



## **PIER Lighting Research Program**



**California Energy Commission  
Contract # 500-01-041**

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# Proposal Report

## Introduction

The goal of this project is to increase availability of high-efficiency residential lighting fixtures in the California marketplace. The objective of this project is to work with selected manufacturers to develop and test four to eight residential ENERGY STAR® table and floor lamp fixtures. Through this project, the selected manufacturers will be able to reduce their costs of R&D and testing by up to 50 percent. This, in turn, will provide a springboard for them to take the next step in producing quality, reliable, efficient ENERGY STAR® rated lighting fixtures on a continued and sustained basis.

This PIER project will entice manufacturers who produce the traditional mid-level and high-end lighting fixtures to venture into the currently non-existent ENERGY STAR® showroom market. This project will provide funding to those selected manufacturers who agree to research, develop and test products meeting the ENERGY STAR® criteria. The distribution of the end product within the State of California will be a primary criterion for the selection of participating manufacturers.

The aim is to increase the number of innovative, efficient lighting fixtures that are developed, manufactured, and available for sale in the California marketplace. California utilities and the ratepayers will benefit from up to a 75 percent reduction in energy consumed for up to 35 years per fixture (the estimated average life of a residential lighting fixture). Using the figure of 20,000 new ENERGY STAR® fixtures being sold in the California market in year 1, consumers could save in excess of 2 million kWh per year and approximately one megawatt of electric demand.

## Performance Criteria

The goal of Task 1 was to define technical performance criteria by which to select manufacturers for participating in the project. Applied Proactive Technologies, Inc. (APT), in conjunction with the Technical Review Committee (TRC), identified clear quantitative criteria that must be met by selected manufacturers. The criterion consists of a defined set of technical and contractual performance specifications.

Task 1 of this Project included the three following activities and has been completed:

- The first activity was to assemble a Technical Review Committee (TRC) to provide guidance and input, and gain their written commitment to be actively involved.
- The second activity was to develop the selection process and criteria for selecting manufacturers to participation in this project. The document, named the Invitation to Participate (ITP), was approved for distribution back in early March.
- Finally, a list of manufacturers with approximately 165 contact names and information was developed. The list of contacts received the ITP document in April.

## Manufacturer Selections

The goal of Task 2 was to select four to eight manufacturing partners with whom to develop the high-efficiency fixtures. APT and the TRC reviewed the manufacturers proposals submitted in response to the

ITP, and four manufacturers were selected to participate in this PIER Project. The review process and the selected proposals are summarized in the next sections of this report.

Task 2 of this Project included the three following activities:

- The first activity was to develop the Proposal Report based on the results of the selection process. This document serves as the report.
- The second activity is to establish the Development Schedule Report with selected manufacturers. That document is under development.
- Finally, the contract agreements between APT and manufacturing partners will be provided under separate cover.

**Proposal Review**

APT received proposals from seven manufacturers. Copies of the proposals were distributed to the TRC. APT and the TRC completed their review and ranked the proposals using the defined set of criterion. After identifying which proposals met the ITP requirements, APT notified the selected manufacturing partners.

The names and contact information for all proposers (**Table 1**) and the scores of each proposal (**Table 2**) are shown below.

**Table 1: Proposers Contact Information**

#	Company	Address	Town	State	Zip	Contact	Phone	Email
1	LightWave	1313 N. Grand Avenue	Walnut	CA	91789	Paul Loh	909-548-3577	<a href="mailto:paulloh@lwlight.com">paulloh@lwlight.com</a>
2	PowerLux	2588-F El Camino Road #333	Carlsbad	CA	92008	Ken Lau	760-727-2360	<a href="mailto:klpowerlux@aol.com">klpowerlux@aol.com</a>
3	Fire & Water Lighting	241 Eldridge Street	New York	NY	10002	David Berman	212-245-3106	<a href="mailto:bergman@cyberg.com">bergman@cyberg.com</a>
4	MaxLite		Red Bank	NJ		Steve Kang	973-244-7300, ext. 107	<a href="mailto:skang@maxlite.com">skang@maxlite.com</a>
5	Westinghouse	12401 McNulty Road	Philadelphia	PA	19154	David Shapiro	215-671-2000	<a href="mailto:shapiro@westinghouselighting.com">shapiro@westinghouselighting.com</a>
6	American Fluorescent Corp.	2345 N. Ernie Krueger Circle	Waukegan	IL	60087	Stephen Blackman	847-249-5970	<a href="mailto:sblackman@afcolite.com">sblackman@afcolite.com</a>
7	Grandrich Corp		Torrance	CA		Pamela Avery	562-926-9200	<a href="mailto:grcorp@grandrichcorp.com">grcorp@grandrichcorp.com</a>

