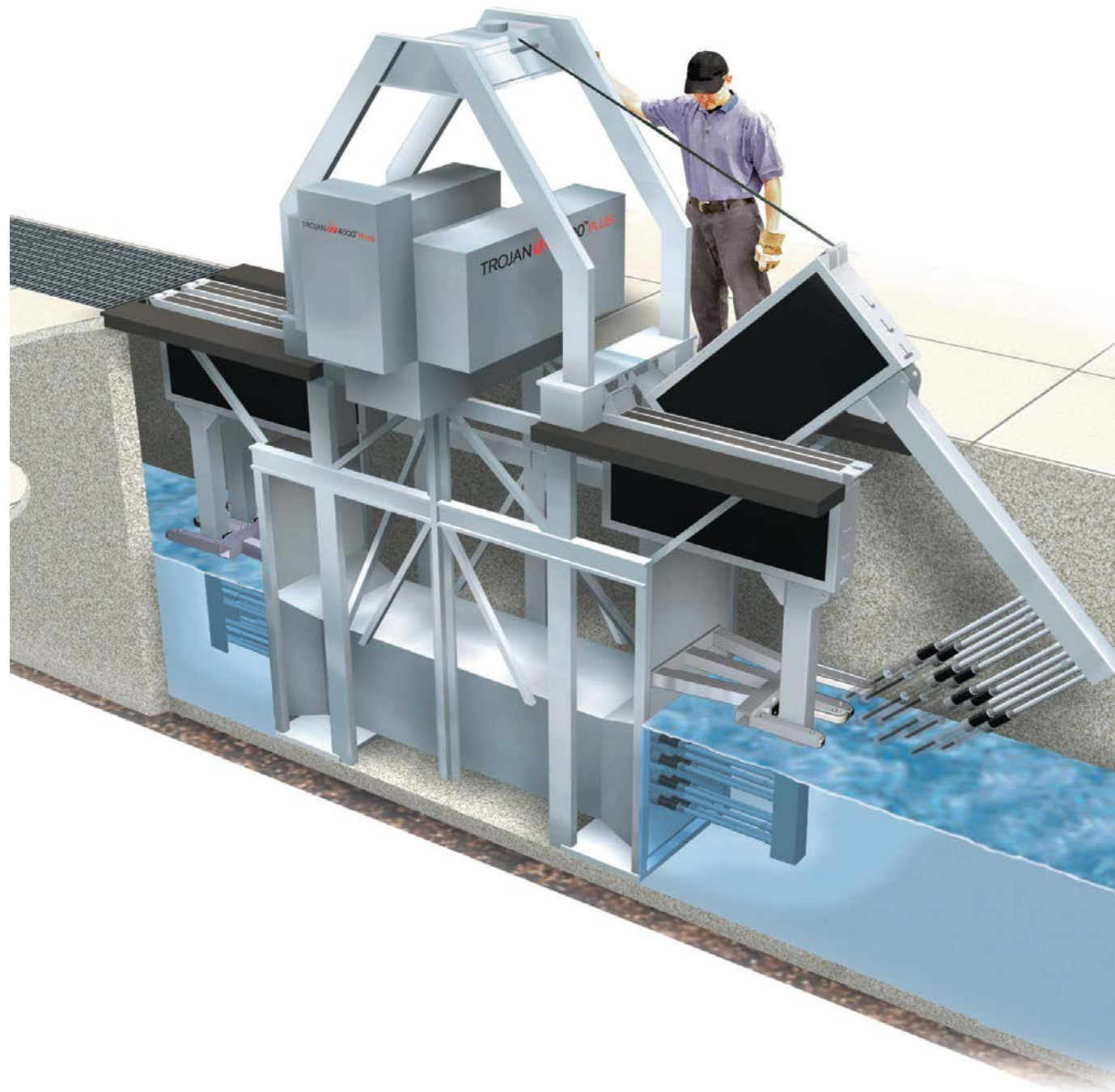


OUT WITH THE OLD IN WITH THE NEW

Replacing a tired UV4000 System
With a NEW **Trojan UVSigna**
At the San Diego South Bay WWTP

The Old: Trojan UV4000

Medium Pressure UV Disinfection
Cutting Edge Technology – 1997



Installed in 1998

Pretty Cool Then



But So Were These!

