Appendix A:

INCREMENTAL LICENSEE ACTIVITIES AND COST EQUATIONS FOR INDIVIDUAL PROVISIONS OF THE DRAFT FINAL RULE

A.1 SECTION 73.54: ONE-TIME COSTS FOR LICENSEES

Cyber Security Plan

The licensee shall establish, implement, and maintain a Commission-approved cyber security plan.

Note: This calculation accounts for the cost to establish and implement the Cyber Security Plan required by section 73.54(e) of the final rule.

Hours of executive time per plan		4
Labor rate of executive per hour	x	$200
Cost of executive time per plan		*$800*
Hours of manager time per plan		40
Labor rate of manager per hour	x	$150
Cost of manager time per plan		*$6,000*
Hours of staff time per plan		120
Labor rate of staff per hour	x	$100
Cost of staff time per plan		*$12,000*
Hours of clerical time per plan		8
Labor rate of clerical worker per hour	x	$50
Cost of clerical worker time per plan		*$400*
Subtotal cost per plan		*$19,200*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($1,248,000)***

Section 73.54: ONE-TIME COSTS FOR LICENSEES (Continued)

Cyber Security

Licensees must establish cyber security programs to protect important computer systems. This requirement will result in procedures, training, and hardware modifications.

Assessment and program implementation:

Hours of IT Manager time per site		2,000
Labor rate of IT Manager per hour	x	$150
Cost of IT Manager time per site		*$300,000*
Hours of IT Staff time per site		3,000
Labor rate of IT Staff per hour	x	$100
Cost of IT Staff time per site		*$300,000*

Equipment and Installation:

Cost of equipment and installation per site		*$375,000*

Training:

Hours of staff time		1
Labor rate of staff per hour		$100
Number of people requiring training per site	x	2,000
Cost of training per site		*$200,000*
Subtotal cost		*$1,175,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($76,375,000)***

A.2 SECTION 73.54: ANNUAL COSTS FOR LICENSEES

Cyber Security

Licensees must establish cyber security programs to protect important computer systems. This requirement will result in ongoing training and equipment maintenance costs.

Hours of staff time		1
Labor rate of staff per hour		$100
Number of people requiring training per site	x	2,000
Cost of training per site		*$200,000*
Cost of cyber security equipment maintenance per site		*$75,000*
Subtotal cost of cyber security staff and equipment maintenance per site		*$275,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($17,875,000)***

A.3 SECTION 73.55: ONE-TIME COSTS FOR LICENSEES

Update Plans and Procedures

Licensee must update Physical Security, Training and Qualification, and Safeguards Contingency Plans within 180 days of the effective date of the final rule.

Note: This calculation accounts for revisions to the Plans required by section 73.55(a)(1) of the final rule, along with corresponding revisions to all relevant procedures (but excluding procedures related to Safety/Security Interface, which are costed under 73.58).

Revisions to Plans

Hours of executive time		20
Labor rate of executive per hour	x	$200
Cost of executive time		*$4,000*
Hours of manager time		100
Labor rate of manager per hour	x	$150
Cost of manager time		*$15,000*
Hours of staff time		420
Labor rate of staff per hour	x	$100
Cost of staff time		*$42,000*
Hours of clerical time		20
Labor rate of clerical worker per hour	x	$50
Cost of clerical worker time		*$1,000*
Subtotal cost per site		*$62,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of plans		*($4,030,000)*

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

Revisions to Procedures

Hours of executive time		20
Labor rate of executive per hour	x	$200
Cost of executive time		*$4,000*
Hours of manager time		100
Labor rate of manager per hour	x	$150
Cost of manager time		*$15,000*
Hours of staff time		420
Labor rate of staff per hour	x	$100
Cost of staff time		*$42,000*
Hours of clerical time		20
Labor rate of clerical worker per hour	x	$50
Cost of clerical worker time		*$1,000*
Subtotal cost per site		*$62,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of procedures		*($4,030,000)*
Subtotal cost of plans		*($4,030,000)*
Subtotal cost of procedures	+	*($4,030,000)*
Total Cost		***($8,060,000)***

Video Capture

The Isolation Zone video surveillance and assessment equipment must be designed to provide real-time and play-back/recorded video images in conjunction with an alarm annunciation in a manner that allows timely assessment of activities prior to and after the alarm annunciation. According to a representative from a video surveillance technology supplier, approximately 70 percent of sites have this technology already in both the CAS and SAS. Therefore, this analysis assumes 30 percent of sites will need to establish this technology in their CAS and SAS.

