



UNITED STATES  
ATOMIC ENERGY COMMISSION  
DIVISION OF COMPLIANCE  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

TELEPHONE  
(312) 856-2860

May 11 and 12, 1972

James M. Allan, Senior Radiation Specialist

HEALTH PHYSICS ANALYSIS - NITE-SITE, INCORPORATED  
ROSEMOUNT, MINNESOTA - LICENSE NO. 22-13585-01 & 22-13585-02G

The licensee presently installs and distributes generally licensed promecium 147 gun sights on customer's guns. The gun sights are sealed sources obtained from Minnesota Mining and Manufacturing Company containing approximately 0.5 millicurie activity each.

The licensee has entered into an agreement with Caswell Equipment Company whereby Caswell distributes the gun sights to law enforcement agencies and officers for Nite-Site, although Caswell is not licensed to distribute generally licensed material. Nite-Site's noncompliance items appear to be due to inadequate management attention to the AEC regulations and license conditions and to incorrect advice received by Nite-Site from their health physics consultant and/or lawyer, and not intentional disregard for the AEC requirements.

Although several items of noncompliance were noted, it is the opinion of the inspector that the program is being conducted in a safe manner.

L. R. Greger

Radiation Specialist

U. S. ATOMIC ENERGY COMMISSION  
DIVISION OF COMPLIANCE

REGION III

EXPANDED FIELD NOTES

License No. 22-13585-02G

CO Inspection Report No.: 72-02

Priority III

Subject: Nite-Site, Inc.

Category E

Location: Rosemount, Minnesota

License No.(s) 22-13585-01

Priority V

Category K

-- Type of Licensee: Sealed source testing, demonstration,  
installation, removal and distribution

Type of Inspection: Initial - License No. 22-13585-02G

Reinspection - License No. 22-13585-01

Date(s) of Inspection: May 11 and 12, 1972

Date(s) of Previous Inspection: MAY 10, 1972

Principal Inspector: L. Robert Greger

Accompanying Inspector(s): None

Other Accompanying Personnel: None

Report Prepared By: L. Robert Greger

5/19/72  
(Date)

Report Reviewed By: Jm allair

5/23/72  
(Date)

Proprietary Information: None

List of Documents Attached: None

NITE-SITE, INCORPORATED

LICENSE NO. 22-13585-01 AND NO. 22-13585-02G

Certain activities under your licenses appear to be in noncompliance with AEC license requirements as indicated below:

License No. 22-13585-01

1. License Condition No. 8 limits the maximum amount of radioactivity which you may possess at any one time to 36 millicuries total.

Contrary to the above, you received two separate shipments of Pm-147, one of 100 millicuries and the other of 75 millicuries, from Minnesota Mining and Manufacturing Company, ~~within the~~ *DURING THE PERIOD APRIL 30 & MAY 1, 1972* ~~past two months and possessed approximately 165 millicuries of Pm-147 at the time of this inspection.~~

2. License Condition No. 10 requires that licensed material be used only at Nite-Site, Inc., Rosemount, Minnesota, or at temporary job sites in the United States.

*RECEIVED STCZHD* Contrary to the above, you have been installing gun sights *GENERALLY 2-23-72* ~~at 1215 Second Avenue North, Minneapolis, Minnesota on a routine basis during the month preceding this inspection.~~ *AT BUSHD AT* *APR 21, 1972*

3. 10 CFR 20.201(b)<sup>"Surveys"</sup> requires that a licensee shall make or cause to be made such surveys as may be necessary for him to comply with the regulations in this part.

Contrary to the above, no survey has been made of approximately 165 millicuries of Pm-147 stored at 1215 Second Avenue North, Minneapolis, Minnesota, to determine compliance with 10 CFR 20.203(e)(1), and 10 CFR 20.204(a).

4. 10 CFR 20.207<sup>"Storage of licensed materials"</sup> requires that <sup>all</sup> used material stored in an unrestricted area shall be secured against unauthorized removal from the place of storage.

Contrary to the above, Pm-147 was stored in an unrestricted area at 1215 Second Avenue North, Minneapolis, Minnesota and was not secured against unauthorized removal.

