

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
SAFETY LIGHT CORPORATION	)	Docket Nos. 30-5980- MLA, 30-5982-MLA
Bloomsburg, Pennsylvania Site	)	30-5980-EA and 30-5982-EA
	)	
(Materials License Amendment and	)	ASLBP Nos. 04-833-07-MLA and
Materials License Suspension)	)	05-835-EA

TESTIMONY OF GEORGE C. PANGBURN AND M. CHRISTOPHER NOLAN  
REGARDING DENIAL OF APPLICATIONS TO RENEW LICENSES AND  
THE ORDER SUSPENDING LICENSES (EFFECTIVE IMMEDIATELY)

Q1. Would you please state your name, job title, employment affiliation, duties, and professional qualifications.

A1. (Pangburn) My name is George C. Pangburn. I am employed by the U.S. Nuclear Regulatory Commission (NRC) as Director, Division of Nuclear Materials Safety in the NRC's Region I office in King of Prussia, Pennsylvania. My duties include management and oversight of regional technical and administrative staff, who conduct licensing, inspection, enforcement and incident response activities for approximately 2500 materials licensees in the eastern United States. One of those licensees is Safety Light Corporation (SLC). A copy of my professional qualifications is attached.

(Nolan) My name is M. Christopher Nolan. I am employed as Chief, Enforcement Policy and Program Oversight Section, Office of Enforcement (OE), in NRC's Headquarters offices in Rockville, MD. My duties include management and oversight of the Headquarters Enforcement Specialists that are assigned to materials and reactor escalated enforcement cases and are guided by the NRC Enforcement Policy. A copy of my professional qualifications is attached.

Q2. What is the purpose of this testimony?

A2. (Pangburn) The purpose of this testimony is to present the NRC staff (Staff) position with respect to the Staff's denial of the April 22, 2004 applications of Safety Light Corporation (SLC) for renewal of its materials licenses (Nos. 37-00030-02 and 37-00030-08), the contention of the Commonwealth of Pennsylvania Department of Environmental Protection contention admitted by the Board with respect to License No. 37-00030-08 (tritium operations license), and the December 10 Order Suspending Licenses (Effective Immediately) issued by the Director of Nuclear Materials Safety and Safeguards. We have read the "Commonwealth of Pennsylvania, Department of Environmental Protection's Request for Hearing," dated August 30, 2004, LBP-04-25, 60 NRC 516 (2004), the "Safety Light Corporation Motion to Set Aside Immediate Effectiveness of Order Suspending License," dated December 29, 2004, and the "Safety Light Corporation Answer to and Request for Hearing on Order Suspending License (Effective Immediately)," dated December 29, 2004.

Q3. Would you please describe the events leading up to denial of the license renewal applications and suspension of the SLC licenses.

A3. (Pangburn) SLC has two byproduct materials licenses issued pursuant to 10 C.F.R. Part 30 and last renewed on December 28, 1999 for a period of five years with an expiration date of December 31, 2004. Amendment No. 51 to License No. 37-00030-02, dated December 28, 1999 (ML050460405); Amendment No. 13 to License No. 37-0030-08, dated December 28, 1999. (ML050470061). A redacted version of those licenses is attached hereto as Staff Exhibits 1 and 2, respectively. License No. 37-00030-02 authorizes characterization and decommissioning of equipment, facilities and lands from previous manufacturing activities on the site, and License No. 37-00030-08 authorizes the manufacturing of luminous products, such as EXIT signs, using tritium.

Each license contains license conditions that, pursuant to 10 C.F.R. § 30.11, granted SLC exemptions from the financial assurance requirements for decommissioning contained in 10 C.F.R.

§§ 30.32 and 30.35, based on SLC's lack of sufficient funds to assure that adequate financial ability existed to decommission the facility. License Conditions 16 and 20.A of License Nos. 37-00030-02 and 37-00030-08, respectively, as relevant here, provided:

Pursuant to 10 CFR 30.11, the licensee is exempted from the provisions of 10 CFR 30.32(h) and 30.35(a) through 30.35(f), provided that the licensee sets aside from operating funds or any other funds, except insurance litigation funds, the following amounts as described in the licensee's letter dated August 3, 1999:

January 1, 2000 and each month thereafter for 12 months: \$7,000;  
January 1, 2001 and each month thereafter for 24 months: \$8,000;  
January 1, 2003 and each month thereafter for 24 months: \$9,000

for a total of \$492,000. These funds shall be deposited into [Trust Account] with the Chase Manhattan Bank (presently assumed by JP Morgan). The use of these funds, including disbursement of assets, shall be governed by the Trust Agreement which established the trust account. This exemption is valid until the date shown in Item 4 [Expiration date December 31, 2004] or the date of any failure to comply with this license condition.

As the language quoted above demonstrates, the requirement to make payments to the decommissioning trust fund was unqualified (*i.e.*, not dependent upon SLC's perceived financial condition). In addition, the failure to make the prescribed trust fund deposits at the time intervals specified would invalidate the exemption as of the date of that failure.

Compliance with financial assurance requirements for decommissioning, as exempted, was material to the grant of the licenses renewed in 1999 and was based on SLC's commitment (as documented in the license condition) to contribute to a decommissioning trust fund to support ongoing site characterization and remediation. The NRC also granted the 1999 renewal based on SLC's ability to continue providing security and maintaining control over radioactive materials on the site.