Note: This calculation accounts for the video technology requirements in section 73.55(e)(5)(i)(C) of the final rule.

Cost to install real-time and play-back/recorded video images in conjunction with alarm annunciation capabilities to the CAS and SAS per site		*$140,000*
Number of sites		*65*
Percentage of sites affected	*x*	*30%*
Total Cost		***($2,730,000)***

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

Training for Escorts

The licensee must ensure that all escorts meet minimum standards, such as training, access authorization, communication abilities, knowledge of authorized activities, and description of escort-visitor ratios. For the purposes of this regulatory analysis, it is assumed that current training for licensee workers will be revised to include escort training requirements.

Note: This calculation accounts for the escort training requirement set forth in section 73.55(g)(8) of the final rule.

Hours of trainer time to revise training package per site		40
Cost of trainer time per hour	*x*	$100
Cost of trainer time per site		*$4,000*
Subtotal cost per site		*$4,000*
Number of sites		*65*
Percentage of sites affected	*x*	*100%*
Total Cost		***($260,000)***

Two-Way Radios for Escorts

The licensee must ensure that individuals assigned to visitor escort duties shall be provided a means of timely communication with security personnel in a manner that ensures the ability to summon assistance when needed as required by section 73.55(g)(8)(iii) of the final rule.

Number two-way radio units per site		12
Cost per unit	x	$300
Cost of two-way radio units per site		*$3,600*
Subtotal cost per site		*$3,600*
Number of sites		*65*
Percentage of sites affected	*x*	*100%*
Total Cost		***($234,000)***

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

Escort Communication

Each individual assigned to vehicle escort duties must be capable of maintaining continuous communication with security personnel to ensure the ability to summon assistance when needed as required by section 73.55(g)(8)(ii) of the final rule.

Unit cost of communication resources for escorts		$500
Number of units needed per site	x	60
Cost of escort communication per site		*$30,000*
Subtotal cost per site		*$30,000*
Number of sites		65
Percentage of sites affected	x	*100%*
Total Cost		***($1,950,000)***

Duplicative Capabilities in CAS and SAS

Section 73.55(i)(4)(iii) requires new reactors to construct, locate, protect, and equip both the central and secondary alarm stations to the standards of the central alarm station requirements of 73.55. However, this requirement does not apply to new reactors that use a design certified before the final rule takes effect. For new reactors covered by COL applications that already have been submitted to the NRC, therefore, the NRC staff believes this requirement will not be applicable.

Uninterrupted Power

Licensees must install uninterrupted power to the intrusion detection and assessment system. The analysis assumes that 85 percent of sites already have an uninterrupted power source.

Cost to install uninterrupted power per site		*$500,000*
Number of sites		*65*
Percentage of sites affected	*x*	*15%*
Total Cost		***($4,875,000)***

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

No Single Act

Licensees must ensure that no single act can disable the functional capabilities of both the CAS and the SAS. Licensees must assess their current configuration, and as needed, make plan changes (alternative measures) or structural modifications. This analysis assumes that 5 percent of sites will require structural modifications to comply with the final rule.

Note: This calculation accounts for assessment and structural modification costs as required by section 73.55(i)(4)(i) of the final rule.

