

## **D, CPO Recommended Facilities Corrosion Training Summary** **(Attachment to the CPC Source Training Page** **<http://www.wbdg.org/ffc/dod/cpc-source/training>)**

**Background:** The Department of Defense (DoD) acquires, operates, and maintains a vast array of physical assets, including vehicles, aircraft, ships, materiel and facilities such as wharves, buildings, and other stationary structures and infrastructure. All of these assets are susceptible to corrosion. Facilities assets affected by corrosion are extensive and the associated maintenance costs are high. In the face of limited budgets, the best possible life-cycle decisions must be made. Design and sustainment professionals must be prepared through education, training and experience to fulfill the challenge of being successful despite resource limitations.

Engineers and Architects must address a broad range of Corrosion Prevention and Control (CPC) requirements at each installation to include designing and specifying facilities to reach intended life cycle expectations which may require the selection of enhanced materials and coatings in severely corrosive environments. It is typical for many DoD facilities to be in service in excess of 50 years. Foundations, structural elements, utilities, piping, insulation, and other building components that are buried or located in walls, ceilings, crawl spaces, interstitial spaces, and duct banks should be designed considering these service life realities. In addition, ensuring that design and construction are inclusive of the realities of maintaining a facility after the project is completed is essential. Design, construction, and sustainment professionals are tasked with oversight of quality and commissioning actions, and ultimately the operation of facilities at DoD installations. Being prepared to face CPC challenges includes finding and completing appropriate training.

**Discussion:** The D, CPO has provided access to a broad range of CPC education and training opportunities for DoD personnel. Limited funds are available for students seeking to enroll in most of these courses each year; see the last section of this document for SSPC and NACE International training information and contacts. See also WBDG CPC Training opportunities in both the CPC Source Training Page and the DoD Courses Section under Continuing Education. Table 1 seeks to simplify the task of determining which courses best fit the need of the individual and the organization.

Table 1 is organized to assist each DoD organization in achieving appropriate knowledge levels to meet mission and employee CPC development requirements to include associated credit hours (CEU, PDH, CLP, etc.). The courses listed in Table 1 are ordered by “Track” and “Knowledge.” “Proficiency Level” explanations are provided to further assist the user in determining where their individual skills might coincide with the recommended courses and topics. This includes just-in-time training to support new or existing career development requirements and objectives.

These courses are placed in logical order by Track and Level but are not ordered by pre-requisites unless specifically stated by NACE or SSPC. It should be noted here that these courses are not being presented as a DoD requirement. Their presentation here is a suggestion for organizations and individuals to better position themselves to manage limited resources related to CPC.

**Recommendation:** It is recommended that DoD components and their employees utilize Table 1 to establish and meet their CPC training needs.