License No. 22-13585-02G

1. License Condition No. 4 requires that each gun to which a sight is attached shall bear a label stating the sight model number and the quantity of radioactive material installed.

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Contrary to the above, the labels on approximately 10 guns which have had sights attached do not state the sight model number nor do they state the correct quantity of radioactive material installed.

2. License Condition No. 6 requires that a copy of Appendix D, 10 CFR 20 be furnished to each general licensee to whom a generally licensed sight is transferred.

Contrary to the above, a copy of Appendix D, 10 CFR 20 has not been furnished to ~~the approximately~~ 10 general licensees to whom a generally licensed <sup>gun</sup>sight has been transferred.

- DRAFT -

Caswell Equipment Company, Inc.

ATTN: Clinton J. Shaw

President

1215 Second Avenue N.

Minneapolis, Minnesota 55405

Gentlemen:

On the basis of an inspection of Nite-Site, Incorporated, Rosemount, Minnesota, conducted by Mr. L. R. Greger of this office on May 11 and 12, 1972, it appears that Caswell Equipment Company, Incorporated received from Nite-Site, Incorporated and subsequently transferred, 10 generally licensed <sup>containing a modification #7</sup> ~~(Part 17)~~ gun sights to persons not specifically licensed by <sup>Commission</sup> the AEC to receive <sup>such devices</sup> byproduct material. The transfer of generally licensed <sup>devices</sup> ~~material~~ by ~~an individual~~ not authorized ~~to distribute each~~ <sup>issued by</sup> ~~material~~, to persons not authorized by a specific license <sup>from</sup> the AEC <sup>can be removed</sup> to receive such <sup>devices</sup> ~~material~~, is contrary to Section 31.5(d)(1) of the AEC's "General Licenses For Byproduct Material," Part 30, Title 10, Code of Federal Regulations. That section of the regulations states the following:

"31.5 Certain measuring gauging or controlling devices.

(d) Persons who own, receive, acquire, possess or use a device pursuant to the general license contained in this section:

(1) Shall not transfer, abandon or dispose of the device except by transfer to a person authorized by a specific license ~~from~~ the Commission or an agreement state to receive such device..."

As discussed with Mr. Shaw at the completion of the inspection, we understand that you <sup>are to</sup> ~~will~~ immediately <sup>stop further</sup> ~~cease~~ distribution of the ~~product~~ gun sights and ~~ensure that all Pm-147 gun sights~~ <sup>and return any sights</sup> in your possession are returned to Nite-Site, Incorporated. Upon receipt of proper authorization from the AEC you may resume distribution of the Pm-147 gun ~~sights~~.

Please inform us within 20 days, in writing, of the steps you have ~~taken or plan to take~~ <sup>take</sup> regarding this matter.

Sincerely,

Boyce H. Grier

Regional Director

DRAFT

Nite-Site, Incorporated

ATTN: Mr. Elliel Knutsen

President

Rosemount, Minnesota 55068

Gentlemen:

This refers to the inspection conducted by Mr. L. R. Greger of this office on May 11 and 12, 1972, of activities authorized by AEC Byproduct Material License No. 22-13585-01 and No. 22-13585-02G and to the discussion of our findings held with Mr. E. F. Knutsen at the completion of the inspection.

The inspection was an examination of the activities conducted under your licenses as they relate to radiation safety and to compliance with the Commission's rules and regulations and the conditions of your licenses. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

In addition to the above, the inspector examined actions described in your letter dated April 11, 1972, to the <sup>DIVISION of COMPLIANCE</sup> ~~Division of Directorate of~~ ~~Regulatory Operations~~, Region III, with respect to the item of apparent noncompliance noted during <sup>an</sup> ~~our~~ inspection of March 10, 1972. We have no further questions regarding <sup>THAT</sup> ~~some~~ matter.

