for relaxation	PER qualifying	50%	Assumption	
		Clerical personnel hours saved in foregone self-disclosure	HOURS clerical	0.25 hr	NRC staff estimate	
tabla lr	nguiry for Initia	al Applicants			Subpart C	26.55(a)(2)
able II	1 7	seline: Annual savings per program from not conducting the suitable inquiry on i	initial applicants qualifying for relayation		Subpart C	20.55(a)(2)
	r re-Order bas	% of applicants for initial authorization qualifying for relaxation	PER qualifying	50%	Assumption	
		HR personnel hours saved in exempted suitable inquiry under the former rule		1.0 hr	NRC staff estimate	
		the AAO	•			
	Pro Ordor Pou	seline: Annual savings per program due to reduced suitable inquiry coverage per	riad and soons for those applicants qualifying	for the relevation		
	r re-Order bas	HR personnel hours saved due to reduced suitable inquiry coverage period at		0.5 hr	NRC staff estimate	
		reduction in the number of employers that must be contacted				
		% of applicants for initial authorization per year who do not qualify for the rela-	xation under PER not qualifying	50%	Assumption	
		subparagraph 23.63(a) in the final rule				
		% of initial applicants who have no potentially disqualifying FFD information to	disclose PER non-PDFFDI	95%	Assumption	
	Industry Pract	ices: Annual cost per program to conduct a more thorough suitable inquiry on ap	oplicants for initial authorization to comply with	the former rule		
	,	Additional HR personnel hours required to conduct a suitable inquiry compliar		0.2 hr		
		rule			Assumption	
- Accos	e Testing for	Initial Applicants			Subpart C	26.55(a)(3)
Acces		seline: Annual savings per program from not administering a pre-access drug an	nd alcohol test on initial applicants covered by	a behavioral observation and	•	. , , ,
		3.7. 4.3.	,		3, 3,	, , ,
		% applicants of applicants for initial authorization qualifying for pre-access dru	ig test PER qualifying	25%	Assumption	
		% applicants of applicants for initial authorization qualifying for pre-access dru relaxation	ug test PER qualifying	25%	Assumption	
	Pro-Order Bas	relaxation			·	tion and arrest reporting
	Pre-Order Bas				·	tion and arrest-reporting
	Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the	administration of a pre-access drug and alcoh	nol tests for initial applicants o	overed by a behavioral observa	tion and arrest-reporting
	Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory	administration of a pre-access drug and alcoh	nol tests for initial applicants o	covered by a behavioral observation	tion and arrest-reporting
	Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the	administration of a pre-access drug and alcoh	nol tests for initial applicants o	overed by a behavioral observa	tion and arrest-reporting
		relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation	administration of a pre-access drug and alcoh- HOURS onsite HOURS offsite	nol tests for initial applicants o 4.0 hr 8.0 hr	Assumption Assumption Assumption Assumption	
ıdom T	esting Pool fo	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants	administration of a pre-access drug and alcoh HOURS onsite HOURS offsite PER qualifying	nol tests for initial applicants o 4.0 hr 8.0 hr	overed by a behavioral observation Assumption Assumption	tion and arrest-reporting 26.55(a)(4)
ıdom T	esting Pool fo	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program	administration of a pre-access drug and alcoh HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status	nol tests for initial applicants of 4.0 hr 8.0 hr 25%	Assumption Assumption Assumption Assumption Assumption Subpart C	
ıdom T	esting Pool fo	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants	administration of a pre-access drug and alcoh HOURS onsite HOURS offsite PER qualifying	nol tests for initial applicants o 4.0 hr 8.0 hr	Assumption Assumption Assumption Assumption	
	Testing Pool fo Annual costs p	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program	administration of a pre-access drug and alcoh HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status	nol tests for initial applicants of 4.0 hr 8.0 hr 25%	Assumption Assumption Assumption Assumption Assumption Subpart C	
horizat	esting Pool for Annual costs p tion Updates	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program	administration of a pre-access drug and alcoh HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status	nol tests for initial applicants of 4.0 hr 8.0 hr 25%	Assumption Assumption Assumption Assumption Assumption Subpart C	
thorizat	esting Pool for Annual costs p tion Updates osure for Upda	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program % of initial applicants selected for random drug and alcohol testing	administration of a pre-access drug and alcohology HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random	nol tests for initial applicants of 4.0 hr 8.0 hr 25%	Assumption Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C	26.55(a)(4)
thorizat	esting Pool for Annual costs p tion Updates osure for Upda	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing progr % of initial applicants selected for random drug and alcohol testing ate Applicants seline: Annual savings per program from reduced facility worker labor burden for	administration of a pre-access drug and alcoholic HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random	nol tests for initial applicants of 4.0 hr 8.0 hr 25%	Assumption Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C	26.55(a)(4)
thorizat	Testing Pool for Annual costs p tion Updates osure for Upda	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants over program from the implementation of a random drug and alcohol testing program from the implementation of a random drug and alcohol testing % of initial applicants selected for random drug and alcohol testing ate Applicants	administration of a pre-access drug and alcohology HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random	4.0 hr 8.0 hr 25% 1% oo qualify for the self-disclosu	Assumption Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C re relaxation	26.55(a)(4)
horiza	Testing Pool for Annual costs p tion Updates osure for Upda	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing progr % of initial applicants selected for random drug and alcohol testing ate Applicants seline: Annual savings per program from reduced facility worker labor burden for	administration of a pre-access drug and alcoholic HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random	4.0 hr 8.0 hr 25% 1% oo qualify for the self-disclosu	Assumption Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C re relaxation	26.55(a)(4)
horizat	tion Updates Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program from the implementation of a random drug and alcohol testing % of initial applicants selected for random drug and alcohol testing ate Applicants seline: Annual savings per program from reduced facility worker labor burden for % of applicants for authorization updates qualifying for relaxation Facility worker hours saved in foregone self-disclosure	administration of a pre-access drug and alcoholic HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random those applicants for updated authorization with PER qualifying HOURS worker	4.0 hr 8.0 hr 25% 1% oo qualify for the self-disclosu 50% 0.25 hr	Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C Assumption NRC staff estimate	26.55(a)(4) 26.57(a)(1)
horizat	tion Updates Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing progr % of initial applicants selected for random drug and alcohol testing ate Applicants seline: Annual savings per program from reduced facility worker labor burden for % of applicants for authorization updates qualifying for relaxation Facility worker hours saved in foregone self-disclosure	administration of a pre-access drug and alcohold HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random those applicants for updated authorization who PER qualifying HOURS worker in because fewer self-disclosures submitted by	4.0 hr 8.0 hr 25% 1% o qualify for the self-disclosu 50% 0.25 hr	Assumption Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C re relaxation Assumption NRC staff estimate	26.55(a)(4) 26.57(a)(1)
thorizat	tion Updates Pre-Order Bas	relaxation seline: Annual savings per program from bypassing required worker labor in the Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of initial applicants qualifying for pre-access drug test relaxation or Initial Applicants per program from the implementation of a random drug and alcohol testing program from the implementation of a random drug and alcohol testing % of initial applicants selected for random drug and alcohol testing ate Applicants seline: Annual savings per program from reduced facility worker labor burden for % of applicants for authorization updates qualifying for relaxation Facility worker hours saved in foregone self-disclosure	administration of a pre-access drug and alcoholic HOURS onsite HOURS offsite PER qualifying ram on initial applicants in applicant status PER random those applicants for updated authorization with PER qualifying HOURS worker	4.0 hr 8.0 hr 25% 1% oo qualify for the self-disclosu 50% 0.25 hr	Assumption Assumption Assumption Assumption Subpart C Assumption Subpart C Assumption NRC staff estimate	26.55(a)(4) 26.57(a)(1)

Activity	Equation P	arameter Description	Parameter	Value	Source	Section
Suitable Inc	quiry for Update	Authorization			Subpart C	26.57(a)(2)
		e: Annual savings per program from not conducting the suitable inquiry on applicants fo				
		of applicants for authorization updates qualifying for relaxation	PER qualifying	50%	Assumption	
		R personnel hours saved in exempted suitable inquiry under the former rule, but prior to	HOURS hr	1.0 hr	NRC staff estimate	
	tn	ne AAO				
	Pre-Order Baselin	e: Annual savings per program due to reduced suitable inquiry coverage period and sco	ope for applicants for updated authorization qu	ualifving for the rela	axation	
		of applicants for updated authorization not qualifying for relaxation	PER non qualifying	50%	Assumption	
		of applicants for updated authorization who have no potentially disqualifying FFD	PER non-PDFFDI	98%	Assumption	
		formation to disclose				
		R personnel hours saved due to reduced suitable inquiry coverage period and a	HOURS hr	0.5 hr	NRC staff estimate	
	ΓE	eduction in the number of employers that must be contacted				
	Industry Practices:	: Annual cost per program to conduct a more thorough suitable inquiry on applicants fo	r updated authorization to comply with the for	mer rule		
		dditional HR personnel hours required to conduct a suitable inquiry compliant with form		0.2 hr		
	ru	ıle			Assumption	
						20.77(.)(2)
Pre-Access	Testing for Upo	• •			Subpart C	26.57(a)(3)
	rre-Oraer Baselin	e: Annual savings per program from not administering a pre-access drug and alcohol to	esi on update applicants covered by a behavi	iorai observation ai	nu arrest-reporting program thi	ougnout trie perioa of interruption
i	0/	applicants for authorization undates qualifying for the access days test relevants	DED qualifying	050/	Accumption	
1	%	s applicants for authorization updates qualifying for pre-access drug test relaxation	PER qualifying	25%	Assumption	
	Pre-Order Baselin	e: Annual savings per program from bypassing required worker labor in the administrat	ion of a pre-access drug and alcohol tests for	update applicants	covered by a behavioral obser	vation and arrest-reporting
	E	acility worker hours saved at facility with onsite testing laboratory	HOURS onsite	4.0 hr	Assumption	, ,
		acility worker hours saved at facility with offsite testing laboratory	HOURS offsite	8.0 hr	Assumption	
		applicants for authorization updates qualifying for pre-access drug test relaxation	PER qualifying	25%	Assumption	
Random Te		pdate Applicants			Subpart C	26.57(a)(4)
	Annual costs per p	program from the implementation of a random drug and alcohol testing program on upda	ate applicants in applicant status			
	%	of initial applicants selected for random drug and alcohol testing	PER random	1%	Assumption	
A (1 : (1	5					
		nts with Interruptions			0.1	00.50(.)(4)
Self-Disclos		tement Applicants with 31-365 Day Interruption		- 1:6 - 6 16 - 1:-	Subpart C	26.59(a)(1)
		e: Annual savings per program from reduced facility worker labor burden for those appli		-		
		acility worker hours saved in foregone self-disclosure	HOURS worker	0.25 hr	NRC staff estimate	
	%	of applicants for authorization reinstatement qualifying for self-disclosure relaxation	PER qualifying	50%	Assumption	
				30 /6	Assumption	
	Pre-Order Baselin	e: Annual savings per program from reduced clerical personnel labor burden because fo	ewer self-disclosures submitted by applicants	for authorization re	einstatement will need to be pro	ocessed
		lerical personnel hours saved in foregone self-disclosure	HOURS clerical	0.25 hr	NRC staff estimate	
		of applicants for authorization reinstatement qualifying for self-disclosure relaxation	PER qualifying			
			1 7 3	50%	Assumption	
Suitable Inc		tement Applicants with 31-365 Day Interruption			Subpart C	26.59(a)(2)
		e: Annual savings per program from not conducting the suitable inquiry on applicants for	, , ,		NDC stoff actimate	
		R personnel hours saved in exempted suitable inquiry under the former rule, but prior to be AAO) HOURS III	1.0 hr	NRC staff estimate	
		of applicants qualifying for the suitable inquiry relaxation	PER qualifying	50%	Assumption	
	Pre-Order Baselin	e: Annual savings per program due to reduced suitable inquiry coverage period and sco	ppe for applicants for authorization reinstatem			
	Н	R personnel hours saved due to reduced suitable inquiry coverage period and a	HOURS hr	0.5 hr	NRC staff estimate	
	re	eduction in the number of employers that must be contacted				
		of applicants not qualifying for the suitable inquiry relaxation	PER covered	50%	Assumption	
		of update applicants who have no potentially disqualifying FFD information to disclose	PER non-pdffdi	99%	Assumption	
	OI	n their self-disclosures				
	Industry Practices:	: Annual cost per program to conduct a more thorough suitable inquiry on applicants for	authorization reinstatement to comply with th	e former rule		
		Annual cost per program to conduct a more thorough suitable inquiry on applicants for dditional HR personnel hours required to conduct a suitable inquiry compliant with form		ne former rule 0.2 hr	Assumption	
	A				Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Pre-Access	Testing for I	Reinstatement Applicants with 31-365 Day Interruption			Subpart C	26.59(a)(3)
	Pre-Order Bas	seline: Annual savings per program from allowing reinstatement applicants covered by a rai	ndom drug and alcohol testing	program throughout the period of in	nterruption to forego pre-	access drug and alcohol testing
		% of applicants for authorization reinstatement covered by a random drug and alcohol testing program	PER qualifying	25%	Assumption	
	Pre-Order Bas arrest reporting	seline: Annual savings per program from reducing the number of hours of lost worker produ g program	ctivity for reinstatement applica	ants covered by both a random dru	g and alcohol testing prog	gram and a behavioral observation and
		Facility worker hours saved at facility with onsite testing laboratory	HOURS onsite	4.0 hr	Assumption	
		Facility worker hours saved at facility with offsite testing laboratory	HOURS offsite	8.0 hr	Assumption	
		% of applicants for authorization reinstatement covered by a random drug and alcohol testing program	PER qualifying	25%	Assumption	
	Pre-Order Bas	seline: Annual savings per program resulting from this group of applicants not having to awa	ait verification of negative resul	lts before granting authorization		
		Facility worker hours saved at facility with onsite testing laboratory	HOURS onsite	4.0 hr	Assumption	
		Facility worker hours saved at facility with offsite testing laboratory	HOURS offsite	8.0 hr	Assumption	
		% of applicants for authorization reinstatement not covered by a random drug and alcoholesting program	ol PER not qualifying	75%	Assumption	
D	D				O	00 50(-)(4)
Random 16		or Reinstatement Applicants with 31-365 Day Interruption per program to conduct random drug and alcohol tests on applicants randomly selected who	ilo awaiting the granting of auti	horization	Subpart C	26.59(a)(4)
	Alliluai Cosis p	% of initial applicants selected for random drug and alcohol testing	PER random	1%	Assumption	
Self-Disclo	sure (and Su	itable Inquiry) for Reinstatement Applicants with Less than 31 Day Inter	runtion		Subpart C	26.59(c)(1)
OCH DISOIO	•	seline: Annual savings per program from reduced facility worker labor burden for those appl		tement who qualify for the self-disc		20.03(0)(1)
		% of reinstatement applicants qualifying for relaxation	PER qualifying	50%	Assumption	
		Facility worker hours saved in foregone self-disclosure	HOURS worker	0.25 hr	NRC staff estimate	
	Pre-Order Bas	· seline: Annual savings per program from reduced clerical personnel labor burden because t	ewer self-disclosures submitte	ed by applicants for authorization re	instatement will need to b	pe processed
		% of reinstatement applicants qualifying for relaxation	PER qualifying	50%	Assumption	
		Clerical personnel hours saved in foregone self-disclosure	HOURS clerical	0.25 hr	NRC staff estimate	
	Pre-Order Bas	seline: Annual savings per program from not conducting suitable inquiries on applicants for	authorization reinstatement wi	th an interruption of not more than :	30 days	
		HR personnel hours saved in exempted suitable inquiry under the former rule, but prior t	o HOURS hr	1.0 hr	NRC staff estimate	
		the AAO				
	Industry Pract	ices: Annual cost per program for applicants for authorization reinstatement with interruption				irements
		Facility worker hours required to complete and submit self-disclosure	HOURS worker	0.25 hr	NRC staff estimate	
		% cost applied to each program	PER cost	50%	Assumption	
	Industry Pract	ices: Annual cost per program for clerical personnel to process additional self-disclosures	for applicants for authorization	reinstatement with interruptions of	not more than 30 days to	comply with self-disclosure requirements
		Clerical personnel hours required to process received self-disclosures % cost applied to each program	HOURS clerical PER cost	0.25 hr 50%	NRC staff estimate Assumption	
	Industry Pract	ices: Annual cost per program to conduct suitable inquiries on applicants for authorization	reinstatement with an interrunt	tion of not more than 30 davs to cor	mply with the former rules	,
		Additional HR personnel hours required to conduct a suitable inquiry as required by form	·	1.0 hr	NRC staff estimate	
		% cost applied to each program	PER cost	50%	Assumption	
	Industry Pract	ices: Annual cost per program to conduct a more thorough suitable inquiry on applicants fo	or authorization reinstatement v	with an interruption of not more than	n 30 days to comply with	the former rule
		Additional HR personnel hours required to conduct a suitable inquiry compliant with form	a HOURS br	0.2 hr		
		Additional HR personnel nours required to conduct a suitable inquiry compilant with form	III CAOOLI III	0.2 11	Assumption	

