

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT (See Instructions on Reverse)

1. APPLICANT'S USE		a. DATE OF APPLICATION 8/6/79		b. APPLICANT'S REFERENCE		2. NRC USE		a. LICENSE NO. XB001039		b. DOCKET NO. 11500753			
3. APPLICANT'S NAME AND ADDRESS						RIS		4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material)					
a. NAME Self-Powered Lighting Ltd.								a. NAME Department of Energy					
b. STREET ADDRESS 8 Westchester Plaza								b. STREET ADDRESS Oak Ridge Nat'l. Laboratory, P.O. Box X					
c. CITY Elmsford,			STATE N.Y.		ZIP CODE 10523		c. CITY Oak Ridge		STATE Tn.		ZIP CODE 37830		
d. TELEPHONE NUMBER (Area Code - Number - Extension)													
5. FIRST SHIPMENT SCHEDULED		6. FINAL SHIPMENT SCHEDULED		7. APPLICANT'S CONTRACTUAL DELIVERY DATE		8. PROPOSED LICENSE EXPIRATION DATE		9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)					
Est. Feb. 1980		N/A		N/A		5 yrs. after date of issue (see addendum)		N/A					
10. ULTIMATE CONSIGNEE						RIS		11. ULTIMATE END USE (Include plant or facility name)					
a. NAME Self-Powered Lighting, Ltd.								For manufacture of sealed gaseous Tritium Light Sources. (See Addendum)					
b. STREET ADDRESS Zona Franca Industrial San Pedro De Macoris								11a. EST. DATE OF FIRST USE Upon receipt.					
c. CITY - STATE - COUNTRY Dominican Republic (See Addendum)													
12. INTERMEDIATE CONSIGNEE						RIS		13. INTERMEDIATE END USE					
a. NAME													
b. STREET ADDRESS													
c. CITY - STATE - COUNTRY													
14. INTERMEDIATE CONSIGNEE						RIS		13a. EST. DATE OF FIRST USE					
a. NAME								15. INTERMEDIATE END USE					
b. STREET ADDRESS													
c. CITY - STATE - COUNTRY								15a. EST. DATE OF FIRST USE					
16. NRC USE		17. DESCRIPTION (Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)				18. MAX. ELEMENT WEIGHT		19. MAX. WT. %		20. MAX ISOTOPE WT.		21. UNIT	
		Tritium (H ₃) in bulk gas form.				800,000 curies/year (See Addendum)							
22. COUNTRY OF ORIGIN - SOURCE MATERIAL				23. COUNTRY OF ORIGIN - SNM WHERE ENRICHED OR PRODUCED				24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known)					
25. ADDITIONAL INFORMATION (Use separate sheet if necessary)													
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26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application is correct to the best of his/her knowledge.													
27. AUTHORIZED OFFICIAL				a. SIGNATURE William Hegarty				b. TITLE President					

Applicant: Self-Powered Lighting, Ltd.
8 Westchester Plaza
Elmsford, New York 10523

Item #8:

As discussed below under Item 10, the Application relates to the establishment of a branch production facility for the manufacture of gaseous tritium light sources (GTLS) and gaseous tritium light devices (GTLD). Similar branch facilities established by other U.S. and European GTLS manufacturers has created severe downward pricing pressures in the market, making it necessary that SPL establish the facility identified in Item 10 in order to remain a viable competitive company. Sizeable capital investment is necessary to properly equip such a facility for manufacture as well as for personnel protection.

Thus SPL requests that a minimum 5 year supply of this fundamental raw material, Tritium gas, be assured in order to undertake this capital investment.

Item 10: Ultimate Consignee

The ultimate consignee of the exported tritium gas will be a branch manufacturing plant operated by Self-Powered Lighting, Ltd. Self-Powered Lighting, Ltd. currently operates a manufacturing facility in Elmsford, New York for the manufacture of GTLS and GTLD under license No. 1308-1611 granted by the New York State Department of Labor. This license was originally granted to SPL's predecessor company, Canrad Precision Industries in 1967, and manufacture of GTLS and GTLD has continued uninterrupted since that date. SPL succeeded Canrad Precision Industries in 1973, occupying the former Canrad facility with no change in key process engineering or Radiation Protection personnel.

