



State of California - Department of Fish and Wildlife
2026 ENVIRONMENTAL DOCUMENT FILING FEE
CASH RECEIPT
 DFW 753 5a (Rev 01/01/26) Previously DFG 753 5a

RECEIPT NUMBER 37-02/18/2026-0149
STATE CLEARING HOUSE NUMBER (if applicable)

SEE INSTRUCTIONS ON REVERSE TYPE OR PRINT CLEARLY.

LEAD AGENCY SAN DIEGO UNIFIED PORT DISTRICT DEVELOPMENT SERVICES DEPARTMENT	LEAD AGENCY EMAIL	DATE 02/18/2026
COUNTY/STATE AGENCY OF FILING SAN DIEGO	DOCUMENT NUMBER 37-2026-0149	

PROJECT TITLE
LUX BIO PILOT PROJECT

PROJECT APPLICANT NAME PAIGE WHITEHEAD, LUX BIO	PROJECT APPLICANT EMAIL	PHONE NUMBER 778-977-2402
PROJECT APPLICANT ADDRESS 8855 LAUREL STREET, #107	CITY VANCOUVER, BC V6P 3V	STATE ZIP CODE

PROJECT APPLICANT (Check appropriate box)

Local Public Agency
 School District
 Other Special District
 State Agency
 Private Entity

CHECK APPLICABLE FEES:

<input type="checkbox"/> Environmental Impact Report (EIR)	\$4,227 50	\$	0 00
<input type="checkbox"/> Mitigated/Negative Declaration (MND)/(ND)	\$3,043 75	\$	0 00
<input type="checkbox"/> Certified Regulatory Program (CRP) document - payment due directly to CDFW	\$1,437 25	\$	0 00

- Exempt from fee
- Notice of Exemption (attach)
 - CDFW No Effect Determination (attach)
- Fee previously paid (attach previously issued cash receipt copy)

<input type="checkbox"/> Water Right Application or Petition Fee (State Water Resources Control Board only)	\$850 00	\$	0 00
<input checked="" type="checkbox"/> County documentary handling fee		\$	50 00
<input type="checkbox"/> Other		\$	0 00

PAYMENT METHOD

Cash
 Credit
 Check
 Other

TOTAL RECEIVED \$ 50 00

SIGNATURE X <i>Steve Sangthai</i>	AGENCY OF FILING PRINTED NAME AND TITLE San Diego County Clerk, STEVE SANGTHAI, Deputy
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Payment Reference # order#/auth# 215975870/025042



**SAN DIEGO COUNTY CLERK
CEQA FILING COVER SHEET**

FILED
Feb 18, 2026 10:18 AM
JORDAN Z. MARKS
SAN DIEGO COUNTY CLERK
File # 2026-000163
State Receipt # 37021820260149

THIS SPACE FOR CLERK'S USE ONLY

Complete and attach this form to each CEQA Notice filed with the County Clerk

TYPE OR PRINT CLEARLY

Project Title

LUX BIO PILOT PROJECT

Check Document being Filed:

- Environmental Impact Report (EIR)
- Mitigated Negative Declaration (MND) or Negative Declaration (ND)
- Notice of Exemption (NOE)
- Other (Please fill in type)

**FILED IN THE OFFICE OF THE SAN DIEGO
COUNTY CLERK ON** February 18, 2026
Posted February 18, 2026 **Removed** _____
Returned to agency on _____
DEPUTY _____

Filing fees are due at the time a Notice of Determination/Exemption is filed with our office. For more information on filing fees and No Effect Determinations, please refer to California Code of Regulations, Title 14, section 753.5.