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	<i>Level: Basic or General Knowledge</i>	<i>Level: Intermediate</i>	<i>Level: Advanced</i>
<b>Track 1 – Basic Knowledge</b>	<p><i>Entry-level knowledge development often focused on a specific interest or subject area. At this level, courses should assist in establishing learning needs at the next Intermediate &amp; Advanced levels. Knowledge listed below is essential for Planners &amp; Program Managers.</i></p> <hr style="border-top: 1px dashed black;"/> <p>WBDG Vignette (1) Corrosion Overview<sup>3</sup></p> <p>WBDG Vignette (3) Intro to Paints &amp; Coatings<sup>3</sup></p> <p>DAU CLM 038 Corrosion Prevention &amp; Control Overview (8 CLP)</p> <p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1CLP)</p> <p>NACE Basic Corrosion (3.6 CEU's)</p> <p>SSPC Marine Coatings (Basic) (3.8 CEU's)</p> <p>CPO Basic Corrosion</p> <p>Cathodic Protection Basics (DoD WBDG) (1 PDH)</p> <p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p> <p>NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels)<sup>2</sup></p>	<p><i>Consistent with the non-specific knowledge needs at this level, more advanced learning opportunities are provided below. Planners &amp; program managers whose project workload includes specific CPC requirements should achieve this level of knowledge. In addition, some courses offer a practical, in-depth overview of a content area for specialists new to a particular industry.</i></p> <hr style="border-top: 1px dashed black;"/> <p>WBDG Vignette (6) Cathodic Protection<sup>3</sup></p> <p>SSPC Floor Coating Basics<sup>1</sup> (1.5 CEU's)</p> <p>SSPC Fundamentals of Protective Coatings<sup>1</sup> (3.8 CEU's)</p> <p>SSPC Natural &amp; Accelerated Weathering of Coatings (Intermediate) (.8 CEU's)</p> <p>SSPC Selection of Coatings<sup>1</sup> (.8 CEU's)</p> <p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p><i>Development of an advanced level of expertise with the course options listed below or from other sources.</i></p> <hr style="border-top: 1px dashed black;"/> <p>NACE CP Interference (4.8 CEU's)</p> <p>NACE Marine Coating Technology (3.1 CEU) (Prerequisite: CIP Level I (4.9 CEU); CIP Level II (4.9 CEU) recommended)</p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	Level: Basic or General Knowledge	Level: Intermediate	Level: Advanced
<p><b>Track 2 – Subject Matter Expert</b></p>	<p><i>Targeted at the developmental Engineer/Architect who is learning how various aspects of the design process fit together with that individual’s specialty area of expertise. Includes CPC coordination with disciplines, gathering analytic &amp; design data, researching criteria, codes, WBDG, QA/QC/Cx, Life Cycle Cost Analysis, etc. The SME develops CPC knowledge to establish how it best fits into the design process to achieve life-cycle expectations. This level will identify relevant certifications required to move to the Intermediate level.</i></p>	<p><i>The SME develops professional competencies beyond the Basic Level and can apply intermediate level CPC knowledge assessment &amp; problem solving along with making contributions to the development of the facility design. Includes identification of the CPC requirement, selection/editing of the appropriate criteria (e.g. UFC, UFGS, etc.) to achieve life-cycle expectations. Continued certifications will be expected to ensure enhanced support to the field in meeting mission requirements.</i></p>	<p><i>Consistent with employee development goals &amp; requirements, this level might include the requirement to be a PE/RA, DAIWIA Level 3, and become an established “SME” in their discipline area. CPC knowledge should be commensurate with the level of expertise required for certification/registration. An SME provides field support, problem-solving recommendations, &amp; collaborates with other disciplines to achieve required levels of CPC consistent with life-cycle expectations.</i></p>
	<p>.....</p> <p>DAU CLM 038 Corrosion Prevention &amp; Control Overview (8 CLP)</p> <p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1 CLP)</p> <p>NACE Coating Inspector Level 1 (4.9 CEU’s)</p> <p>NACE CP Level 1 (4.5 CEU)</p> <p>SSPC Applicator Training Basics (required for CAS Certification) (3.8 CEU’s)</p> <p>SSPC Coating Application Specialist Level 1 (0 CEU’s)</p> <p>SSPC Concrete Coating Basics (1.5 CEU’s) (required for Concrete Coating Inspector Certification (3.8 CEU’s)</p> <p>Cathodic Protection Basics (DoD WBDG) (1 PDH)</p> <p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p>	<p>.....</p> <p>NACE Coating Inspector Level 2 (4.9 CEU’s);</p> <p>NACE CP Level 2 (4.5 CEU) &amp; 3 (5.1 CEU)</p> <p>SSPC Abrasive Blasting Program (C7) – (Intermediate level) (.75 CEU’s)</p> <p>SSPC Coating Application Specialist Level 2 (Interim &amp; Full Status) (CEU’s NA)</p> <p>SSPC Plural Component Application for Polyureas/High Solid Coatings (1.5 CEU’s)</p> <p>SSPC Spray Application Certification (3 options) (.6, .8 &amp; 0 CEU’s)</p> <p>SSPC Thermal Spray Inspector Training (Intermediate) (.8 CEU’s)</p> <p>SSPC Water Jetting Program (Intermediate) (.6 CEU’s)</p> <p>SSPC Surface Prep &amp; Paint Application for Power Tool Cleaning Operators &amp; Brush/Roll Paint Applicators Certification (Intermediate) (.7 CEU’s)</p>	<p>.....</p> <p>NACE Coating Inspector Level Peer Review-Exam Only (CEU’s NA)</p> <p>NACE Marine Coatings (3.1 CEU’s);</p> <p>NACE CP Level 4 (5.3 CEU’s)</p> <p>NACE Corrosion Specialist Certification (CEUs NA-Special Certification)<sup>2</sup></p> <p>SSPC Protective Coatings Inspector Level 1, 2, 3 (3.8, 2.3, 2.3 CEU’s)</p> <p>SSPC Master Coatings Inspector Program (CEU’s NA; Special Certification)</p> <p>SSPC Protective Coatings Specialist (CEU’s NA)</p> <p>SSPC Concrete Coating Inspector Program (Multiple paths) (3.8 CEU’s but varies)</p> <p>SSPC Supplement: Determining Level of Moisture in Concrete (.8 CEU’s)</p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

