SSPC Honors Top Coating Projects at Structure Awards

By Jodi Temyer, *PaintSquare News*

Complex containment, strict schedules and rigorous regulations earned eight painting projects top honors as SSPC 2015 opened Tuesday, Feb. 3 in Las Vegas with the ninth annual Structure Awards.

SSPC kicked off its yearly conference and exhibition its Business Meeting and Awards Luncheon, where President James R. King, Jr., and outgoing Executive Director Bill Shoup also updated members on the society's current numbers.

This year's award-winning projects were fraught with danger, difficulty and drama. Crews scrambled around frequent bridge openings high over waterways; navigated wind-buffeted access structures; volunteered their time for historic military projects; designed innovative containment to protect wildlife; and braved a soaking-wet, cold rock-tunnel penstock 80 feet underneath a Canadian generating station.

The Society also honored outstanding individuals whose careers reflect decades of service to the industry, as well as outstanding chapters in the U.S. and abroad. These award winners will be covered in the April *JPCL*.

George Campbell Award

The George Campbell Award honors a difficult or complex industrial or commercial coatings project. Challenges may include extreme environmental conditions, time constraints, limited access or high traffic, complex structural components or coordination with multiple trades or subcontractors. The award is named for the late George Campbell, founder of Campbell Painting Company in New York. Two projects received George Campbell Awards this year.

(L-R): James King, president, SSPC; Kieran Ahern, vice president, Ahern Painting Contractors, Inc.; Guerman Vainblat, P.E., Greenman-Pedersen, Inc.; and Lucian Carusso, regional manager, north U.S.A., International Paint.
All awards ceremony photos courtesy of SSPC.

Brooklyn Bridge

Location: New York, N.Y.
Owner: New York City Department of Transportation
Contractor/Applicator: Ahern Painting Contractors
Coating Supplier: Devoe High Performance Coatings
Project Start: January 2010
Project Completion: October 1, 2014

Once an avenue for P.T. Barnum's elephants to march into town, the Brooklyn Bridge — a 132-year-old hybrid stayed/suspension span — carries 120,000 vehicles and 7,000 pedestrians over the East River every day.

Traffic, existing lead coatings, outside agency coordination and sheer size necessitated a multi-tiered approach to clean and repaint the structure's 4.2 million square feet of steel beams, braces and cables.

The project required coordination with the City of New York, the Boroughs of Manhattan and Brooklyn, City Hall, 1 Police Plaza, NYC-DOT and the U.S. Coast Guard.

Abating the existing lead coatings created another set of challenges. The bridge's age and weight limitations, along with a requirement to keep all three lanes open for traffic, nixed any chance of placing abatement vehicles on the roadway. Therefore, a complex system of hoses and duct work was designed, stretching from the SSPC Class 1A containment to a custom grit recycling unit more than 1,200 feet away.

A 20,000-panel system of under-bridge platforms was used for work on the 3,455-foot-long structure. After abrasive blast-cleaning to a Near-White finish (SSPC-SP 10/NACE No. 2), the steelwork was repainted with a four-coat system consisting of an organic zinc-rich epoxy primer, a pre-prime sealer coat, an epoxy intermediate, and an aliphatic urethane gloss finish.

Dealing with traffic, existing lead coatings and coordination with outside agencies were some of the challenges in painting the 132-year-old Brooklyn Bridge. Photos courtesy of New York City DOT.

Fremont Bridge

Location: Seattle, Wash.
Owner: Seattle Dept. of Transportation
Contractor/Applicator: Purcell Painting & Coatings LLC
Coating Supplier: The Sherwin-Williams Company
Project Start: April 7, 2014
Project Completion: December 30, 2014

The low 30-foot vessel clearance of the Fremont Bridge, a double-leaf bascule structure spanning a heavily used navigable waterway, challenged crews to deal with frequent drawbridge interruptions and complex loading conditions.

The 97-year-old bridge, which connects Seattle's Fremont and Queen Anne neighborhoods, was last cleaned and coated in 1970. In this project, the structure was spot repaired and coated with a moisture-cured system to protect against the area's harsh wind and rain.

While working on one of the busiest bascule bridges in the world, the contractor's 37-person team had to quickly secure its work, vacuum up paint chips, and clear the bridge nearly three dozen times per day to allow it to open for marine traffic.

Contractors painting the Fremont Bridge had to clear the bridge to allow it to open for marine traffic nearly three dozen times per day. Photos courtesy of Seattle DOT.