			Subpart C	26.59(c)(2)
Pre-Order Baseline: Annual savings per program from not administering a pre-access drug an	d alcohol test on applicants for authorization rein	statement with an interru	otion of 5 days or less	
No additional Parameters	No Parameters			
Pre-Order Baseline: Annual savings per program from bypassing worker labor in the administr	ration of a pre-access drug and alcohol test for at	uthorization reinstatemen	ts with an interruption of 5 dag	ys or less
Facility worker hours saved at facility with onsite testing laboratory	HOURS onsite	4.0 hr	Assumption	
Facility worker hours saved at facility with offsite testing laboratory	HOURS offsite	8.0 hr	Assumption	
Pre-Order Baseline: Annual savings per program from allowing reinstatement applicants who land alcohol test	have been covered by a behavioral observation a	and arrest-reporting progr	am throughout the period of i	nterruption to forego the pre-
% of applicants qualifying for the relaxation	PER covered	50%	Assumption	
Pre-Order Baseline: Annual savings per program from bypassing required worker labor in the	administration of a pre-access drug and alcohol t	tests for reinstatement ap	plicants who have been cove	red by a behavioral observat
% of applicants qualifying for the relaxation	PER covered	50%	Assumption	
Facility worker hours saved at facility with onsite testing laboratory	HOURS onsite	4.0 hr	Assumption	
Facility worker hours saved at facility with offsite testing laboratory	HOURS offsite	8.0 hr	Assumption	
Pre-Order Baseline: Annual savings per program from allowing reinstatement applicants who is randomly selected for pre-access testing to forego the pre-access drug and alcohol test	have not been covered by a behavioral observati	on and arrest-reporting p	rogram throughout the period	of interruption but who have
% of applicants not qualifying for the relaxation	PER not covered	50%	Assumption	
% of applicants subject to random testing but not selected	PER not selected	98%	Assumption	
Pre-Order Baseline: Annual savings per program from reducing the number of hours of lost wo	orker productivity for reinstatement applicants wh	o are not covered and an	e not selected for random pre	-access drug and alcohol tes
% of applicants not qualifying for the relaxation	PER not covered			access aray arra arcorrer too
		50%	ASSUMPTION	
		50% 98%	Assumption Assumption	
% of applicants subject to random testing but not selected	PER not selected	98%	Assumption	
			·	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory	PER not selected HOURS onsite HOURS offsite	98% 4.0 hr	Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol	PER not selected HOURS onsite HOURS offsite	98% 4.0 hr	Assumption Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory	PER not selected HOURS onsite HOURS offsite hol testing provisions	98% 4.0 hr 8.0 hr	Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS onsite	98% 4.0 hr 8.0 hr	Assumption Assumption Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS onsite HOURS offsite PER compliance	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50%	Assumption Assumption Assumption Assumption Assumption Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS onsite HOURS offsite PER compliance	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50%	Assumption Assumption Assumption Assumption Assumption Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS onsite HOURS offsite PER compliance native test result verification to comply with existin	98% 4.0 hr 8.0 hr 4.0 hr 50% 98 yre-access drug and a	Assumption Assumption Assumption Assumption Assumption Assumption Assumption Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory	PER not selected HOURS onsite HOURS offsite final testing provisions HOURS onsite HOURS offsite PER compliance test result verification to comply with existin HOURS onsite	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50% ag pre-access drug and at 4.0 hr	Assumption	
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance	PER not selected HOURS onsite HOURS offsite thol testing provisions HOURS onsite HOURS offsite PER compliance retive test result verification to comply with existin HOURS onsite HOURS offsite	98% 4.0 hr 8.0 hr 8.0 hr 50% 99 pre-access drug and at 4.0 hr 8.0 hr	Assumption	26,59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance esting Pool for Reinstatement Applicants with Less than 31 Day Interruption	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS offsite HOURS offsite PER compliance	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50% 99 pre-access drug and a. 4.0 hr 8.0 hr 50%	Assumption	26.59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS offsite HOURS offsite PER compliance	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50% 99 pre-access drug and a. 4.0 hr 8.0 hr 50%	Assumption	26.59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance esting Pool for Reinstatement Applicants with Less than 31 Day Interruption Annual costs per program to subject applicants for authorization reinstatement to one-time rand	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS onsite HOURS offsite PER compliance	98% 4.0 hr 8.0 hr 4.0 hr 8.0 hr 50% ag pre-access drug and a 4.0 hr 8.0 hr 50%	Assumption	26.59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance esting Pool for Reinstatement Applicants with Less than 31 Day Interruption Annual costs per program to subject applicants for authorization reinstatement to one-time rand % rate of random test selection	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS onsite HOURS offsite PER compliance dom selection for a pre-access drug and alcohol PER randomly selected PER randomly selected	98% 4.0 hr 8.0 hr 8.0 hr 50% og pre-access drug and at 4.0 hr 8.0 hr 50% test 2% 1%	Assumption	26.59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance esting Pool for Reinstatement Applicants with Less than 31 Day Interruption Annual costs per program to subject applicants for authorization reinstatement to one-time rand % rate of random test selection	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS onsite HOURS offsite PER compliance dom selection for a pre-access drug and alcohol PER randomly selected PER randomly selected	98% 4.0 hr 8.0 hr 8.0 hr 50% og pre-access drug and at 4.0 hr 8.0 hr 50% test 2% 1%	Assumption	26.59(c)(3)
% of applicants subject to random testing but not selected Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory Industry Practices: Annual cost per program to comply with existing pre-access drug and alcol Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance Industry Practices: Annual cost per program of increased lost worker productivity awaiting neg Facility worker hours saved at facility with onsite testing laboratory Facility worker hours saved at facility with offsite testing laboratory % of cost applied to a given program due to non-compliance esting Pool for Reinstatement Applicants with Less than 31 Day Interruption Annual costs per program to subject applicants for authorization reinstatement to one-time rand % rate of random test selection % rate of random test selection Annual costs per program from reduced labor productivity to subject applicants for authorization	PER not selected HOURS onsite HOURS offsite hol testing provisions HOURS offsite HOURS offsite PER compliance native test result verification to comply with existin HOURS onsite HOURS offsite PER compliance dom selection for a pre-access drug and alcohol PER randomly selected PER randomly selected n reinstatement to one-time random selection for	98% 4.0 hr 8.0 hr 8.0 hr 50% ag pre-access drug and at 4.0 hr 8.0 hr 50% test 2% 1% a pre-access drug and at 4 pre-access drug and at 4 and a pre-access dr	Assumption	26.59(c)(3)

		nibit A2 - 6 o Potential Policy Violations			
ctivity	Equation Parameter Description	Parameter	Value	Source	Section
	e Effort to Track Randomly Selected Individuals for Testing			Subpart B	26.31(d)(2)
	Annual costs per program from requiring greater effort to track individuals selected for random drug and a	alcohol testing			
	% tested by a random drug program per year	PER random	50.0%	Rule requirement	
	% of randomly selected employees per year that are unavailable for the scheduled test	PER unavailable	25%	Assumption	
	Hours of FFD program manager tracking time per randomly selected employee unavailable for the scheduled test	HOURS manager	0.25 hr	Assumption	
	unavailable for the scheduled test				
havioral	Observation			Subpart B	26.33
	This parameter is used in the equations below:				
	% increase in for-cause tests/referrals per year	PERI for-cause	10%	Assumption	
	Annual cost per program to review additional for-cause referrals				
	Hours of FFD program manager review per for-cause referral	HOURS manager	4.0 hr	Assumption	
	Hours of facility worker hours under review per for-cause referral	HOURS worker	4.0 hr	Assumption	
	Annual cost per program to conduct additional drug and alcohol tests due to increased for-cause referrals				
	Allitual cost per program to conduct additional drug and accordinests due to increased for-cause referrals	No additional parameters			
	Annual cost per program to conduct additional pre-access drug and alcohol tests yielding positive results				
	, illinear soot per program to contact additional pro access and all alcohol today justianty positive recalls	No additional parameters			
	Annual cost per program to retest confirmed positive drug test results at a second HHS-certified laborator	y at the request of the donor			
	Percentage of urine specimens with confirmed positive, adulterated, substituted, dilute, or	or PER retest	5%	Assumption	
	invalid validity and/or drug test results retested at the request of the donor at a second				
	HHS-certified laboratory				
	A control of the first term of				
	Annual costs per program for the percentage of workers with confirmed positive test results who initiate a	• • •	40/	A construction	
	Percentage of workers with confirmed positive test results that initiate appeals process	PER appeals	1%	Assumption	
sclosure	requirements positive test results			Subpart B	26.37(d)
	Annual costs per program to provide individuals with easier access to personal documents				
	% of employees with positive test results who request records	PER requesting	50%	Assumption	
	Additional clerical personnel hours copying, packaging, and shipping records per	HOURS clerical	1.0 hr	Assumption	
	disclosure request	000714 111	•		
	Cost of mailing (express mail) one performance data report to each licensee	COSTMailing	\$ 10.0) Assumption	
eview of I					
	FFD Policy Violations			Subpart B	26.39(c)
•1	FFD Policy Violations Annual cost per program to require FFD policy violations to be reviewed by more than one individual both	of whom must be unaffiliated with FFD progra	am administration	Subpart B	26.39(c)
		of whom must be unaffiliated with FFD progra HOURS manager	am administration 4.0 hr	Subpart B Assumption	26.39(c)
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations			Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information"			•	26.39(c) 26.189(b)(3)
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below:	HOURS manager	4.0 hr	Assumption Subpart H	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially	HOURS manager		Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule	HOURS manager PER PDFFDI-former	4.0 hr 10%	Assumption Subpart H Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially	HOURS manager PER PDFFDI-former	4.0 hr	Assumption Subpart H	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule	HOURS manager PER PDFFDI-former	4.0 hr 10%	Assumption Subpart H Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule	PER PDFFDI-former PER PDFFDI-final	4.0 hr 10%	Assumption Subpart H Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially	PER PDFFDI-former PER PDFFDI-final	4.0 hr 10%	Assumption Subpart H Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE re	HOURS manager PER PDFFDI-former PER PDFFDI-final	4.0 hr 10% 5%	Assumption Subpart H Assumption Assumption	`,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE re	PER PDFFDI-former PER PDFFDI-final review HOURS sae	4.0 hr 10% 5%	Assumption Subpart H Assumption Assumption	`,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae	4.0 hr 10% 5%	Assumption Subpart H Assumption Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD program manager hours of review per determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager	4.0 hr 10% 5% 2.0 hr	Assumption Subpart H Assumption Assumption Assumption	`,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD in FFD program manager hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring clerical contents are program from the reduction in the number of determinations of fitness requiring and contents are program from the reduction in the number of determination of fitness are program from the reduction in the number of determination of fitness are program from the reduction in the number of determination of fitness are program f	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager	4.0 hr 10% 5% 2.0 hr	Assumption Subpart H Assumption Assumption Assumption Assumption	, ,
	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD program manager hours of review per determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager	4.0 hr 10% 5% 2.0 hr	Assumption Subpart H Assumption Assumption Assumption	, ,
finition c	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD program manager hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring clerical personnel hours to support determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager	4.0 hr 10% 5% 2.0 hr	Assumption Subpart H Assumption Assumption Assumption Assumption Assumption	26.189(b)(3)
finition c	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD program from the reduction in the number of determinations of fitness requiring clerical personnel hours to support determination of fitness Clerical personnel hours to support determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager al personnel support HOURS clerical	4.0 hr 10% 5% 2.0 hr 2.0 hr	Assumption Subpart H Assumption Assumption Assumption Assumption	, ,
finition c	Annual cost per program to require FFD policy violations to be reviewed by more than one individual both Additional hours of non-FFD manager review of FFD policy violations of "Potentially Disqualifying Information" These parameters are used in the equations below: % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the former rule % of applicants for authorization requiring a determination of fitness based on potentially disqualifying FFD information under the final rule Annual savings per program from the reduction in the number of determinations of fitness requiring SAE in SAE hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring FFD program manager hours of review per determination of fitness Annual savings per program from the reduction in the number of determinations of fitness requiring clerical personnel hours to support determination of fitness	PER PDFFDI-former PER PDFFDI-final review HOURS sae program manager review HOURS manager al personnel support HOURS clerical	4.0 hr 10% 5% 2.0 hr 2.0 hr	Assumption Subpart H Assumption Assumption Assumption Assumption Assumption	26.189(b)(3)

