



FY 2015 Secretary of Defense

# Environmental Awards

Cultural Resources Management, Individual  
Dr. Paul R. Green

## Introduction

The Environmental Directorate of the Air Force Civil Engineer Center (AFCEC) provides environmental programming, planning, and technical support to Air Force installations world-wide. Dr. Paul Green is the Cultural Resources Specialist for the East Region Support Team (RST), U.S. Air Force Civil Engineer Center.

## Background

Dr. Green performs his routine duties and responsibilities within the AFCEC East RST at Joint Base Langley-Eustis, Virginia. The East Region consists of some 26 installations, from Maine to Florida. The region also contains six Installation Support Team (IST) offices. The regional cultural resources specialists oversee the functional Cultural Resources Management (CRM) programs at ISTs and installations. They provide assistance as requested, work collaboratively with the Air

Force Cultural Resources Subject Matter Expert (SME), conduct staff assistance visits to bases to assess and improve performance, and participate in interagency meetings and tribal meetings.

Dr. Green reviews and validates updates of the installation Integrated Cultural Resources Management Plan (ICRMP). In this capacity, Dr. Green, throughout the award period, personally resolved complex technical, compliance, and policy cultural resources issues for all six ISTs. For example, he led the staff at Arnold AFB in a successful effort to update its complex historic district building inventory and accompanying 36 CFR 800 National Historic Preservation Act (NHPA) Programmatic Agreement with the Tennessee State Historic Preservation Office.

Dr. Green works with base and IST CRMs to ensure all funding needs are identified in

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Program Objective Memorandum (POM) updates; inputs specific base and Air Force-wide program requirements into AFCEC databases; develops work requirements and programming estimates for tasks to be contracted or accomplished; develops the CRM portion of the Air Force-wide integrated priority list (IPL), in collaboration with the SME; and performs quality assurance/quality control on installation EQ funding requests for CRM. For example, during the award period, Dr. Green successfully reviewed cultural resources requirements for all East Region installation programs and ensured their eventual obligation of funds through a variety of contracting agents, e.g., the U.S. Army Corps of Engineers Districts at Omaha and Fort Worth.

During the award period, Dr. Green revised the ICRMPs for Joint Base Langley-Eustis (Langley), Joint Base Langley-Eustis (Fort Eustis), Moody AFB, Seymour Johnson AFB, and Shaw AFB, ensuring data accuracy for eventual audit. He also provided key inputs to the DoD Historic Preservation Working Group on long range goals and strategic plans. In August 2013, Dr. Green provided expert counsel to the Air Force National Environmental Policy Act (NEPA) Center concerning the development of the Planning Requirements for the Environmental Impact Analysis Process (PREIAP) initiative and how NHPA Section 106 requirements could be integrated at early stages, saving time and money later on. PREIAP is an inherently governmental responsibility and is intended to ensure that appropriate requirements are identified, baseline data is collected, and agreement among key stakeholders on a Draft Description of Proposed Action and Alternatives is achieved, to the extent possible, prior to of initiation of the formal NEPA analysis process.

During the award period, Dr. Green conducted four Defense Connect Online training sessions on Cold War era historic preservation and cultural geospatial issues for East Region field personnel.



**Dr. Paul Green**

Dr. Green is the Cultural Resources Specialist for the East RST. In this capacity, he oversees and assists the CRM programs in his area of responsibility, and supports AF SMEs, as necessary.

## Summary of Accomplishments

The following paragraphs summarize Dr. Green's accomplishments that were above and beyond his regular duties, as described in the previous background section.

### **Mission Enhancement:**

#### Project ORCHID and Cultural Property Protection During Armed Conflict

Dr. Green directed this multi-year effort to improve awareness and planning of theater commanders of host nation cultural properties before and during operations. During the award period, Dr. Green personally revised and approved the production of Tangible Cultural Resources Country Profiles for the following countries: Albania and Yemen (Jan 13); Haiti, Mali, and Pakistan (Feb 13); Mauritania (Mar 13); Afghanistan, South Sudan, and Sudan (May 13); Nigeria (Jul 13); Algeria, Colombia, and Libya (Nov 13); the Central

*Catalyzing Cultural Heritage Data for Mission Success: Project ORCHID*

**Paul R. Green**

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**ORCHID Paper for Archaeologies**

Dr. Green’s paper on Project ORCHID was published in the journal of the World Archaeological Congress. Project ORCHID was initiated to review institutional knowledge and procedures in order to provide military personnel with visibility of host nation cultural properties to avoid or minimize harmful effects of operations. Dr. Green was significantly involved in this effort.