As required by 10 C.F.R. §§ 30.32(h) and 30.35(a)(1), applicants for licenses authorizing possession and use of byproduct material in amount greater than specified in 10 C.F.R. § 30.35(a) (*i.e.*, unsealed byproduct material of half-life greater than 120 days and in quantities exceeding  $10^5$  times the applicable quantities in 10 C.F.R. Part 30, Appendix B) must provide financial assurance

for decommissioning. Financial assurance must be provided by one or more of the following methods: 1) prepayment (e.g., via a trust, escrow account or certificate of deposit; 2) a surety method, insurance, or other guarantee method; 3) an external sinking fund with, at minimum, annual deposits, coupled with a surety method or insurance, which may decrease in value by the amount being accumulated in the sinking fund; 4) a statement of intent by a Federal, State or governmental license, indicating that funds for decommissioning will be available when necessary; and 5) when a governmental entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such government entity. 10 C.F.R. § 30.35 (f)(1) - (5). Because both applications requested the possession or use of byproduct material in quantities greater than those specified in 10 C.F.R. § 30.35(a), SLC was required to submit decommissioning funding plans as described in 10 C.F.R. § 30.35(e). SLC requested an exemption from this requirement because, based on estimates of the costs of decommissioning the facilities, SLC lacked sufficient funds to provide the amount of financial assurance necessary for its licenses using any of the methods described in 10 C.F.R. § 30.35(f). Letter from Larry Harmon to Jim Kottan, February 15, 1999, (ML003674758).

Consistent with the Commission's direction in a Staff Requirements Memorandum, dated December 22, 1999 (ML003751986) (Staff Exhibit 3), the letters transmitting the renewed licenses stated that SLC was expected to demonstrate compliance with 10 C.F.R. § 30.35 at the time of its application for the next renewal. Letter from Ronald Bellamy to Larry Harmon, dated December 28, 1999 (ML05070126) (Staff Exhibit 4), at 1; Letter from John Kinneman to Larry Harmon, dated December 28, 1999 (ML050460400) (Staff Exhibit 5), at 1. This put SLC on notice that the NRC expected SLC to meet the Commission's requirements to provide funding for removal of radiological contamination from the operations of SLC and its predecessor companies. In addition, License Condition 18 of License No. 37-00030-08 (tritium operations license) required that tritium operations waste generated after January 1, 2000, be disposed of within two years of

generation, and License Condition 19 required that SLC dispose of all tritium waste generated prior to January 1, 2000 by December 31, 2004.

As required by Condition 20.B of the 37-00030-08 license, in late 2000, SLC submitted decommissioning cost estimates (DCEs) for license termination with release of the site for unrestricted use. These estimates totaled approximately \$29 million, of which \$5.6 million was estimated for remediation of the 37-00030-08 licensed areas. See Letter from Larry Harmon to Marie Miller, dated December 6, 2000 (ML003776303). The staff reviewed these DCEs and developed independent DCE's for unrestricted release of the site as ranging from \$94 million to \$120 million, and for restricted release, ranging from \$50 million to \$78 million. Letter from Ronald Bellamy to Larry Harmon, dated December 19, 2001 (ML0135403660) (Staff Exhibit 6), at 2. The primary difference between the NRC and SLC estimates resulted from differing assumptions on the depth and dispersion of radiological contamination in soil across the site and incomplete site characterization information used by SLC in its DCEs.

Soil, groundwater and buildings and equipment at the SLC site are contaminated with several radionuclides, primarily Ra-226 (not regulated by NRC), Cs-137, Sr-90 and Am-241. Tritium contamination is also present from ongoing operations at the site. Concentrations of radionuclides in soil vary widely, with median values for Ra-226 of about 230 picoCuries/gram (pCi/gm) and Cs-137 of 7pCi/gm. Groundwater contaminants at the site are Sr-90, Cs-137, Ra-226 as well as tritium. Well water samples taken from residences adjacent to the site contain no radioactivity in excess of EPA drinking water levels based upon gross alpha and beta analyses. Dose rates over the outside areas of the site average about 10-15 microRem above background, although there are several areas of elevated dose rates, with the highest dose rate at the perimeter fence about 400 microRem/hour. The majority of the areas in the buildings are not contaminated, although there are isolated areas with significant levels of fixed and removable contamination. In addition, several of the buildings at the site pose an industrial hazard due to collapsed roofs,

missing windows, and otherwise deteriorated interior conditions. See SECY-99-269, "Renewal of the Safety Light Corporation License at Bloomsburg, Pennsylvania," dated November 17, 1999 (ML993630027), at Attachment 1.

The renewal of License 37-00030-02 allowed SLC to continue limited remediation work at the site, specifically to exhume the waste from the onsite underground silos that began in October 1999. The waste consisted of Sr-90 deck markers, various types of Ra-226 sources, and other discrete and diffuse radioactive materials from past site operations. SLC had little remediation experience and relied on contractors to complete remediation activities. The initial contractor failed to properly sort and characterize the waste, which necessitated outside storage of the waste in 55 gallon drums and other metal containers located in a part of the site that is within the 100-year flood plain of the Susquehanna River. On August 15, 2002, NRC amended License 37-00030-02 to approve SLC's contractor's work plan and technical oversight contractor to complete the characterization and disposal. The work plan was later included in the February 3, 2003 Administrative Order By Consent with Environmental Protection Agency, Region III, under its Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) emergency removal authority, because the waste was stored in a flood plain. See U.S. Environmental Protection Agency, Region III, Administrative Order by Consent for Removal Response Action, dated February 3, 2003 (ML031130277). The NRC staff coordinated with EPA officials to ensure that radioactive materials and waste remaining at the site would be properly managed under EPA's CERCLA authority, if SLC were not able to fund the disposal of radioactive waste that could adversely impact the environment. An EPA presence at the site would also be important, if SLC were to abandon the site.

In November 2003, shortly after a meeting between SLC, the NRC, EPA and the PADEP held at the site to determine how much money was available for waste disposal, Larry Harmon, the SLC Plant Manager, informed the NRC staff that SLC had failed to make certain of the prescribed

monthly payments to the decommissioning trust fund. See “Demand for Information,” 69 Fed. Reg. 121 (Jan. 2, 2004) (DFI); Letter from Frank Congel to C. Richter White, dated December 19, 2003 (ML03350366) (Staff Exhibit 7); Office of Investigations Report No. 1-2003-056, dated March 4, 2004 (ML0503504140) (Staff Exhibit 8), at Exhibit 7 (Harmon Interview) at 8-9. Upon further review, the NRC staff determined that SLC had not made approximately \$81,000 of the payments required by its licenses.