<b>Tracks</b>	<b>Level: Basic or General Knowledge</b>	<b>Level: Intermediate</b>	<b>Level: Advanced</b>
	<p>NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels)<sup>2</sup></p>	<p>SSPC Marine Plural Component Program (Intermediate) (.8 CEU's)</p> <p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p>SSPC Plural Component Application for Polyureas/High Solids Coatings Cert Program (1.5 CEU's)</p> <p>SSPC Bridge Coating Inspector Program (1&amp;2) (3.7 CEU's)</p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	Level: Basic or General Knowledge	Level: Intermediate	Level: Advanced
<b>Track 3 – Inspector, Construction Surveillance</b>	<p>Entry-level knowledge development of CPC skills for construction QA/QC/Cx oversight, safety &amp; technical support. Extensive training required to develop how CPC relates to building systems to include design geometrics. Beginner knowledge of coating application, cathodic protection, design geometrics and surface preparation is required.</p>	<p>Works more independently on projects &amp; issues of greater scope &amp; complexity. Builds upon knowledge gained at the basic level. Develops ability to interpret plans &amp; specifications, RFP, &amp; construction cost issues. Knowledge of Building Systems &amp; associated CPC vulnerabilities &amp; best practices. Must translate standard construction practice &amp; evaluate and perform QA on various contract delivery methods to ensure that CPC is addressed in the completed design &amp; project.</p>	<p>Expected to function at the journeyman level &amp; to fully function independently on assigned projects leveraging specialized expertise gained through years of experience &amp; knowledge development. CPC knowledge &amp; skills application for the advanced level employee is key to successful provision of QA/QC/Cx &amp; technical oversight of construction projects. Supervision &amp; management oversight, as well as various CPC-related certifications, may be required at this level.</p>
	<p>WBDG Vignette (1) Corrosion Overview<sup>3</sup></p> <p>WBDG Vignette (3) Intro to Paints &amp; Coatings<sup>3</sup></p> <p>WBDG Vignette (5) F&amp;I CPC Construction &amp; QC<sup>3</sup></p> <p>WBDG Vignette (6) Cathodic Protection<sup>3</sup></p> <p>DAU CLM 038 Corrosion Prevention &amp; Control Overview (8 CLP)</p> <p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1 CLP)</p> <p>NACE Basic Corrosion (3.6 CEU)</p> <p>SSPC Marine Coatings (Basic) (3.8 CEU's)</p> <p>CPO Basic Corrosion</p> <p>Cathodic Protection Basics (DoD WBDG) (1 PDH)</p> <p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p>	<p>SSPC: Fundamentals of Protective Coatings<sup>1</sup> (3.8 CEU's)</p> <p>SSPC Inspecting Containment (Intermediate) (.7 CEU's)</p> <p>SSPC Lead Paint Removal (Intermediate) (3.0 CEU's)</p> <p>SSPC Lead Paint Worker Safety<sup>1</sup> (.8 CEU's)</p> <p>SSPC Quality Control Supervisor (Intermediate) (1.5 CEU's)</p> <p>SSPC Thermal Spray Inspector Training (Intermediate) (.8 CEU's)</p> <p>SSPC Industrial Coating Safety Management (2.4 CEU's)<sup>1</sup></p> <p>NACE: Coatings in Conjunction with Cathodic Protection<sup>2</sup> (3.8 CEU's)</p> <p>NACE Offshore Corrosion Assessment Training (3.8 CEU's)</p> <p>NACE Inline Inspection<sup>2</sup> (part of Pipeline</p>	<p>SSPC Master Coatings Inspector Program (CEU's NA; Special Certification)</p> <p>SSPC Concrete Coating Inspector Program (3.8 CEU's but varies)</p> <p>SSPC Inspection Planning &amp; Documentation (1.4 CEU's)</p> <p>SSPC Planning/Specifying Industrial Coatings Projects (Advanced) (3.9 CEU's)</p> <p>SSPC Bridge Coating Inspector Program-Levels 1 and 2 (Advanced) (3.7 CEU's)</p> <p>SSPC Bridge Maintenance-Conducting Coating Assessments (Advanced) (3.7 CEU's)</p> <p>NACE CP Interference (4.8 CEU's) (Prerequisite: CP 3 (5.1 CEU's) Certification recommended)</p> <p>NACE Marine Coating Technology (Prerequisite: CIP Level I (4.9 CEU's); CIP Level II (4.9 CEU's) (Recommended) NACE Internal Corrosion for Pipelines-Advanced (3.4 CEU's)</p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

<b>Tracks</b>	<b>Level: Basic or General Knowledge</b>	<b>Level: Intermediate</b>	<b>Level: Advanced</b>
	<p>NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels)<sup>2</sup></p>	<p>Corrosion Integrity Management Program) (3.4 CEU's)</p> <p>NACE Internal Corrosion for Pipelines-Basic1 (3.8 CEU's)</p> <p>NACE Corrosion Prevention and Control Management e-Course<sup>2</sup></p> <p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p>NACE Direct Assessment<sup>2</sup> (of Pipeline Integrity) (3.4 CEU's)</p> <p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Basic)<sup>2</sup></p> <p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Advanced)<sup>2</sup></p>