		Ext	nibit A2 - 7			
		Urine Spe	cimen Collections			
Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Urine Colle	ection: Donors	Without Adequate ID			Subpart E	26.89(b)(2)
	Annual savings	s per FFD program per year Percentage of individuals without identification Time a donor without ID would spend to leave the collection site, obtain appropriate ID, and return to the collection site to be drug and alcohol tested	PER no-ID HOURS worker	1.0% 0.75 hr	Assumption Assumption	
Urine Colle	ection: Elimina	ate Listing Medications on the CCF Form and add description of testing	process		Subpart E	26.89(b)(3)
	Annual savings	s per FFD program per year Time per collection to list medications on CCF Time per collection for collector to explain testing process to donor	HOURS saved HOURS added	0.033 hr 0.013 hr	Assumption	
Urine Colle	ection: Inspec	ting Contents of Donor's Pockets			Subpart E	26.105(b)
	Annual costs p	er FFD program per year Time to inspect contents of a donors pockets per test	HOURS inspection	0.033 hr	Assumption	
Urine Spec	imen Quantity	y: Minimum Quantity of 30 mL			Subpart E	26.109(a)
	Annual savings	s per FFD program Percentage of collections considered to be of inadequate quantity under the former requirements Percentage decrease in the number of inadequate specimens resulting from reduction in	PER low quantity PERD low quantity	6.7% 25.0%	4.22.03 Wall Street Journal article, see RA Assumption	
		the minimum specimen quantity from 60 mL to 30 mL Time per test saved because donor can provide a sufficient specimen under the new rule	HOURS saved	1.50 hr	Assumption	
Urine Spec	imen: At Leas	st 30 mL, but Less than Predetermined Quantity			Subpart E	26.109(b)(2)
		er FFD program with onsite testing facility Percentage of urine specimens at least 30 mL in volume, but less than the licensee or C/Vs predetermined quantity of urine	PER not predetermined quantity	1.0%	Assumption	
Shy Bladde	er Medical Eva	aluation			Subpart E	26.119
	Annual costs p	er FFD program Number of urine collections unable to be completed because of inadequate specimen volume per facility per year	NUM shy bladder	1	Assumption	
		Cost of a medical evaluation and written report from a licensed physician (per shy bladde event)	er COST medical evaluation	\$ 300.00	Assumption	
		Time per medical evaluation (including travel to and from the physician's office)	HOURS medical evaluation	1.50 hr	Assumption	
		Time for a FFD manager per incident where an employee is unable to provide the minimum quantity of urine after 3 hours MRO time to select a physician, instruct the physician on the medical evaluation that mu-	HOURS FFD manager	2.0 hr 2.0 hr	Assumption Assumption	
		be conducted, and review and communicate the medical evaluation results	··· · · · · · · · · · · · · · · · · ·		(

			nibit A2 - 8			
-Alicidor	Equation	Parameter Description	ohol Testing	Value	Source	Section
ctivity		•	Parameter	value		
lood Colle		firmatory Alcohol Testing			Subpart E	26.83(a)
	Annual savings	s per FFD program per year	NUM blood	1	NEI data	
		Number of blood tests per FFD program per year Hours MRO to review test result & communicate with employee and donor	HOURS mro	0.75 hour	Assumption	
		Hours lost worker productivity resulting from receiving a blood test	HOURS worker	0.75 hour	Assumption	
irchase o	f FRT and Ca	libration Equipment and Related Training	TIOONO WOINCI	0.75 11001	Subpart E	26.91(b)
i onase o		er is used in the equations below:			Oubpart L	20.01(8)
	riiis paramete	Percentage of collection sites that will purchase an EBT meeting the specifications in paragraph 26.91(c).	PER purchased	50%	Assumption	
	One time equip	oment purchases per facility				
		Number of compliant EBTs purchased per collection site	NUM EBTs	2	Assumption	
	One time traini	ing cost per facility				
		Cost of alcohol collector training course on purchased EBT	COST training course	\$ 250	Assumption	
		Number of alcohol collectors per collection site	NUM collectors	4		
		Length of alcohol collector training course	HOURS collector training	2 hours	Assumption	
quired U	se of an EBT	on the NHTSA CPL for Confirmatory Testing			Subpart E	26.91(c)
	Annual savings	s per FFD program per year				
		Time per test to set-up a second EBTs (locate the EBT, turn on the equipment) to	HOURS saved	0.033 hour	Assumption	
		conduct confirmatory testing				
		Percentage of collections sites that will use a compliant EBT for all collections	PER compliant, final rule	50%	Assumption	
e Breath	Specimen Co	ollection for Initial Alcohol Test			Subpart E	26.95(c)
	Annual savings	s per FFD program per year				
		Savings in collection time from one fewer breath collection per breath test	HOURS breath collection	0.033 hour	Assumption	
vering Ir	nitial BAC Red	quiring Confirmatory Test to BAC 0.02			Subpart E	26.99(b)
		er FFD program per year				, ,
		Percentage increase in number of initial positive alcohol tests under the lower screening	PERI IPAT	20%	Assumption	
		level BAC				
		Time to conduct a confirmatory alcohol test under the final rule	HOURS CAT	0.05 hour	Assumption	
		Hours of FFD manager time associated with personnel activities and administrative	HOURS FFD manager	2.5 hour	Assumption	
		actions resulting from a confirmed positive alcohol test result				
) Manag	er Determine	s Confirmed Positive Test for Alcohol (BAC 0.02 < 0.04)			Subpart E	26.103
	Annual costs p	er FFD program per year				
		% increase in the number of confirmed positive breath alcohol tests per FFD program under the BACs in the final rule	PERI CPAT	20%	Assumption. Note: this rate as in 26.97(b) PER	
		Time per test result for FFD manager to determine the length of time an employee has been in work for BACs equal to or greater than 0.02 and less than 0.4	HOURS FFD management	0.25 hour	Assumption	

ity	Equation	Drug and validity testing (licensee to Parameter Description	Parameter	Value	Source	Section
		Licensee Testing Facilities and HHS-Certified Laboratories)			Subpart F	26.131(b)
•	3 (, , , , , , , , , , , , , , , , , , ,			Subpart G	26.161(b)(1)
	Cost to Condu	ct Daily Calibration Validity Testing Equipment at Onsite Licensee Testing Facility				
		Number of days per year a licensee testing facility operates	NUMdays	365 days	Assumption	
	Costs for confi	irmed positive drug tests and confirmed adulterated, substituted, or invalid validity test resu	ılts			
		Percentage of initial validity tests with dilute, adulterated, substitued, or invalid test resul	ts PER dilute, adulterated, substituted, or invalid - initial valdiity testing	2.69%	Equals the sum of the percen dilute, adulterated, and invalid specimens - see Exhibit A2-1	ı Č
		Percentage of Dilute Specimens drug positive at LOD testing	PER positive LOD	33%	Assumption	
		Percentage of initial Adulterated, Substituted (0-<2 mg/dL creatinine), and Invalid test results that remain adulterated, substitued, or invalid on confirmation	PER adulterated, substituted, Invalid confirmed	100%	Assumption	
		Percentage of specimens collected under direct observation as a result of an initial specimen with a confirmatory validity test result of invalid that test positive for drugs	PERdrug positive 2nd collection	33%	Assumption	
tial Vali	dity Testing - 0	Onsite Licensee Testing Facilities			Subpart F	26.131(b)
	This paramete	er is used in multiple equations in 26.131(b) calculations:				
		Percentage of urine specimens with confirmed positive, adulterated, substituted, dilute, invalid validity and/or drug test results retested at the request of the donor at a second HHS-certified laboratory	or PER retest	5.0%	Assumption	
		Percentage of workers with confirmed positive test results that initiate appeals process	PER appeals	1.0%	Assumption	
_		Percentage of workers with confirmed positive test results that initiate appeals process r Marijuana and Opiates - Onsite Testing Facilities r Marijuana and Opiates - HHS-Certified Laboratories	PER appeals	1.0%	Assumption Subpart F Subpart G	26.133 26.163(a)(1)
_		r Marijuana and Opiates - Onsite Testing Facilities r Marijuana and Opiates - HHS-Certified Laboratories Percentage increase in marijuana positive drug tests resulting from reduced cutoff level		40%	Subpart F	
_		r Marijuana and Opiates - Onsite Testing Facilities r Marijuana and Opiates - HHS-Certified Laboratories	in PERI marijuana		Subpart F Subpart G	
ange C	utoff Levels fo	or Marijuana and Opiates - Onsite Testing Facilities or Marijuana and Opiates - HHS-Certified Laboratories Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level	in PERI marijuana	40%	Subpart F Subpart G Assumption	
ange C	outoff Levels fo	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level new rule	in PERI marijuana	40%	Subpart F Subpart G Assumption Assumption	26.163(a)(1)
ange C	ontrol Specime Annual costs p	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level in the new rule Pens in Each Analytical Run - Onsite Testing Facilities Percentage cost increase per average urine specimen Substance/Adulterant - Contact MRO and Specimen Retesting	in PERI marijuana el PERD opiate	40% 75%	Subpart F Subpart G Assumption Assumption Subpart F	26.163(a)(1)
ange C	ontrol Specime Annual costs p	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level in the new rule Person that it is in Each Analytical Run - Onsite Testing Facilities Percentage cost increase per average urine specimen Substance/Adulterant - Contact MRO and Specimen Retesting Per FFD program Number of urine specimens per facility per year suspected of having a new adulterant or interfering agent that could make a test result invalid that are sent to a second HHS-	in PERI marijuana el PERD opiate PERI cost	40% 75%	Subpart F Subpart G Assumption Assumption Subpart F Assumption	26.163(a)(1) 26.137(e)(6)
nange C	ontrol Specime Annual costs p	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level in the new rule Pens in Each Analytical Run - Onsite Testing Facilities Per unit with onsite testing facilities Percentage cost increase per average urine specimen Substance/Adulterant - Contact MRO and Specimen Retesting Per FFD program Number of urine specimens per facility per year suspected of having a new adulterant of	in PERI marijuana el PERD opiate PERI cost NUM new adulterant e HOURS MRO	40% 75%	Subpart F Subpart G Assumption Assumption Subpart F Assumption Subpart G	26.163(a)(1) 26.137(e)(6)
ality Co	cutoff Levels for control Specime Annual costs p ed Interfering annual costs p	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level in the new rule Pens in Each Analytical Run - Onsite Testing Facilities Percentage cost increase per average urine specimen Substance/Adulterant - Contact MRO and Specimen Retesting Per FFD program Number of urine specimens per facility per year suspected of having a new adulterant or interfering agent that could make a test result invalid that are sent to a second HHS-certified laboratory Time per specimen for an MRO to speak with the HHS-certified laboratory and determin whether a specimen is to be retested at a second HHS-certified laboratory, and the time to review the results of validity testing at the second HHS-certified laboratory	in PERI marijuana el PERD opiate PERI cost NUM new adulterant e HOURS MRO	40% 75% 10%	Subpart F Subpart G Assumption Assumption Subpart F Assumption Subpart G Assumption	26.163(a)(1) 26.137(e)(6)
nange C	cutoff Levels for control Specime Annual costs p ed Interfering annual costs p	Percentage increase in marijuana positive drug tests resulting from reduced cutoff level new rule Percentage decrease in opiate positive drug tests resulting from the increased cutoff level in the new rule Pens in Each Analytical Run - Onsite Testing Facilities Per unit with onsite testing facilities Per unit with onsite testing facilities Percentage cost increase per average urine specimen Substance/Adulterant - Contact MRO and Specimen Retesting Per FFD program Number of urine specimens per facility per year suspected of having a new adulterant of interfering agent that could make a test result invalid that are sent to a second HHS-certified laboratory Time per specimen for an MRO to speak with the HHS-certified laboratory and determin whether a specimen is to be retested at a second HHS-certified laboratory, and the time	in PERI marijuana el PERD opiate PERI cost NUM new adulterant e HOURS MRO	40% 75% 10%	Subpart F Subpart G Assumption Assumption Subpart F Assumption Subpart G Assumption Assumption	26.163(a)(1) 26.137(e)(6) 26.161(g)

