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P.O. BOX 6037
MARIETTA, GA 30062

RETROFIT, Inc.

INCORPORATED 1971

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Docketing and Service Branch

Date: January 5, 1981

Re. No. 80-220

NRC CONSIDERS REGULATIONS ON SEARCHING INDIVIDUALS WHO
NUCLEAR POWER PLANTS

Dear Mr. Secretary,

Paragraph 5 of the above referenced article states:

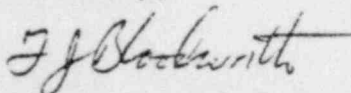
" If firearm or explosive detection equipment is out of service or not operating satisfactorily, the licensee would be required to conduct a physical pat-down search of all persons --including employees-- who wish to enter the protected area. "

The following alternative would also provide a high degree of deterrence and would reduce the costly and time consuming delays associated with 100% pat-down procedures.

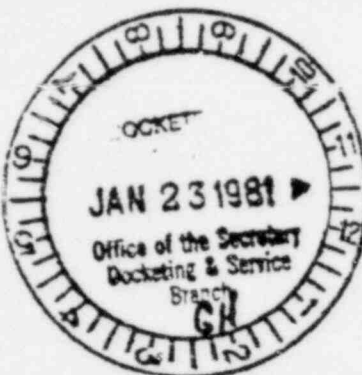
In the event of failure of the firearm/explosion detection system a random pat-down system would be implemented. This system would be very inexpensive to install (approx. \$2,500) and would reduce the inevitable "bottle-neck" associated with 100% pat-down. The system could be activated by any of the common methods such as photo-cell or floor-mat switch. The system would be able to select a certain percentage of individuals to be searched. The random selection system could be in addition to the fire-arm/explosive detectors (set, for example, at 5 or 10%) and in the event of a detector failure could be set up to a certain higher percentage selection on the first day of failure (20%) and could be increased each day if desired.

Several systems similar to this have been installed for random selection of vehicles as they exit plant sites - and have been operating in a local electric utility system for approximately three years. I am enclosing some photos of the system for your files. If you desire further information, please do not hesitate to contact me.

Sincerely,



Thomas J. Bloodworth



ACCORD NUMBER PR 73
BOOKED FILE
45 FR 79492



Acknowledged by word..... 1/23/81

404-422-0715
404-973-3577 (HOME)

24-17-73

RS-4 OVERVIEW

For Security Applications

PROBLEM:

Material is being illegally taken from or brought into your site. Assuming there is an effective perimeter barrier (fence, etc.), all of the material is being transported through the gates.

SOLUTION A:

One approach is to search all the vehicles leaving or entering the site. This method is time consuming and expensive.

SOLUTION B:

A second approach is to determine what fraction of the vehicles will be searched (1 out of 2, 1 out of 10, etc.) and then search every other vehicle or every tenth vehicle. This method is not acceptable because the person transporting the illegal material is able to determine whether or not he will be subject to search. (By observing the pattern of search/non-search and getting his vehicle in the exit (or entrance) line in a position that he has determined will not be searched.)

PREFERRED SOLUTION:

This approach is also to search only a certain percentage of the vehicles. The pattern for determining which vehicle is to be searched should NOT be a regular or repeating pattern. What is required is a signal (selection) which is non-repeating (random) and which will allow a minimum of actual searching while maintaining a high level of deterrence.

This random search selection signal is provided by the RS-4 system.

The RS-4 system will provide a signal which indicates that a vehicle is to be searched. This signal is usually indicated by a three-color traffic light (optional). This light is yellow in a 'waiting' condition and when a vehicle is detected, changes to red for 'search' or green for 'pass'. These colors may easily be changed, i.e., red for 'waiting' and yellow for 'search'.

The unit will randomly indicate vehicles to be searched. The overall percentage is set into the unit by a two-digit thumbwheel switch (0-99%). The percentage set into the switches is the percentage of vehicles that will receive the 'search' signal over a period of time. For example, if 50% is selected, the search signal may not be given on every other vehicle but at the end of the day approximately 50% of the vehicles will have received the 'search' signal. There is no detectable pattern to the signals produced. Each vehicle passing through the detection zone is just as likely to receive the 'search' signal as any other vehicle.

RS-4 FEATURES AND BENEFITS

FEATURE:

One hundred percent solid state random event generator with overall percent selected by thumbwheel switches.