**Table 2: Proposers Contact Information**

Company	Fire & Water	Light Wave	Powerlux	Westinghouse	MaxLite	Amer. Fluorescent	Grandrich Corp.
<b>Selection Criteria</b>							
Adherence to Invitation to Participate format and willingness to comply with all requirements.	23	23	21	16	24	25	0
Ability to meet or accelerate project timelines.	18	24	23	24	25	25	0
Experience with ENERGY STAR qualification process and program.	16	25	25	25	27	28	0
Experience and capabilities of producing a high end indoor residential ENERGY STAR lighting fixture.	23	20	22	21	21	15	0
Demonstrated familiarity and ability to distribute product into California marketplace.	20	18	25	22	21	25	0

Existing market penetration in California.	17	18	19	21	19	24	0
Ability to partner with Lighting Show Rooms in California.	17	14	14	20	19	21	0
Plans for marketing final product into California marketplace.	21	14	16	16	20	23	0
Commitment to production levels.	16	24	22	18	25	23	0
Manufacturer cost of design, development and testing.	21	16	17	20	23	25	0
Originality	5	0	3	0	0	0	0
<b>Total Score</b>	<b>197</b>	<b>196</b>	<b>207</b>	<b>203</b>	<b>224</b>	<b>234</b>	<b>0</b>

**Selected Manufacturers**

APT and the TRC selected four manufactures to participate. The companies and the match fund amounts are summarized in the **Table 3**. The contact information for each of the selected manufacturers is shown in **Table 4**.

**Table 3: Selected Manufacturers and Match Funding Request**

Company	Match Funding Request*
American Fluorescent Corp.	\$19,500
Fire & Water	\$28,000
MaxLite	\$26,000
PowerLux	\$26,500
<b>Total Match Funding</b>	<b>\$100,000</b>

\* Final funding requests may vary slightly.

**Table 4: Selected Manufacturers Contact Information**

#	Company	Address	Town	State	Zip	Contact	Phone	Email
1	PowerLux	2588-F El Camino Road #333	Carlsbad	CA	92008	Ken Lau	760-727-2360	<a href="mailto:klpowerlux@aol.com">klpowerlux@aol.com</a>
2	Fire & Water Lighting	241 Eldridge Street	New York	NY	10002	David Berman	212-245-3106	<a href="mailto:bergman@cyberg.com">bergman@cyberg.com</a>
3	MaxLite		Red Bank	NJ		Greg Murphy	973-244-7300, ext. 110	<a href="mailto:gmurphy@maxlite.com">gmurphy@maxlite.com</a>
4	American Fluorescent Corp.	2345 N. Ernie Krueger Circle	Waukegan	IL	60087	Stephen Blackman	847-249-5970	<a href="mailto:sblackman@afcolite.com">sblackman@afcolite.com</a>

A synopsis from each company’s proposal is provided below. The original proposals from the selected manufacturers are provided separately from this report.

- American Fluorescent Corp. has been producing fluorescent fixtures for 65 years. They are one of the largest manufacturers of residential fluorescent lighting in the country. Currently, they have over 150 California retail Hardware/ Homecenter distribution outlets, the majority being Lowes, Orchard supply, and Sears Hardware. This distribution represents 15 to 20% of the retail yearly sales. On the showroom side, they have over 100 independent showrooms and electrical distributors that are currently customers (including Lamps Plus, Unilite, Victor’s Lighting, etc.). This group represents between 5 to 10% of yearly sales in the residential showroom division. Additionally, they sell many products for new home construction jobs through larger distributor (such as Walters, and Pacific Builders). They have recently received 4 winning awards from the ALA/ Energy Star sponsored Lighting for Tomorrow Competition for fixture designs submitted. They are currently planning to build prototypes and are developing plans of how they are going to effectively market the decorative

energy star fixtures into the Californian market. They are planning to enter the Californian market with the better decorative energy efficient fixtures in time for the introduction of the 2005 revision of the Title 24 energy efficient building code for California. This code will require the use of fluorescent (or other high efficacy fixtures) to be used in many new areas in the interior of the average Californian home. The marketing will signal to the showrooms that they have the fixtures that are required by law (starting in 2005) for use in new and remodeled homes. They also will have a PR portion directed to consumers that will educate them on their options in meeting the new laws. They will introduce the fixtures but also the higher end portable energy efficient lighting products at the same time. They plan to double the showroom presence in the next two years, and create an advertising presence in the industry introducing these type of decorative energy star products to the retailers (especially aimed at the Californian market). They are going to step up the presence in the Decorative showroom market and increase the existing presence in the high end residential market by marketing more to the designer/ specifier market who specs the final decorative fixtures in residences.

