

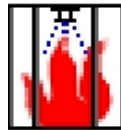
Major Features

- Uses the flexible, performance *Life Safety Code*
- Shows current compliance status and safety points earned
- Has built-in construction cost data
- Includes local material and labor cost factors
- Built-in costs are easily modified
- Quickly finds the least-cost compliance plan
- Accounts for all special exceptions
- Presents easy-to-use graphical interface
- Offers on-line help system and tutorial
- Includes comprehensive User Manual

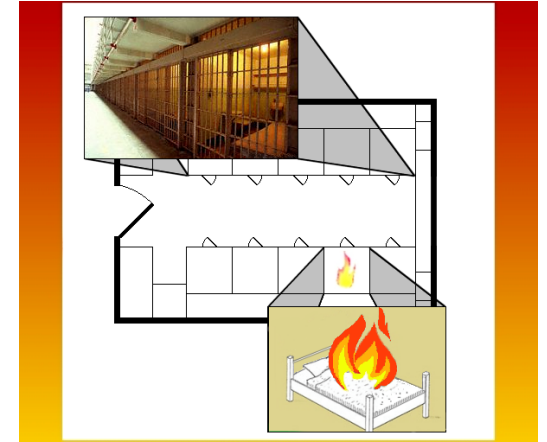
Cost Savings

The optimization method used in *ALARM* has been field tested in 89 hospitals (17,898 beds). For these facilities the least-cost compliance plan identified by the software was on average 41 percent less expensive than prescriptive compliance. This represents a potential cost savings of \$2,116 per bed for a total savings of \$37 million.

ALARM is a software tool that helps prison facility managers and fire safety engineers achieve cost-effective compliance with the widely-used *Life Safety Code*® of the National Fire Protection Association. The latest version of the software (2.0) supports analysis of Detention and Correctional Occupancies. Through a special provision of the code, *ALARM* implements a goal-oriented or performance-based approach to code compliance. The user specifies the current safety level of the facility for each of 13 life safety parameters and then enters construction dimensions for potential improvements. The software indicates whether the current safety level is in compliance with the code and, if not, quickly finds the least-cost plan to achieve compliance and its estimated construction cost. The software takes into account the special conditions in the code that preclude finding solutions by hand. A practice file with data from a sample facility, extensive help, a report utility for viewing and printing results, and a comprehensive file manager are included.



To order, contact:
One-Stop Data Shop
National Fire Protection Association
Phone: 1-800-222-5646, ext. 1860
Fax: 617-984-7478
Email: cservice@aca.org
Cost : \$25.00



ALARM 2.0

Alternative
Life-Safety
Analysis for
Retrofit-cost
Minimization

Funded by the National Institute of Justice through the NIST Office of Law Enforcement Standards.



NIST
National Institute of
Standards and Technology
Technology Administration
U.S. Department of Commerce

ALARM 2.0

Built in optimization tool quickly finds the plan of action with the lowest implementation cost to achieve full compliance with the *Life Safety Code*.

Efficient user interface is an exact representation of the primary worksheet table of the *Life Safety Code*. Users can clearly see the alternative safety levels for all 13 safety parameters.

Popup Legend explains the color coding that makes it easy to distinguish the status of each safety level.

Legend

- Initial
- Excluded
- Unentered
- Entered
- Optimal

Project: State Penn							S1	S2	S3	S4					
1. Construction	V(000)	V(111)	IV(2HH)	III(200)	III(211)	II(000)	II(111)	II(222) or I(ANY)	0	0	0	0			
2. Hazardous Areas	Within Residential Housing Area			Outside Residential Housing Area			No Deficiencies								
	Double Deficiency		Single Deficiency		Double Deficiency		Single Deficiency \$ 7772		-4	-2	-4	-4			
3. Fire Alarm	No Alarm		No FD Notification		With F.D. Notification				1	1	0	1			
					No Manual Alarm		Manual Alarm \$ 3698								
4. Smoke Detection	None		Residential Housing Area			Total Building \$ 4519				2	4	0	4		
			Large Sleeping Rooms		All Sleeping Rooms		Full Coverage								
5. Automatic Sprinklers	None		Residential Housing Areas \$ 84636		Entire Building \$ 86491				0	0	0	0			
6. Interior Finish (ConsEgress)	Class C		Class B		Class A \$				0	-1	0	-1			
7. Interior Finish (Other Areas)	Class C		Class B \$ 15256		Class A \$ 15256				-1	0	0	-2			
8. Cell/Sleeping Room Enclosure	Cells face on Corridor		Intervening Common Space in Resid. Housing Area								0	0	0	0	
			Open		Smoke Resistant <1 hour		Fire Resistant >1 hour								
9. Separation of Residential	Incomplete		Smoke Resistant <1 hour \$		>1 Hour Fire Resistance \$ 16645				-6	-3	-6	-6			
10. Exit System	<2 Routes		Multiple Routes								0	-2	-1	-2	
			Deficient		No Deficiencies \$ 57801		Direct Room Exits								
11. Exit Access	Dead Ends		No Dead Ends >50ft and Travel is:				<= 150 ft				0	-2	0	-2	
	>100 ft		>50 ft		>200 ft		<=200 ft >150 ft		<=150 ft \$ 1019						
12. Vertical Openings	Open or Incomplete Enclosures			Enclosed								0	0	0	0
	Thru 4>= Floors		2-3 Floors		1 Floor		Smoke Resistant		Fire Resistant \$ 26142						
13. Smoke Control	No Control		Smoke Compartments			Heat + Smoke Vent System \$						0	2	2	2
			Passive		Mechanically Assisted \$										
									Points Earned:	-9	-3	-9	-10		
									Points Needed:	7	10	8	11		
									Deficit:	-16	-13	-17	-21		

Fire Safety Evaluation System for Prisons

ALARM 2.0 Tutorial

Minimizing Compliance Costs of Life Safety Code for Prisons

The Fire Safety Evaluation System (FSSES) for Detention and Correctional Facilities was designed by the National Fire Protection Association (NFPA) to provide the managers and fire safety engineers of such facilities with many alternative compliance solutions that are equivalent in life safety to prescriptive code compliance. The flexibility provided by the FSSES of the *Alternative Approaches to Life Safety* (NFPA 101A) allows for major cost savings in achieving compliance with the Life Safety Code. The wide range of acceptable compliance solutions and the many exceptions and

Comprehensive help system includes tutorial and definitions from the *NFPA Life Safety Code* documentation so that users can correctly identify their current safety levels.

User enters data needed for cost estimation in the user-friendly Measurement window. **ALARM** computes the least-cost method of improving safety from state to state using quantities supplied by the user and costs included in the software.

Measurement	Quantity	Units
Area of interior finish on walls and ceilings to be removed.	35937	Sq. Ft.
Area of carpet on walls and ceilings to be removed	1200	Sq. Yd.
Area of interior finish in corridors to be covered.	35937	Sq. Ft.

Ok

Continuously updated display of points earned toward the four safety goals for all 13 safety parameters. The display also shows total points earned and needed for compliance as well as the deficit or surplus of total points for each safety goal.