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Tracks	Level: Basic or General Knowledge	Level: Intermediate	Level: Advanced
<p><b>Track 4 – Designer (Architect, Engineer, Other Design Professional)</b></p>	<p><i>Developmental Designer learning how various aspects of the design process comes together. Includes coordination with other disciplines, gathering design data, researching criteria, codes, WBDG &amp; other sources of information from the WBDG NDBM. Develops CPC knowledge to establish how best to fit into the design process for life-cycle expectations.</i></p>	<p><i>Can apply intermediate-level CPC knowledge to the development of the facility design to include identification of the CPC requirement, selection/editing of the appropriate criteria (e.g. UFC, UFGS, etc.) to achieve life-cycle expectations.</i></p>	<p><i>Consistent with employee development goals &amp; requirements, this level might include the requirement to be a PE/RA, DAIWIA Level 3, and become an “expert” in their discipline area. CPC knowledge should be commensurate with that level of expertise &amp; is required to collaborate project design elements with other disciplines to accurately achieve required levels of CPC consistent with life-cycle expectations.</i></p>
	<p>WBDG Vignette (1) Corrosion Overview<sup>3</sup></p>	<p>SSPC Lead Paint Removal (Intermediate) (3.0 CEU’s)</p>	<p>SSPC: Planning/Specifying Industrial Coatings Projects (Advanced) (3.9 CEU’s)</p>
	<p>WBDG Vignette (2) F&amp;I CPC Planning, Project Development &amp; Design<sup>3</sup></p>	<p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p>NACE Marine Coating Technology (3.1 CEU’s) (Prerequisite: CIP Level I (4.9 CEU’s); CIP Level II recommended (4.9 CEU’s)</p>
	<p>WBDG Vignette (3) Intro to Paints &amp; Coatings<sup>3</sup></p>	<p>SSPC Lead Paint Worker Safety<sup>1</sup> (.8 CEU’s)</p>	<p>NACE Direct Assessment<sup>2</sup> (of Pipeline Integrity) (3.4 CEU’s)</p>
	<p>WBDG Vignette (5) F&amp;I CPC Construction &amp; QC<sup>3</sup></p>	<p>NACE: Designing for Corrosion Control<sup>2</sup> (3.6 CEU’s) (Prerequisite: NACE Basic Corrosion (3.6 CEU’s) recommended)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Basic)<sup>2</sup></p>
	<p>WBDG Vignette (6) Cathodic Protection<sup>3</sup></p>	<p>NACE: Coatings in Conjunction w/ Cathodic Protection<sup>2</sup> (3.8 CEU’s)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Advanced)<sup>2</sup></p>
	<p>DAU CLM 038 Corrosion Prevention &amp; Control Overview (8 CLP)</p>	<p>SSPC: Fundamentals of Protective Coatings<sup>1</sup> (3.8 CEU’s)</p>	
	<p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1 CLP)</p>	<p>SSPC Natural &amp; Accelerated Weathering of Coatings (Intermediate) (.8 CEU’s)</p>	
	<p>NACE Basic Corrosion (3.6 CEU’s)</p>	<p>SSPC Basics of Nonferrous Surface Preparation<sup>1</sup> (.6 CEU’s)</p>	
	<p>CPO Basic Corrosion</p>	<p>SSPC Basics of Steel Surface Preparation<sup>1</sup> (.8 CEU’s)</p>	
<p>Cathodic Protection Basics (DoD WBDG) (1 PDH)</p>	<p>SSPC Basics of Steel Surface Preparation<sup>1</sup> (.8 CEU’s)</p>		
<p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p>	<p>SSPC Floor Coating Basics<sup>1</sup> (1.5 CEU’s)</p>		

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	<i>Level: Basic or General Knowledge</i>	<i>Level: Intermediate</i>	<i>Level: Advanced</i>
	<p>NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels)<sup>2</sup></p>	<p>SSPC Planning and Specifying Industrial Coatings Projects e-Course (Basic)<sup>1</sup> (3.8 CEU's)</p> <p>SSPC Evaluating Common Coating Contract Clauses (.75 CEU's)</p> <p>SSPC Basics of Concrete Surface Preparation (.8 CEU's)</p> <p>NACE Pipeline Corrosion Assessment Field Techniques<sup>2</sup> (3.4 CEU's)</p> <p>NACE Internal Corrosion for Pipelines – Basic<sup>1</sup> (3.8 CEU's)</p> <p>NACE Corrosion Prevention and Control Management e-Course<sup>2</sup></p>	