Because SLC’s failure to comply to contribute to the decommissioning trust fund as required by its license appeared to involve wrongdoing, the NRC Office of Investigations (OI) opened an investigation to determine if SLC deliberately failed to make the payments and the reasons SLC failed to inform the NRC in a prompt manner of the decision not to make certain deposits. In addition, on December 19, 2003, the staff required SLC to provide information to enable the Staff to gather information needed to make an enforcement decision. See “Demand for Information,” 69 Fed. Reg. 121; Staff Exhibit 7. The Staff indicated that failure to make the required deposits to the decommissioning trust fund violated conditions in License Nos. 37-00030-02 and 37-00030-08 as well as 10 C.F.R. §§ 30.32 and 30.35 and viewed the violations as “significant because these deposits are necessary to fund ongoing decommissioning activities, including the disposition of radioactive waste stored at the facility.” 63 Fed. Reg. at 121. The Staff also indicated that the NRC needed information to determine whether SLC “would adhere to all License Requirements and otherwise conduct its activities in accordance with Commission requirements.” *Id.* Among other things, the Staff asked SLC to: 1) submit to the NRC a detailed schedule for making all overdue payments, with interest, to the decommissioning trust fund; 2) provide reasons why SLC did not make the required payments to the decommissioning trust fund; and 3) describe why, in light of the SLC’s past failure to make all required payments to the trust fund, the SLC licenses should not be modified, suspended, or revoked. *Id.* On January 16, 2004, SLC responded to the DFI and indicated, in part, that SLC could not submit a detailed schedule for

making overdue payments given SLC's inability to accurately predict future sales and cash flow. Letter from William Lynch to Frank Congel, dated January 16, 2004 (ML040210723).

An NRC Office of Investigations (OI) report in this matter, dated March 4, 2004 (OI Report) (Staff Exhibit 8), determined that SLC had deliberately failed to make the payments. OI concluded that SLC officials knew that a license condition required monthly payments to the trust fund, but had missed 13 payments over a three-year period, making a conscious decision not to notify the NRC of missed payments until November 2003. Staff Exhibit 8 at 12. In the course of the OI investigation, an SLC Manager stated that, although the payments were a license condition, he viewed them as a payment to just another vendor. *Id.* at 10. According to both the Plant Manager, Mr. Harmon, and the Vice President, Mr. Lynch, when SLC realized it lacked sufficient funds to cover all bills, salaries, and other payments, SLC decided to pay its vendors (i.e., the supplier of its raw materials) and others viewed as necessary for SLC to remain in business, rather than make payments to the decommissioning trust fund. *Id.* at 9-10 and at OI Report, Exhibit 7 at 6-8 (Harmon Interview); OI Report Exhibit 6 (Lynch Interview) at 6-8.

Shortly after the issuance of the OI report, by applications dated April 22, 2004, SLC requested renewal of NRC License Nos. 37-00030-02 and 37-00030-08. Letter [re 02 License] from Larry Harmon to Marie Miller, dated April 22, 2004 (ML041310318) (Staff Exhibit 9); Letter [re 08 License] from William Lynch to Betsy Ulrich, dated April 22, 2004 (ML041310328) (Staff Exhibit 10). Neither application provided a decommissioning funding plan or certification of financial assurance as required by 10 C.F.R. § 30.35. Instead, SLC requested that the NRC grant a continued exemption from the financial assurance requirements for decommissioning and reduce the monthly trust fund payments to \$5,000 due to a "downturn" in SLC's business." See Staff Exhibit 10 at 1. SLC also stated that SLC had continued characterization and decommissioning of facilities under License No. 37-00030-02 using monies generated by the activities authorized by License No. 37-00030-08; provided continued monitoring at and around the site; maintained

security and control of radioactive materials at the site; and had operated in compliance with the license requirements for radiation safety. See *id.* at 1-2. SLC acknowledged its failure to make all required payment up through the date of its amendment request, but committed to fully restoring the required funding without specifying a schedule. *Id.* at 1. SLC provided no other information regarding why an exemption from the requirements to provide financial assurance for decommissioning should be granted, particularly in light of SLC's failure to make all required payments over the previous two years.

(Pangburn and Nolan) After reviewing the information in the OI report, the Staff held a Predecisional Enforcement Conference (PEC) with SLC management on July 20, 2004, to gather additional information regarding the financial ability of the company to make the required deposits to the decommissioning trust fund, and to discuss with SLC the need for prompt and comprehensive corrective actions. Transcript of NRC Region I, Predecisional Enforcement Conference: Safety Light Corporation No. EA-03-219, July 20, 2004 (Staff Exhibit 11). Although the conference was closed to members of the public, as is traditionally done for a PEC involving potentially willful violations, representatives from the Pennsylvania Department of Environmental Protection and U.S. Department of Environmental Protection, Region III, were permitted to observe the closed meeting. This is consistent with NRC practice for closed conferences, when other government agencies have a related interest in the subject matter.

At the conference, statements made by SLC officials confirmed that SLC had not taken nor had planned any corrective actions to restore compliance with the license conditions that had been violated. SLC described certain cost-cutting measures it had taken in response to the downturn in business, but also indicated that it expected a turnaround in its business due to a record number of back orders in 2004. See PEC Transcript (Staff Exhibit 10), at 17-20 (Lynch). During the conference, Mr. Bill Lynch, Vice President of SLC indicated that "we made the decision or I made the decision, I should say, to make sure that our vendors were paid, our employees were paid and

that the business had an ongoing value *rather than divert funds to escrow payments* instead of to those thing which would keep us as a viable business.” Staff Exhibit 11 at 18-19 (emphasis added).

At the conclusion of the PEC, SLC officials indicated they would provide in writing their thoughts on how to address the shortfall in required payments. See Staff Exhibit 11 at 55-56 (Lynch). In a July 30, 2004 letter, SLC submitted a schedule to make the payments in arrears by April 30, 2005, four months after the scheduled expiration date of the licenses. Letter from William Lynch to George Pangburn, dated July 30, 2004 (ML042240209).