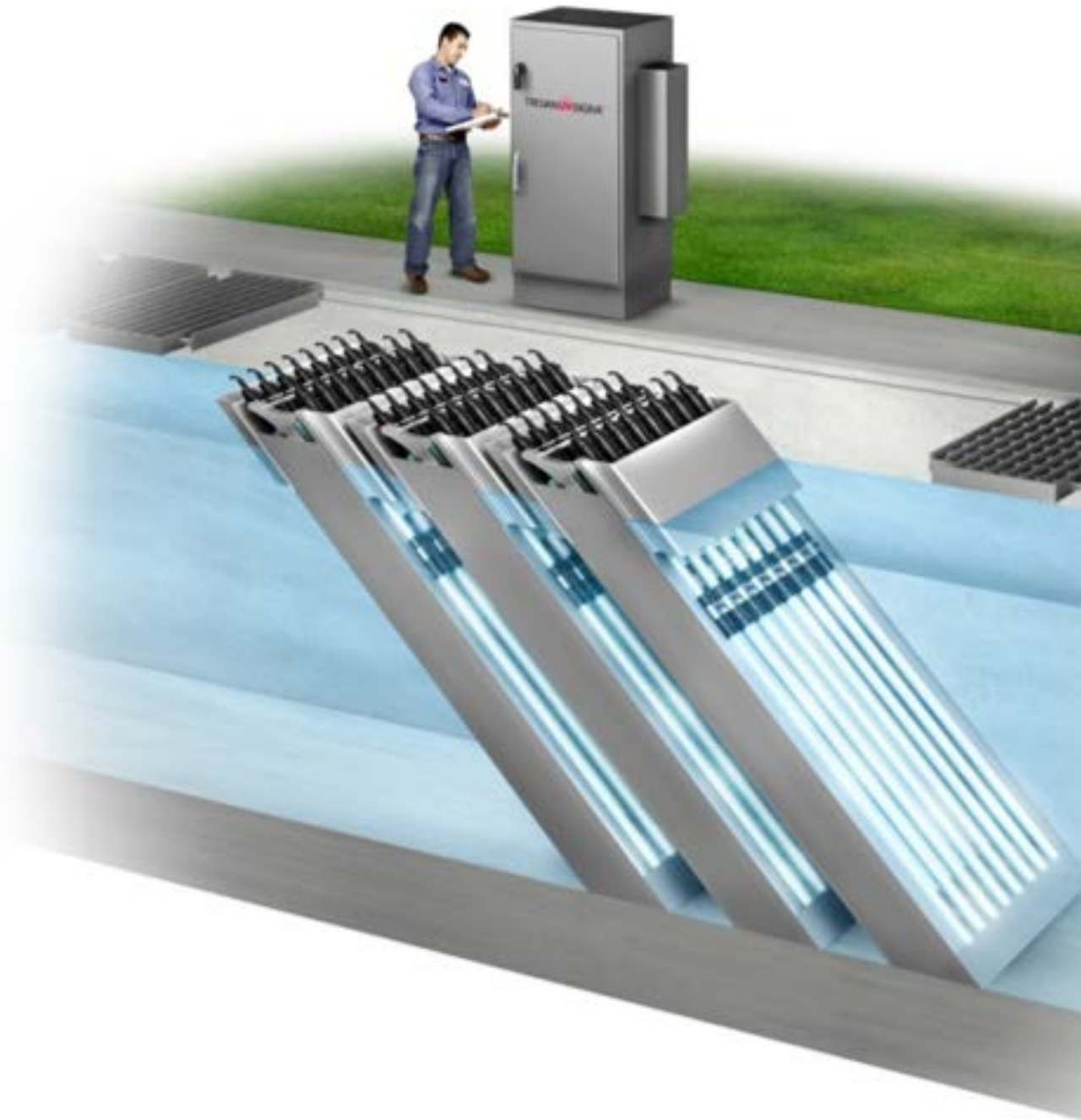
There have been vast
improvements in
electronics in the last 20
Years