**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	Level: Basic or General Knowledge	Level: Intermediate	Level: Advanced
<p><b>Track 5 – Sustainment (Engineer, Architect Manager)</b></p>	<p><i>Sustainment Engineer, Architect Manager learning how various aspects of the facilities management process come together. Includes developing an understanding of the building trades and engineering disciplines. Researches job orders, maintenance processes, CPC techniques, &amp; scheduling of projects; gathers maintenance &amp; design data, researches criteria, codes, WBDG &amp; other sources of sustainment information. Develops CPC maintenance knowledge for life-cycle expectations.</i></p>	<p><i>Has developed professional competencies at the Basic Level; can apply intermediate level CPC knowledge to the sustainment &amp; maintenance management of the facility to include identification of CPC deficiencies &amp; requirement &amp; development of solutions. Coordinates contract requirements with acquisition professionals to include recommending criteria (e.g. UFC, UFGS, etc.) &amp; industry best practices for life-cycle expectations.</i></p>	<p><i>Consistent with employee development goals &amp; requirements, this level might include the requirement to be a PE/RA, DAIWIA Level 3, &amp; become an “expert” in their discipline area. CPC knowledge should be commensurate with that level of expertise &amp; is required to collaborate sustainment actions with engineering &amp; architectural disciplines, acquisition professionals &amp; construction &amp; project oversight to accurately achieve required levels of CPC consistent with life-cycle expectations.</i></p>
	<p>WBDG Vignette (1) Corrosion Overview<sup>3</sup></p>	<p>SSPC: Fundamentals of Protective Coatings ((3.8 CEU’s)</p>	<p>SSPC Bridge Maintenance-Conducting Coating Assessments (Advanced) (1.5 CEU’s)</p>
	<p>WBDG Vignette (2) F&amp;I CPC Planning, Project Development &amp; Design<sup>3</sup></p>	<p>SSPC Natural &amp; Accelerated Weathering of Coatings (Intermediate) (.8 CEU’s)</p>	<p>SSPC: Planning/Specifying Industrial Coatings Projects (Advanced) (3.9 CEU’s)</p>
	<p>WBDG Vignette (3) Intro to Paints &amp; Coatings<sup>3</sup></p>	<p>SSPC Project Mgmt. for Industrial Painting Contractor (1.5 CEU’s)</p>	<p>SSPC Plural Component Application for Polyureas/High Solids Coatings (1.5 CEU’s)</p>
	<p>WBDG Vignette (4) F&amp;I CPC Sustainment<sup>3</sup></p>	<p>SSPC Selection of Coatings (.8 CEU’s)</p>	<p>NACE CP Interference (4.8 CEU’s)</p>
	<p>WBDG Vignette (5) F&amp;I CPC Construction &amp; QC<sup>3</sup></p>	<p>SSPC Developing an Effective Coating Specification (2.4 CEU’s)</p>	<p>(Prerequisite: CP 3 Certification recommended (5.1 CEU’s))</p>
	<p>WBDG Vignette (6) Cathodic Protection<sup>3</sup></p>	<p>SSPC Evaluating Common Coating Contract Clauses (.75 CEU’s)</p>	<p>NACE Pipeline Corrosion Integrity Management (3.4 CEU’s)</p>
	<p>DAU CLM 038 Corrosion Prevention &amp; Control Overview (8 CLP)</p>	<p>SSPC Industrial Coating Safety Management (2.4 CEU’s)<sup>1</sup></p>	<p>NACE Marine Coating Technology (3.1 CEU’s)</p>
	<p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1 CLP)</p>	<p>SSPC Planning and Specifying Industrial Coatings Projects e-Course (3.9 CEU’s)</p>	<p>(Prerequisite: CIP Level I (4.9 CEU’s); CIP Level II (4.9 CEU’s) recommended)</p>
	<p>NACE Basic Corrosion (3.6 CEU’s)</p>	<p>SSPC Inspecting Containment (Intermediate) (.7 CEU’s)</p>	<p>NACE Direct Assessment (3.4 CEU’s) (of Pipeline Integrity)</p>
<p>SSPC Marine Coatings (Basic) (3.1 CEU’s)</p>	<p>SSPC Basics of Steel Surface Preparation (.8 CEU’s)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Basic)<sup>2</sup></p>	

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<b>Tracks</b>	<b>Level: Basic or General Knowledge</b>	<b>Level: Intermediate</b>	<b>Level: Advanced</b>
	<p>SSPC Basics of Nonferrous Surface (.6 CEU's) Preparation</p> <p>CPO Basic Corrosion Cathodic Protection Basics (DoD WBDG) (1 PDH)</p> <p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p>	<p>SSPC Lead Paint Removal (Intermediate) (3.0 CEU's)</p> <p>SSPC Lead Paint Worker Safety (.8 CEU's)</p> <p>SSPC Quality Control Supervisor (Intermediate) (1.5 CEU's)</p> <p>SSPC Inspection Planning &amp; Documentation (1.4 CEU's)</p> <p>NACE Coatings in Conjunction with Cathodic Protection (3.8 CEU's)</p> <p>NACE Inline Inspection (3.4 CEU's) (part of Pipeline Corrosion Integrity Management Program)</p> <p>NACE Intro to Coating Inspection (ICI) (Online) (4 PDH's)</p> <p>NACE Corrosion Prevention and Control Management e-Course<sup>2</sup></p> <p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Advanced)<sup>2</sup></p>