A suspended platform system had to be designed to support the worker and debris load while the bridge was down, but also keep the platform stable when the bridge was raised. Engineers were also concerned that high winds would slam the platform into the underside of the bridge as it lifted vertically with the raising structure.

Therefore, a series of rigid anti-uplift and horizontal bracing members was installed to hold the deck in place, while intentionally passing the load to the stronger framing points of the bridge substructure.

(L-R): King; Elhenish Woubetu, project engineer, Seattle DOT/Fremont Bridge; David Purcell, Sr., president, Purcell Painting, LLC; and Doni Riddle, vice president of global accounts, The Sherwin-Williams Co.

William Johnson Award

The William Johnson Award recognizes outstanding achievement in aesthetic merit in industrial or commercial coatings work. Criteria include color, gloss, texture and how the coating complements the environment while enhancing the structure. The award is named for a late consultant with KTA-Tator, Inc., whose work in coatings formulation, failure analysis and surface preparation was instrumental in advancing the industry.

Rainbow Swash LNG Tank

Location: Boston, Mass.
Owner: National Grid
Contractor/Applicator: John W. Egan Company Inc.
Coating Supplier: The Sherwin-Williams Company
Project Start: July 7, 2014
Project Completion: October 3, 2014

At 139 feet tall and 152 feet in diameter, the Rainbow Swash liquid natural gas (LNG) storage tank isn't just a Boston landmark — it's the largest copyrighted work of art in the world.

Overcoating the tank's 73,374-square-foot exterior required detailed application of a tinted epoxy basecoat and polyurethane topcoats to restore the art without compromising the original design work, which was commissioned in 1971 and created by Corita Kent. (The original tank was demolished in 1992, but the "Rainbow Swash" was recreated on an adjacent tank.)

Surface preparation included removing the existing clear coat and surface contamination with waterjet cleaning to SSPC-SP WJ-4/NACE WJ-4; power-tool cleaning localized areas of corrosion to SSPC-SP 3; and abrading the existing coatings.

(L-R): Anthony Spatarella, sales manager, The Sherwin-Williams Company; King; Robert Belisle, Sr., and Robert Belisle, Jr., John W. Egan Company Inc.

The original design work by artist Corita Kent was recreated on the Rainbow Swash LNG tank and restored during its most recent overcoating project. Photos courtesy of Marc Cote, John W. Egan Company Inc.

The tank exterior was spot-primed with a fast-cure polyamide epoxy before receiving a three-coat system consisting of a fast-cure polyamide epoxy, an acrylic polyurethane and a clear coat urethane.

E. Crone Knoy Award

Named for the late founder and president of Tank Industry Consultants, the E. Crone Knoy Award acknowledges coatings work that demonstrates innovation, durability or utility. The award recognizes outstanding achievement that may include excellence in craftsmanship, execution of work or the use of state-of-the-art techniques and products to creatively solve a problem or provide long-term service. Two projects received E. Crone Knoy Awards this year.

Contractors faced several challenges cleaning and recoating a 1,750-foot-long penstock located 80 feet underground at the Mamquam Generating Station. Photos courtesy of Certified Coating Specialists Inc.

Mamquam Generating Station

Location: Squamish, British Columbia
Owner: Atlantic Power
Contractor/Applicator: Certified Coating Specialists Inc.
Coating Supplier: Carboline Co.
Project Start: January 2014
Project Completion: April 2014

This project included cleaning and recoating the exterior of the Mamquam Generating Station's 1,750-foot penstock, located 80 feet underground.

Encased in a rock tunnel, working space ranged from five to 15 feet. All of the equipment, scaffolding and personnel had to be transported down a vertical shaft via ladder access.

Workers faced uneven ground, changing elevation, and a constant flow of water; they changed clothes three to four times per shift in order to stay warm and dry.

(L-R): King; David Gould, operations manager, Certified Coatings Inc.; David Griffioen, hydro plant foreman, Atlantic Power; and Doug Moore, director of global marketing, Carboline Company.

The penstock exterior was scraped to remove loose rust before it was abrasive blast-cleaned to a Near-White finish (SSPC-SP 10/NACE No. 2). Afterward, the surface had to be pressure washed and squeegeed to remove abrasive stuck to the penstock due to constant moisture sweating. Three coats of an epoxy were spray- and backroll-applied.