Assessment

Hours of manager time per site		20
Labor rate of manager per hour	x	$150
Cost of manager time per site		*$3,000*
Hours of staff time per site		40
Labor rate of staff per hour	x	$100
Cost of staff time per site		*$4,000*
Cost of manager and staff time per site		*$7,000*
Number of sites		*65*
Percentage of sites affected	*x*	*100%*
Subtotal cost of assessment		*$455,000*

Structural Modifications

Cost of structural modifications		$1,000,000
Number of sites		65
Percentage of sites affected	x	5%
Subtotal cost of structural modifications		*$3,250,000*
Subtotal cost of assessment		*($455,000)*
Subtotal cost of structural modifications	+	*($3,250,000)*
Total Cost		***($3,705,000)***

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

Target Sets

The licensee must document and maintain the process used to develop and identify target sets, identify and document target set equipment or elements that are not contained within a protected or vital area, and update target set documentation as needed.

Note: This calculation accounts for the costs associated with target set analysis as set forth in sections 73.55(f)(1)-73.55(f)(4) of the final rule.

Hours of manager time per site		120
Labor rate of manager per hour	x	$150
Cost of manager time per site		*$18,000*
Hours of staff time per site		380
Labor rate of staff per hour	x	$100
Cost of staff time per site		*$38,000*
Hours of clerical time per site		60
Labor rate of clerical worker per hour	x	$50
Cost of clerical worker time per site		*$3,000*
Subtotal cost per site		*$59,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($3,835,000)***

Section 73.55: ONE-TIME COSTS FOR LICENSEES (Continued)

Heightened Security

Licensees must establish, maintain, and implement a threat warning system.

Note: This calculation accounts for the administrative costs to review the final rule language and to review and revise the existing threat warning system as required by section 73.55(k)(10) of the final rule.

Hours of manager time to review and revise existing system		8
Labor rate of manager per hour	x	$150
Cost of manager time to review and revise existing system		*$1,200*
Hours of legal time to review and revise existing system		20
Labor rate of legal staff per hour	x	$100
Cost of legal time to review and revise existing system		*$2,000*
Hours of staff time to review and revise existing system		40
Labor rate of staff worker per hour	x	$100
Cost of staff time to review and revise existing system		*$4,000*
Hours of clerical time to revise documentation		16
Labor rate of clerical worker per hour	x	$50
Cost of clerical time to revise documentation		*$800*
Subtotal cost per site		*$8,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($520,000)***

A.4 SECTION 73.55: ANNUAL COSTS FOR LICENSEES

Target Sets

The licensee must document and maintain the process used to develop and identify target sets, identify and document target set equipment or elements that are not contained within a protected or vital area, and update target set documentation.

Note: The final rule requires licensees to maintain the target set analysis as set forth in sections 73.55(f)(1)-73.55(f)(4) every three years. This calculation presents the annual cost to maintain the target set analysis.

Hours of manager time per site		20
Labor rate of manager per hour	x	$150
Cost of manager time per site		*$3,000*
Hours of staff time per site		80
Labor rate of staff per hour	x	$100
Cost of staff time per site		*$8,000*
Hours of clerical time per site		16
Labor rate of clerical worker per hour	x	$50
Cost of clerical worker time per site		*$800*
Subtotal cost per site		*$11,800*
Number of sites		*65*
Percentage of sites affected per year	x	*33%*
Total Cost		***($253,110)***

Section 73.55: ANNUAL COSTS FOR LICENSEES (Continued)

Escort of Vehicles

Vehicles operated by an individual with unescorted access to the protected area or vital area no longer need a security escort.

Note: This calculation accounts for a relaxation in section 73.55(g)(5)(ii) of the final rule relative to current requirements for escorts.

Number of vehicles entering the protected area operated by an individual with unescorted access per year per site		400
Number of hours spent per escorted vehicle	x	1.5
Number of security escort hours needed per year per site		*$600*
Labor rate of security escort per hour		$25
Number of security escort hours needed per year per site	x	600
Savings due to security escort requirement relaxation per site		*$15,000*
Subtotal savings per site		*$15,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Savings		***$975,000***

A.5 SECTION 73.56: ONE-TIME COSTS FOR LICENSEES

Individuals Subject to Authorization Program

Licensees must subject any individual whose assigned duties and responsibilities permit the individual to take actions by electronic means, either on site or remotely, that could adversely impact a licensee's or applicant's operational safety, security, or emergency response capabilities to an authorization program and background check.