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Tracks	Level: Basic or General Knowledge	Level: Intermediate	Level: Advanced
<p><b>Track 6 – Sustainment Field Professional (Tradesman, Planner, Estimator)</b></p>	<p>Entry level/basic knowledge development of CPC skills. Extensive training is required to develop how CPC relates to building systems to include design geometrics. Specific beginner knowledge of coating application, cathodic protection, design geometrics and surface preparation is required. Researches job orders, maintenance processes, CPC techniques, &amp; scheduling of projects, researches criteria, codes, WBDG and other sources of CPC sustainment information. Develops CPC knowledge to conduct maintenance actions for life-cycle expectations.</p>	<p>Works more independently on projects &amp; issues of greater scope &amp; complexity. Builds upon knowledge gained at the basic level. Can apply intermediate-level CPC knowledge to the sustainment &amp; maintenance management of the facility, to include identification of the CPC deficiencies &amp; requirement &amp; development of solutions. Develop ability to interpret plans &amp; specifications, RFP, time requirements, construction cost issues &amp; construction trades interaction. Has knowledge of Building Systems (e.g. waterfront structures, building envelopes, utilities &amp; fore protection, etc.) &amp; the appropriate CPC interfaces.</p>	<p>Expected to function at the journeyman level &amp; to fully function in an independent manner on assigned projects, leveraging special expertise gained through years of experience &amp; knowledge development. CPC knowledge &amp; skills application for the advanced level employee is key to the successful creation of CPC solutions, project planning &amp; estimating to ensure the delivery of quality, timely and accurate project work. Supervision &amp; management oversight as well as various CPC related certifications maybe required at this level.</p>
	<p>WBDG Vignettes (1) Corrosion Overview<sup>3</sup></p>	<p>SSPC Basics of Concrete Surface Preparation<sup>1</sup> (.8 CEU's)</p>	<p>SSPC Master Coatings Inspector Program (CEU's NA; Special Certification)</p>
	<p>WBDG Vignette (2) F&amp;I CPC Planning, Project Development &amp; Design<sup>3</sup></p>	<p>SSPC Basics of Estimating Industrial Projects<sup>1</sup> (.75 CEU's)</p>	<p>SSPC Applicator Train-the-Trainer Program (ATT) (.6 CEU's)</p>
	<p>WBDG Vignette (3) Intro to Paints &amp; Coatings<sup>3</sup></p>	<p>SSPC Basics of Nonferrous Surface Preparation<sup>1</sup> (.6 CEU's)</p>	<p>NACE PCS (Protective Coatings) 2 – Advanced<sup>2</sup> (2.3 CEU's)</p>
	<p>WBDG Vignette (4) F&amp;I CPC Sustainment<sup>3</sup></p>	<p>SSPC Basics of Steel Surface Preparation<sup>1</sup> (.8 CEU's)</p>	<p>NACE CP Interference (4.8 CEU's) (Prerequisite: CP 3 Certification (5.1 CEU's) - recommended)</p>
	<p>WBDG Vignette (5) F&amp;I CPC Construction &amp; QC<sup>3</sup></p>	<p>SSPC Floor Coating Basics<sup>1</sup> (1.5 CEU's)</p>	<p>NACE Internal Corrosion for Pipelines – Advanced (3.4 CEU's)</p>
	<p>WBDG Vignette (6) Cathodic Protection<sup>3</sup></p>	<p>SSPC Fundamentals of Protective Coatings<sup>1</sup> (3.8 CEU's)</p>	<p>NACE Direct Assessment<sup>2</sup> (of Pipeline Integrity) (3.4 CEU's)</p>
	<p>DAU CLE 070 Corrosion &amp; Polymeric Coatings (1 CLP)</p>	<p>SSPC Thermal Spray Training<sup>1</sup> (.8 CEU's)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Basic)<sup>2</sup></p>
	<p>NACE Basic Corrosion (3.6 CEU's)</p>	<p>SSPC Thermal Spray Inspector Training (Intermediate) (.8 CEU's)</p>	<p>NACE Internal Corrosion Technologist (Pre-requisite: Internal Corrosion for Pipelines – Basic)<sup>2</sup></p>
	<p>SSPC Marine Coatings (Basic) (3.8 CEU's)</p> <p>CPO Basic Corrosion</p>	<p>SSPC Surface Prep &amp; Paint Application for Power Tool Cleaning Operators &amp; Brush/Roll Paint Applicators Certification (Intermediate) (.7</p>	<p>NACE Internal Corrosion Technologist (Pre-</p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