The Staff evaluated the information presented by SLC during the PEC, the information in the OI Report, the information provided in response to the DFI, and information in the July 30, 2004 submittal. The Staff determined that the SLC plan for corrective actions was inadequate because SLC did not demonstrate that compliance with the license conditions would be restored by the expiration date of the licenses. SLC’s statements also raised serious question about SLC’s ability or willingness to comply with NRC requirements. The NRC considered SLC’s willful violation of the financial assurance requirements in the license conditions and NRC regulations, the lack of assurance that SLC would comply with NRC requirements regarding financial assurance in the future, the safety significance of failing to satisfy the license conditions, the appropriate mechanism to ensure future compliance with NRC requirements, and the need to send a strong regulatory message to SLC and other NRC licensees required the importance of financial assurance requirements for decommissioning. Although a Notice of Violation accompanied by imposition of a civil penalty, for example, was an option under the NRC Enforcement Policy ( NUREG-1600, “General Statement of Policy and Procedure for NRC Enforcement Actions,” dated May 1, 2000), that option (assuming the penalties were paid) would divert funds to the general treasury instead of accumulating funds needed for remediation of the site. In addition, SLC had already been dilatory in making payments consistent with NRC requirements.

Region I management also contacted SLC by phone on August 18, 2004 to discuss a payment schedule that would bring SLC into compliance with the license conditions before expiration of the current licenses. By letter dated September 1, 2004, SLC expressed their inability to commit to any change in the proposed repayment schedule and to accelerate the payments consistent with license requirements. See Letter from William Lynch, dated September 1, 2004 (ML042530598).

While the NRC was gathering information to determine what enforcement action should be taken, the NRC staff continued to evaluate the technical aspects of the licensee's renewal applications. On August 18, 2004, NRC staff requested additional information from SLC on the renewal, including among other things, its basis for proposing to reduce decommissioning trust fund payments from \$9000 to \$5000 per month. Letter from John Kinneman to SLC, dated August 18, 2004 (ML042370058). By letter dated October 26, 2004, SLC stated that based on current and anticipated business, the reduced amount would avoid placing SLC in a position where it could not meet license requirements. Letter from William Lynch to John Kinneman, dated October 26, 2004 (redacted) (ML050460116) (Staff Exhibit 12), at 7-8.

Subsequent to informing the NRC staff of SLC's failure to make payments to the decommissioning trust fund in November 2003, SLC made all of the license-required deposits from December 2003 through November 2004. SLC also made arrears payments in December 2003, February 2004, and October 2004. The resulting balance owed to the trust fund was a deficit of \$36,000 plus interest as of November 30, 2004. See Letter from Jack Strosnider to C. Richter White, dated December 10, 2004 [denying license renewals and enclosing Order Suspending Licenses (Effective Immediately)] (ML043440646)(Staff Exhibit 13).

The failure to meet financial assurance requirements for decommissioning, as exempted, is safety significant. The decommissioning trust fund and funds SLC obtained from insurance settlements, are the source of funds for remediation of the previously uncharacterized waste

removed from SLC's underground silos. Three-fourths of the volume of the material excavated from the silos was disposed at a cost to SLC of approximately \$2 million, but SLC had insufficient funds to complete the remediation project in 2003. As a result of SLC's failure to make the required payments to the decommissioning trust fund in 2002 and 2003, waste that had been characterized and packaged in preparation for shipment and disposal remained at the site for about a year and waste that needed to be processed further was stored outdoors where it was subject to weather-related deterioration. NRC Inspection Report (redacted), Inspections 03005980/2004001 and 03005982/2004001 Safety Light Corporation, Bloomsburg, Pennsylvania, at 2-3 (Nov. 4, 2004) (ML050460102) (Exhibit 16). Although SLC disposed of all tritium waste generated in the last five years, a large volume of tritium waste generated prior to January 1, 2000 remains in storage at the site. See Staff Exhibit 12, at 2-3. Additionally, approximately 4,968 cubic feet of "legacy" waste exhumed from underground silos was stored on site as of November 7, 2003. See Safety Light Corporation, Weekly Report, Week Ending November 7, 2003, at 2 (ML050350049) (Staff Exhibit 14). Approximately 1,008 cubic feet of this waste was shipped for disposal, with the remainder stored on site in a combination of indoor and outdoor storage areas. See Safety Light Corporation, Weekly Report, Week Ending December 5, 2003 (ML050350050) (Exhibit 15); NRC Inspection Report (redacted), Inspections 03005980/2004001 and 03005982/2004001 Safety Light Corporation, Bloomsburg, Pennsylvania, dated November 4, 2004, (ML050460102) (Exhibit 16). The November 4, 2004 NRC Inspection Report (Staff Exhibit 16), at 2-3, documented that the continued deterioration of the waste containers was a safety concern. In addition, SLC informed the Staff on April 27, 2004, that it would be unable to disposal of all tritium waste generated prior to January 1, 2000, as required by License Condition 18 of License No. 37-00030-08. Staff Exhibit 10, at 2. In November 2004, EPA informed the NRC Staff that EPA, under its CERCLA emergency removal authority, EPA determined that it was necessary for EPA to take responsibility for this waste, in accordance with the conditions of the Administrative

Order By Consent for Removal Response Action.

On December 10, 2004, the Director of NMSS issued a letter denying the applications for renewals of the two licenses and forwarding the order suspending the licenses (effective immediately). See Staff Exhibit 13. The Suspension Order suspended licensed activities as of January 1, 2005, requiring SLC to continue to take such actions as are need to facilitate decommissioning the site, including processing the existing inventory of tritium to produce devices for transfer to authorized recipients, and required submission by December 20, 2004, of a plan for orderly shutdown of licensed activities from January 1, 2005, through March 31, 2005. See Suspension Order at sections IV-V. Pursuant to 10 C.F.R. § 30.36, the licenses continued in effect beyond license expiration with respect to the possession of byproduct material until Commission notifies SLC in writing that the licenses are terminated. *Id.*

Q4. What was the basis for the denial of the license renewal applications?