BENEFIT:

Solid state design means low maintenance. Thumbwheel input of the search percentage allows quick and easy change of percentage selected.

FEATURE:

MECHANICAL COUNTERS FOR:

1. Total number of vehicles detected while RS-4 is in 'normal' mode.
2. Number of vehicles selected for search while RS-4 is in 'normal' mode.
3. Number of vehicles which were 'force passed'.
4. Number of vehicles which were 'force searched'.

BENEFIT:

By using mechanical counters an accurate count is maintained even during power loss.

FEATURE:

Remote mounted over-ride switches which will force either 'pass' or 'search' signals.

BENEFIT:

If a suspicious vehicle is approaching, the security guard can cause the 'search' signal to be given. If the guard does not wish to search an approaching vehicle, he can cause the 'pass' signal to be given.

FEATURE:

'Select Disabled' switch.

BENEFIT:

Allows security supervisor to disable 'force pass' and 'force search' switches.

RS-4 FEATURES AND BENEFITS (CONT'D)

FEATURE:

Lockable cover on unit.

BENEFIT:

Allows security supervisor's switch settings to be maintained until he changes them.

FEATURE:

Automatic reset when vehicle leaves search zone.

BENEFIT:

Security guard does not have to manually reset unit when vehicle leaves search zone.

FEATURE:

Solid state "buried loop" detector.

BENEFIT:

No rubber hoses to replace. Works well with construction traffic. Detector is manufactured by Sarasota Engineering, one of the nation's leading manufacturers of vehicle detection devices. (See attached Sarasota literature).

FEATURE:

Solid state audible alarm on normal search.

BENEFIT:

Security guard may keep attention focused on vehicle instead of looking at signal light to determine if vehicle has received "search" signal.

FEATURE:

All connections to unit are external screw type connectors.

BENEFIT:

Ease of installation and removal of RS-4.

FEATURE:

Plug-in electronics. (4 plug-in boards in unit)

BENEFIT:

Ease of maintenance.

WARRANTY

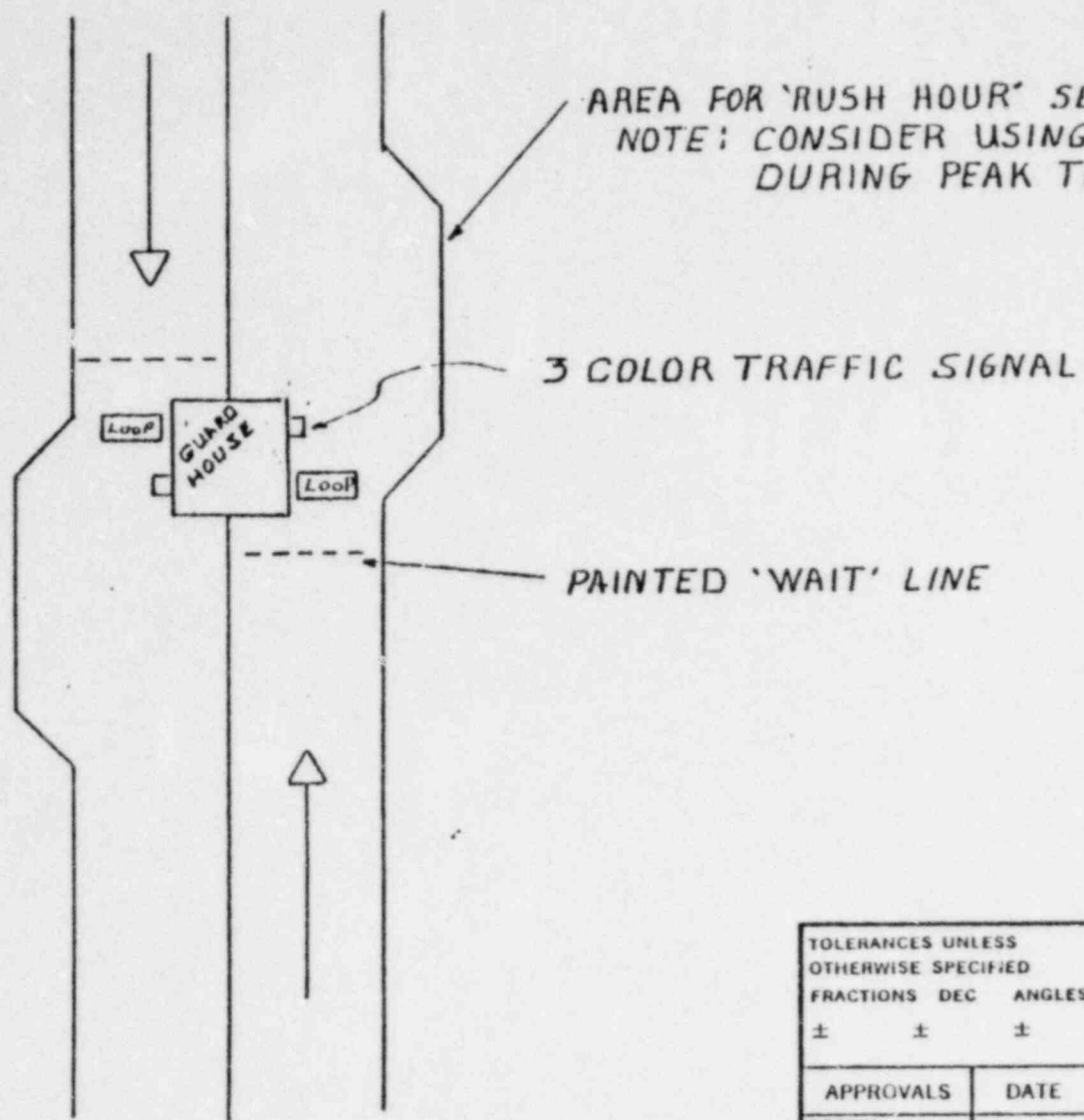
Retrofit, Inc. warrants all RS-4 systems for a period of one year from date of shipment to the original purchaser. This warranty includes factory repairs and/or replacement, at no cost for any inoperative unit returned prepaid to Retrofit, Inc. Repairs under this warranty will cover failure to operate for any reason except: misconnection; lightning damage causing physical damage to the printed circuit board; or physical damage due to accident, fire, flood or deliberate abuse.