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Blind Samp	ole Testing - 1	st Quarter of Contract with a HHS-Certified Laboratory			Subpart G	26.168(a)(1)
	Annual savings	s per FFD program which conduct all drug tests at an HHS-certified lab				
		Percentage of urine specimens that must be blind test specimens submitted in initial 90 days of a contract with an HHS-certified lab, former rule	PER blind specimens, initial 90 days, former rule	50%	Former rule requirement, 2.8(e)(2) of Appendix A	
		Maximum number of blind specimens to be submitted in the first 90 days of a contract with an HHS-certified lab, former rule	NUM blinds, max, initial 90 days, former rule	500	Former rule requirement, 2.8(e)(2) of Appendix A	
		Percentage of urine specimens that must be blind test specimens submitted in the first 90 days of a contract with an HHS-certified lab - new rule	PER blind specimens, initial 90 days, new rule	20%	Final rule requirement	
		Maximum number of blind specimens to be submitted in the first 90 days of a contract with an HHS-certified lab, new rule	NUM blinds, max, initial 90 days, new rule	100	Final rule requirement	
		Minimum number of blind specimens to be submitted in the first 90 days of a contract with an HHS-certified lab, new rule	h NUM blinds, min, initial 90 days, new rule	30	Final rule requirement	
		Percentage of years that a FFD program enters contracts with a different HHS-certified lab	PER FFD programs change HHS lab	10%	Assumption	
		Number of quarters in a year	NUM quarters	4		
	Annual costs p	ner FFD program which conducts initial drug testing at an on-site licensee testing facility Percentage of specimens analyzed by a licensee testing facility that must be QA specimen	PER QA specimens	10.0%	Licensee testing facilities include 10 percent of total specimens analyzed as controls, complying with former rule 2.7(d) of Appendix A	
		Percentage of QA specimens that must be a blind specimen	PER QA specimens, blinds	10.0%	Assumption	
		Percentage of blind specimens that must be positive under former requirements	PER Blind specimens, positive	20.0%	Former rule requirement, 2.8(e)(3)	
		Percentage of negative initial drug test result specimens submitted to a HHS-certified laboratory for initial drug testing	PER neg. urine specimens to HHS	1.0%	of Appendix A Assumption	
Blind Samp	ole Testing - C	Contracts with HHS-Certified Laboratories Older Than 90 Days			Subpart G	26.168(a)(2)
	Annual savings	s per FFD program which conduct all drug tests at an HHS-certified lab				
		Percentage of urine specimens that must be blind test specimens submitted per quarter for an existing contract with an HHS-certified laboratory - former rule	PER blind specimens, per quarter, former rule	10%	Former rule requirement, 2.8(e)(2) of Appendix A	
		Maximum number of blind specimens to be submitted in the first 90 days of a contract with an HHS-certified lab, former rule	NUM blinds, max, per quarter, former rule	250	Former rule requirement, 2.8(e)(2) of Appendix A	
		Percentage of urine specimens that must be blind performance test specimens submitted per quarter for an existing contract with an HHS-certified laboratory - new rule	d PER blind specimens, per quarter, new rule	1%	Final rule requirement	
		Maximum number of blind specimens to be submitted per quarter for an existing contract with an HHS-certified lab, new rule	t NUM blinds, max, per quarter, new rule	100	Final rule requirement	
		Minimum number of blind specimens to be submitted per quarter for an existing contract with an HHS-certified lab, new rule	NUM blinds, min, per quarter, new rule	10	Final rule requirement	
		Maximum percentage of urine specimens that must be blind specimens submitted per quarter for an existing contract with an HHS-certified laboratory (if total number of specimens submitted is less than 10 specimens), new rule	PER cap on min. num. blinds per quarter	25%	Final rule requirement. The number of blind specimens per quarter is Final at a minimum of 3 percent (up to a maximum of 25 percent) or 10 blinds specimens, whichever is greater.	
		Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule	PERIcost blind specimen	75%	Assumption, cost increase by 75% because of change in mix of blind performance test samples (former rule required 80% of samples to be negative, final rule requires 60% of samples to be positive, 10% false negative challenge, 10% adulterated, substitued, or dilute)	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
	Annual costs p	per FFD program which conducts initial drug testing at on-site licensee testing facility				
		Percentage of specimens analyzed by a licensee testing facility that must be QA specimens (controls)	PER QA specimens	10.0%	Licensee testing facilities included percent of total specimens analed as controls, complying with formule 2.7(d) of Appendix A	lyzed
		Percentage of QA specimens that must be a blind specimen	PER QA specimens, blinds	10.0%	Assumption	
		Percentage of blind specimens that must be positive under former rule	PER Blind specimens, positive, former rule	20.0%	Former rule requirement, 2.8(e) of Appendix A)(3)
		Percentage of negative initial drug test result specimens submitted to a HHS-certified laboratory for initial drug testing	PER neg. urine specimens to HHS	1.0%	Value under Section 26.167(h)(cell E727	(1),

			ibit A2 - 10 ng Requirements			
tivity	Equation	Parameter Description	Parameter	Value	Source	Section
D Progra	ms: Perform	ance Data Reporting and Review			Subpart N	26.717(e), (f)
		per program by reducing reporting requirements			•	(), ()
	·	FFD program manager hours saved in frequency reduction	HOURS manager	20.0 hr	NRC staff estimate	
	Savings from N	IRC reviewing fewer licensee reports				
		NRC clerical personnel hours saved in reduction in reporting frequency	HOURS clerical	24.0 hr	NRC staff estimate	
		NRC manager hours saved in reduction in reporting frequency	HOURS manager	20.0 hr	NRC staff estimate	
				_	Subpart N	26.717(g)
		Number of licensee to whom each C/V submits performance data to under the former rule	e NUM licensees	9	Assumption	
		Cost of mailing (express mail) per information disclosure request	COSTMailing	\$ 10.00	Assumption	
	C/V manager la	abor burden reduced by only having to produce consolidated report for submission to NRC				
		Hours of C/V manager time to compile one licensee performance data report	HOURS manager	30.0 hr	Assumption	
		% savings achieved by consolidating performance data into a single report submitted to NRC	PER consolidation	25%	Assumption	
	Reduced Mailir					
		No Additional Parameters	No additional parameters			
porting a	and Review of	Reportable Events Due to New Validity Testing Requirements			Subpart N	26.719(b)
	This paramete	r is used in the equations below:				
		Percentage of tested staff covered by 26.203(b)(2)	PER staff	15%	Assumption	
	Annual cost pe	r unit due to new validity testing requirements				
		FFD program manager hours required to investigate, analyze, and report an event	HOURS manager	4.0 hr	Assumption	
			•		Subpart N	26.719(b)
	Increase in NR	C manager labor to review increased number of reportable events			Сиприн	201110(10)
		NRC manager hours required to review a reported event	HOURS manager	3.0 hr	NRC staff	
	Incursor in NID	O alasiad labor due to increased acceptant and acceptant and acceptant				
	increase in NR	C clerical labor due to increased number of reportable events NRC clerical hours required to process a reported event	HOURS clerical	1.0 hr	NRC staff	
ing of Fo		ologist's Evaluation			Subpart N	26.713(g)
	One-time cost	per program from clerical support to file and store the forensic toxicologist's evaluation of the				
		Hours of clerical personnel to file and store the forensic toxicologist's evaluation of the FFD program's more stringent cutoff levels per program	HOURSClerical	0.25 hr		
		Percentage of FFD programs that use more stringent cut-off levels for drug testing	PERmore stringent cutoffs	10%	Assumption	
		Percentage of FFD programs who use more stringent cut-off levels for drug testing, but		25%	Assumption	
		have not reported to the Commission				
morandu	um to HHS-Ce	ertified Laboratory for Incorrect CCF Form			Subpart G	26.153(g)
	Annual costs p	er FFD program				
		Number of memoranda per year a collection site used by a facility will write because it uses an expired Federal custody-and-control form or a non-Federal custody-and-control	NUM memoranda	2	Assumption	
		form was used for a specimen collection				
		Time for collection staff to draft a memorandum	HOURS collector	0.25 hr	Assumption	
ensee To	esting Facility	Reporting of Testing Data to FFD program (Monthly to Annually)			Subpart F	26.139(d)
	Annual savings	s per FFD program with Licensee Testing Facility				
		Time for a laboratory supervisor per licensee testing facility to prepare a monthly	HOURS monthly report	1.50 hr	Assumption	
		statistical summary report of urinalysis testing data Time for a laboratory supervisor per licensee testing facility to prepare an annual	HOLIPS annual report	4.00 hr	Assumption	
		statistical summary report of urinalysis testing data	HOURS annual report	4.00 111	Assumption	
		Number of monthly reports per licensee testing facility per year	NUM monthly reports	12	Number of months in a year.	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
HHS-Certi	ified Laborator	y Reporting of Testing Data to FFD program (Monthly to Annually)			Subpart G	26.169(k)
		Time to generate and send an annual or monthly statistical summary report per facility	HOURS lab tech	0.50 hour	Assumption	
		Number of reports per month per facility	NUM reports per month	1	former requirement	
		Number of reports that will no longer be sent to a facility	NUM reports	11	Final requirement to move from montly to annual reporting	
		Cost to send an annual or monthly statistical summary report via the U.S. Postal Service	COSTpostage	\$ 2.00	Assumption	
NRC Revi	ew of Fatigue I	nformation in Annual FFD Performance Reports			Subpart I	26.203(e)
	Annual cost to	NRC to review and summarize annual reports on fatigue				
		NRC clerical hours per year to assist in reviewing and summarizing the additional information addressing fatigue	HOURS Clerical	24.0 hr	Assumption	
		NRC manager hours per year to review and summarize the additional information addressing fatigue	HOURS Manager	24.0 hr	Assumption	

Exhibit A2 - 11: Hourly Wage Rates						
Worker Type	Но	ourly Wage Rate (2002 \$)		Hourly Wage Rate (Adjusted 2006 \$)	Source/Comments	
C/V manager			\$	50.00 /hour	Assumption	
Clerical	\$	15.75 /hour	\$	17.52 /hour	Model Facility Data from NEI Jan to May 2002	
Collection Site Supervisor			\$	50.00 /hour	Assumption	
Collector or Collection Site Personnel	\$	22.78 /hour	\$	25.34 /hour	Model Facility Data from NEI Jan to May 2002	
EAP	\$	28.85 /hour	\$	32.09 /hour	Model Facility Data from NEI Jan to May 2002	
Facility Supervisor			\$	70.00 /hour	Assumption	
FFD Program Manager	\$	31.98 /hour	\$	35.57 /hour	Model Facility Data from NEI Jan to May 2002	
FFD Staff			\$	30.00 /hour	Assumption	
Forensic Toxicologist			\$	93.75 /hour	Derived from quote from a drug testing expert	
HR personnel			\$	50.00 /hour	Assumption	
Contractor/Vendor Worker	\$	58.00 /hour	\$	64.52 /hour	Model Facility Data from NEI Jan to May 2002	
Lab supervisor			\$	50.00 /hour	Assumption	
Lab Technician	\$	26.54 /hour	\$	29.52 /hour	Model Facility Data from NEI Jan to May 2002	
Legal			\$	100.00 /hour	Assumption	
MRO	\$	100.00 /hour	\$	111.24 /hour	Model Facility Data from NEI Jan to May 2002	
NRC Clerical			\$	40.00 /hour	NRC staff , 2004	
NRC Staff			\$	87.00 /hour	NRC staff , 2004	
SAE	\$	28.85 /hour	\$	32.09 /hour	Same as SAP wage rate	
Trainer			\$	50.00 /hour	Assumption	
Training Manager			\$	55.00 /hour	Assumption	
Facility Worker (weighted average facility workers & C/Vs)	\$	55.14 /hour	\$	61.34 /hour	Model Facility Data from NEI Jan to May 2002	
Facility Worker (not weighted)	\$	36.21 /hour	\$	40.28 /hour	Model Facility Data from NEI Jan to May 2002	

2002 dollars have been adjusted to 2006 using implicit price deflators for GDP in the Survey of Current Business, as reported by the U.S. Department of Commerce, Bureau of Economic Analysis. Obtained at http://bea.gov/bea/pubs.htm.