During this inspection, it was found that certain of your activities appear to be in noncompliance with AEC requirements. The items and references to the pertinent requirements are listed in the enclosure to this letter. Please provide us in writing, within 20 days, with your comments concerning these items, any steps which have been or will be taken to correct them, any steps that have been or will be taken to prevent recurrence, and the date all corrective actions or preventive measures were or will be completed.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Boyce H. Grier

Regional Director

Enclosure:

Description of Noncompliance Items

MEMO ROUTE SLIP		See me about this. Note and return.		For reference. For signature.		For information.	
Form AEC-93 (Rev. May 14, 1947) ALCM 0240							
TO (Name and unit)		INITIALS	REMARKS				
Jack Metzger BO:EQ			NITE-SITE, INC.				
		DATE	ROS. MOUNT, MINNESOTA				
			LICENSE NO. 22-13585-01				
TO (Name and unit)		INITIALS	REMARKS				
			AND 22-13585-02G				
		DATE	Attached for your information is a copy of the				
TO (Name and unit)		INITIALS	REMARKS				
			expanded Notes for an inspection of Site-Site				
		DATE	conducted on May 11-12, 1972. Also attached are				
			draft letters to Nite-Site and Caswell Equipment				
FROM (Name and unit)		REMARKS					
James M. Allan BO:III		Company. Your assistance on the handling of this					
		correspondence is requested.					
PHONE NO.	DATE						
	5-23-72						

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO : 1968 O-294-619

e/n

Nite-Site, Inc.  
Rosemount, Minnesota  
License No. 22-13585-01, -02G  
May 11 and 12, 1972

#### GENERAL INFORMATION

1. This was an announced reinspection of this byproduct material program conducted on May 11 and 12, 1972, resulting from a request for inquiry concerning license requirements for Pm-147 gun sights distributed by Caswell Equipment Company, Inc., conveyed to RO:III by a memo from RO:HQ dated April 5, 1972.
2. The Minnesota Department of Health was not notified as the decision to conduct an inspection instead of an inquiry was made after arrival at the licensee's location. Miss Alice Dolezel of the Minnesota Department of Health was notified of the results of this inspection by telephone on May 17, 1972.
3. The following individuals were interviewed and they supplied the information contained in this report:

Elliel F. Knutsen, President, Nite-Site, Inc.

Charles A. Johnson, Secretary, Nite-Site, Inc.

Clinton J. Shaw, President, Caswell Equipment Co., Inc.

D. Omond, Sheriff, Hennepin County

Captain Erry, Hennepin County Police

All information is in substance unless otherwise indicated.

#### INSPECTION HISTORY

4. The initial inspection of this byproduct material program was conducted on March 10, 1972. As a result of that inspection one item of non-compliance was noted concerning the failure of the licensee to conduct periodic leak tests of the Pm-147 sealed sources as required by License Condition 13.(A). A review of the licensee's records during this inspection indicates that all sights, with the exception of three sights installed on shotgun barrels, were returned to 3M for disposal on April 10, 1972. The three sights installed on shotgun barrels were leak tested on April 10, 1972.

#### ORGANIZATION

5. Nite-Site, Inc. consists of the following individuals:

Elliel F. Knutsen, President

Julio A. Santiago, Vice President

Charles A. Johnson, Secretary

Richard N. Walz, Radiological Safety Officer

In addition, Clinton J. Shaw and Theodore A. Busch, President and Vice President respectively of Caswell Equipment Company, are authorized users of byproduct material under Nite-Site's license.

PROGRAM

6. The licensee uses promethium 147 sealed luminous sources in gunsights assembled by 3M Company for nondestructive testing, demonstration, and installation and removal on guns. This use is authorized by License No. 22-13585-01. At the time of this inspection, the licensee had on hand three promethium 147 gun sights Model 70S installed on shotgun barrels and approximately 165 Pm-147 gun sights, Model 70H (consisting of one front and one rear unit each) not installed on guns. It appears therefore that the licensee is in noncompliance with License No. 22-13585-01 Condition No. 8 which limits the total quantity of Pm-147 which may be possessed at any one time by the licensee to 36 millicuries. The 165 Pm-147 gun sights contain a total of approximately 165 millicuries according to records signed by a 3M quality control supervisor, Mr. Paddock, which report an activity of 0.5 millicurie per front sight and 0.5 millicurie per rear sight for a total of approximately 165 millicuries. The licensee's records show that X 12 gun sights have been returned to 3M for disposal, the latest such transfer having been made April 10, 1972. The gun sights were returned to Dick Walz, Coordinator for Radioluminous Products, Nuclear Products Department.