African Republic, Democratic Republic of Congo, and Niger (Dec 13). Geospatial data of cultural properties in these countries was provided to the geographic combatant commands for Africa (AFRICOM) and Latin America (SOUTHCOM), the National Geospatial Intelligence Agency, and the State Department in support of advance planning for contingency operations and disaster response. Other volumes included a manual for remote sensing of archaeological resources in the Middle East (Feb 13) and a Project ORCHID database user manual (Feb 14).

Dr. Green provided a summary of Project ORCHID accomplishments for the benefit of a global audience with his April 2013 paper “Catalyzing Cultural Heritage Data for Mission Success: Project ORCHID” in

Archaeologies, the professional journal of the World Archaeological Congress (Volume 9, No. 1, pp. 267-277).

Additionally, Dr. Green worked closely with cultural heritage analysts in the Bureau of Educational and Cultural Affairs in the State Department throughout 2013 to protect host nation cultural heritage during overseas operations. In recognition of this important collaboration, the President extended an invitation to Dr. Green to accompany his State Department colleagues to a White House screening on 18 February 2014 of the film “The Monuments Men”, celebrating DoD efforts in World War II to rescue cultural treasures from Nazi looting and destruction. During this event he met the author of the book the film is based on, one of the surviving original Monuments Men, the cast of the film, senior State and Defense Department personnel, and the President of the United States, who personally congratulated him on his service to the Nation.



**Dr. Green at Monuments Men Reception**

Dr. Green converses with Mr. George Clooney, director and actor in the motion picture “The Monuments Men.” The film honors the work of the World War II unit charged with discovering and preserving precious historical treasures stolen by the Nazis. Dr. Green received a White House invitation to attend the reception and screening of the film in February 2014.

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Brigadier General Roy-Alan Agustin, Air Combat Command (ACC) Civil Engineer, presented Dr. Green with the U.S. Air Force Award for Meritorious Civilian Service on 16 September 2014, in recognition of his exemplary performance demonstrated during the period from 19 March 2003 to 31 July 2014. Dr. Green distinguished himself through admirable service and exceptional accomplishments as he worked to protect cultural assets for Air Force bases worldwide and his long time efforts to raise awareness within DoD concerning cultural preservation matters during armed conflict and avoid impacts on foreign cultural heritage during contingency operations and disaster response.

### **Historic Buildings and Structures:**

In addition to his interest in cultural property protection during foreign contingency operations, Dr. Green is a nationally recognized expert in the field of Cold War Era military history and engineering. In 2009, Dr. Green began the oversight of a multi-year effort to rescue historically important engineering drawings, plans, and documents that are crucial to our Nation's understanding of the Cold War Era and the Air Force's contribution to its victorious conclusion. The third and fourth years of this effort coincide with the award period, and the effort continues today, with an expected conclusion in FY15. The project identifies items associated with key Air Force missions, weapons systems, and facilities of the Cold War, some locked away in engineering vaults and others used on a daily basis. The originals are scanned to high quality standards, and then sent to the Air Force Historical Research Agency at Maxwell AFB for permanent curation and online access by researchers. Scanned copies in digital and hard copy format remain at the bases for everyday use as needed. By the project's conclusion, nearly 30,000 drawings will have been permanently preserved, including installation maps, missile silos, alert facilities, hangars, test complexes, command, communications, and radar centers, research and development facilities. Bibliographic

research tools and a monograph complete the effort. This effort falls outside normal engineering and records management responsibilities, and demonstrates Dr. Green's desire to preserve the contributions of our military, civilian, and contractor personnel to the Nation's historical legacy

As a senior expert on the DoD Historic Preservation Working Group, Dr. Green helped identify and confirm over forty types of facilities on DoD installations which would be unlikely to ever require historic preservation evaluation and compliance review, e.g., utility lines and sidewalks. Elimination of NHPA review steps for such mundane facility types would avoid potential compliance review time and associated costs across the department, more accurately reflect the remaining historic inventory workload, and help ensure reliable audits in the future.