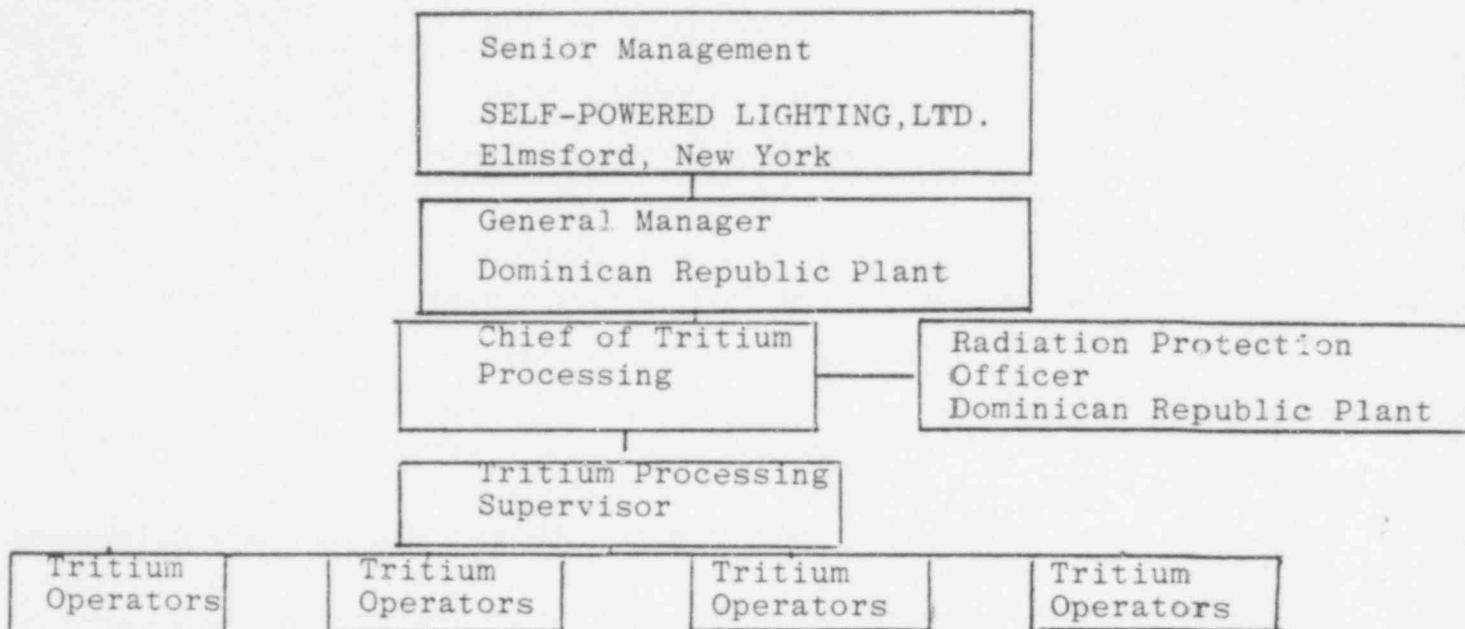
The primary function of the San Pedro plant is to manufacture GTLS from basic raw materials, using processes and procedures identical to those currently used at the Elmsford, New York facility. This includes preparation of glass vials or tubes; receipt of tritium gas and transfer of same to uranium traps on backfilling equipment; evacuation and backfilling glass tubes with tritium gas; sealing of glass tubes using gas/oxygen torches and/or laser sealing equipment; liquid scintillation testing procedures to assure the integrity of the GTLS in compliance with U.S. Nuclear Regulatory Commission requirements in regard to the maximum permissible leakage of tritium from the GTLS. Operation at the San Pedro plant will also include application or installation of the GTLS into housings or containers. The San Pedro plant is located in a major Industrial Free Zone Park identified as Zona Franca Industrial which includes approx. 19 other U.S. companies or affiliates. The building to be occupied by SPL is a one story cinder block fireproof structure having an area of 6000 sq. ft., services are available from the San Pedro fire and police departments. A day security force in the industrial park is maintained by the Park Management. SPL will install a security system for protection during hours when the facility is not occupied. The tritium gas will be shipped by Air Freight to the San Pedro facility direct from the Supplier packed according to current DOT standards and requirements. Shipment authorization will be given to the Supplier only by SPL in Elmsford. Duplicate inventory records of tritium gas received, GTLS manufactured, processing losses or scrap quantity and shipment quantities will be maintained at San Pedro and Elmsford. It is planned to submit a summary of these records on a semi-annual basis to the USNRC, which will provide a complete and accurate report of the ultimate tritium end use.