PRICING INFORMATION

RS-4 Random Selection System	\$2,475.00
Includes:	
control unit.	
over-ride unit w/10 ft cable.	
20 ft. cable for signal light.	
20 ft. cable for loop housing.	
attached screw-on connectors for above.	
Optional Three Color Traffic Signal	295.00

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



AREA FOR 'RUSH HOUR' SEARCHES
 NOTE: CONSIDER USING TWO GUARDS
 DURING PEAK TRAFFIC TIMES

3 COLOR TRAFFIC SIGNAL

PAINTED 'WAIT' LINE

NOT TO SCALE

TOLERANCES UNLESS OTHERWISE SPECIFIED		RETROFIT, INC.		
FRACTIONS	DEC			ANGLES
±	±	±		
APPROVALS	DATE	RS-4 PLAN VIEW OF GENERAL INSTALLATION - SEARCH ENTERING AND EXITING.		
DRAWN TJB	20 JUL 80			
CHECKED		SCALE	SIZE	DRAWING NO.
DO NOT SCALE DRAWING			SHEET	

REVISIONS

APPROVED

DATE

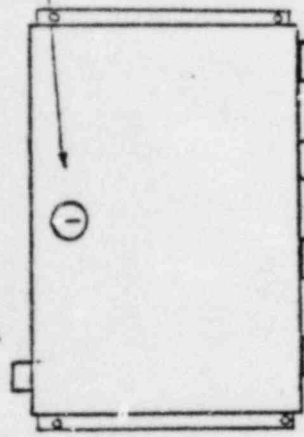
DESCRIPTION

LTR

EXTERNAL POWER SWITCH & FUSE

KEY LOCK

MOUNTING HOLES



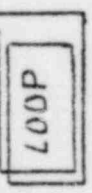
TO 110 VAC POWER

TO: 3 COLOR TRAFFIC SIGNAL (OPTIONAL)

NOT TO SCALE

LOOP TERMINATION HOUSING

NOT SUPPLIED WITH UNIT



OVER RIDE SWITCHES



TOLERANCES UNLESS OTHERWISE SPECIFIED		FRACTIONS DEC ANGLES	
±	±	±	±
APPROVALS	DATE	SCALE	DRAWING NO.
DRAWN <i>JFB</i>	20 JUL 80		
CHECKED			
RETROFIT, INC.		RS-4 CABLE DIAGRAM	
DO NOT SCALE DRAWING		SHEET	