A4. (Pangburn) The basis for the denial of the license renewal applications is stated in the December 10 Letter (Staff Exhibit 13). When SLC's licenses were renewed in 1999, the NRC granted an exemption from the financial assurance requirements in 10 C.F.R. § 30.35 for both licenses provided that SLC: (1) made payments to the trust fund in accordance with the schedule contained in Condition 16 (License No. 37-00030-02) and Condition 20.A (License No. 37-00030-08), and (2) demonstrate compliance with 10 C.F.R. § 30.35 at the time of application for the next renewal. The application submitted by SLC failed to demonstrate compliance with either of these requirements. In addition, SLC merely requested a reduced trust fund payment and did not provide an adequate basis as to why an exemption was otherwise warranted, given the Commission's expressed expectations that SLC increase its efforts to provide financial assurance and SLC's repeated violations of the terms of its licenses. SLC's failure to comply with the terms of the previous exemption granted and substantive requirements associated with the decommissioning, resulted in the staff lacking the requisite assurance in SLC's ability to

comply with similar requirements in the future. SLC had the burden to demonstrate that an exemption was warranted, particularly since the NRC rarely grants exemptions for financial assurance requirements for decommissioning. An earlier exemption granted to SLC was related to the settlement agreement bringing prior litigation with SLC to an end. It was expected that SLC would satisfy the Commission's financial assurance requirements if given additional time. In addition, the Staff expected SLC to either maintain or increase its level of funding to the decommissioning trust fund during any subsequent renewed license period, thus evidencing an increased commitment to cleanup of the site. As noted above, SLC failed to provide such financial assurance. As a result, the staff was unable to determine that the exemption was authorized by law and would not endanger life or property or the common defense and security and otherwise be in the public interest.

Q5. On what basis did the NRC issue the Suspension Order?

A5. (Pangburn and Nolan) The Suspension Order was issued based on a finding that SLC had willfully violated License Conditions 16 and 20.A in the tritium and legacy licenses, respectively, conditions that were material to the grant of those licenses. In addition, the action taken was protective of public health, safety and interest given that (1) this willful violation resulted in the NRC lacking assurance that SLC would comply with NRC licensing requirements in the future and (2) the suspension would terminate activities that were adding radioactive waste to an already contaminated site.

The obligation to make the specified payments set forth in the two license conditions is unqualified and is not subject to the state of SLC's business conditions. License Conditions 16 and 20.A required that the amounts be paid "from operating funds or any other funds, except insurance litigation funds." As noted above, the monthly payments in the specified amounts to the trust fund were material to the granting of an exemption to SLC in connection with the renewal of its licenses in 1999. The licensee's deliberate failure to make the required payments to the trust

fund, as required by License Conditions 16 and 20.A, voided the exemption from the financial assurance requirements of 10 C.F.R. § 30.35, and placed SLC in continuing violation of these license conditions and 10 C.F.R. § 30.35. Statements by the two company officials documented in the OI report indicate that SLC senior management did not feel obligated to satisfy the financial assurance conditions of the license. See Staff Exhibit 8 (OI Report) at Exhibit 6 at 6-8; OI Report Exhibit 7 at 6-8. SLC had multiple opportunities to propose and take corrective action that would result in payment of arrears as required by the licenses, but instead remained in continuing violation of those requirements. Because the NRC relies the integrity of its licensees for compliance, SLC's conscious and deliberate decision to violate license requirements (for business reasons) raised serious doubts as to whether the NRC could rely on SLC to comply with NRC requirements in the future. Consequently, the staff lacked reasonable assurance that SLC's operations could be conducted in compliance with the Commission's regulations, including financial assurance requirements.

In addition to placing the licensee in violation of NRC requirements, the deliberate failure to make the prescribed payments into the decommissioning trust fund had a related effect on public health and safety. As a general matter, the Commission has indicated that although "decommissioning is not an imminent health and safety problem,...[i]nadequate or untimely consideration of decommissioning, specifically in the areas of planning and financial assurance, could result in significant adverse health, safety and environmental impacts." General Requirements for Decommissioning Nuclear Facilities [Final Rule], 53 Fed. Reg. 24018 (June 27, 1988). Such impacts "could lead to increased occupational and public doses, increased amounts of radioactive waste to be disposed of, and an increase in the number of contaminated sites" *Id.* In the specific case of the SLC licenses, due to the repeated failure to make required payments in accordance with the conditions of its licenses, SLC's ability to properly process and dispose of accumulated waste from the site was adversely affected, and NRC Staff lacked

reasonable assurance that sufficient funds would be available for decommissioning and that the health and safety of the public, including SLC's employees, would be protected. Consequently, the NRC staff concluded that the public health, safety, and interest required that License Nos. 37-00030-02 and 37-00030-08 be suspended except for those activities addressed in a plan for the orderly shutdown plan of licensed activities over a period beginning on January 1, 2005 and ending March 31, 2005. Furthermore, the NRC staff found that given the willful nature of the violation of Conditions 16 and 20.A. of License Nos. 37-00030-02 and 37-00030-08, respectively, and 10 C.F.R. § 30.35, as well as the related effect on public health and safety, the Order should be immediately effective, requiring SLC (1) to terminate licensed activities by December 31, 2004, the expiration date of its two licenses and (2) to submit a plan by December 20, 2004, for the orderly shutdown of its activities by March 31, 2005.

The shutdown plan was submitted on December 20, 2004, and approved by the Regional Administrator, Region I on December 29, 2004. In approving the shutdown plan, the Regional Administrator also approved SLC's request for relaxation of the Order to allow the receipt of additional tritium through January 31, 2005 and the acceptance of returned exit signs from customers which SLC would be able to send for disposal by March 31, 2005. Letter from Samuel Collins, NRC, to William Lynch, SLC, dated December 29, 2004 (ML043650071) (Staff Exhibit 17).