Note: This calculation accounts for the initial costs associated with section 73.56(b)(1)(ii).

Number of individuals needing background checks		10
Number of hours to conduct a background check		6
Labor rate of manager per hour	x	$150
Cost of background check per site		*$9,000*
Subtotal cost per site		*$9,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($585,000)***

Increased Sharing of Medical Records

Licensees, applicants, and contractors or vendors must develop procedures to provide communication between the licensed psychologist or psychiatrist and other medical personnel.

Note: This calculation accounts for the cost to develop procedures for communication between medical personnel as required by section 73.56(e)(5).

Hours of manager time per site		16
Labor rate of manager per hour	x	$150
Cost of manager time per site		*$2,400*
Hours of legal time per site		16
Labor rate of legal staff per hour	x	$100
Cost of legal time per site		*$1,600*
Hours of staff time per site		40
Labor rate of staff worker per hour	x	$100
Cost of staff time per site		*$4,000*
Hours of clerical time per site		8
Labor rate of clerical worker per hour	x	$50
Cost of clerical time per site		*$400*
Subtotal cost per site		*$8,400*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($546,000)***

Section 73.56: ONE-TIME COSTS FOR LICENSEES (Continued)

Development of Psychological Test Thresholds

A licensed psychiatrist or psychologist must develop thresholds for the psychological test. These predetermined thresholds will be applied in interpreting the test results to determine whether an individual must be interviewed by a licensed psychiatrist or psychologist.

Note: This calculation accounts for the costs for a licensed psychiatrist or psychologist to develop thresholds for each psychological test, as required by section 73.56(e)(3) of the final rule.

Number of psychologists to develop test thresholds per site		1
Number of hours needed to develop test thresholds		20
Labor rate of psychologist per hour	x	$150
Cost to develop test thresholds		$3,000
Subtotal cost per site		*$3,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($195,000)***

Section 73.56: ONE-TIME COSTS FOR LICENSEES (Continued)

5-Year Update of Psychological Assessments

The licensee, applicant, contractor, or vendor must administer a psychological reassessment to individuals who perform duties that are critical to the safety and security of the nuclear power plant, and whose initial psychological assessment occurred five or more years ago. Although licensees implemented this requirement with the Order, the analysis assumes that 35 additional individuals per site will require updated psychological assessments.

Note: This calculation accounts for the initial cost to administer a psychological test every five years as required by section 73.56(i)(1)(v)(B).

Number of managers per site who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		10
Labor rate of manager per hour		$150
Number of hours to complete the test	x	2
Cost of manager time to complete psychological test per site		*$3,000*
Number of staff per site who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		25
Labor rate of staff per hour		$100
Number of hours to complete the test	x	2
Cost of staff time to complete psychological test per site		*$5,000*
Total number of individuals per site who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		35
Cost of purchasing test per person	x	$73
Cost of purchasing psychological test per site		*$2,538*
Number of psychologists to adminster, score, and interpret tests on site		1
Number of hours needed to gain training for the test and to administer and score the test		50
Labor rate of psychologist per hour	x	$150
Cost of training required to administer and score test		*$7,500*
Subtotal cost per site		*$18,038*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($1,172,438)***

A.6 SECTION 73.56: ANNUAL COSTS FOR LICENSEES

Records

The licensee must document and retain records relating to an individual's unescorted access authorization status and written agreement of services.

Note: This calculation accounts for the records management activities required by sections 73.56(o).

Hours of staff time		460
Labor rate of staff per hour	x	$100
Cost of staff time		*$46,000*
Hours of clerical time		200
Labor rate of clerical worker per hour	x	$50
Cost of clerical time		*$10,000*
Subtotal cost per site		*$56,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($3,640,000)***

Individuals Subject to Authorization Program

Licensees must subject any individual whose assigned duties and responsibilities permit the individual to take actions by electronic means, either on site or remotely, that could adversely impact a licensee's or applicant's operational safety, security, or emergency response capabilities to an authorization program and background check.