Parameter Description	Value	Source
Drug & Alcohol Testing Information		
Total Number of Drug Tests per year for all FFD Programs	135,702	2005 Information Notice, NRC Table 1. Test results for each test category
Total Number of Drug Tests per Reactor per year	1,280 tests/reactor	Calculated
Total Number of Alcohol Tests per year for all FFD Programs	135,702	2005 Information Notice, NRC Table 1. Test results for each test category (one alcohol test and one drug test conducted for each testing event)
Total Number of Alcohol Tests per year per Reactor	1,280 tests/reactor	Calculated
Total Number of Random Drug and Alcohol Tests per year for all programs	50,286	2005 Information Notice, NRC Table 1. Test results for each test category
Total Number of Random Drug and Alcohol Tests per year per reactor	474 tests/reactor	Calculated
Negative Random Drug and Alcohol Test Rate in 2005	99.71%	Calculated
Positive Random Drug and Alcohol Test Rate in 2005	0.29%	Calculated
Number of confirmed positive alcohol tests per year for all FFD programs	196	2005 Information Notice, NRC Table 5. Number of confirmed positives by substance
Number of confirmed positive alcohol tests per reactor per year	1.85 tests/reactor	
Number of positive drug test results per year for all FFD programs	755	2005 Information Notice, NRC Table 5. Number of confirmed positives by substance
Number of positive drug test results per reactor	7.12 tests/reactor	Calculated
Positive drug test result rate in 2000	0.56%	Calculated
Number of marijuana positive drug test results per year for all FFD programs	432	2005 Information Notice, NRC Table 5. Number of confirmed positives by substance
Number of marijuana positive drug test results per reactor	4.08 tests/reactor	
Positive marijuana drug test result rate in 2000	0.32%	Calculated
Number of opiate positive drug test results per year for all FFD programs	16	2005 Information Notice, NRC Table 5. Number of confirmed positives by substance
Number of opiate positive drug test results per reactor	0.15 tests/reactor	
Positive opiate drug test result rate in 2000	0.01%	Calculated

Parameter Description	Value	Source
Drug & Alcohol Testing Information (cor	ntinued)	
Annual number of drug and alcohol tests yielding	979	2005 Information Notice, NRC
positive results for all programs		Table 3. 2005 Test results by test category
Annual number of drug and alcohol tests yielding	9.24 tests/reactor	Calculated
positive results per reactor	0.10	
Annual number of positive pre-access drug and alcohol test results for all programs	648	2005 Information Notice, NRC Table 3. 2005 Test results by test category
alconortest results for all programs		Table 3. 2003 Test Testills by test category
Annual number of positive pre-access drug and	6.11 tests/reactor	Calculated
alcohol test results per reactor		
Annual number of positive random drug and	147	2005 Information Notice, NRC
alcohol test results for all programs		Table 3. 2005 Test results by test category
Annual number of positive random drug and alcohol test results per reactor	1.39 tests/reactor	Calculated
alconortest results per reactor		
Annual number of positive post-event drug and	1	2005 Information Notice, NRC
alcohol test results for all programs		Table 3. 2005 Test results by test category
Annual number of positive post-event drug and	0.01 tests/reactor	Calculated
alcohol test results per reactor	0.01 (03/3/1040/01	Calculated
Annual number of follow-up drug and alcohol test	31	2005 Information Notice, NRC
results for all programs		Table 3. 2005 Test results by test category
Annual number of follow-up drug and alcohol test	0.29 tests/reactor	Calculated
results per reactor		
Annual number of positive other drug and alcohol	47	2005 Information Notice, NRC
test results for all programs	47	Table 3. 2005 Test results by test category
Took too all programs		
Annual number of positive other drug and alcohol	0.44 tests/reactor	Calculated
test results per reactor		
Annual number of for-cause referrals for all	1.161	2005 Information Notice, NRC
programs	.,	Table 2 - Test Results for Each Test
		Category and Work Category
Annual number of for-cause referrals per reactor	10.95 tests/reactor	Calculated
Annual number of for-cause tests yielding positive	106	2005 Information Notice, NRC
test results	100	Table 2 - Test Results for Each Test
		Category and Work Category
Positive for-cause testing rate in 2005	9.13%	Calculated

Parameter Description	Value	Source
Validity Test Data		
Percentage of adulterated, substitued, dilute, and invalid validity test results (total)		Consists of the sum of dilute (2-5, 5-20 mg/dL), substituted, adulterated, and invalid
Percentage of specimens - Dilute (>5 and <20 mg/dL creatinine)		Quest Diagnostics, n=435,309, likely a quarter's data for all Quest Labs (presented 2/2003)
Percentage of specimens - Dilute (2 - 5 mg/dL creatinine)	0.015%	DHHS National Laboratory Certification Program, data from 7/01-6/02 based on n=5,266,000
Percentage of specimens - Substituted (<2 mg/dL creatinine)	0.016%	DHHS National Laboratory Certification Program, data from 7/01-6/02 based on n=5,266,000
Percentage of specimens - Adulterated		DHHS National Laboratory Certification Program, data from 7/01-6/02 based on n=5,266,001
Percentage of specimens - Invalid	0.035%	DHHS National Laboratory Certification Program, data from 7/01-6/02 based on n=5,266,002
Applicant information		
Annual number of applicants for authorization for all programs	65,845	NEI Estimate
Annual number of applicants for authorization per reactor	621	Calculated
Annual number of reportable events for all programs	135,702	2005 FFD Performance Reports
Annual number of reportable events per reactor	1,280	Calculated
Annual number of applicants for initial and updated authorization for all programs	20,509	NEI Estimate
Annual number of applicants for initial and updated authorization per reactor	193.48	Calculated
Annual number of applicants for initial authorization for all programs	17,869	NEI Estimate
Annual number of applicants for initial authorization per reactor	168.58	Calculated

Parameter Description	Value	Source
Applicant information (continued)		
Annual number of applicants for updated authorization for all programs	2,640	NEI Estimate
Annual number of applicants for updated authorization per reactor	24.91	Calculated
Annual number of applicants for authorization reinstatement with an interruption of 30 days or less for all programs	26,068	NEI Estimate
Annual number of applicants for authorization reinstatement with an interruption of 30 days or less per reactor	245.92	Calculated
Annual number of applicants for authorization reinstatement with an interruption of 5 days or less	40.99	Calculated
Annual number of applicants for authorization reinstatement with an interruption of 6-30 days	204.94	Calculated
Annual number of applicants for authorization reinstatement with an interruption of between 31 and 365 days for all programs	19,268	NEI Estimate
Annual number of applicants for authorization reinstatement with an interruption of between 31 and 365 days per reactor	181.77	Calculated
Number of applicants per training session	20	Assumption

Exhibit A2 - 13: Drug and Alcohol Testing Data (in 2006 \$)

Time per activity for a drug and alcohol collection	Time	Activity		Activity definitions	
Worker travel time (to test and back to work)	0.60 hr	w		w= worker	
ID Worker	0.03 hr	w, c		c= collector	
Complete Initial Paperwork	0.09 hr	w, c			
Perform Alcohol Test	0.09 hr	w, c			
Perform Drug Screen	0.18 hr	w, c			
Labor costs for a drug and alcohol collection	Time for collection (drug & alcohol)	'	Wage rate	Cost per tes	st
Labor collector - per testing process (one urine collection - initial breath collection)	0.39 hr	\$	25.34	\$	9.84
Labor worker - per testing process (one urine collection - initial breath collection)	0.99 hr	\$	55.14	\$	54.70
Labor costs o	f drug and alcohol specimen col	lection (co	llector & worker)	\$	64.54
Time per activity for a drug specimen collection	Time	Activity		Activity definitions	
Worker travel time (to test and back to work)	0.60 hr	w		w= worker	
ID Worker	0.03 hr	w, c		c= collector	
Complete Initial Paperwork	0.09 hr	w, c			
Perform Drug Screen	0.18 hr	w, c			
Labor costs for a drug specimen collection	Time for collection (drug & alcohol)	'	Nage rate	Cost per tes	st
Labor collector - per testing process (one urine collection)	0.30 hr	\$	25.34	\$	7.59
Labor Collector - per testing process (one drine collection)	0.00 111	Ψ	20.01	Ψ	

49.81

57.40

Labor worker - per testing process (one urine collection) 0.90 hr Labor costs of drug specimen collection (collector & worker) \$ NEGATIVE TEST RESULTS - SUMMARY OF COSTS (labor, equipment and specimen testing costs)

Negative Result - Alcohol test and Drug test (onsite testing) former rule	Description		
Labor costs of drug and alcohol collection (collector & worker)	\$	64.54	Costs include: (1) travel time of worker; (2) collection of
Equipment cost for alcohol testing (initial test - 2 breath collections)	\$	0.20	drug and alcohol specimens (the labor of collector and
Initial drug test - onsite licensee testing facility	\$	26.98	worker, collection materials), (3) onsite licensee testing costs per urine specimen for drugs; (4) labor of FFD
FFD manager labor per negative test result	\$	3.56	manager to process negative test results paperwork
Total per tes	st \$	95.28 /test	
Negative Result - Alcohol test and Drug test (all testing at HHS certified lab), former rule	1		Description
Negative Result - Alcohol test and Drug test (all testing at HHS certified lab), former rule Labor costs of drug and alcohol collection (collector & worker)	\$	64 54	Costs include: (1) travel time of worker; (2) collection of
	\$	64.54	Costs include: (1) travel time of worker; (2) collection of drug and alcohol specimens (the labor of collector and
Labor costs of drug and alcohol collection (collector & worker)	\$ \$	64.54 0.20	Costs include: (1) travel time of worker; (2) collection of
Labor costs of drug and alcohol collection (collector & worker) Equipment cost for alcohol testing (initial test - 2 breath collections)	\$ \$	64.54 0.20	Costs include: (1) travel time of worker; (2) collection of drug and alcohol specimens (the labor of collector and worker, collection materials), (3) HHS-certified lab costs
Labor costs of drug and alcohol collection (collector & worker) Equipment cost for alcohol testing (initial test - 2 breath collections) Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee	\$ \$ \$ \$	64.54 0.20	Costs include: (1) travel time of worker; (2) collection of drug and alcohol specimens (the labor of collector and worker, collection materials), (3) HHS-certified lab costs per urine specimen for drugs; (4) labor of FFD manager

Negative Result - Alcohol test and Drug & Validity test (onsite testing facility), final rule			Description
Labor costs of drug and alcohol collection (collector & worker)	\$	64.54	<u>Costs include</u> : (1) travel time of worker; (2) collection of drug and alcohol specimens (the labor of collector and
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$		worker, collection materials), (3) onsite licensee testing
Validity Testing (onsite) - Total Labor and Reagents cost per specimen	\$	4.22	costs per urine specimen for drugs & validity; (4) labor of
Initial drug test - onsite licensee testing facility	\$	26.98	FFD manager to process negative test results paperwork
FFD manager labor per negative test result	\$	3.56	раролион
Total per test	99.40 /test		
Negative Result - Alcohol test and Drug & Validity test (all testing at HHS lab) - final rule	1		Description (2)
Labor costs of drug and alcohol collection (collector & worker)	\$	64.54	<u>Costs include</u> : (1) travel time of worker; (2) collection of drug and alcohol specimens (the labor of collector and
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$		worker, collection materials), (3) HHS-certified lab costs
Validity testing incremental (at HHS-certified lab - initial and confirmatory testing)	\$	1.50	per urine specimen for drugs & validity; (4) labor of FFD
Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee			manager to process negative test results paperwork
testing conducted at HHS lab)	\$	22.88	
FFD manager labor per negative test result Total per test		3.56 92.58 /test	
MRO Testing - Negative Result - Alcohol test and Drug & Validity test (at onsite testing fa			Description
Labor costs of drug and alcohol collection (collector)	\$	9.84	Same cost as:
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$	0.10	Negative Result - Alcohol test and Drug & Validity test (onsite testing facility), final rule, no MRO labor for travel
Validity Testing (onsite) - Total Labor and Reagents cost per specimen	\$	4.22	or the collection process, the labor is accounted for
Initial drug test - onsite licensee testing facility	\$	24.25	separately
FFD manager labor per negative test result	\$	3.56	
Total per test	t \$	41.97 /test	
MRO Testing - Negative Result - Alcohol test and Drug & Validity test (all testing at HHS I final rule	ab) -		Description
Labor costs of drug and alcohol collection (collector only)	\$	9.84	Same cost as:
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$	0.10	Negative Result - Alcohol test and Drug & Validity test (all testing at HHS lab) - final rule, no MRO labor for
Validity testing incremental (at HHS-certified lab - initial and confirmatory testing)	\$	1.50	travel or the collection process, the labor is accounted
Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee testing conducted at HHS lab)	\$	22.88	for separately
FFD manager labor per negative test result	\$	3.56	
Total per test	+ -	37.88 /test	
MRO Testing - Incremental Cost for Alcohol and Drug Specimen Collection at a Non-Lice			Description
Additional drug and alcohol specimen collection and shipping costs from non-licensee collection facilities	\$	-	Twice the labor cost of drug and alcohol collection (collector only) plus shipping cost