Mokelumne Aqueducts

Location: Contra Costa and San Joaquin Counties, Calif.
Owner: East Bay Municipal Utility District
Contractor/Applicator: Abhe & Svoboda Inc.
Coating Supplier: Carboline Co.
Project Start: July 1, 2011
Project Completion: October 21, 2013

About 1.3 million people rely on three Mokelumne Aqueducts to carry water 90 miles from the Sierra Nevada Mountains to San Francisco's East Bay communities.

A 10-mile portion of the system's steel pipelines are above ground, where they cross four sloughs — sensitive bodies of water that are home to numerous protected wildlife species.

Environmental concerns and strict permitting required an innovative approach to abate the original red lead/aluminum paint system. The team came up with a unique floating containment system that could navigate shallow wetlands waterways influenced by tides.

Floating containment structures were utilized to capture existing lead-based coatings while recoating above-ground, over-water portions of the Mokelumne Aqueducts. Photos courtesy of Mark Lewis, East Bay Municipal Utility District.

(L-R): King; Moore; James Svoboda, vice president, Abhe & Svoboda, Inc.; Mark Lewis, East Bay Municipal Utility District; and Dan Zavesky, sales representative, Carboline Company.

The pipe barrel was abrasive blast-cleaned to Near-White (SSPC-SP 10/NACE No. 2) and coated with an untopcoated inorganic zinc. The steel supports received a three-coat system consisting of an inorganic zinc, an epoxy and a polyurethane.

Charles G. Munger Award

This award honors an outstanding industrial or commercial coatings project that demonstrates the longevity of the original coating. The structure may have had spot repairs or overcoating with the original coating still intact.

Brookfield Waterspheroid

Location: Brookfield, IL
Owner: Village of Brookfield
Contractor/Applicator: LC United/ Chicago Bridge & Iron/Am-Coat
Coating Supplier: Tnemec Company, Inc.

The coatings on the one-million-gallon Brookfield Waterspheroid have been in service for 35 years, with 95 percent of the original coating still intact.

The original system, applied in 1979, included a two-coat polyamide epoxy lining for the interior wet area; a two-coat polyamide epoxy coating on the interior dry area; and a three-coat system on the exterior, consisting of two coats of a polyamide epoxy and a polyester polyurethane.

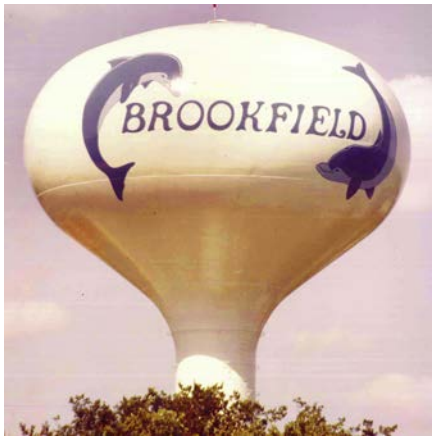
In 1997, the exterior coating and interior wet lining were overcoated and spot repair work was done on the interior dry coating.

In 2013, it was again determined that the exterior coating could be overcoated, and only spot repair work was needed on the interior wet and dry areas.

The exterior was power washed to remove loose paint and contamination, and power-tool cleaned to Bare Metal (SSPC-SP 11) in all failed areas. The bare metal was spot-primed with a modified polyamidoamine epoxy, followed by two complete coats of an aliphatic acrylic polyurethane. The dolphin logos and "Village of Brookfield" lettering were repainted using an advanced thermoset fluoropolymer polyurethane.

The interior wet and dry areas were repaired by spot abrasive blast-cleaning of all failed areas to Near-White (SSPC-SP 10/NACE No. 2) and Commercial (SSPC-SP 6/NACE No. 3) finishes, respectively, followed by a polyamidoamine epoxy spot-prime and spot finish coat.

(L-R): King; Ronald Barker, coatings specialist, Chicago Bridge & Iron; Dan Savage, technical service representative, Tnemec Company, Inc.; and Tom Van Gemert, senior engineer, Dixon Engineering.



A modernized version of the Village of Brookfield's original logo (left) was repainted during the tank's most recent overcoating (right). Photos courtesy of Eric Otten, Taylor Coating.

Military Coatings Project Award of Excellence

The Military Award recognizes exceptional coatings work performed on U.S. military ships, structures or facilities. Two projects were presented with Military Coatings Project Awards of Excellence this year.