Note: This calculation accounts for the access authorization program requirements set forth in section 73.56(b)(1)(ii).

Number of new hires per year needing background checks		5
Number of hours to conduct a background check		6
Labor rate of manager per hour	x	$150
Cost of background check per site		*$4,500*
Subtotal cost per site		*$4,500*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($292,500)***

Section 73.56: ANNUAL COSTS FOR LICENSEES (Continued)

Administration of Psychological Assessments (Tests and Interviews)

Any individual applying for unescorted access or unescorted access authorization status must complete a psychological assessment prior to receiving unescorted access or certified unescorted access authorization. The assessment must include a standardized test in all cases, and must include a clinical interview for individuals who perform job functions that are critical to safety and security. The analysis assumes that licensees already conduct standardized tests for new employees; however, after the final rule becomes effective, they face an incremental cost to hire an APA-licensed professional to conduct the tests. Furthermore, although the Order already requires licensees to administer psychological assessments, the analysis assumes that there are 7 new hires per year that require clinical interviews conducted by an APA-certified professional.

Note: This calculation accounts for the costs to administer and score a psychological test and perform clinical interviews, as required by section 73.56(e) of the final rule.

Tests

Number of psychologists to adminster and score the tests on site		1
Number of hours needed to administer and score the tests		104
Labor rate of psychologist per hour	x	$150
Cost to administer and score the tests		($15,600)
Subtotal cost per site		*($15,600)*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of tests		*($1,014,000)*

Section 73.56: ANNUAL COSTS FOR LICENSEES (Continued)

Clinical Interviews

Number of managers per site who perform duties critical to the safety and security of the nuclear power plant in need of an interview		2
Number of hours needed per interview		0.5
Labor rate of manager per hour	x	$150
Cost of manager time to complete interviews		$150
Number of staff per site who perform duties critical to the safety and security of the nuclear power plant in need of an interview		5
Number of hours needed per interview		0.5
Labor rate of staff per hour	x	$100
Cost of staff time to complete interviews		$250
Number of psychologists needed to perform interviews		1
Number of hours needed for interviews		7
Labor rate of psychologist per hour	x	$150
Cost of psychologist time to perform interviews		$1,050
Subtotal cost per site		*$1,450*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of interviews		*($94,250)*
Subtotal cost of tests		*($1,014,000)*
Subtotal cost of interviews	+	*($94,250)*
Total Cost		***($1,108,250)***

Section 73.56: ANNUAL COSTS FOR LICENSEES (Continued)

5-Year Update of Psychological Assessments

The licensee, applicant, contractor, or vendor must administer a psychological reassessment to individuals who perform duties that are critical to the safety and security of the nuclear power plant, and whose initial psychological assessment occurred five or more years ago. Although licensees implemented this requirement with the Order, the analysis assumes that 35 additional individuals will be subject to updated psychological assessments, and that one-fifth of them (7 individuals) require updated psychological assessments per year.

Note: This calculation accounts for the initial cost to administer a psycholoigcal test every five years as required by section 73.56(i)(1)(v)(B).

Number of managers per site per year who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		2
Labor rate of manager per hour		$150
Number of hours to complete the test	x	2
Cost of manager time to complete psychological test per site		*$600*
Number of staff per site per year who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		5
Labor Rate of staff per hour		$100
Number of hours to complete the test	x	2
Cost of staff time to complete psychological test per site		*$1,000*
Number of individuals per site per year who perform duties critical to the safety and security of the nuclear power plant in need of updated psychological assessment		7
Cost of purchasing test per person	x	$73
Cost of purchasing psychological test per site		*$508*
Number of psychologists to adminster, score, and interpret tests on site		1
Number of hours needed to administer and score the test		7
Labor rate of psychologist per hour	x	$150
Cost of training required to administer and score test		*$1,050*
Subtotal cost per site		*$3,158*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($205,238)***

A.5 SECTION 73.58: ONE-TIME COSTS FOR LICENSEES

Safety/Security Interface

The licensee must assess and manage adverse effects on safety and security when implementing changes to plant configurations, facility conditions or security. The licensees will need to review and update existing procedures to reference the safety-security interface requirements, as well as revise and update the corresponding guidance documents.