Positive (DRUG/VALIDITY/ALCOHOL) TEST RESULT - LABOR COSTS			
Subsequent actions - positive drug/validity/alcohol test result	Time	Wage rate	Source
Labor MRO	0.42 hr	\$ 111.24	Model Facility Data from NE
FFD manager	2.58 hr	\$ 35.57	Jan to May 2002
Worker	0.47 hr	\$ 55.14	
Total cost subsequent actions per confirmed positive	e drug/validity/alcohol test resul	164.14	
Appeal of positive drug/validity/alcohol (no change former rule or final rule)	Wage rate	Units	Source
FFD manager (average labor per result)	\$ 35.57	12.50 hr	Discussion with NEI staff,
Worker	\$ 55.14	2.00 hr	May 23, 2003
Total cost per appeal (positive	drug/validity/alcohol test result	\$555 /appeal	
Positive (DRUG/VALIDITY/ALCOHOL) TEST RESULT - SUMMARY OF C Positive Result - Alcohol/Drug/Validity test - (onsite testing facility), final rule		IDescription	.9 000:07
Labor costs of drug and alcohol collection (collector & worker)	\$ 64.54	Costs include: (1) travel t	ime of worker; (2) collection of
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$ 0.10		ns (the labor of collector and ls), (3) onsite licensee testing
Validity Testing (onsite) - Total Labor and Reagents cost per specimen	\$ 4.22	costs per urine specimen	for drugs; (4) HHS-certified lags and validity; (5) cost of
Initial drug test - onsite licensee testing facility	\$ 26.98	subsequent actions result	
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive		positive drug/validity test	-
drug/questionable validity test result at licensee testing facility)	\$ 35.25		
Validity testing incremental (at HHS-certified lab - initial and confirmatory testing)	\$ 1.50		
Subsequent actions - positive drug/validity/alcohol test result	\$ 164.14		
Total per tes	t \$ 296.73 /test		
Positive Result - Alcohol/Drug/Validity test - (all testing at HHS certified lab) - final rule		Description	
Labor costs of drug and alcohol collection (collector & worker)	\$ 64.54		ime of worker; (2) collection on the labor of collector and
Equipment cost for alcohol testing (initial test - 1 breath collection)	\$ 0.10		ins (the labor of collector and ls), (3) HHS-certified lab cos
Validity Testing (onsite) - Total Labor and Reagents cost per specimen	\$ 4.22	per urine specimen for dru	ugs and validity; (4) cost of
Initial and confirmatory (when necessary) drug test	\$ 22.88	subsequent actions result positive drug/validity test	
Subsequent actions - positive drug/validity/alcohol test result	\$ 164.14	Positive drug, variatly test	

Total per test \$

164.14

255.89 /test

Subsequent actions - positive drug/validity/alcohol test result

\$

Validity testing incremental (at HHS-certified lab - initial and confirmatory testing)

1.50 /test | Assumption, range of testing costs from \$0.00 to \$3.00.

			Source		
Drug test (initial) - at onsite licensee testing facility	\$	26.98 /test	Model Facility Data from I	NEI Jan to May 2002	
RUG TESTING - HHS- CERTIFIED LABORATORY					
Test Type		Cost/test	Source		
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility)	\$	35.25 /test	Model Facility Data from I	NEI Jan to May 2002	
Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee testing conducted at HHS lab)	\$	22.88 /test	Model Facility Data from I	NEI Jan to May 2002	
Dilute Specimen (>=2-20 mg/dL Creatinine) Testing - GC/MS Level of Detection Testing (LOD)	\$	75.00 /test	Assumption		
Cost of retesting - a confirmed positive drug/adulterated or substitued validity test specimen at second HHS-certified lab (includes specimen preparation and shipping costs)	\$	62.50 /test	Assumption, range of test	ring costs from \$50.00 to \$75.	.00
Retesting a specimen at a second HHS lab when the initial HHS lab could not identify a suspected	\$	125.00 /test	Costs for to analyze for adulterants at a second HHS-ce lab (cost ranges from \$50.00 to \$200.00 depending on to contract with the lab)		
interfering substance/adulterant (includes specimen preparation, packaging, and shipping)				.00 to \$200.00 depending on	tne
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase	 	2,250	contract with the lab) Source		
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case	\$	2,250	contract with the lab) Source	of NHTSA certified EBT (fuel	
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT)	\$		Source Equipment manufacturer Source		cell)
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment		100.00	Source Equipment manufacturer Source Equipment manufacturer	of NHTSA certified EBT (fuel	cell)
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT)	\$	100.00	Source Equipment manufacturer Source Equipment manufacturer	of NHTSA certified EBT (fuel	cell)
ALCOHOL TESTING EQUIPMENT Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT) Calibration canister	\$	100.00 75.00	Source Equipment manufacturer Source Equipment manufacturer Equipment manufacturer	of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel	cell)
Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT) Calibration canister EBT Exhalent tubes (source: discussion with NEI staff, May 2003) Exhalent tubes (per test = 2 breath specimens) - former rule Exhalent tubes (per test = 1 breath specimen) - final rule	\$	100.00 75.00 Unit cost	Source Equipment manufacturer Source Equipment manufacturer Equipment manufacturer # of tubes	of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel Cost per test	cell)
Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT) Calibration canister EBT Exhalent tubes (source: discussion with NEI staff, May 2003) Exhalent tubes (per test = 2 breath specimens) - former rule	\$ \$	100.00 75.00 Unit cost 0.10 /tube	Source Equipment manufacturer Source Equipment manufacturer Equipment manufacturer Equipment manufacturer	of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel Cost per test \$	cell)
Evidential Breath Testing Device (EBT) - purchase EBT - compliant with § 26.91(c) in the final rule - included printer and carrying case EBT Calibration Equipment Regulator (to attach calibration canister to EBT) Calibration canister EBT Exhalent tubes (source: discussion with NEI staff, May 2003) Exhalent tubes (per test = 2 breath specimens) - former rule Exhalent tubes (per test = 1 breath specimen) - final rule	\$ \$	100.00 75.00 Unit cost 0.10 /tube 0.10 /tube	Source Equipment manufacturer Source Equipment manufacturer Equipment manufacturer Equipment manufacturer	of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel of NHTSA certified EBT (fuel Cost per test \$	cell)

ost per blind perfomrance sample & testing - former rule (all testing at HHS-lab) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule)	26.168(a)(2)
	Source
	t Model Facility Data from NEI Jan to May 2002
Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee testing conducted at HHS lab) (former rule)	t Model Facility Data from NEI Jan to May 2002
Total per test \$ 52.2	2
Cost per blind performance sample & testing - final rule (all testing at HHS-lab)	Source
Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule)	t Model Facility Data from NEI Jan to May 2002
Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule	t Assumption, 75 percent increase in cost of blind performance test sample
Drug testing (initial & confirmatory when necessary) - HHS certified laboratory (all licensee \$ 22.88 /te testing conducted at HHS lab)	t Model Facility Data from NEI Jan to May 2002
Validity testing incremental (at HHS-certified lab - initial and confirmatory testing) \$ 1.50 /te	t Assumption
Total per test \$ 75.7	2
Cost per blind performance sample & testing - former rule (for FFD programs with onsite licensee testing facilities)	Source
Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the ## 29.34 /te HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule)	t Model Facility Data from NEI Jan to May 2002
ווו ואינים ווופט ומטטומנטוץ וטו נפאנוווץ, מווע דדט ווומוומטפו וטווטייטף נט כוופטג ופאנונא (וטווופו דעופ)	
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule)	t Model Facility Data from NEI Jan to May 2002
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive \$ 35.25 /te	·
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive \$ 35.25 /te drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5	·
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive \$ 35.25 /te drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the \$ 29.34 /te	
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the \$ 22.00 /te	Source
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive \$ 35.25 /te	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the costive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility)	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility)	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample t Model Facility Data from NEI Jan to May 2002 t Assumption
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) Validity testing incremental (at HHS-certified lab - initial and confirmatory testing) Total per test 8.8.0	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample t Model Facility Data from NEI Jan to May 2002 t Assumption
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) Validity testing incremental (at HHS-certified lab - initial and confirmatory testing) \$ 1.50 /te Total per test \$ 88.0 APER WORK REQUIREMENTS - Drug and Alcohol Testing	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample t Model Facility Data from NEI Jan to May 2002 t Assumption
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test \$ 64.5 Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) Validity testing incremental (at HHS-certified lab - initial and confirmatory testing) \$ 1.50 /te Total per test \$ 88.0 APER WORK REQUIREMENTS - Drug and Alcohol Testing Information Collection Burden Activities - Negative and Positive Test Results	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample t Model Facility Data from NEI Jan to May 2002 t Assumption
Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) (former rule) Total per test Footal per test Cost per blind performance sample & testing - final rule (or FFD programs with onsite licensee testing facilities) Cost per blind specimen, former rule: purchased from a vendor, prepared, and shipped to the HHS-certified laboratory for testing, and FFD manager follow-up to check results (former rule) Increase in the cost per blind performance test specimen due to the change in the mix of the positive to negative ratio of blind specimens in the final rule Drug testing (intial & confirmatory when necessary) at HHS-certified lab (after initial positive drug/questionable validity test result at licensee testing facility) Validity testing incremental (at HHS-certified lab - initial and confirmatory testing) **Total per test** **RAPER WORK REQUIREMENTS - Drug and Alcohol Testing Information Collection Burden Activities - Negative and Positive Test Results	Source t Model Facility Data from NEI Jan to May 2002 t Assumption, 75 percent increase in cost of blind performance test sample t Model Facility Data from NEI Jan to May 2002 t Assumption Source

Exhibit A2 - 14: FFD Programs

FFD Program/Licensee	Number of Facilities per Program	Number of Units per Program	On-Site or Off-Site Testing	Number of Employees per Unit	Total Number of Employees per Program
Ameren UE	1	1	On-site	949	949
AmerGen Energy Company	3	3	On-site	949	2,846
Arizona Public Service Company	1	3	On-site	949	2,846
Carolina Power & Light	3	4	Off-site	949	3,795
Constellation Energy	3	5	Off-site	949	4,744
Detroit Edison Company	1	1	Off-site	949	949
Dominion Generation	4	7	Off-site	949	6,642
Duke Energy Power Company, LLC	3	7	Off-site	949	6,642
Energy Northwest	1	1	On-site	949	949
Entergy Nuclear Operations, Inc.	8	10	Off-site	949	9,488
Exelon Generation Co., LLC	7	14	On-site	949	13,283
FirstEnergy Nuclear Operating Co.	3	4	Off-site	949	3,795
Florida Power Corp.	1	1	Off-site	949	949
FPL Group	4	6	Off-site	949	5,693
Indiana/Michigan Power Co.	1	2	On-site	949	1,898
Nebraska Public Power District	1	1	Off-site	949	949
Nuclear Management Co.	4	6	Off-site	949	5,693
Omaha Public Power District	1	1	Off-site	949	949
Pacific Gas & Electric Co.	1	2	Off-site	949	1,898
PPL Susquehanna, LLC	1	2	On-site	949	1,898
PSEG Nuclear, LLC	2	3	On-site	949	2,846
South Carolina Electric & Gas Co.	1	1	Off-site	949	949
Southern California Edison Co.	1	2	On-site	949	1,898
Southern Nuclear Operating Co.	3	6	On-site	949	5,693
STP Nuclear Operating Co.	1	2	Off-site	949	1,898
Tennessee Valley Authority	3	5	Off-site	949	4,744
TXU Generation Company, LP	1	2	Off-site	949	1,898
Wolf Creek Nuclear Operating Corp.	1	1	Off-site	949	949
Westinghouse	2	2	Off-site	750	1,500
Inpo	1	1	Off-site	250	250
BWX Technologies	1	1	Off-site	811	811
Nuclear Fuel Services	1	1	Off-site	300	300
MOX Facility	1	1	Off-site	400	400