Q6. Was the issuance of the Suspension Order consistent with the NRC Enforcement Policy?

A6. (Nolan) Yes. The NRC Enforcement Policy describes the policies and procedures that the U.S. Nuclear Regulatory Commission and its staff intends to follow in initiating and reviewing enforcement actions in response to violations of NRC requirements. NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions, dated May 1, 2000, at 3. Subsequent changes have been noticed in the *Federal Register* and posted on the NRC's website ([www.nrc.gov/what-we-do/regulatory/enforcement/enforce-pol.html](http://www.nrc.gov/what-we-do/regulatory/enforcement/enforce-pol.html)). The policy statement

is not a regulation and the Commission may deviate from the policy in individual circumstances. NUREG-1600, at 3. The staff issued the Demand for Information to enable the NRC to determine whether an order or other enforcement action should be issued and provided SLC multiple opportunities (through the PEC and other correspondence) to identify information that would bring SLC back into compliance with NRC requirements. As indicated in NUREG-1600, Section VI.D, a suspension order may be issued in lieu of, or in addition to, civil penalties, for certain violations, and may be used, among other things, (a) to remove a threat to public health and safety, common defense and security or the environment, (b) when a licensee is unable or unwilling to comply with NRC requirements, (c) when a failure to comply with requirements is willful, (d) when a licensee refuses to correct a violation, or (e) for any condition which with warrant refusal of the license on an original application. *Id.* at 28-29. Willful violations are of particular concern to the Commission “because its regulatory program is based on licensee and their contractors, employees, and agents acting with integrity and communicating in candor. Willful violations cannot be tolerated by either the Commission or a licensee.” *Id.* at Section IV.A.4. Willfulness includes conduct ranging from deliberate intent to violate or to falsify to and including careless disregard for requirements. *Id.*

The Staff determined that SLC willfully violated its license conditions and was in violation of the financial assurance requirements set forth in 10 C.F.R. §§ 30.32(h) and 30.35, requirements that were material to the grant of its licenses. SLC was provided multiple opportunities to restore compliance with NRC requirements, but failed to provide information that would have resulted in the outstanding trust fund payments being made before expiration of the licenses. Suspension of the license, under these circumstances, was appropriate since due to the willful violation, the Staff lacked assurance that SLC would comply with NRC requirements in the future. The suspension also conveyed the importance of compliance with financial assurance requirements for decommissioning, thus deterring future violations and serving the public interest.

## **GEORGE C. PANGBURN**

### **EDUCATION:**

BA, Geography, University of Pittsburgh, Pittsburgh, PA, 1971

MA, Geography, University of Kansas, Lawrence, KS, 1974

MS, Energy Resources, University of Pittsburgh, Pittsburgh, PA, 1978

Graduate Study in Public Administration, University of Colorado, Denver, CO, 1984-85

### **EXPERIENCE:**

#### USNRC, Region I, 1997- present

As Director (1999-present) and Deputy Director (1997-1999) for Region I's Division of Nuclear Materials Safety, he oversees a staff of health physicists, radiation specialists and engineers in licensing and inspection of approximately 2500 nuclear materials licensees in the eastern United States, Puerto Rico and the Virgin Islands. He is also responsible for oversight of 14 Agreement State radiation control programs and inspection of decommissioning nuclear reactors and materials sites. His responsibilities for NMSS include program direction and implementation for incident response, licensing, inspection, enforcement, and allegations for materials and decommissioning licensees.

#### USNRC, Office of Nuclear Material Safety and Safeguards, 1992-1997:

As Section Leader in NMSS, responsible for management direction, technical support and programmatic oversight to NRC's regional materials licensing and inspection programs. Also served as Section Leader for fuel cycle licensing programs. Responsible for development and maintenance of inspection guidance and generic communications for materials licensees. Focal point for NMSS participation in Regional and Agreement State program reviews under Integrated Materials Performance Evaluation Program (IMPEP). Provided health physics expertise in response to technical assistance requests and guidance on interpretation of Part 20. Also developed and monitored regional materials budget, monitored regional progress against operating plan goals and administered program support contract funds.

#### USNRC, Office of the Chairman, 1991-92:

As Technical Assistant to the Chairman for NMSS programs, provided policy advice and voting recommendations on a variety of Commission and staff initiatives in the areas of materials use, low-level radioactive waste disposal, decommissioning and fuel cycle. Routinely interacted with other Commission offices, OEDO and program offices in furtherance of Commission policy. Prepared and coordinated Chairman's speeches for NMSS areas. Represented Chairman with Agreement States and various professional and technical interest groups.

#### USNRC, Office of the Executive Director for Operations, 1990-91:

As Technical Assistant to the Deputy Executive Director for Nuclear Material Safety, Safeguards and Operations Support (DEDS), reviewed and provided advice and recommendations on Commission papers, rulemakings and other staff initiatives. Monitored implementation of programs

under purview of DEDS, including regional implementation of NMSS programs and RES rulemakings in the materials, waste and decommissioning areas. Coordinated staff interaction with Commission offices, including review of draft Staff Requirements Memoranda, briefings and Commission information requests.

USNRC, Office of Nuclear Materials Safety and Safeguards, 1986-1990:

Served as Senior Nuclear Safety Scientist and Project Manager in materials, low-level waste and uranium mill tailings program areas. Prepared and, in concert with the LLW Compacts, coordinated NRC's response to the Governor's certification provisions of the Low-Level Radioactive Waste Policy Amendments Act of 1990. Developed guidance for licensees and regional offices on licensing and inspection of extended storage of LLW. Served as Project Manager coordinating the efforts of interdisciplinary teams in NRC's review and concurrence on DOE remedial action plans for uranium mill tailings piles under Title I of the Uranium Mill Tailings Radiation Control Act of 1978.

