# InsulationContractors REPORT

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## Phil Rice and Becky Karam Honored by ICAA

At the annual meeting of the ICAA, President Todd Sawyer presented awards acknowledging the achievements of two members.

**PHIL RICE** (far right) received the ICAA Leadership Award. He has served ICAA in many capacities: as President of the ICAA in 2003, as ICAA Board of Director, and in several Committee Chair positions. President Sawyer noted Phil's tireless efforts to better our industry and his steadfast guidance, dedication, and management skills.

**BECKY KARAM**, Director of Risk Management for Installed Building Products, received the 2014 ICAA Key Person Award. Becky led a group of ICAA members in the monumental and precise task of updating ICAA's Model Written Respiratory Protection Program. Karam and the ICAA Task Force created a resource that enables ICAA members to comply with the Occupational Safety & Health Administration (OSHA) Respiratory Protection Standard that requires employers to establish and implement a written respiratory protection program with worksite-specific procedures whenever respirators are required.

## DOT Mock Audit Shows Serious Industry Risk

*Skip Nash, President Standard & Best, LLC*

Earlier this year, ICAA and a member contractor partnered to have an independent consultant perform a U.S. Department of Transportation motor carrier compliance review. The purpose of this mock audit was to review the insulation contractor's compliance with the requirements of the Federal Motor Carrier Safety Regulations (FMCSRs), essentially mirroring an actual DOT audit as much as possible. At its conclusion, the insulation contractor was found to have significant gaps in its DOT compliance practices.

### Background

The Federal Motor Carrier Administration (FMCSA) is the agency responsible for establishing and enforcing driver and vehicle safety rules to keep the nation's highways safe. Its reach includes all drivers and motor vehicles with a gross vehicle weight rating, or gross combined vehicle weight rating, of 10,001 pounds

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## ICAA-Member Supplier

# SOLEC-Solar Energy Corp.

**SOLEC-Solar Energy Corp.**
**Robert Aresty and Matthew McNelis**
**www.solec.org**



**Happy 40th Anniversary to SOLEC-Solar Energy Corp.! Can you identify a few of the pivotal achievements that have distinguished SOLEC over the years?**

**1974** — Company started on a farm in Princeton, NJ. Initial research started on a sophisticated glass, vacuum insulated solar collector with the help of glass blowers from RCA Laboratories (one of whom helped develop color TV).

**1978** — Patent filed on vacuum insulated solar collector. At that time, it was the largest US solar patent ever filed and issued.

**1980** — Development completed on Solkote Selective coating and LO/MIT-I low emissivity paint.

**1984** — Developmental testing of the LO/MIT-I paint for use as an attic radiant barrier substitute by Phil Fairey at the Florida Solar Energy Center.

**1986** — First installations of LO/MIT-I as an attic radiant barrier by Centex Homes in Florida.

**1992** — Space use certification by NASA for LO/MIT-I. Startup development of waterborne low emissivity paints now known as LO/MIT-II and LO/MIT-II MAX.

**2002** — Acceptance of LO/MIT-I by Energy Star and the Energy Star Ally program for roof coating and attic insulation.

**2008** — Certification of LO/MIT-I by Boeing for use in aircraft applications. Use by Ford Motor Company to coat engine mounts. Coating of the world's largest telescope dome (Gran Telescopio Canarias) with LO/MIT-I.

**2010** — Expansion of the Solec solar heated factory and laboratory to 10,000+ feet. Launching of the

*Above: Areva Solar CLFR Concentrating Collector. Right: Gran Telescopio Canarias, Canary Islands.*

world's lowest emissivity, commercially available paint, LO/MIT-II MAX ("e"=.147) for attic barrier use.

**Scientific R & D has always been essential to SOLEC's business plan. What scientific breakthroughs originated at SOLEC?**

Solec is the first and at present the only spray-applied selective coating for solar thermal absorbers. It allows solar manufacturers to make a high-efficiency, low-cost solar thermal collector in more than 30 countries around the world.

Solec is the first, and still the most efficient, spray-applied low-emissivity coating for use in everything from insulating attics to space ships.

*Above: SOLKOTE. Below right: Montreal Canadien's Ice Arena.*

**SOLEC-Solar Energy Corp. is the largest manufacturer of specialized heat reflecting and absorbing optical coatings. Please describe the nature of these coatings and what they contribute.**

It is important to note that we are the largest company devoted solely to manufacturing and developing selective and low-emissivity coatings, but we are surely NOT the largest company in the world developing coatings. The industry we spawned through the development of these coatings has brought competition from some of the world's largest coating manufacturers.

The selective coatings allow a solar absorber to efficiently convert the sun's rays to heat without reemitting the heat energy back into the atmosphere in the form of long-wave infrared energy. The low-emissivity coatings provide a low-cost method of controlling infrared heat flows and make possible a low-cost method of insulating everything from attics to auto parts. They also have many specialized applications such as the use in controlling thermal expansion in very large telescope assemblies.

**What solar thermal and energy efficient technologies have made the biggest impact on energy savings?**

The selective coatings have allowed manufacturers in Third World countries to make sophisticated solar water heaters for use in areas where electrical and gas energy sources are not plentiful. This allows for solar heated domestic hot water supplies in hospitals and dwellings where it would not normally be available. They are also used in very large solar concentrating collectors to generate steam to make electricity for these areas.

The low-emissivity coatings are widely used in the US for insulating attics, and they have large potential in developing countries for making dwellings in high heat areas much more comfortable at low cost, and thereby lowering the need for and use of air conditioning.

**The history of SOLEC's coatings includes some impressive alliances such as with the Montreal Canadiens, several large telescopes including the Aura Gemini Observatory South in Chile, the Ford Taurus, the Norfolk Zoo, Boeing, and Dragon missions to the International Space Station. How were SOLEC coatings used in this diverse assembly?**

- The LO/MIT coating was used by the Montreal Canadiens to insulate the underside of the roof of their practice arena to lessen the heat penetrating the building envelope from the hot roof and lower the power needed to make the ice in the arena below.

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## Spotlight on Solec-Solar Energy Corp. *continued from page 5*

*Above: MIT's ORC Parabolic Trough Collector, Lesotho, southern Africa*

- The LO/MIT coating is widely used on very large telescope domes (such as the Aura Gemini) to keep the entire telescope building from radiating large amounts of heat at night time which would change the focus of the telescope mechanism.
- The LO/MIT coating was used by Goodyear to coat Ford rubber engine mount covers to lessen the deterioration of the engine mounts due to excess heat in the engine compartment.
- The Norfolk Zoo animal hospital used our most efficient product, LO/MIT-II MAX, to keep its veterinary facilities at a comfortable temperature to lessen heat stress on the animals.
- Boeing uses LO/MIT to insulate the exhaust ducts for auxiliary power units on many of its planes.
- SpaceX uses LO/MIT to insulate the cabin skin of the Dragon capsule because it adds hardly any weight to the total assembly, and is space certified.


### How does membership in ICAA contribute to SOLEC-Solar Energy's business goals?

Our membership in the ICAA allows us to "rub shoulders" with professionals in an industry that is potentially our largest customer base. It also gives our small company credibility when competing with some of the giants in the industry.