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Security: Tritium gas containers will be received only in the presence of the Radiation Protection Officer who will make the proper entry in the Master Inventory Record and who will place the container in a lockable storage cabinet until it is required for use. All transfers of tritium gas to uranium dispensing traps will be under the direct supervision of the Chief of Tritium Processing who will record all transfers in the Tritium Log. GTLS filling records will be entered in the same log by the Tritium Processing Supervisor, and countersigned by the Chief of Tritium Processing. Each transfer of tritium to dispensing traps will be assigned a Control Number. GTLS filling records will be cross-referenced to this number to provide complete accountability for all tritium used. The Control Number will also be traceable to each receipt of bulk tritium gas. The following represents this accountability chain:

<u>ITEM</u>	<u>CONTROL NUMBER</u>
Receipt of bulk tritium gas	Supplier Packing List Number (SPLN)
Transfers to dispensing trap	SPLN - 1 _____ Curies
	SPLN - 2 _____ Curies
	SPLN - 3 _____ Curies
	etc.
Daily GTLS Filling Records/ Inventory Records	_____ Curies against SPLN - 1 etc
Processing Losses and Scrap	_____ Curies against SPLN - 1 etc

These records will be duplicated and sent to SPL Elmsford, thereby providing senior company management with complete accounting of usage of bulk tritium.

Organization ChartTritium Gas Processing Operations - San Pedro, D.R.

It is planned that the initial General Manager (D.R.) will be our current U.S. Plant Manager, who is a native of the Dominican Republic. This individual will be transferred to San Pedro to provide the necessary experience and expertise to establish the facility and the necessary training of personnel. It is estimated that this individual will be on location at the San Pedro facility for at least the first 12 months of its operation or longer if needed to achieve properly trained personnel.

#11 - Ultimate End Use:

The tritium gas identified in this Application is intended for exclusive use in the manufacture of gaseous tritium light sources (GTLS). The form of GTLS manufacture at the San Pedro facility will be small discrete sources approximately 90% of which will contain no more than 200 millicuries of tritium gas. These sources will be shipped to manufacturers of liquid crystal display electronic watch modules who possess the proper license for possession of such sources. The GTLS will be shipped directly from

San Pedro to various module manufactures. The following is a projected list of recipients of these GTLS:

<u>Recipient Country</u>	<u>Manufacturer</u>	<u>Est. Annual Qty.</u>
Philippines	Timex Corp.	200,000 Ci
Taiwan	Various	150,000 Ci
S. Korea	Various	150,000 Ci
Hong Kong	Various	150,000 Ci
Singapore	Nat'l. Semiconductor Corp. and Various	150,000 Ci

The remaining 10% of GTLS manufactured at the San Pedro facility will contain a maximum of 4 Curies of tritium. These GTLS are used in SPL's, current line of generally licensed devices such as Aircraft safety signs and placards and Commercial EXIT signs. These GTLS will all be shipped to the SPL Elmsford plant either before or after installation into various housings or holders.

#18 - Tritium requirements:

Estimated minimum tritium usage to economically maintain a modest-sized facility in San Pedro is 800,000 curies of tritium gas annually. To allow for seasonal variations in delivery requirements of our customers we foresee a maximum quarterly usage of 300,000 curies, received in evenly spaced shipments of 30,000 curies each. At this maximum delivery rate, it is estimated that inventory of tritium gas at any one time, exclusive of sealed sources, will be 20,000 curies in process plus one shipment of 30,000 curies for a total of 50,000 curies. Processing time for each shipment of tritium gas is projected in the range 3-6 weeks from receipt of gas to shipment of gas.

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