Exhibit A2-15						
	<u> </u>		tigue Inputs			
Activity	Equation	Parameter Description	Parameter	Value	Source	Section
olicy and	Procedures	the FED was a little with the second state of		to the state of the state of	Subpart I	26.203(a)-(b)
	One-time costs	s per program to account for FFD manager and clerical personnel time and to contract a leg				
		Hours of FFD program staff to develop and revise policies and procedures for fatigue provisions per program	HOURS ffd_staff	80.0 hr	Assumption	
		Hours of labor of various managers to review and approve policies and procedures for fatigue provisions per program	HOURS manager-fatigue	40.0 hr	Assumption	
		Hours of legal assistance to review and revise policies and procedures for fatigue provisions	HOURS legal-fatigue	20.0 hr	Assumption	
		Hours of clerical personnel to support revision of policies and procedures for fatigue provisions	HOURS clerical-fatigue	40.0 hr	Assumption	
	One-time costs	s per program to provide additional facility supervisor time to implement the corporate polici	es on the management of fatique at the facilit	y level		
		Hours of facility supervisor time to implement revised corporate policies and procedures for fatigue		160.0 hr	Assumption	
aining					Subpart I	26.203(c)
	The following	ng variables are used in several of the equations in this section				
		Length of training addressing the fatigue-related KAs per session	HOURS Training-Fatigue	1.0 hr	Assumption	
		Length of comprehensive examination increment addressing the fatigue-related KAs	HOURS Examination-Fatigue	0.2 hr	Assumption	
		Hours of incremental preparation and examination grading per session addressing the fatigue-related KAs	HOURS Preparation-Fatigue	0.5 hr	Assumption	
	One-time cost	per program associated with revising the training program to include fatigue KAs Hours of industry consultant time per program to develop generic training materials for	HOURS Consultant	2.6 hr	Assumption	
		use by the entire industry Hourly wage for industry consultant to develop generic training materials for use by the entire industry	WAGE Training_Consultant_Loaded	\$ 90.00 /ho	ur	
		entile industry	HOURS Trainer	8.0 hr	Assumption	
		Hours of training time per program to revise the training materials to address fatigue KAs Hours of training manager time per program to revise the training materials to address	HOURS Training Manager	2.0 hr	Assumption	
		fatigue KAs Hours of FFD proram manager time per program to revise the training program to	HOURS Manager	2.0 hr	Assumption	
		address fatigue KAs Hours of clerical personnel time to support the revision of the training program to address fatigue KAs	s HOURS Clerical	4.0 hr	Assumption	
	One-time costs	s per program to retrain existing employees on the fatigue related KAs	No additional parameters			
	One-time costs	s per program for trainers to administer the training on the fatigue-related KAs Number of workers per training session per facility	NUM Sessions	50	Assumption	
	Annual cost pe	or program for incoming employees to take the training course increment for fatigue-related Turnover Rate (e.g., new hires including outage workers) covered by fatigue provision per facility per year		25%	Assumption	
	Annual cost pe	or program for trainers to administer training course for fatigue-related KAs Number of workers per training session per facility	NUM Sessions	20	Assumption	
	Annual costs p	er program for employees to take the refresher training increment addressing fatigue-relate		200/	A compation	
		Percentage of employees taking refresher training Length of fatigue-related portion of refresher training course	PER Refresher HOURS Fatigue Training	20% 1.00 hr	Assumption Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
	Annual costs p	er program for trainers to administer the refresher training increment addressing fatigue-rel			_	
		Number of workers per training session per facility	NUM Sessions	20	Assumption	
		Length of fatigue-related refresher training course	HOURS Fatigue Training	1.00 hr	see Appendix 2, Exhibit A2-3	
Retaining Fa	atigue Recor	ds			Subpart I	26.203(d)
	Annual cost pe	r program to physically place the documentation required under 26.197(d)(1), (2), (4), and	(5) into the appropriate filing cabinets or storage	e facilities		
	·	Annual number of hours per facility to store individuals' work hours under final rule	HOURS Work Hours	40.0 hr	Assumption	
		Annual number of hours per facility to store work hour reviews under final rule	HOURS Reviews	4.0 hr	Assumption	
		Annual number of hours per facility to store fatigue assessment documentation under fine rule	alHOURS Assessments	10.0 hr	Assumption	
	Annual savings	per program as a result of fewer waivers being issued				
		Annual number of hours per facility to file deviation authorizations under existing licenses technical specifications	e HOURS WaiverTS	12.0 hr	Assumption	
		Annual number of hours per facility to file waivers under final rule	HOURS WaiverNew	1.0 hr	Assumption	
Summarize	Waiver Data				Subpart I	26.203(e)(1)
		r program to review documentation for the waived individual work hour controls in 26.205(c ne FFD program performance report	t)(1)-(5)(i) from the previous calendar year, cate	gorize the instar	nces of waivers as required, and repor	rt the data and frequency
		Annual hours of clerical worker labor to tally the annual number of waivers of each type, separate operating waivers from outage waivers, produce a frequency distribution, and report these data in the FFD program report	HOURS Clerical	25.0 hr	Assumption	
		Annual hours of managerial labor to review the waivers data included in the FFD program report	n HOURS Manager	25.0 hr	Assumption	
Summarize	Corrective A	ctions			Subpart I	26.203(e)(2)
	Annual cost pe	r program to report corrective actions, if any, resulting from the analyses of waiver docume	ntation.			
		Annual number of clerical labor hours to produce a summary of corrective actions and report this information in the FFD program report	HOURS Clerical	1.0 hr	Assumption	
		Annual number of FFD staff labor hours to produce a summary of corrective actions and report this information in the FFD program report	HOURS FFD staff	4.0 hr	Assumption	
		Annual number of manager labor hours to review and summarize corrective actions included in the FFD program report	HOURS Manager	1.0 hr	Assumption	
Fatigue Mar	nagement Au	dits			Subpart I	26.203(f)
	Annual cost pe	r program to audit fatigue management as part of the overall FFD program audit required u	inder 26.41			
		Annual number of auditor labor hours to audit the management of worker fatigue	HOURS Auditor	40.0 hr	Assumption	
		Annual number of clerical labor hours to assist with the audit of fatigue management	HOURS Clerical	16.0 hr	Assumption	
		Annual number of manager labor hours to assist with the audit of fatigue management program	HOURS Manager	16.0 hr	Assumption	
		Multiplier to yield annualized costs	PER Annualized	50%	Calculated	

Calculating Work Hours One-first coat part program is mortally existing in ministryang systems in order to record, tool, and document the actual hours are written by solvhelable covered under the notivously objects and program in ministry in making programs of developing programs of developing programs are content of the making the ministry in making programs are content of the making in making programs are content or making the making in making programs are content or making the making in making programs are content or making the making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs are content or making programs and the making programs and the making programs are content or making programs and the mak	Activity	Equation	Parameter Description	Parameter	Value	Source	Section
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Annual bours of supervision black to manifest and minings the hours actually worked by MCRS Central 2000 to 1 and				COST System	\$50,000	Exhibit A2-16	
Annual bours of supervision black to manifest and minings the hours actually worked by MCRS Central 2000 to 1 and							
Annual hours for celorial black to memiter and manage the hours actually worked by individuals and not motify, hours being not aboving up work hour actored in membrane and managements and the control of the deleteration of the control of the cont		Annual costs pe	Annual hours of supervisor labor to monitor and manage the hours actually worked by			Assumption	
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One-time hours readed for licensee management to work with union representatives in Collective bargaining of Cond-time hours resided for licensees whether soft times with union representatives in POURS (and provided to the Condition of Con	Scheduling	Work Hours				Subpart I	26.205(c)
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Average number of Contract HP/Chem workers per reactor (pre-rule) The average cost to conduct in-processing of one contract HP/Chem worker The weekly cost of one contract HP/Chem worker The weekly cost of one contract HP/Chem worker The weekly cost of one contract HP/Chem worker Annual costs to pay for in processing of additional contract maintenance staff during outages to replace lost outage work hours from permanent operator staff who are added to the skeleton crew for the operating unit at multi-unit sites Number of additional contract maintenance workers needed at a dual-unit site to compensate for the lost work hours of a permanent operator based at a co-located Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed at a triple-unit site to Number of additional contract maintenance workers needed				COST Process_HP/Chem			
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Annual costs to pay for in processing of additional contract maintenance staff during outages to replace lost outage work hours from permanent operator staff who are added to the skeleton crew for the operating unit at multi-unit sites Number of additional contract maintenance workers needed at a dual-unit site to compensate for the lost work hours of a permanent operator based at a co-located operating unit Number of additional contract maintenance workers needed at a triple-unit site to NUM Replacements for Operators_Outage Unit (Dual) NUM Replacements for Operators_Outage 8 Assumption compensate for the lost work hours of a permanent operator based at a co-located Unit (Triple)			The average cost to conduct in-processing of one contract HP/Chem worker	COST Process_HP/Chem	\$1,000	Exhibit A2-16	
Number of additional contract maintenance workers needed at a dual-unit site to compensate for the lost work hours of a permanent operator based at a co-located operating unit Number of additional contract maintenance workers needed at a triple-unit site to compensate for the lost work hours of a permanent operator based at a co-located unit (Triple) NUM Replacements for Operators_Outage 4 NRC data collection Unit (Dual) NUM Replacements for Operators_Outage 8 Assumption Unit (Triple)			The weekly cost of one contract HP/Chem worker	WCOST Contract_HP/Chem	\$4,040		
Number of additional contract maintenance workers needed at a dual-unit site to compensate for the lost work hours of a permanent operator based at a co-located operating unit Number of additional contract maintenance workers needed at a triple-unit site to compensate for the lost work hours of a permanent operator based at a co-located unit (Triple) NUM Replacements for Operators_Outage 4 NRC data collection Unit (Dual) NUM Replacements for Operators_Outage 8 Assumption Unit (Triple)		Annual costs to	pay for in processing of additional contract maintenance staff during outages to replace to	ost outage work hours from nermanent operators	taff who are add	led to the skeleton crew for the operation	ing unit at multi-unit sites
operating unit Number of additional contract maintenance workers needed at a triple-unit site to NUM Replacements for Operators_Outage 8 Assumption compensate for the lost work hours of a permanent operator based at a co-located Unit (Triple)		,	Number of additional contract maintenance workers needed at a dual-unit site to	NUM Replacements for Operators_Outage			ing and at thata and sites
compensate for the lost work hours of a permanent operator based at a co-located Unit (Triple)			operating unit	, ,	8	Assumption	
					J		

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
	Annual costs t	to now for in processing of additional contract maintenance staff during outcome to realize	at autora work bours from normanant maintan	anaa ataff wha a	re added to the alcoloton	prove for the energing unit of multi-unit cities
	Annual Costs t	to pay for in processing of additional contract maintenance staff during outages to replace Ic Number of additional contract maintenance workers needed at a dual-unit site to	NUM Replacements for	ance stan who a 3	NRC data collection	rew for the operating unit at multi-unit sites
		compensate for the lost work hours of a permanent maintenance workers based at a co-		3	NING data collection	
		located operating unit	Walliterlance_Outage Offit (Duai)			
		Number of additional contract maintenance workers needed at a triple-unit site to	NUM Replacements for	6	Assumption	
		compensate for the lost work hours of a permanent maintenance workers based at a co-				
		located operating unit	_ • • • • • • •			
	Annual costs t	to pay for in processing of additional contract HP/Chem staff during outages to replace lost of				or the operating unit at multi-unit sites
		Number of additional contract HP/Chem workers needed at a dual-unit site to compensal for the lost work hours of permanent HP/Chem workers based at a co-located operating		2	NRC data collection	
		unit	Offit (Duai)			
		Number of additional contract HP/Chem workers needed at a triple-unit site to	NUM Replacements for HP/Chem_Outage	4	Assumption	
		compensate for the lost work hours of permanent HP/Chem workers based at a co-	Unit (Triple)	•	7 toodin ption	
		located operating unit	J. (11)			
	Annual costs t at multi-unit si	o pay for in processing of additional contract maintenance staff during outages to replace lo tes	ost outage work hours from permanent operator	staff who are pa	art of the non-skeleton cre	w staff that continues to support the outage
		Number of operators on the non-skeleton crew currently at a dual unit site	NUM Baseline Operators - Non Skeleton Crew (Dual)	60	Assumption	
		Number of operators on the non-skeleton crew currently at a triple unit site	NUM Baseline Operators - Non Skeleton	120	Assumption	
			Crew (Triple)		·	
	Annual costs t	to pay for in processing of additional contract HP/Chem staff during outages to replace lost o	outage work hours from permanent HP/Chem s	taff who are part	t of the non-skeleton crew	staff that continues to support the outage at
		Number of HP/Chem on the non-skeleton crew currently at a dual unit site	NUM Baseline HP/Chem - Non-Skeleton	32	Assumption	
		·	Crew Dual Unit site			
		Number of HP/Chem on the non-skeleton crew currently at a triple unit site	NUM Baseline HP/Chem - Non-Skeleton	64	Assumption	
			Crew Triple unit site			
	Pre-Order Bas	seline: Annual Costs to pay for in-processing of additional outage security staff				
		The average pre-order number of affected permanent security staff per facility	NUM Perm_Sec	77	Assumption	
		Average number of weekly work hours per security worker pre-order	HOURS Sec_Outage_pre-order	72	Assumption	
		Average number of weekly work hours per security worker post-rule	HOURS Sec_Outage_post-rule	60	Assumption	
		The average cost to conduct in-processing of one contract security staff person	COST Process_Sec	\$1,000	Exhibit A2-16	
		Annualizing factor for outage frequency - all sites	FACTOR Outage	0.9	Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Waivers from	m Individual \	Work Hour Limits			Subpart I	26.207
	Annual cost per program to conduct and document a fatigue assessment					
		Number of weeks per year during which facilities experience outage conditions (refueling	WEEKS Outage		Exhibit A2-16	
		and unplanned outages)		8		
		The costs per week under outage conditions incurred by facilities as a result of their restricted ability to grant waivers	WEEKLYCOSTS Outage	\$25,689	Appendix 3	
			WEEKS Power	44	Exhibit A2-16	
		The costs per week under at-power conditions incurred by facilities as a result of their restricted ability to grant waivers	WEEKLYCOSTS Power	\$1,087	Appendix 3	
Self-Declara	ations of Fatio				Subpart I	26,209
OCH Declare		g variables are used in several of the equations in this section			Gusparti	20.203
	THE IOHOWIN		NUM Waivers	15	Assumption	
		contained in 26.205(d)(1) - (5)(i)	NOW Walvers	15	Assumption	
			PER Self-Declare	10%	Assumption	
					·	
	Annual manage	ement cost per program to call in replacement workers to substitute for any workers who are	e sent home to rest following a fatigue assessme	⊇nt		
	, umaa manage		HOURS Supervisor	0.5 hr	Assumption	
			·		·	
	Annual cost per	r program due to the extra turnover associated with the replacement worker and other lost p				
		Labor hours resulting from an additional turnover due to the replacement of a fatigued	HOURS Turnover	1.0 hr	Assumption	
		worker with a substitute worker				
	A 1 :					
	Annual Increme	ental labor costs associated with the replacement worker Average number of hours worked by the replacement worker per incident	HOURS Substitute	6.0 hr	Assumption	
		Average number of flours worked by the replacement worker per incluent	TIOONS Substitute	0.0111	Assumption	
Work Hour	Control Revie	ews			Subpart I	26.205(e)
	Annual cost per	r program to conduct work hour control reviews				• •
		Annual number of times a facility will review the control of work hours for individuals who	NUM Reviews	1	Assumptions	
Ī		are subject to this subpart				
		3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	HOURS Review	4.0 hr	Assumption	
Ī			NUM Manager	4	Assumption	
		Annual time for manager to review overtime hours under existing technical specifications	HOURS former_Review	4.0 hr	Assumption	