Dr. Green produced the first DoD-wide Cold War era historic resource context, which will be a model for DoD and all services going forward. A historic context provides the timeline, significant themes, and geographic scope for a given topic, and is used by scholars and resource managers to guide future work. He also provided extensive background literature sources to the National Park Service's historian consultant for their National Historic Landmark thematic study, helping ensure the success of that effort.

Although the base is outside his normal sphere of regional operations, Dr. Green assisted Mountain Home AFB, ID with documentation of its nationally significant Cold War era strategic bomber alert facility, Building 291. The alert facility is where bomber crews stayed on 24 hour alert, ready to dash to nearby parked aircraft and be airborne within minutes. He researched the capabilities of Cy-Ark, an internationally recognized leader in automated LIDAR facility recordation, and then arranged for this non-profit organization to conduct a low cost, detailed documentation of the entire alert facility. LIDAR employs laser light pulses thousands of times a minute to develop a three

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dimensional point cloud for the subject under investigation. This automated procedure and product enhances the installation's ability for long term adaptive reuse of the resource, since the baseline condition and construction details are precisely known.

### **Archaeological Resources:**

A critical challenge facing Air Force installations and ranges is the great number of unevaluated archaeological sites, which complicates historic preservation compliance and mission planning and training. In May 2013, as co-principal investigator, Dr. Green completed "Project RC-200720, Integrating Archaeological Modeling in DoD Cultural Resources Compliance." This five-year, \$1.04M project was funded by the DoD Environmental Security Technology



### **Dr. Green at Atlas Facility**

Dr. Green visits the remaining, now unused, Atlas gantry at Vandenberg. These specialized facilities present a continuing management challenge, as their adaptive reuse options are limited and costly. This is the sole remaining example of this seminal Cold War system, and was activated during Premier Khrushchev's visit to the U.S. during the Eisenhower administration.

Certification Program (ESTCP), its goal to streamline the time and costs associated with finding and evaluating archaeological sites on DoD lands. The final report and ESTCP web page provide installations with several models to use to forecast the locations and characteristics of buried and surface archaeological sites. Making these demonstration results available to DoD's larger installations and ranges gives them the tools to reduce inventory and evaluation time and costs for tens of thousands of archaeological sites.

### **Native American Program:**

In December 2012, the Deputy Assistant Secretary of the Air Force for Installations and Environment invited Dr. Green to join a tiger team developing the first of its kind Air Force Instruction on tribal relations. After a critical review of early efforts, in June 2013, Dr. Green prepared a revised draft which became the core of the eventual final product. Participating extensively over eighteen months, Dr. Green's expertise, experience in tribal relations, and writing skills were essential in producing AFI 90-2002, *Air Force Interactions with Federally Recognized Tribes*, published on 19 November 2014. The new AFI is accompanied by a Frequently Asked Questions implementation document. This AFI implements DoDI 4710.02, *DoD Interactions with Federally-Recognized Tribes*.

In his work with the Powder River Training Complex (PRTC) action (see below), Dr. Green consulted on the behalf of Ellsworth AFB and in support of ACC and the Midwest RST and NEPA Center of AFCEC. This action involved years of intense consultation and negotiation with four tribes in the upper Great Plains, resulting in the NHPA Section 106 Programmatic Agreement (PA) signed in September 2014. The PA establishes a long term government-to-government consultation process between the installation and the tribes, which should improve relations and enhance the chances for long-term mission success.