1997

The NEW: **Trojan UVSigna**

- 1000 Watt Monochromatic Lamps
- Lamps 3X More ENERGY EFFICIENT
- More Efficient Ballasts
- Chemical + Mechanical Wipers
- All Electrical Connections Above water



OLD: Medium Pressure Spectrum

Lots of Wasted Light and Heat

4.3 *Spectrum*

The output spectrum of Trojan's MP lamp was measured in Trojan's far field irradiance lab. Lamps from both suppliers and all lengths were measured. It was found that all of Trojan's MP lamps, UV4000, SWIFT12, SWIFT24 and SWIFT30 have the same spectrum.

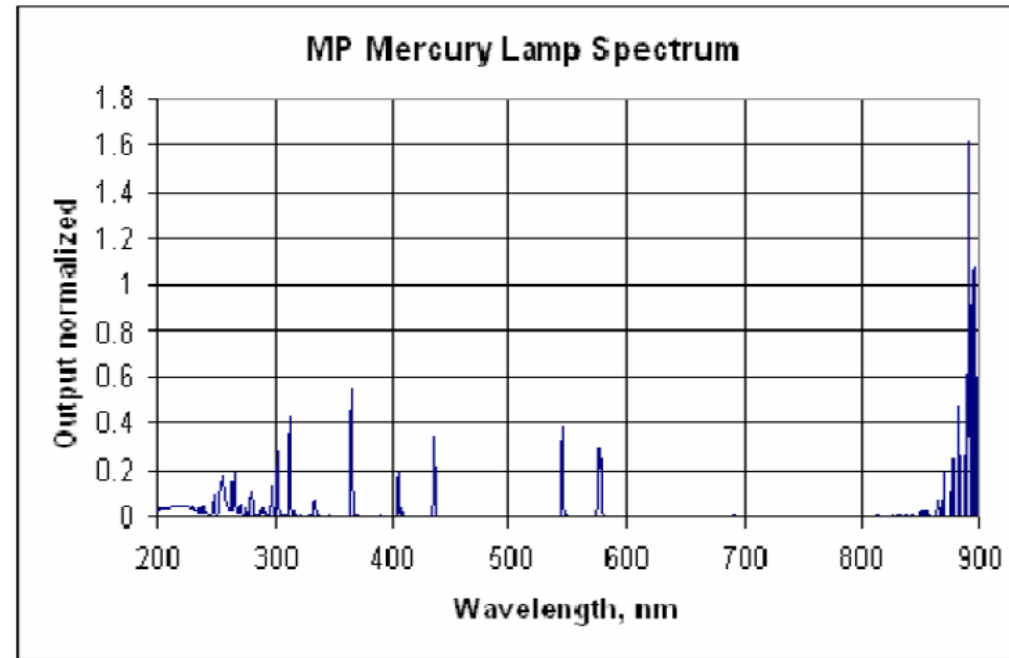
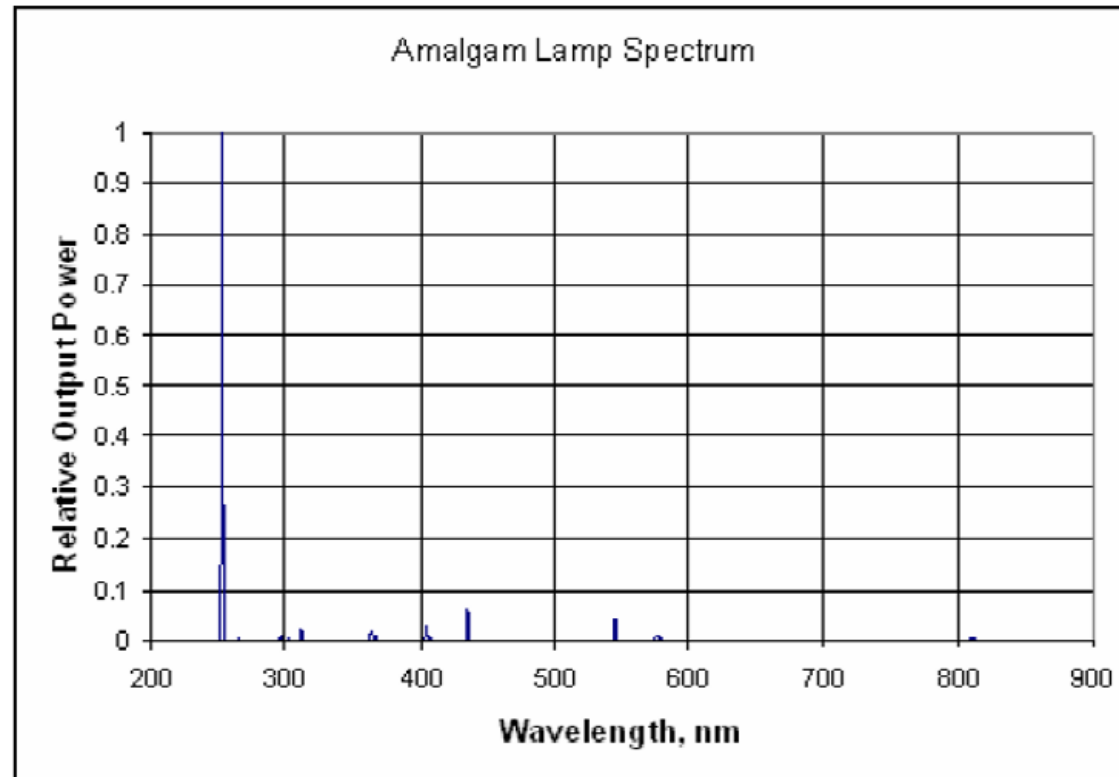