USNRC, Uranium Recovery Field Office (URFO), Denver, CO, 1983-1986:

Served as Inspector and License Reviewer for conventional uranium milling as well as in-situ recovery licensees in Wyoming and Utah. Also served as Team Leader for interdisciplinary team inspections of uranium recovery facilities. Coordinated licensing and inspection policy with program offices and Agreement States with uranium milling regulatory authority. Provided support and coordination in return of New Mexico's Agreement State uranium milling regulatory program to NRC.

USNRC, Office of Nuclear Materials Safety and Safeguards, 1980-83:

Served as team member in development of 10 CFR 61, Land Disposal of Radioactive Waste, and project manager for preparation of supportive Environmental Impact Statement. Also served as Project Manager for Barnwell LLW disposal facility, including renewal of NRC's special nuclear material license and coordination with the State of South Carolina on LLW disposal issues.

Westinghouse Environmental Systems Department, 1973-80:

As Senior Scientist and Project Manager, responsible for environmental impact and siting studies relative to nuclear and coal-fired electric generating stations and extra-high voltage (EHV) transmission systems, largely in the Western United States.

**AWARDS/ACCOMPLISHMENTS**

Presidential Meritorious Executive Rank Award, 2004  
NRC Meritorious Service Award--Management Excellence, 1996  
Graduate, NRC Senior Executive Service Candidate Program, 1994  
High Quality Increases, 1990, 1991, 1995  
Special Achievement Award, 1992, 1997

Member, Columbia Council and Board of Directors, Columbia, MD, 1995-1997  
Chair and Member, Village Board, Village of Kings Contrivance, Columbia, MD, 1989-93.

## MARK CHRISTOPHER NOLAN

### **EDUCATION:**

BS, Mechanical Engineering, University of Maryland, College Park, Md., 1987

MS, Engineering Management, University of Maryland, College Park, Md., 1998

### **EXPERIENCE:**

USNRC, Office Of Enforcement, Chief, Enforcement Policy and Program Oversight Section, 2004 - present

I have been the Chief of the Enforcement Policy and Program Oversight Section since January 11, 2004. I supervise the NRC Headquarters materials and reactors enforcement specialists. Each escalated enforcement case is assigned to an enforcement specialist to fulfill a program oversight and project management role. The enforcement specialist follows each case to ensure that it is processed consistent with the Enforcement Policy and to coordinate the Headquarters review of the final enforcement action. This section also monitors and periodically audits the non-escalated enforcement that is implemented in NRC Regional Offices and NRC Headquarters Program Offices. In this capacity the enforcement specialist interact with the Regional and Program Office enforcement coordinators.

USNRC, Office of Nuclear Security and Incident Response Action Chief, Licensee Personnel Security Section, 2002-2004:

I was the Acting Chief of the Licensee Personnel Security Section (LPSS) from December 15, 2002 through January 10, 2004. In that capacity, I supervised a staff that was responsible for the program development and oversight of regulations and requirements related to Fitness-for-Duty (10 CFR Part 26), Access Authorization (10 CFR 73.56 & 10 CFR 73.57), and Security Personnel Fatigue. In addition, the LPSS staff was involved in other programs related to personnel security. I supervised the development and issuance of multiple immediately effective orders to power reactor licensees imposing additional requirements in these areas. In addition, the LPSS staff provided support in the development and issuance of orders to various materials licensees regarding access authorization. Prior to my role as the acting Section Chief, I was a Senior Program Manager and was responsible for developing a Commission paper that detailed the staff's integrated approach to enhancing security requirements for materials and reactor licensees following the terrorist attacks of September 11, 2001.

USNRC, Office of Enforcement, Enforcement Specialist, 2000-2002:

I was responsible for coordinating reactor enforcement cases for Regions III & IV and acted as the liaison with the Office of Nuclear Reactor Regulation for implementation of the Reactor Oversight Process (ROP). I attended the majority of the regulatory conferences and enforcement conferences held in Regions III & IV. I was involved in numerous implementation issues associated with the ROP. I addressed disputed violations, appealed findings, and backfit claims. I was involved in the assessment and contributed to the Commission paper discussing the first year of implementation of the ROP.

USNRC, Office of Nuclear Reactor Regulation, Licensing Project Manager, 1998-2000:

I was assigned as the Project Manager (PM) for Arkansas Nuclear One, Units-1 & 2 (ANO-1&2) and the D. C. Cook Nuclear Power Plant. As the PM, I was the main focal point for regulatory interaction between the NRR technical staff and the licensee. In addition, I was involved in coordination efforts with the Regions, other Offices, and Federal agencies involved in the oversight of licensee activities. I facilitated or performed the timely review and disposition of licensing products such as amendments, relief requests, exemptions, generic letters, and notices of enforcement discretion (NOEDs). I made significant contributions in managing degradation issues associated with the ANO-1&2 steam generators. I was involved in a number of first-of-a-kind licensing efforts such as risk-informed inservice inspection and the elimination of post accident sample system requirements. I also supported regional inspection efforts.

Baltimore Gas & Electric Company, Calvert Cliffs Nuclear Power Plant, Senior Design Engineer, Lusby, MD, 1989-1998:

Lead Design Engineer responsible for the conceptual development, work scope, permitting, system design, procurement, construction, testing, and turnover of a new chemical injection system to treat service water heat exchangers in a saltwater application. Supported the replacement of the service water heat exchangers to a plate & frame design. Improved the performance of the plant's cooling water systems through thermal-hydraulic modeling, modifications, procedure changes, heat exchanger testing, pump testing, and continuous performance monitoring. I supported design issues associated with the diesel generators. I was involved in various piping and code issues including obtaining a variance from the State of Maryland for over pressure protection requirements for the high pressure feedwater heaters, ASME Boiler & Pressure Vessel Code, Section VIII. Provided leadership to engineering/operations teams to resolve time sensitive equipment operability issues. Utilized project scheduling and budgeting skills in this position.