Notice of Exemption*CEQA Guidelines Appendix E*

To ■ San Diego County Recorder/County Clerk
1600 Pacific Highway, Suite 260
San Diego, CA 92101-2480

From: ■ San Diego Unified Port District
Development Services Department
3165 Pacific Highway
San Diego, CA 92101

Project Title Lux Bio Pilot Project

Project Applicant: Paige Whitehead, Lux Bio, 8855 Laurel Street #107, Vancouver, BC V6P 3V9, Canada, 778-977-2402

Project Location – Specific Various Locations on District Tidelands and Offshore Within the Southern California Bight

Project location – City San Diego, National City, Chula Vista, Imperial Beach, Coronado

Project Location – County San Diego

Description of Nature, Purpose, and Beneficiaries of Project

The proposed project is a multi-phase pilot project to validate a bioluminescent signaling technology. The Applicant (Lux Bio) would deliver prototypes of the bioluminescent, biodegradable light stick and coordinate with the District to deploy the product at District events for public use, for commercial fishing applications, and for testing under environmental and operational conditions relevant to potential military use. These uses are in-line with existing use of traditional chemiluminescent sticks, also known as "chem lights" or "glow sticks." Chem lights are lightweight, self-contained, single-use, short-term light sources. They are waterproof, do not require the use of batteries, and generate no or negligible heat which makes them ideal for a variety of uses, including military use, diving, and fishing. Traditional chem lights are typically encased in plastic and the chemical reaction that occurs within has been shown to produce toxic byproducts. The purpose of this pilot project is to validate a safer, more sustainable alternative to traditional chem lights.

The Lux Bio light sticks use a non-toxic, biodegradable, enzyme-based lighting system that is inspired by bioluminescence. The outer shell of the light stick is made from a blend of certified biodegradable materials. The light sticks measure 6 inches and emit a fluorescent yellow-green color (555 nanometer wavelength). The brightness of the light sticks is comparable to that of traditional chem lights and lasts up to 48 hours. As with traditional chem lights, the light sticks are activated when the stick is bent, and the formula mixes with the activator. The Lux Bio light sticks use water as the activator. The light sticks have a multi-functional hook on the top which allows the light sticks to be easily attached to other structures.

The Lux Bio light sticks would be tested for the applications listed below. Validation tests for this product may be conducted either through independent third-party testing labs or through collaboration with a U.S. Navy testing facility or other government lab partner. The results of these tests would be used to refine the product design and certify performance specifications.

Commercial Fishing

This phase of the pilot project would include testing the use case for the Lux Bio light sticks in the long-line commercial fishing industry. This effort would be validated with the Pflieger Institute of Environmental Research (PIER). PIER is a non-profit research institute based in Oceanside, California. PIER's research focuses on the development of responsible domestic fishing operations and gear for several pelagic species, including bluefin tuna and swordfish. Currently, long-line commercial fishing operations rely on traditional chemiluminescent light sticks to attract pelagic species. The Lux Bio light sticks would be utilized by PIER for long-line fishing trials to directly compare the catch rate data of Lux Bio biodegradable light sticks to traditional chemiluminescent light sticks. The use of a biodegradable alternative would help reduce plastic and other pollution caused by traditional

chemiluminescent light sticks detaching from gear into the ocean. The Lux Bio light sticks are designed to break down without ecotoxicity or bioaccumulation concerns.

The PIER research vessel has the capacity to deploy shallow and deep-set gear configurations, ranging from single-buoy systems to larger-scale long-line operations. Specific to this project, PIER would test both deep and shallow-set small-scale long-line-type gear under exempted fishing permits (EFPs) issued through the Pacific Fishery Management Council. This EFP research includes testing fishing gear at multiple depths targeting Pacific bluefin tuna (shallow set) and swordfish (deep set). Gear testing employs heavy weights as well as time and depth loggers on each piece of gear. Gear deployments during the proposed project would range from approximately 200–400 hooks per set. Any illumination testing would follow regional long-line standards, with the illumination source positioned proximal to the bait (2–4 fathoms) and soak times of up to 10 hours. Standard depths for shallow sets range from 50–150 m, while deep sets range from 250–400 m.

PIER would conduct performance testing of Lux Bio products on commercial extended linked buoy gear sets operating under EFP status off the California coast. PIER would collaborate with Lux Bio staff to identify the most beneficial testing regime for the project, including time and depth standards. Preliminary lab testing has shown high pressure tolerance, but Lux Bio has yet to test the commercial fishing replacement in real-world ocean depth settings. PIER will be able to support testing at approximately 300 m (the standard depth for deep-set longline operations). PIER would focus test deployments on deep-set gear targeting swordfish 300m and 6° to 8°C. Data provided to Lux Bio would include depth and temperature data of the Lux Bio illumination source, as well as time spent submerged. PIER can also provide preliminary comparative performance data relative to the battery-operated illumination currently in use off California. If additional deployments are required, PIER can facilitate illumination testing aboard additional EFP vessels that also collaborate with PIER.