Figure 4.3.1: MP lamp spectrum.

NEW: Light Concentrated @ 254 nm Optimal Germicidal Wavelength

3.2 *Spectrum*

Amalgam lamps are monochromatic, with output primarily at 254nm. The output spectrum of the amalgam lamp was measured in Trojan's far field irradiance lab.



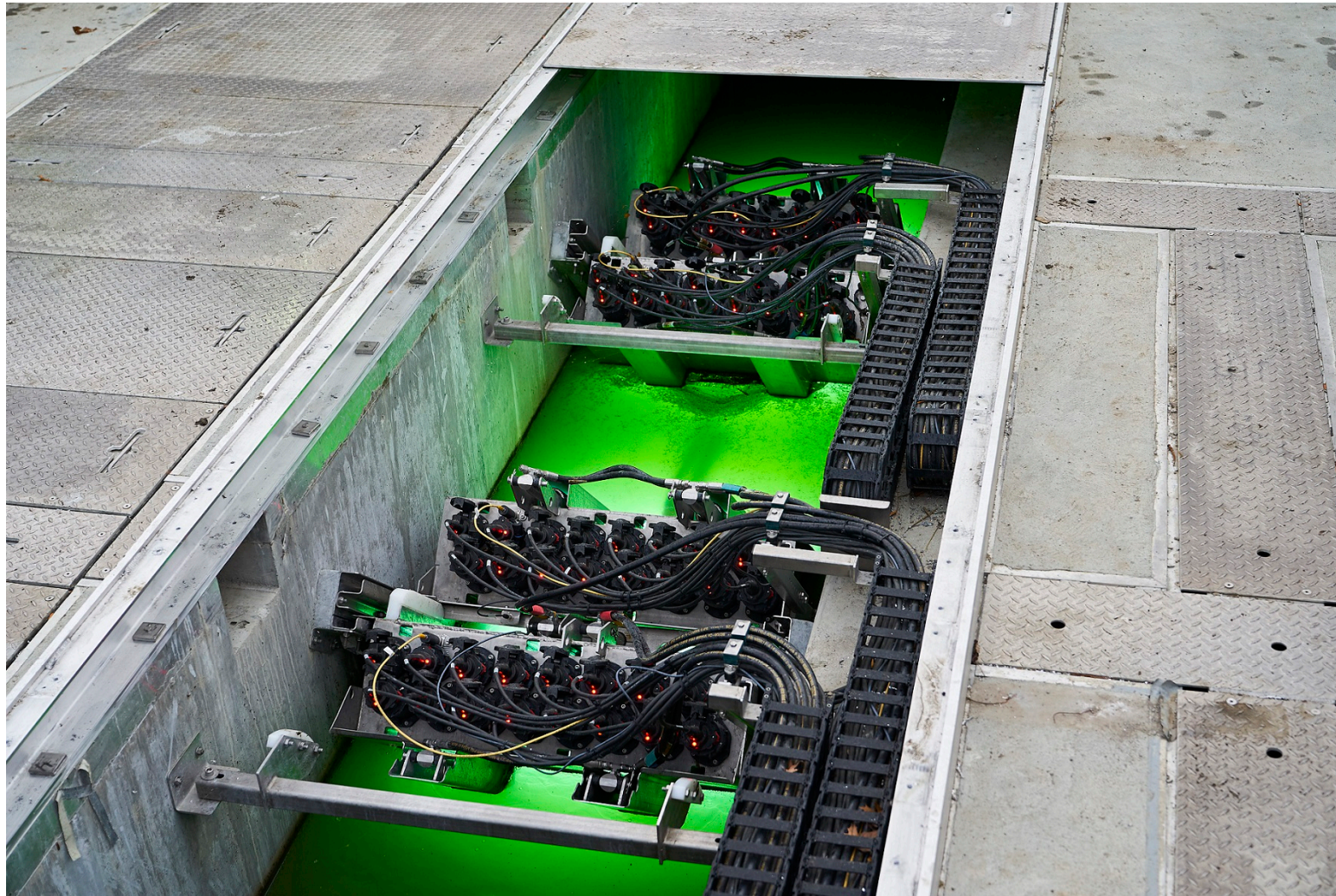
Proposals Evaluated by Lee and Ro, Inc.