Tracks	<b>Level: Basic or General Knowledge</b>	<b>Level: Intermediate</b>	<b>Level: Advanced</b>
	<p>Cathodic Protection Basics (DoD WBDG) (1 PDH)</p> <p>Waterfront and Coastal Structures (DoD WBDG) (1 PDH)</p> <p>NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels)<sup>2</sup></p>	<p>CEU's)</p> <p>SSPC Project Management for Industrial Painting Contractor<sup>1</sup> (1.5 CEU's)</p> <p>SSPC Industrial Coating and Safety Management (2.4 CEU's)<sup>1</sup></p> <p>NACE PCS (Protective Coatings) 1 – Basic Principles<sup>1,2</sup> (2.3 CEU's)</p> <p>NACE Designing for Corrosion Control<sup>2</sup> (3.6 CEU's)</p> <p>NACE Coatings in Conjunction with Cathodic Protection<sup>2</sup> (3.8 CEU's)</p> <p>NACE Pipeline Corrosion Assessment Field Techniques<sup>2</sup> (3.4 CEU's)</p> <p>NACE Offshore Corrosion Assessment Training (3.8 CEU's)</p> <p>NACE Inline Inspection<sup>2</sup> (part of Pipeline Corrosion Integrity Management Program) (3.4 CEU's)</p> <p>NACE Internal Corrosion for Pipelines – Basic<sup>1</sup> (3.8 CEU's)</p> <p>NACE Corrosion Prevention and Control Management e-Course<sup>2</sup></p> <p>SSPC Natural &amp; Accelerated Weathering of Coatings (Intermediate) (.8 CEU's)</p> <p>CPC of Utilities and Buried Structures (DoD WBDG) (1 PDH)</p>	<p>requisite: Internal Corrosion for Pipelines – Advanced)<sup>2</sup></p>

**Table 1 Facilities (Design, Construction, Repair, Sustainment) Course Recommendations\***

<b>Tracks</b>	<b>Level: Basic or General Knowledge</b>	<b>Level: Intermediate</b>	<b>Level: Advanced</b>
<b>Track 7 – Acquisition Professional</b>	<i>Foundational understanding &amp; knowledge of how &amp; why CPC fits into acquisition, RFP &amp; project specifications; basic knowledge of contract divisions, UFC, UFGS, WBDG, &amp; their CPC applicability.</i>	<i>Ability to apply intermediate level CPC knowledge into acquisition documents to include editing of UFGS &amp; selection &amp; leveraging of criteria to achieve desired levels of CPC for the life cycle.</i>	<i>In-depth knowledge level of CPC to include critical thinking, problem solving, &amp; ability to apply CPC requirements to various scenarios to ensure strong performance-based contract results in the completed facility to achieve life-cycle expectations.</i>
	..... WBDG Vignette (1) Corrosion Overview <sup>3</sup>	..... SSPC: Planning/Specifying Industrial Coatings Projects (Basic) <sup>1</sup> (3.8 CEU's)	..... SSPC: Planning/Specifying Industrial Coatings Projects (Advanced) (3.9 CEU's)
	WBDG Vignette (2) F&I CPC Planning, Project Development & Design <sup>3</sup>	SSPC: Develop an Effective Coating Specification (Intermediate) (2.4 CEU's)	
	WBDG Vignette (3) Intro to Paints & Coatings <sup>3</sup>	SSPC Lead Paint Removal (Intermediate) (3.0 CEU's)	
	WBDG Vignette (4) F&I CPC Sustainment <sup>3</sup>	SSPC Lead Paint Worker Safety <sup>1</sup> (.8 CEU's)	
	WBDG Vignette (5) F&I CPC Construction & QC <sup>3</sup>	NACE: Designing for Corrosion Control <sup>2</sup> (3.6 CEU's) (Prerequisite: NACE Basic Corrosion (3.6 CEU's) recommended)	
	NACE Basic Corrosion (3.6 CEU's)		
	CPO Basic Corrosion	NACE Corrosion Prevention and Control Management e-Course <sup>2</sup>	
	SSPC: Evaluating Common Coating Contract Clauses (Basic) (.75 CEU's)		
	Cathodic Protection Basics (DoD WBDG) (1 PDH)		
	Waterfront and Coastal Structures (DoD WBDG) (1 PDH)		
	NACE Industrial Coatings Application e-Course (4 Modules with differing PDH levels) <sup>2</sup>		

\*For a complete synopsis of each course listed in the Table, please consult the associated WBDG.org, NACE.org, <https://www.dau.mil>, and SSPC.org Web sites. Note that NACE offers e-course versions of several traditional course offerings listed above. For a complete list of NACE e-course offerings, visit <https://www.nace.org/Training-and-Education/Training-Programs/Online-Training/>

<sup>1</sup> Although these course offerings are labeled as 'Basic' in their titles or course descriptions, we regard them as more functional and more appropriately targeted to a particular industry or narrow professional specialization, so we have included them in the 'Intermediate' level category.