7. License No. 22-13585-02G authorizes Nite-Site, Inc. to distribute promethium 147 contained in self-luminous gun sights to persons generally licensed pursuant to Section 31.5, 10 CFR 31. Nite-Site entered into an arrangement with Caswell Equipment Company, Inc. approximately one year preceding this inspection, whereby persons authorized by Nite-Site's license install the gun sights and Caswell solicits orders and distributes the sights. Nite-Site sold Caswell the exclusive rights to distribute the gun sights. Caswell pays all costs associated with manufacture and distribution of the sights and pays Nite-Site a royalty for each sight sold. Nite-Site has retained only patent rights and AEC licensing responsibilities. It appears therefore that Nite-Site's actions can be ~~interpreted~~ interpreted as the transfer of generally licensed <sup>device</sup> ~~material~~ to Caswell Equipment Company, Inc. as authorized by Nite-Site's license. It appears though that Caswell Equipment Company, Inc. is in noncompliance with 10 CFR 31.5(d)(1) which prohibits the transfer of generally licensed <sup>device</sup> ~~material~~ by an individual not authorized to distribute such material, to persons not authorized by a specific license from the AEC to receive such material. At the time of this inspection, Caswell had distributed 10 gun sights under

its agreement with Nite-Site including two gun sights installed for and delivered to Sheriff Omond and Captain Berry of the Hennepin County Police. Caswell had, at the time of this inspection, orders for approximately 125 gun sights, including an order for 100 sights from the Hennepin County Police.

ADMINISTRATIVE CONTROL AND USE OF MATERIAL

8. No demonstrations have been conducted since the last inspection. The Pm-147 sights installed on the shotgun barrels have remained in storage since the last inspection.
9. The sights which are presently being installed on customer's guns are ordered from 3M by Nite-Site. 3M installs the Pm-147 in housings supplied by Caswell Equipment Company then ships the sights to Nite-Site in Rosemount and bills Caswell for the sights. Either Santiago or Knutsen hand carry the sights to Caswell where either Shaw or Busch takes possession of the sights. A Caswell employee, Greg Thomas, installs the sights on customer's guns at Caswell Equipment Company, 1215 Second Avenue North, Minneapolis, Minnesota under the supervision of either Shaw or Busch. At the time of this inspection 10 sights had been installed and delivered to purchasers. It appears therefore that the

licensee is in noncompliance with License No. 22-13585-01 Condition No. 10 which requires that byproduct material be used only at the Nite-Site, Inc., Rosemount, Minnesota address or at temporary job sites throughout the United States.

10. Caswell solicits orders for the gun sights exclusively from law enforcement agencies. Upon receipt of a request from a prospective customer, Caswell sends out a form to be completed by the purchaser certifying his status as a law enforcement officer and briefly explaining some of the restrictions placed upon use of the sights by AEC general license requirements. The customer then sends his gun to Caswell in a container supplied by Caswell; the sight is installed at Caswell; and the gun is returned to the purchaser. The purchaser pays Caswell for the gun sight and Caswell pays all promotional and manufacturing costs. (Caswell buys the gun sight housings and supplies same to 3M. Caswell also pays 3M for the installed Pm-147 sights.) The Hennepin County Sheriff's office ordered 100 Pm-147 gun sights, by invoice dated August 6, 1971, from Caswell Equipment Company, Inc.

RADIOLOGICAL SAFETY PROCEDURES

11. The Pm-147 sights are tested for leakage and contamination following installation of the sight on a gun. This leak test is performed by Mr. Shaw who was instructed by Mr. Walz. Mr. Walz conducts the leak tests on the shotgun <sup>sights</sup> ~~sites~~ possessed by Nite-Site.
12. Each gun to which a Pm-147 sight is attached has a label which conforms to License No. 22-13585-02G Condition No. 4(A)(i) except that the label does not bear the zip code of Nite-Site, Inc. The label supposedly conforming to License Condition 4(A)(ii) does not bear the sight model number nor the correct quantity of radioactive material installed. It appears therefore that the licensee is in noncompliance with License No. 22-13585-02G Condition No. 4(A)(ii) which requires that a label be attached, to each gun to which a sight is attached, specifying the sight model and serial number and the quantity, identity and date of measurement of the radioactive material.
13. As reported by the 3M quality control supervisor, Mr. Paddock, the radiation level at 1 cm from a sight is less than 0.3 mr/hr. The licensee has maintained copies of these reports from 3M.