Title 22 Unrestricted re-use Criteria

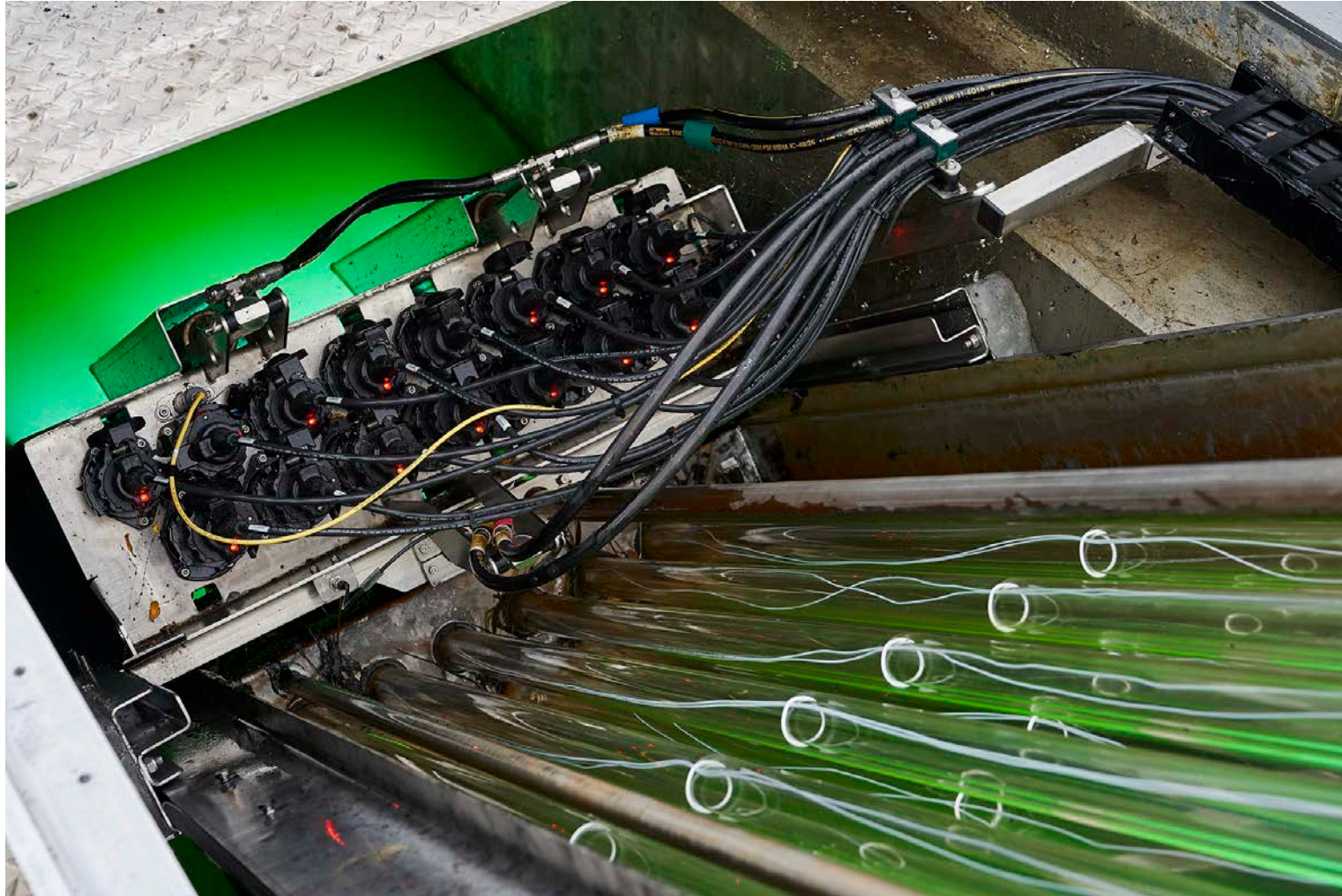
SCOPE OF SUPPLY FOR SAN DIEGO SBWRP WASTEWATER TREATMENT PLANT ULTRAVIOLET DISINFECTION EQUIPMENT – TROJANUVSigna™

<u>Prepared for:</u>	LEE & RO, Inc.										
<u>Submitted by:</u>	Trojan Technologies										
<u>Trojan Quote:</u>	211662										
<u>Design Criteria:</u>	<table><tr><td>Current Peak Design Flow:</td><td>15 MGD</td></tr><tr><td>UV Transmission:</td><td>62 % minimum</td></tr><tr><td>Total Suspended Solids:</td><td>5 mg/l (30 Day Average, grab sample)</td></tr><tr><td>Minimum Dose:</td><td>100 mJ/cm² MS2 Red (NWRI 2012)</td></tr><tr><td>Discharge Limit:</td><td>2.2 Total Coliform, 7 Day Median</td></tr></table>	Current Peak Design Flow:	15 MGD	UV Transmission:	62 % minimum	Total Suspended Solids:	5 mg/l (30 Day Average, grab sample)	Minimum Dose:	100 mJ/cm ² MS2 Red (NWRI 2012)	Discharge Limit:	2.2 Total Coliform, 7 Day Median
Current Peak Design Flow:	15 MGD										
UV Transmission:	62 % minimum										
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Minimum Dose:	100 mJ/cm ² MS2 Red (NWRI 2012)										
Discharge Limit:	2.2 Total Coliform, 7 Day Median										

Lamp Access Above the Water



Banks Can Be Individually Extracted



Typical Retrofit Installation



Trojan UVSigna

Is Being
Installed During
Low Demand
Period for
Recycled Water



System Start-Up May 2020