Tank Project for the National Armor and Cavalry Heritage Foundation

Location: Ft. Benning, Ga.
Owner: National Armor and Cavalry Heritage Foundation
Contractor/Applicator: Main Industries Inc., Abhe & Svoboda Inc., Coatings Unlimited Inc., Thomas Industrial Coatings Inc., Champion Painting Specialty Services Inc. and Vulcan Painters Inc.
Project Suppliers: The Sherwin-Williams Co., U.S. Coatings, Carboline Co., Chlor*Rid International Inc., RPB Safety LLC, Mohawk Garnet Inc., Corrosion Specialties Inc., Axxiom Manufacturing Inc., IUPAT DC 77, Eagle Industries, Stewart Supply and HCI Chemtec Inc.

Companies across the country donated time and resources to repaint seven armored vehicles at the National Armor and Cavalry Heritage Foundation. Photos courtesy of Susan Boyd, Vulcan Painters Inc.

(L-R): CSM (Ret.) Rick Young, executive director, National Armor Cavalry Foundation; David Boyd, CEO, and Susan Boyd, Vulcan Painters Inc.; Bill Shoup, executive director, SSPC; and LTG (Ret.) John Sylvester, chairman of the Board, National Armor Cavalry Foundation.

Working together under the leadership of Vulcan Painters CEO David Boyd, industry companies nationwide donated crews, equipment, materials and services to paint the collection of armor and cavalry vehicles.

Seven armored vehicles dating from World War II to the present were painted in the volunteer effort. They and two others will be displayed along a walking trail at the new Maneuver Center of Excellence.

The coatings work was done to the military's specifications for the tanks. Boyd estimated the donated labor and materials at $125,000 to $150,000.

A profile of the project will appear in next month's *JPCL*.

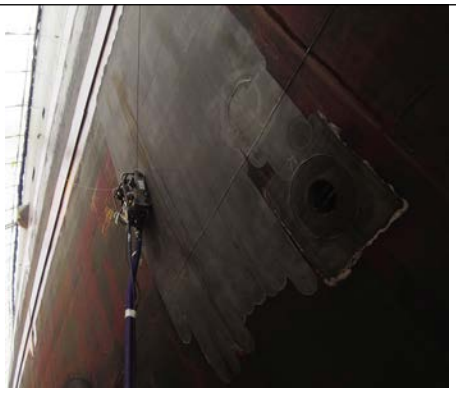
USS Dwight D. Eisenhower (CVN-69)

Location: Norfolk Naval Shipyard, Portsmouth, Va.
Owner: U.S. Navy
Contractor/Applicator: GENERAL DYNAMICS NASSCO-Earl Industries
Coating Supplier: PPG Protective & Marine Coatings
Project Start: November 2013
Project Completion: September 2014

This project required complex planning and scheduling to deal with a high volume of work done by other trades and an abnormally cold winter that affected the contractor's ability to perform surface preparation and apply coatings.

Work also included structural repairs and upgrades and ship system modernizations. Contamination issues of blasting and painting in the hull while blasting and painting over 100 tanks had to be mitigated, and each of the 100 tanks required multiple temporary access openings to be cut into the hull for ventilation.

The existing coating was removed via power tool cleaning to Bare Metal (SSPC-SP 11), abrasive blast-cleaning to Near-White (SSPC-SP 10/NACE No. 2) and waterjetting to SSPC-SP 12.



This project is the first time a polysiloxane coating was applied to the USS Dwight D. Eisenhower. *Photos courtesy of GENERAL DYNAMICS NASSCO-Earl Industries.*

(L-R): King; Daniel Dunmire, director, DoD Corrosion Policy and Oversight; Wade Hyatt, project manager, Fred Pasquale, program manager, and Phil Avery, QA manager, GENERAL DYNAMICS NASSCO-Earl Industries; and Steve Ferldman, director of sales, U.S., Mike Masorli, regional manager, Jeff Hall, technical sales manager, and Steve Feldman, director of sales, U.S. and Canada, PPG Protective & Marine Coatings.

A two-coat epoxy/polysiloxane system was applied to the entire exterior of the vessel on the freeboard and island; a five-coat epoxy/copper antifoulant was applied to the underwater hull.

This was the first time a polysiloxane coating was applied to the ship, and it required a change in application procedures from the previous silicone alkyd product.

Essential News When You Need It

Count on ***PaintSquare News*** for reliable and entertaining coverage of major coatings projects, technology advances, cutting-edge practices, and the movers and shakers driving our industry. It's **fresh**, **free** and **ready to read** every day.

Sign up now at **paintsquare.com/subscribe** and enjoy ***PaintSquare News*** on your desktop, tablet or smartphone.

PAINTSQUARE NEWS

A Technology Publishing Co. Product TPC