Defense and Government

Navy Coastal Trident Program

Chemiluminescence was originally developed for the US Navy for a form of light that does not use electricity and is safe to use in a variety of environments. The use of chemiluminescent light sticks for military purposes is commonplace worldwide. The purpose of this phase of the pilot project would be to test Lux Bio biodegradable light sticks performance under real-world conditions that reflect Navy operations, above and below water.

Lux Bio glow sticks would be tested at the Navy Coastal Trident program on August 4, 2026. The Coastal Trident Program is an annual maritime security and response training, exercise, and field experimentation initiative led by the U.S. Navy's Naval Surface Warfare Center, Port Hueneme Division, in partnership with federal, state, local, academic, and industry organizations. The program is a regional venue for scenario based exercises, technology demonstrations, and field experiments that help assess capabilities, refine response plans and tactics, and accelerate adoption of emerging technologies that support naval operations, port security, and complex incident responses in the maritime domain. -based exercises, technology demonstrations, and field experiments that help assess capabilities, refine response plans and tactics, and accelerate adoption of emerging technologies that support naval operations, port security, and complex incident responses in the maritime domain.

The Coastal Trident exercise on August 4, 2026, is designed to test response protocols for a shooter scenario in a maritime environment at night. The trial would involve multiple response units and compare the performance of traditional chemiluminescent glow sticks versus Lux Bio's alternative. During the Coastal Trident exercise, multiple scenarios would be evaluated to compare standard chemiluminescent glow sticks with Lux Bio alternatives. Standard navigation and marking tasks would involve using glow sticks to indicate safe zones, evacuation routes, and perimeters, with particular attention to Lux Bio glow sticks' glow intensity, duration, and visibility under varying weather and sea conditions. For target identification and threat response, glow sticks would be used to mark shooter locations or priority targets, assessing the accuracy and clarity of Lux Bio markers in chaotic, low-light environments. Team coordination and communication would also be observed, focusing on

how visual signaling supports rapid decision-making and unit coordination in the dark, including emergency communication protocols. Durability under operational stress is another key consideration, with testing for exposure to water, impacts, and repeated handling, as well as any differences in breakage, leakage, or loss of luminosity between standard and Lux Bio sticks. Operational efficiency and safety will be monitored through setup time, handling ease, and ergonomic factors. Finally, environmental and logistical considerations will be assessed, including handling and disposal in sensitive maritime environments, as well as potential advantages in weight, storage, and transport.

Port of San Diego

Testing of the Lux Bio light sticks would also be conducted in coordination with the District’s Harbor Police Department (HPD), Port divers, the District’s Parks and Recreation Department, and other Port-related groups. Users such as HPD and the Port divers would deploy the Lux Bio light sticks while diving and in other relevant scenarios and evaluate the Lux Bio light sticks for brightness, visibility under varied conditions, durability in handling or water exposure, and operational reliability during real-world tasks, similar to the Navy exercises.

In community and educational settings, such as Port-sponsored events and Blue Economy innovation showcases, the Lux Bio light sticks would be evaluated for visual impact, ease of use, photo and video documentation, and the ability to communicate key messages about safety, sustainability, and science. For these uses, the pilot project would be less focused on performance metrics and more on how the technology could enhance public experience, engagement, and educational value.

Due to its nature and limited scope, the proposed project would generate a minor amount of vehicle trips and would require limited use of equipment. Therefore, impacts related to air quality, greenhouse gas emissions, and transportation and traffic are not anticipated to occur. Furthermore, the Applicant would be responsible for complying with all applicable federal, state, and local laws regarding debris, hazards and hazardous materials, and stormwater. Any additional permits or approvals associated with the PIER commercial fishing research activities or the Navy Coastal Trident Program are outside the District’s jurisdiction and must be obtained by the Applicant.