Activity	Equation	Parameter Description	Parameter	Value	Source	Section
Fatigue As	sessments				Subpart I	26.211(a)-(d)
	The following	g variables are used in several of the equations in this section				
		Total annual number of fatigue assessments per reactor, including those conducted for- cause, self-declared, post-event, and follow-up	NUM Assessments	50	Assumption	
		Percentage of fatigue assessments that result in a finding of fatigue	PER Fatigue	37.5%	Assumption	
	Annual cost pe	r program to conduct a fatigue assessment for cause, for self-declaration, post-event, and t	follow-up			
	, ii ii ii aa oo oo oo oo	Hours needed to complete one fatigue assessment	HOURS Assessment	0.5 hr	Assumption	
	Annual cost pe	r program to resolve challenges that may be brought by workers who, after self-declaring to	o a state of fatigue, object to negative results i	from their fatigue a	assessment	
		Annual number of self-declarations of fatigue per facility	NUM Self-Declarations	20	Assumption	
		Percent of annual number of self-declarations of fatigue per facility where the results of the fatigue assessment are negative	PER Not_Fatigued	50%	Assumption	
		Percent of negative fatigue assessment results that are challenged by workers	PER Object	30%	Assumption	
		Amount of worker time to raise and resolve one incident	HOURS Worker	0.5 hr	Assumption	
		Number of hours of Employee Concerns Manager time to raise and resolve one incident	HOURS ECM	2.5 hr	Assumption	
		Number of hours of supervisor time to raise and resolve one incident	HOURS Supervisor	1.0 hr	Assumption	
Post-Fatigu	IA Assassman	t Controls and Conditions			Subpart I	26.211(e)
1 OSt-1 atigu		g variables are used in several of the equations in this section			Oubparti	20.211(e)
1	The followin	Total annual number of fatigue assessments per reactor, including those conducted for-	NI IM Assessments	50	Accumption	
		cause, self-declared, post-event, and follow-up	NOW Assessments	50	Assumption	
		Percentage of fatigue assessments that result in a finding of fatigue	PER Fatigue	37.5%	Assumption	
	Annual cost pe	r program to call in replacement workers to substitute for any workers who are sent home to Supervisory hours expended to identify and call in a replacement worker	o rest following a fatigue assessment HOURS Supervisor	0.5 hr	Assumption	
	Annual cost pe	r program resulting from extra "turnover" of duties to the replacement worker and other lost Labor hours resulting from an additional turnover due to the replacement of a fatigued worker with a substitute worker	t labor productivity HOURS Turnover	1.0 hr	Assumption	
	Annual costs p	er program associated with the replacement worker Average number of hours worked by the replacement worker per incident	HOURS Substituted	6.0 hr	Assumption	
Documenti	ng Fatigue As	sessments			Subpart I	26.211(f)
	Annual costs p	er program to document the results of any fatigue assessments conducted, the circumstand	ces that necessitated the fatigue assessment,	and any controls	and conditions that wer	re implemented
	•	Total annual number of fatigue assessments per reactor, including those conducted for- cause, self-declared, post-event, and follow-up	•	50	Assumption	•
		Time needed to document a fatigue assessment	HOURS Document	0.33 hr	Assumption	
Summarize	Fatigue Asse	ssment Data			Subpart I	26.211(g)
		r program to report the number of fatigue assessments conducted during the previous cale	ndar year, the conditions under which each fa	tigue assessment		(6)
	·	Annual number of clerical labor hours to review and tally the number of fatigue assessments conducted during the previous calendar year, identify the conditions under which each fatigue assessment was conducted, and report the management actions, if any, resulting from each fatigue assessment included in the FFD program report	HOURS Clerical	20.0 hr	Assumption	
		Annual number of manager labor hours to review the summary information to be sent to NRC	HOURS Manager	10.0 hr	Assumption	

Exhibit A2 - 16: Fatigue Input Data					
FATIGUE - SECURITY COMPENSATION AND HIRING COSTS					
Data Element	Estimate		Source		
COST/Sec_Hire_Contract - The one-time cost to hire, process, and conduct initial training of an outage security worker	\$1,000	Assumption			
FATIGUE - MAINTENANCE COMPENSATION AND HIRING	COSTS				
Data Element	Estimate		Source		
COST/Process_Maint - The average cost to conduct in-processing of one contract maintenance worker	\$1,000	Assumption			
FATIGUE PROVISIONS - IMPLEMENTATION COST VARIA		wasand and treat work hour	, dete		
Cost/System - One-time cost per facility to modify existing timekeeping s	Estimate	Source Data	Comments		
A	Estillate	\$500	Source data were provided by six facilities.		
B		\$250,000	Source data were provided by six facilities.		
C		minimal			
D		TBD			
E		no estimate			
F		\$50,000			
Cost/System	\$50,000	·			
Data Element	Estimate	Source Data	Comments		
Average U.S. Nuclear Refueling Outage: NEI - Plant Performance data, in weeks		5.71	Accessed 1/5/2005		
Rounded Estimate	6				
WEEKS/Outage - Number of weeks per year during which facilities exper	ience outage conditions (refueling ar	nd unplanned outages)			
Data Element	Estimate	Source Data	Comments		
Assuming capacity factor of 85%		7.80	Multiply 15% by 52 weeks		
Rounded Estimate	8				
WEEKS/Power - Number of weeks per year during which facilities experience full power conditions					
Data Element	Estimate	Source Data	Comments		
Assuming capacity factor of 85%		44.20	Multiply 85% by 52 weeks		
Rounded Estimate	44				
FATIGUE - HP/CHEM COMPENSATION AND HIRING COSTS					
Data Element	Estimate		Source		
one contract HP/Chem worker	\$1,000	Assumption			

Crosswalk Index of Subpart Sections and Exhibits

Subpart	Section	Section Description	Exhibits
NA	NA	NRC Implementation - One-time Training	Exhibit A2 - 2: Written Policies and Procedures
NA	NA	NRC Implementation - One-time Revision of Inspection Procedures	Exhibit A2 - 3: Training and Examinations
Subpart A	26.4(g)	FFD Program Personnel Subject to the Rule	Exhibit A2 - 1: Individuals Subject to the FFD Program
Subpart A	26.4(j)	Individuals Subject to Another Acceptable Program	Exhibit A2 - 1: Individuals Subject to the FFD Program
Subpart B	26.33	Behavioral Observation	Exhibit A2 - 6: Activities Related to Potential Policy Violations
Subpart B	26.27(a)	Policy and Procedure Revisions - Overall Program	Exhibit A2 - 2: Written Policies and Procedures
Subpart B	26.29(a)	Revise and Implement Training, Including Behavioral Observation	Exhibit A2 - 3: Training and Examinations
Subpart B	26.29(b)	Comprehensive Examination	Exhibit A2 - 3: Training and Examinations
Subpart B	26.29(c)(2)	Comprehensive Examination in Lieu of Refresher Training	Exhibit A2 - 3: Training and Examinations
Subpart B	26.31(b)(1)(i)	Background Checks, Psychological Evaluations, Credit History, Criminal History	Exhibit A2 - 1: Individuals Subject to the FFD Program
Subpart B	26.31(b)(2)	DOT-Approved Specimen Collection Facilities	Exhibit A2 - 1: Individuals Subject to the FFD Program
Subpart B	26.31(d)(2)	Reasonable Effort to Track Randomly Selected Individuals for Testing	Exhibit A2 - 6: Activities Related to Potential Policy Violations
Subpart B	26.31(d)(3)	Forensic Toxicologist Review of More Stringent Cutoff Levels	Exhibit A2 - 4: Audits, Inspections, Certifications and Corrective Action
Subpart B	26.37(d)	Disclosure requirements positive test results	Exhibit A2 - 6: Activities Related to Potential Policy Violations
Subpart B	26.39(c)	Review of FFD Policy Violations	Exhibit A2 - 6: Activities Related to Potential Policy Violations
Subpart B	26.41(b)	Audit Frequency	Exhibit A2 - 4: Audits, Inspections, Certifications and Corrective Action
Subpart B	26.41(c)(2)	Elimination of Audit Duplication of HHS-Certified Laboratories	Exhibit A2 - 4: Audits, Inspections, Certifications and Corrective Action
Subpart C	26.55(a)(1)	Self-Disclosure for Initial Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.55(a)(2)	Suitable Inquiry for Initial Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.55(a)(3)	Pre-Access Testing for Initial Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.55(a)(4)	Random Testing Pool for Initial Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.57(a)(1)	Self Disclosure for Update Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.57(a)(2)	Suitable Inquiry for Update Authorization	Exhibit A2 - 5: Authorizations
Subpart C	26.57(a)(3)	Pre-Access Testing for Update Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.57(a)(4)	Random Testing Pool for Update Applicants	Exhibit A2 - 5: Authorizations
Subpart C	26.59(a)(1)	Authorization Reinstatements with Interruptions: Self- Disclosure for Reinstatement Applicants with 31-365 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(a)(2)	Authorization Reinstatements with Interruptions: Suitable Inquiry for Reinstatement Applicants with 31-365 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(a)(3)	Authorization Reinstatements with Interruptions: Pre- Access Testing for Reinstatement Applicants with 31-365 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(a)(4)	Authorization Reinstatements with Interruptions: Random Testing Pool for Reinstatement Applicants with 31-365 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(c)(1)	Authorization Reinstatements with Interruptions: Self- Disclosure (and Suitable Inquiry) for Reinstatement Applicants with Less than 31 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(c)(2)	Authorization Reinstatements with Interruptions: Pre- Access Testing for Reinstatement Applicants with Less than 31 Day Interruption	Exhibit A2 - 5: Authorizations
Subpart C	26.59(c)(3)	Authorization Reinstatements with Interruptions: Random Testing Pool for Reinstatement Applicants with Less than 31 Day Interruption	Exhibit A2 - 5: Authorizations

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Subpart E	26.127	Licensee Testing Facility Policy and Procedure Revisions	Exhibit A2 - 7: Office Specimen Collections Exhibit A2 - 2: Written Policies and Procedures
Subpart L	20.127		
Subpart E	26.105(b)	Urine Collection: Inspecting Contents of Donor's Pockets	Exhibit A2 - 7: Urine Specimen Collections
Subpart E	26.109(a)	Urine Specimen Quantity: Minimum Quantity of 30 mL	Exhibit A2 - 7: Urine Specimen Collections
Subpart E	26.109(b)(2)	Urine Specimen: At Least 30 mL, but Less than Predetermined Quantity	Exhibit A2 - 7: Urine Specimen Collections
Subpart E	26.83(a)	Blood Collection for Confirmatory Alcohol Testing	Exhibit A2 - 8: Alcohol Testing
Subpart E	26.85(a),(b)	Urine and Alcohol Collector Training	Exhibit A2 - 3: Training and Examinations
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Subpart E	26.89(b)(3)	Urine Collection: Eliminate Listing Medications on the CCF Form and add description of testing process	Exhibit A2 - 7: Urine Specimen Collections
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Subpart F	26.131(b)	Initial Validity Testing - Onsite Licensee Testing Facilities	Exhibit A2 - 3: Training and Examinations
Subpart F	26.131(b)	Validity Testing (On-site Licensee Testing Facilities and HHS-Certified Laboratories)	Exhibit A2 - 9: Drug and validity testing (licensee testing facilities and HHS-certified laboratories)
Subpart F	26.131(b)	Initial Validity Testing - Onsite Licensee Testing Facilities	Exhibit A2 - 9: Drug and validity testing (licensee testing facilities and HHS-certified laboratories)
Subpart F	26.137(e)(6)	Quality Control Specimens in Each Analytical Run - Onsite Testing Facilities	Exhibit A2 - 9: Drug and validity testing (licensee
Subpart F	26.139(d)	Licensee Testing Facility Reporting of Testing Data to FFD	testing facilities and HHS-certified laboratories) Exhibit A2 - 10: Reporting Requirements
Subpart G	26.153(e)	program (Monthly to Annually) Pre-Award Inspections of HHS-Certified Laboratories	Exhibit A2 - 4: Audits, Inspections, Certifications and
		·	Corrective Action
Subpart G	26.161(b)(1)	Validity Testing (On-site Licensee Testing Facilities and HHS-Certified Laboratories)	Exhibit A2 - 9: Drug and validity testing (licensee testing facilities and HHS-certified laboratories)
Subpart G	26.161(g)	Unidentified Interfering Substance/Adulterant - Contact MRO and Specimen Retesting	Exhibit A2 - 9: Drug and validity testing (licensee testing facilities and HHS-certified laboratories)
Subpart G	26.163(a)(1)	Change Cutoff Levels for Marijuana and Opiates - HHS- Certified Laboratories	Exhibit A2 - 9: Drug and validity testing (licensee testing facilities and HHS-certified laboratories)
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Subpart G	26.168(a)(1)	Positive Drug and/or Validity Test Results Blind Sample Testing - 1st Quarter of Contract with a HHS-	Exhibit A2 - 9: Drug and validity testing (licensee
Subpart G	26.168(a)(2)	Certified Laboratory Blind Sample Testing - Contracts with HHS-Certified	testing facilities and HHS-certified laboratories) Exhibit A2 - 9: Drug and validity testing (licensee
Cabpart	20.100(a)(2)	Laboratories Older Than 90 Days	testing facilities and HHS-certified laboratories)
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