General Electric Company, Knolls Atomic Power Laboratory, Nuclear Plant Engineer - Prototype Operations, Schenectady, NY, 1987-1989:

Supervised operations of the reactor plant and engine room of naval nuclear propulsion plants (S3G, MARF). These prototypes were full scale operating plants constructed to test advanced designs in submarine and surface ship propulsion plants while providing a training platform for naval personnel. Trained students to become qualified operators through lecture, one-on-one supervised watchstanding, seminars, and technical interviews. Personally responsible for the training of each student Officer assigned to the operating shift. Supervised student training through scheduling, tracking, and trending of student and class progress. Extensive knowledge gained in the design, maintenance, overhaul, and operation of naval nuclear power plants.

**AWARDS/ACCOMPLISHMENTS**

Graduate, NRC Leadership Potential Program, 2004  
Time Off Award, 2004  
High Quality Increase, 2003  
Performance Awards, 2002, 2001, 1999  
Special Act Awards, 2003, 2002, 2001, 2000

Licensed Professional Engineer, State of Virginia, No. 034697, January 18, 2001  
Graduate, U.S. Navy, Naval Nuclear Power School, Officer Program, 1988

Authored Publications:

1. Understanding heat Exchanger Fouling and Its Mitigation. Bott, T. R., Begall-House, NY, NY, 1999, ISBN 1-567000-056-8, Nolan, M. C., Scott, B. H.; *Characterization of Heat Exchanger Fouling Through On-Line Monitoring*.

Authored Papers:

1. Nolan, M. C., Kaucic, D.; *Plate Heat Exchanger Fouling Evaluated Through Continuous On-Line Monitoring*. 11<sup>th</sup> Annual Service Water System Reliability Improvement Seminar, Williamsburg, Virginia, July 8-9, 1998.
2. Nolan, M. C., Scott, B. H.; *Plate Heat Exchanger Fouling Evaluated Through Continuous On-Line Monitoring*. American Power Conference, 60th Annual Meeting, Chicago, Illinois, April 14-16, 1998.
3. Scott, B. H., Nolan, M. C.; *Evaluation of Heat Exchanger Performance Through a Comprehensive Test Program*. American Power Conference, 60th Annual Meeting, Chicago, Illinois, April 14-16, 1998.
4. Nolan, M. C., Scott, B. H.; *Characterization of Heat Exchanger Fouling Through On-Line Monitoring*. Engineering Foundation Conference - Understanding Heat Exchanger Fouling and its Mitigation, Castelvecchio Pascoli, Italy, May 11-16, 1997.
5. Nolan, M. C., Scott, B. H.; *On-Line Monitoring of Heat Exchanger Microfouling: An Alternative to Thermal Performance Testing*. 9th Annual Service Water Systems Reliability Improvement Seminar, Daytona Beach, Florida, June 25-27, 1996.
6. Scott, B. H., Nolan, M. C.; *Evaluation of Heat Exchanger Test Results: Does Math Reflect Reality?* 8th Annual Service Water Systems Reliability Improvement Seminar, Charlotte, North Carolina, June 6-8, 1995.

Publications Referencing My Work:

7. Bowman, C.F.; *Influence of Water-Side Fouling on Air-to-Water Heat Exchanger Performance*. American Power Conference, 60th Annual Meeting, Chicago, Illinois, April 14-16, 1998. Referenced Item 5 Above.

Recognized As a Contributor:

8. NUREG-1706, "An Assessment of US Nuclear Utility Year 2000 Readiness," M. E. Waterman, D. W. Spaulding, August 1999
9. PWR Primary Water Chemistry Guidelines: Revision 2. Electric Power Research Institute, EPRI NP-7077, November 1990, Contributing Author.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
SAFETY LIGHT CORPORATION	)	Docket Nos. 30-5980- MLA, 30-5982-MLA
Bloomsburg, Pennsylvania Site	)	30-5980-EA and 30-5982-EA
	)	
(Materials License Amendment and	)	ASLBP Nos. 04-833-07-MLA and
Materials License Suspension)	)	05-835-EA

AFFIDAVIT OF GEORGE C. PANGBURN REGARDING  
NRC STAFF TESTIMONY ON LICENSE RENEWAL DENIAL  
AND ORDER SUSPENDING LICENSES (EFFECTIVE IMMEDIATELY)

I, George C. Pangburn, do hereby certify under penalty of perjury that the statements attributed to me in the "Testimony of George C. Pangburn and M. Christopher Nolan Regarding Denial of Application to Renew Licenses and the Order Suspending Licenses (Effective Immediately)" as well as the accompanying statement of my professional qualifications that are appended to the "NRC Staff Position and Presentation on Materials License Renewal Denial and Materials License Suspension," dated February 16, 2005, are true and correct to the best of my knowledge, information and belief.

*/RA/*

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George C. Pangburn

Dated at King of Prussia, Pennsylvania  
this 16th day of February 2005

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
SAFETY LIGHT CORPORATION	)	Docket Nos. 30-5980- MLA, 30-5982-MLA
Bloomsburg, Pennsylvania Site	)	30-5980-EA and 30-5982-EA
	)	
(Materials License Amendment and	)	ASLBP Nos. 04-833-07-MLA and
Materials License Suspension)	)	05-835-EA

AFFIDAVIT OF M. CHRISTOPHER NOLAN REGARDING  
NRC STAFF TESTIMONY ON LICENSE RENEWAL DENIAL  
AND ORDER SUSPENDING LICENSES (EFFECTIVE IMMEDIATELY)

I, M. Christopher Nolan, do hereby certify under penalty of perjury that the statements attributed to me in the "Testimony of George C. Pangburn and M. Christopher Nolan Regarding Denial of Applications to Renew Licenses and the Order Suspending Licenses (Effective Immediately)" as well as the accompanying statement of my professional qualifications that are appended to the "NRC Staff Position and Presentation on Materials License Renewal and Materials License Suspension," dated February 16, 2005, are true and correct to the best of my knowledge, information and belief.

*/RA/*

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M. Christopher Nolan

Dated at Rockville, Maryland  
this 16th day of February 2005