Note: This calculation accounts for the safety-security interface activities required by section 73.58 of the final rule.

Develop and Implement Safety-Security Interface Procedures and Provide Initial Training:

Hours of manager time		100
Labor rate of manager per hour	x	$150
Cost of manager time		*$15,000*
Hours of staff time		220
Labor rate of staff per hour	x	$100
Cost of staff time		*$22,000*
Hours of legal time		80
Labor rate of legal staff per hour	x	$100
Cost of legal time		*$8,000*
Hours of clerical time		40
Labor rateof clerical worker per hour	x	$50
Cost of clerical time		*$2,000*
Number of managers attending initial safety-security interface training		40
Number of hours in training		8
Labor rate of manager per hour	x	$150
Cost of manager time for training per site		*$48,000*
Subtotal cost per site		*$95,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of developing procedures and providing initial training		*($6,175,000)*

Section 73.58: ONE-TIME COSTS FOR LICENSEES (Continued)

Review and Update Existing Procedures:

Hours of manager time		20
Labor rate of manager per hour	x	$150
Cost of manager time		*$3,000*
Hours of staff time		60
Labor rate of staff per hour	x	$100
Cost of staff time		*$6,000*
Hours of legal time		20
Labor rate of legal staff per hour	x	$100
Cost of legal time		*$2,000*
Hours of clerical time		20
Labor rate of clerical worker per hour	x	$50
Cost of clerical time		*$1,000*
Subtotal cost per site		*$12,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of reviewing/updating existing procedures		*($780,000)*

Section 73.58: ONE-TIME COSTS FOR LICENSEES (Continued)

Revise and Update Guidance Documents:

Hours of manager time		20
Labor rate of manager per hour	x	$150
Cost of manager time		*$3,000*
Hours of staff time		40
Labor rate of staff per hour	x	$100
Cost of staff time		*$4,000*
Hours of legal time		20
Labor rate of legal staff per hour	x	$100
Cost of legal time		*$2,000*
Hours of clerical time		10
Labor rate of clerical worker per hour	x	$50
Cost of clerical time		*$500*
Subtotal cost per site		*$9,500*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Subtotal cost of reviewing/updating guidance documents		*($617,500)*
Subtotal cost of developing procedures and providing initial training		($6,175,000)
Subtotal cost of reviewing/updating existing procedures		($780,000)
Subtotal cost of reviewing/updating guidance documents	+	*($617,500)*
Total Cost for Safety/Security Interface		***($4,777,500)***

A.6 SECTION 73.58: ANNUAL COSTS FOR LICENSEES

Safety/Security Interface

The licensee must assess and manage adverse effects on safety and security when implementing changes to plant configurations, facility conditions or security. To accomplish this, the licensee will need to analyze issues that would require management and assessment on an ongoing basis.

Note: This calculation accounts for the safety-security interface activities required by section 73.58 of the final rule.

Number of SSI issues that would require management and assessment per year		100
Number of staff hours of analysis per issue		4
Labor rate of staff per hour	x	$100
Cost of staff analysis of issues that would require management and assessment		*$40,000*
Subtotal cost per site		*$40,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($2,600,000)***

A.9 PART 73, APPENDIX B: ONE-TIME COSTS FOR LICENSEES

Physical/Medical Examinations for Security Personnel

The licensee must ensure that all current security personnel who are assigned duties and responsibilities associated with detection, assessment, and response to unauthorized activities (not just the armed personnel) meet minimum vision, hearing, medical, and physical fitness qualifications.

Cost per physical and medical examination		$400
Number of unarmed members of the security organization hired per year per site	x	20
Cost of physical and medical examinations per year per site		*$8,000*
Hours of clerical time per site		40
Cost of clerical time per hour	x	$50
Cost of clerical time per site		*$2,000*
Subtotal cost per site		*$10,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($650,000)***

On-The-Job Training

The licensee must develop on-the-job training plans and procedures. The analysis assumes that none of the reactor sites are currently documenting on-the-job training.