- Fire & Water is a designer/producer of high end eco-lighting. They have been producing high end decorative (i.e. residential and hospitality) fixtures for over ten years and, though they have not yet put a design through the Energy Star qualification process, have been reviewing and preparing for it. The sole reasons for not yet pursuing qualification have been (1) cost and (2) continuing advent of newer lamp/ballast combinations. A substantial percentage (approximately one third) of the orders and information requests come from California. The current marketing and distribution in California involves: advertising and other forms of marketing to the design trades, product placements in architectural, lighting and interior design publications, and representation in showrooms and catalogs, especially online, e.g. Home Portfolio and CFD. They have identified showrooms in the Los Angeles and San Francisco Bay areas that would be appropriate for the product. They exhibit in design and furniture shows, especially the International Contemporary Furniture Fair which, while not in California, is the premier contemporary furniture (and lighting) show in the US and attracts a large number of California attendees.
- MaxLite is a leading international manufacturer and marketer of innovative energy efficient lighting technology. With an international market presence dating back nearly fifty years, MaxLite has brought to market in the past few months several high end fixtures. MaxLite is committed to meet whatever production levels are required to meet market demand. They currently have a substantial manufacturing capability, but should the market require additional capacity, MaxLite is committed to grow the manufacturing capability. MaxLite currently enjoys several retail outlets in the California market including Sears Hardware- Orchard Supply, Contractors Warehouse, Fry's Electronics, Freidman Brothers and more. They also have a web based distributor for those in areas that do not have easy access to the current retail distribution. You should know that due to the newest high end fixtures, they have also attracted a major retailer with over 60 locations in the California market alone. Negotiations for price, stock levels and the like should be completed in the next month or so. Currently, MaxLite's sales in the California market are about 8% of the total sales.
- PowerLux Corporation was incorporated in 1996 and specializes in the manufacture of lighting fixtures and electronic ballasts for the energy efficient Compact Fluorescent Lamps (CFLs). PowerLux is well versed with the ENERGY STAR program and is a partner since 1998. PowerLux products are made in California from its facilities located in Vista. Currently, PowerLux is participating in the Lighting for Tomorrow contest sponsored by the ALA, CEE, and PNNL. Two of PowerLux's designs for energy efficient light fixtures were named finalists and one design for a Chandelier won the Judges' award. They plan to market the final product from this PIER project in California through distributors, showrooms, home improvement warehouses such as Home Depot, Lowe's and Costco, etc.

## Conclusion

Agreements between APT and the selected manufacturers have been prepared and are being executed. Kick-off telephone conferences and meetings are scheduled. The two remaining activities for Task 2, the Development Schedule Reports and a copy of the final agreements, are scheduled to be delivered to AEC and the Commission by mid-August.

The next two tasks (Task 3 and 4) involve working with the four selected manufacturers to develop and test prototype fixtures in laboratory conditions. Prototype designs from the manufacturers are expected by October 2003. APT and the TRC will be reviewing the designs and providing comments to the manufacturers.

The prototypes with each manufacturing partner must meet ENERGY STAR<sup>®</sup> performance specifications, including, but not limited to, the following:

- Power factor  $\geq 0.5$ .
- Lamp current crest factor  $\leq 1.7$ .
- Lamp start time less than or equal to 1 second.
- CRI  $\geq 80$ .
- Rated color temperature of 2700K to 3000K.
- For dimmable lamps provide dimming capability down to 30% of full light output.
- Class A sound rating.
- For outdoor applications, provide automatic shutoff during daylight hours via a controlled circuit.

Successful completion of Task 3 and 4 will be measured by delivery of information on the prototype development, feedback to the manufactures on the designs, and lab testing. Meeting this goal helps to achieve the project objectives by furthering the development of the prototype fixtures.

## **Appendix A: American Fluorescent Corporation Proposal**

(pdf document provided separately)

## **Appendix B: Fire & Water Proposal**

(pdf document provided separately)

## **Appendix C: MaxLite Proposal**

(pdf document provided separately)

## **Appendix D: PowerLux Proposal**

(pdf document provided separately)

## **Appendix E: Contract Agreement Template**

(pdf document provided separately)