Name of Public Agency Approving Project San Diego Unified Port District (SDUPD)

- Exempt Status** (Check one)
- Ministerial (Sec 21080(b)(1), 15268),
 - Declared Emergency (Sec 21080(b)(3), 15269(a)),
 - Emergency Project (Sec 21080(b)(4), 15269(b)(c)),
 - Categorical Exemption(s): *Information Collection (SG § 15306) (Class 6)***
 - Statutory Exemption. State code number

Reason Why Project is Exempt: The proposed project is determined to be Categorically Exempt pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15306 (Information Collection) and Section 3 f of the District’s Guidelines for Compliance with CEQA because it is the temporary use of biodegradable light sticks for events, commercial fishing, and Navy-relevant testing that would involve basic data collection and research which do not result in a serious or major disturbance to an environmental resource. Section 3 f of the District’s CEQA Guidelines is as follows:

- 3 f **Information Collection (SG § 15306) (Class 6)** Includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be for information gathering purposes, or as part of a study leading to an action which has not yet been approved, adopted or funded.

The District has determined none of the six exceptions to the use of a categorical exemption apply to this project (CEQA Guidelines Section 15300.2). The project would evaluate Lux Bio light sticks use for existing applications of traditional chem lights. The Lux Bio light sticks would produce comparable brightness to traditional chem lights and are non-toxic and fully biodegradable, resulting in no anticipated effects related to lighting or pollution.

Therefore, there is no reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances and the CEQA exemption exception for significant effect (CEQA Guidelines Section 15300 2(c)) would not apply to this project

Lead Agency Contact Person and Telephone Number Jolie Gobler, (619) 821-6119

Signature Jolie Gobler Date 2/10/26 Title Planner I

- Signed by Lead Agency
- Signed by Applicant

Date received for filing at
OPR/Clerk



San Diego County



Transaction #: 8890299
Receipt #: 2026063364

JORDAN Z. MARKS
Assessor/Recorder/County Clerk
1600 Pacific Highway Suite 260
P. O. Box 121750, San Diego, CA 92112-1750
Tel. (619) 237-0502 Fax (619) 557-4155
www.sdarcc.gov

Cashier Date: 02/18/2026
Cashier Location: SD

Print Date: 02/18/2026 10:19 am

Payment Summary

Total Fees	\$300.00
Total Payments	\$300.00
Balance:	\$0.00

Payment

VITALCHEK PAYMENT \$300.00

Total Payments \$300.00

Filings

CEQA - NOE FILE #: 2026-000163 Date: 02/18/2026 10:18AM Pages: 5
State Receipt # 37-02/18/2026-0149

Fees:	Fish & Wildlife County Administrative Fee	\$50.00
Total Fees Due:		\$50.00

CEQA - NOE FILE #: 2026-000164 Date: 02/18/2026 10:18AM Pages: 3
State Receipt # 37-02/18/2026-0150

Fees:	Fish & Wildlife County Administrative Fee	\$50.00
Total Fees Due:		\$50.00

CEQA - NOE FILE #: 2026-000165 Date: 02/18/2026 10:18AM Pages: 3
State Receipt # 37-02/18/2026-0151

Fees:	Fish & Wildlife County Administrative Fee	\$50.00
Total Fees Due:		\$50.00

CEQA - NOE FILE #: 2026-000166 Date: 02/18/2026 10:18AM Pages: 3
State Receipt # 37-02/18/2026-0152

Fees:	Fish & Wildlife County Administrative Fee	\$50.00
Total Fees Due:		\$50.00

CEQA - NOE	FILE #: 2026-000167 Date: 02/18/2026 10:18AM	Pages: 4
	State Receipt # 37-02/18/2026-0153	
Fees: Fish & Wildlife County Administrative Fee		\$50.00
Total Fees Due:		\$50.00

CEQA - NOE	FILE #: 2026-000168 Date: 02/18/2026 10:18AM	Pages: 3
	State Receipt # 37-02/18/2026-0154	
Fees: Fish & Wildlife County Administrative Fee		\$50.00
Total Fees Due:		\$50.00

Grand Total - All Documents: \$300.00