Note: This calculation accounts for the costs of on-the-job training program development, as required by Appendix B, section C.2.b of the final rule.

Number of hours for a training manager to develop an on-the-job training plan and program		120
Labor rate of training manager	x	$50
Cost of on-the-job training documentation and certification per site		*$6,000*
Subtotal cost per site		*$6,000*
Number of sites		*65*
Percentage of sites affected	*x*	*100%*
Total Cost		***($390,000)***

Appendix B: ONE-TIME COSTS FOR LICENSEES (Continued)

Qualification of Security Instructors

The licensee must ensure that all security instructors receive required training to qualify them for their duties.

Cost of training per instructor		$1,500
Number of instructors per site	x	4
Cost of training per site		*$6,000*
Subtotal cost per site		*$6,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($390,000)***

Armorer Certification

Each licensee shall implement a firearms maintenance and accountability program that includes armorer certification as required by Appendix B, section G.3.a. of the final rule.

Cost of training per staff person		$3,200
Number of staff requiring training per site	x	2
Cost of training per site		*$6,400*
Subtotal cost per site		*$6,400*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($416,000)***

A.10 PART 73, APPENDIX B: ANNUAL COSTS FOR LICENSEES

Physical/Medical Examinations for Security Personnel

The licensee must ensure that all newly hired security personnel who are assigned duties and responsibilities associated with detection, assessment, and response to unauthorized activities (not just the armed personnel) meet minimum vision, hearing, medical, and physical fitness qualifications.

Cost per physical and medical examination		$400
Number of unarmed members of the security organization hired per year	x	5
Cost of physical and medical examinations per year per site		*$2,000*
Hours of clerical time per site		10
Cost of clerical time per hour	x	$50
Cost of clerical time per site		*$500*
Subtotal cost per site		*$2,500*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($162,500)***

Physical Requirements for Security Organization Personnel

The licensee must ensure that armed and unarmed members of the security organization must meet physical requirements annually. Current requirements require just armed members to meet these standards.

Cost of updating physical examination per person		$150
Number of unarmed members of the security organization per site	x	20
Cost of updating physical examination for unarmed members of the security organization per site		*$3,000*
Hours of clerical time per site		20
Cost of clerical time per hour	x	$50
Cost of clerical time per site		*$1,000*
Subtotal cost per site		*$4,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($260,000)***

Appendix B: ANNUAL COSTS FOR LICENSEES (Continued)

On-the-Job Training

The licensee must provide 40 hours of on-the-job training to each new member of the armed and unarmed security organization prior to his or her assignment and that licensees currently provide 20 hours of on-the-job of training to each individual. This analysis estimates that there are approximately 12 newly hired armed and unarmed members of the security organization every year. In addition, training managers must document and certify on-the-job training. The analysis assumes that none of the reactor sites are currently documenting on-the-job training; therefore, 100 percent of reactor sites must complete this documentation and certification.

Number of newly hired armed and unarmed members of the security organization per year		12
Number of additional on-the-job training hours per person		20
Labor rate of armed and unarmed security organziation member per hour	x	$25
Cost of additional training for newly hired armed and unarmed security organization members per site		*$6,000*
Number of hours for a training manager to document and certify on-the-job training per year		20
Labor rate of training manager	x	$50
Cost for on-the-job training documentation and certification per site		*$1,000*
Subtotal cost per site		*$7,000*
Number of sites		*65*
Percentage of sites affected	*x*	*100%*
Total Cost		***($455,000)***

Qualification of Security Instructors

The licensee must ensure that all security instructors receive requalification training every three years. For the purposes of this analysis it is assumed that instructors attend a three-day requalificaton training every three years. To estimate the annual cost, this analysis assumes there is one day of requalification training each year.