14. The licensee has furnished purchasers of his sight with copies of Section 31.5, 10 CFR 31; Sections 30.34 and 30.51 through 30.6, 10 CFR 30; Sections 20.402 and 20.403, 10 CFR 20; and Appendix D, 10 CFR 50. It appears therefore that the licensee is in noncompliance with License No. 22-13585-02G Condition No. 6 which requires that a copy of Appendix D, 10 CFR 20 be supplied each person to whom a sight is transferred.

#### FACILITIES AND EQUIPMENT

15. Nite-Site stores the three shotgun barrels with installed Pm-147 sights it possesses in a locked portable gun case which is stored in a locked metal cabinet located in the Apple Valley Municipal Building which is Nite-Site's location. Only Mr. Santiago and Mr. Knutsen have keys to the portable gun case. The police chief and four other police officers, none of whom are authorized users under Nite-Site's license, have access to the locked steel cabinet.
16. The Pm-147 sights awaiting installation on the guns were being stored at Caswell Equipment Company, 1215 Second Avenue N., Minneapolis, Minnesota, in Mr. Shaw's desk drawer. The desk is normally kept locked

at night but is left unlocked during the day even when Mr. Shaw is not in the area. It appears therefore that the licensee is in noncompliance with 10 CFR 20.207 which requires that licensed material stored in an unrestricted area be secured against unauthorized removal from the place of storage.

17. Nite-Site does not possess any radiation survey equipment. Caswell does have an Eberline radiation monitor Model RM-14 which is used by Mr. Shaw to count the leak test #wipes. A Tc-99 check source of 0.0045 uCi is counted each time a leak test wipe is counted and used as an upper limit to ensure less than 0.005 uCi removable contamination.

#### PERSONNEL MONITORING AND RADIATION SURVEYS

18. No personnel monitoring is conducted by Nite-Site.
19. At the time of this inspection approximately 165 millicuries of Pm-147 sealed sources were stored in Mr. Shaw's desk drawer at 1215 Second Avenue North, Minneapolis, Minnesota. The desk was not marked with any caution signs, nor was the room or any area within the building. Further, no survey had been made to determine if any caution signs were required to be posted or to assess the radiological hazard due to the sources. It appears therefore that the licensee is in noncompliance with 10 CFR 20.201(b) which requires that each licensee make or cause to be made such surveys as may be necessary to comply with the regulations in 10 CFR 20.

RECORDS

20. Nite-Site maintains records of receipt and transfer of the sights. Caswell supplies Nite-Site with the name and addresses of the persons to whom Caswell transfers the sights at 30 day intervals. Nite-Site also maintains leak test records which <sup>will</sup> be observed by the inspector to be up to date.
21. The information required for the quarterly reports specified in License No. 22-13585-02G Conditions No. 7 and 9 were available at Nite-Site. Nite-Site has not submitted any of these reports to date but plans to, starting with the present quarter. The first distribution of generally licensed material made by Nite-Site, Inc. occurred during April 1972. No generally licensed sights had been removed from guns at the time of this inspection.

UNUSUAL OCCURRENCES AND INCIDENTS

22. No thefts, losses, incidents, or unusual occurrences have occurred involving licensed byproduct material since the previous inspection.

MANAGEMENT DISCUSSION

23. The results of this inspection were discussed with Mr. Knutsen and Mr. Shaw. The items of noncompliance of Nite-Site, Inc. and the unauthorized distribution of generally licensed material by Caswell Equipment Company, Inc. were specifically discussed. Mr. Shaw advised that Caswell would cease distribution of the sights and return the sights stored at Caswell to Nite-Site. Mr. Knutsen advised that the Pm-147 sights possessed by Nite-Site in excess of 36 millicuries would be returned to 3M and the remaining sights would be stored at Nite-Site, Inc. and any subsequent installation would be done at Nite-Site, Inc. Mr. Knutsen also stated that Nite-Site would comply with the conditions of License No. 22-13585-02G, especially as pertains to labelling requirements and the information supplied to purchasers, for any future transfers of the generally licensed sights.