<sup>2</sup> Currently, these NACE courses are not funded by the DoD CPO; however, we provide them here for reference, in the event that they could be useful to the DoD corrosion prevention and control user community, or slated to be funded by CPO in the future.

<sup>3</sup> Conversion to CEU's etc. for these courses is in process.

***Column and Row Headings Defined:***

1. Track 1: Basic Knowledge
  - a. Fundamental knowledge and proficiency level based upon job requirements. This Track should provide an understanding of basic principles and procedures in the various areas of corrosion, prevention and control.
2. Track 2: Subject Matter Expert
  - a. This Track provides opportunities for the facilities professional who needs to have an established certification level in the specific subject matter area such as Coatings Inspection, Cathodic Protection, etc., to accomplish his or her job.
3. Track 3: Inspector, Construction Surveillance
  - a. The government construction representative must have certain skills in CPC to be able to perform effective Quality Assurance. Additionally, the contractor's Construction Quality Control person must be proficient in these areas as well. QA, CQC, and Commissioning plans are dependent upon this knowledge.
4. Track 4: Designer (Architect, Engineer, Other Design Professional)
  - a. In order for the design professional to determine the appropriate CPC treatment and feature, knowledge in these areas is essential. Establishing the requirement and articulating that requirement in the Plans and Specifications are critical to achieving both the desired life cycle and quality in the finished project.
  - b. Should be aware of new technology and how it can be leveraged to improve CPC and lengthen the life cycle.
5. Track 5: Sustainment (Engineer, Manager)
  - a. The Sustainment Engineer/Manager is faced with the daily task of CPC problem identification and solving.
  - b. This Track provides insights into the types of resources that are available in order for the Sustainment Engineer/Manager to be more successful in identifying and resolving CPC deficiencies, as well as implementing improvements.
  - c. If the Sustainment Engineer/Manager is a government employee, this level of knowledge will provide insights into managing CPC for both the government and contract maintainers.
6. Track 6: Sustainment Field Professional (Tradesman, Planner, Estimator)
  - a. The Sustainment Field Professional is faced with the daily task of CPC problem identification, solution development, and, in many cases, actually accomplishing corrective actions.
  - b. This Track provides insights into what types of specific knowledge are available to assist in making the Sustainment Field Professional more successful.
  - c. If the Sustainment Field Professional is a government employee, this level of knowledge will provide insights into CPC for both government and contract maintainers.
7. Track 7: Acquisition Professional
  - a. The Acquisition Professional is tasked with managing the details of the CPC contract. This includes identification of the appropriate UFC (Unified Facilities Criteria) and UFGS (Unified Facilities Guide Specifications) as well as in the editing of the UFGS's that are selected.
  - b. Ensuring that appropriate levels of quality and deliverables are identified in the contract is also a responsibility of the Acquisition Professional.

**Levels Defined:** (Note: These levels are relative to the individual and the requirement. The intent is to distribute the complexity and detail of the courses in such a way as to show a progression from basic knowledge of CPC to a more advanced functional level of proficiency. Professional Licensing (PE/RA etc.) will draw upon the courses shown in the three levels to satisfy local, state, and government requirements to obtain and sustain registration requirements.

1. Basic or General and Theoretical Knowledge
2. Functional
3. Advanced

## **DoD-Funded Training—Opportunities**

The DoD Corrosion Policy and Oversight Office has contracted with SSPC and NACE International to provide tuition-free courses in corrosion prevention and mitigation to DoD personnel throughout fiscal year 2018.

- For more information about SSPC course opportunities, please visit <http://www.sspc.org/trn-funding>. To inquire about funding for SSPC courses, contact Jennifer Merck at [merck@sspc.org](mailto:merck@sspc.org) or 412-281-2331, extension 2221.
- To review NACE course opportunities, visit <http://www.nace.org/Training-and-Education/DoD-Education-Funding/>. For information about funding for NACE courses, contact Shawna Jones [Shawna.Jones@nace.org](mailto:Shawna.Jones@nace.org) or 281-228-6225, or Carmen Peebles at [Carmen.Peebles@nace.org](mailto:Carmen.Peebles@nace.org).

## **WBDG Training Resources**

- CPC Source Training Section (5 Vignettes) (<https://www.wbdg.org/ffc/dod/cpc-source/training>)
- DoD Training Courses (<https://www.wbdg.org/continuing-education/dod-courses>)