Cost of training per instructor per year		$250
Number of instructors per site	x	4
Cost of training per year per site		*$1,000*
Subtotal cost per site		*$1,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($65,000)***

Appendix B: ANNUAL COSTS FOR LICENSEES (Continued)

Drill Exercise

Licensees must train staff in accordance with the drill exercise requirements of the final rule, as set forth in Appendix B, section C.3. Although the Order already requires licensees to conduct drill exercises, this analysis conservatively assumes that the cost of conducting four six-hour drills per year is entirely attributable to the final rule.

Number of managers participating in each drill		15
Labor rate of managers per hour		$150
Number of drills per year (all shifts)		4
Number of hours per drill	x	6
Cost of manager time to participate in drill exercises per site		*$54,000*
Number of staff participating in each drill		55
Labor rate of staff per hour		$100
Number of drills per year (all shifts)		4
Number of hours per drill	x	6
Cost of staff time to participate in drill exercises per site		*$132,000*
Subtotal cost per site		*$186,000*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($12,090,000)***

Armorer Certification

Each licensee shall implement a firearms maintenance and accountability program that includes armorer certification as required by Appendix B, section G.3.a. of the final rule. The rule requires each armorer to receive one week of training per weapon every three years. The analysis assumes there are two armorers per site with two weapons each.

Cost of training per armorer per weapon per year		$3,200
Number of armorers requiring training per site		2
Number of weapons trainings per armorer	x	2
Cost of training courses per year per site		*$12,800*
Number of armorers per site		2
Hours of training per armorer per weapon per year		40
Number of weapons per armorer		2
Labor rate of armorers per hour	x	$100
Cost of training time per year per site		*$16,000*
Subtotal cost per site		*$28,800*
Number of sites		*65*
Percentage of sites affected per year	x	*33%*
Total Cost		***($617,760)***

A.11 PART C, APPENDIX C: ONE-TIME COSTS FOR LICENSEES

None.

A.12 PART 73, APPENDIX C: ANNUAL COSTS FOR LICENSEES

None.

Appendix B:

INCREMENTAL NRC ACTIVITIES AND COST EQUATIONS FOR INDIVIDUAL PROVISIONS OF THE DRAFT FINAL RULE

B.1 SECTION 73.54: ONE-TIME COSTS FOR NRC

Review Cyber Security Plan

NRC must review and approve licensees' Cyber Security Plans.

Note: This calculation accounts for NRC approval of a cyber security plan as required under section 73.54 of the final rule.

Hours of NRC staff time		100
Labor rate of NRC staff per hour	x	$100
Cost of NRC staff time		*$10,000*
Hours of NRC clerical time		3
Labor rate of NRC clerical worker per hour	x	$40
Cost of NRC clerical worker time		*$120*
Subtotal cost per site		*$10,120*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($657,800)***

B.2 SECTION 73.54: ANNUAL COSTS FOR NRC

None.

B.3 SECTION 73.55: ONE-TIME COSTS FOR NRC

Implementation Guidelines and Inspection Procedures

NRC must revise implementation guidelines and inspection procedures for onsite physical protection systems.

Hours of NRC executive time for implementation guideline and inspection procedure revisions		8
Labor rate of NRC executive per hour	x	$200
Cost of NRC executive time		$1,600
Hours of NRC manager time for implementation guideline and inspection procedure revisions		40
Labor rate of NRC manager per hour	x	$150
Cost of NRC manager time		$6,000
Hours of NRC staff time for implementation guideline and inspection procedure revisions		200
Labor rate of NRC staff per hour	x	$100
Cost of NRC staff time		$20,000
Hours of NRC legal time for implementation guideline and inspection procedure revisions		20
Labor rate of NRC legal staff per hour	x	$100
Cost of NRC legal time		$2,000
Hours of NRC clerical time for implementation guideline and inspection procedure revisions		8
Labor rate of NRC clerical per hour	x	$40
Cost of NRC clerical time		$320
Subtotal cost per site		*$29,920*
Number of sites		*65*
Percentage of sites affected	x	*100%*
Total Cost		***($1,944,800)***

B.4 SECTION 73.55: ANNUAL COSTS FOR NRC

None.