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## Cultural Resources Compliance:

### Condor MOA Action

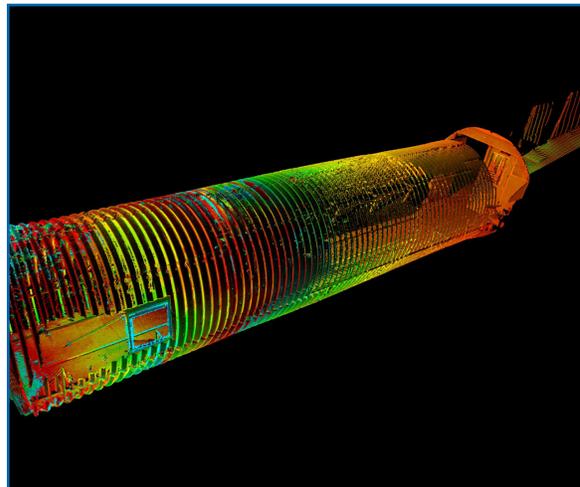
In July 2013, Dr. Green worked with environmental attorneys at the Air Force Legal Operations Agency, Field Support Center, to provide expert counsel concerning the conclusion of the NHPA Section 106 process for the critical Air National Guard Condor MOA training initiative in Maine. This involved sensitive negotiations with the Penobscot Nation and the Advisory Council on Historic Preservation (ACHP). The Air Guard, at that time short of technical expertise, requested Dr. Green's help based on his experience with the PRTC action. The action concluded successfully, demonstrating Dr. Green's ability to engage parties outside his normal channels, analyze a difficult problem based on relevant experiences, and forge a solution, one that combined key elements of the NHPA and NEPA processes.

### Powder River Training Complex (PRTC)

The 28th Bomb Wing at Ellsworth AFB operates the B-1B. New roles evolved for the B-1B during Operations Iraqi Freedom and Enduring Freedom created a need for a larger airspace in which realistic training scenarios could be created that more effectively train aircrews for combat deployments. The proposed PRTC airspace would be the largest in the Western Hemisphere, more than tripling the size of the existing Powder River complex to some 22.5 million acres over four states (SD, ND, WY, MT) and parts of four Indian reservations

Expanding the PRTC would allow Ellsworth to conduct up to 85% of the wing's flight training locally, saving fuel and time costs of using Nevada Test and Training Range (NTTR) and Utah Test and Training Range (UTTR). Under NEPA, the proposed PRTC is a major federal action requiring an Environmental Impact Statement (EIS). In addition to the Air Force, primary stakeholders in the EIS process included the National Park Service (NPS),

State Historic Preservation Offices (SHPO), the Federal Aviation Administration (FAA), ranchers, civilian aviators and landowners under the proposed PRTC airspace, and several Indian tribes. A final Record of Decision (ROD) will be made at the Secretary of the Air Force (SAF) level. Furthermore, the FAA is responsible for providing a thorough review of the proposal and will eventually provide an independent ROD.



### Point Cloud of Alert Facility Tunnel

A digital point cloud of one of the egress tunnels of Building 291, Mountain Home AFB. The building is historically significant as a Cold War era strategic bomber alert facility. Recorded using state of the art laser based technology, these data sets provide the installation precise documentation for minimal cost.

Finalization of the EIS was contingent on the completion of NHPA Section 106 consultations with the affected SHPOs and Tribes. The ACHP worked as a moderator to facilitate these consultations, and to develop and coordinate a Programmatic Agreement among the parties involved. Dr. Green prepared the initial Section 106 documentation in 2008, the draft and all subsequent revisions of the documentation and programmatic agreement, and led intense virtual consultation with SHPO and THPO representatives, the NPS, ACHP, and Air Force in 2012 through 2014, culminating in the successful execution of the PA in September 2014 and enabling completion of the PRTC EIS. The Air Force issued its Record of Decision for the PRTC EIS on January 16, 2015.

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## Curation:

In 2013, Dr. Green began the first DoD initiative to ensure long term curation of its significant digital data. To this point, most attention had focused on the care of archaeological artifact collections. What was lacking, however, was attention to the vast amount of data contained in digital format, an amount that increases daily. There is no DoD policy or center for this purpose. However, a non-profit organization, Digital Antiquity, had developed a model program for this purpose at Arizona State University, using demonstration grant funds, titled 'the Digital Archaeological Record' or tDAR. This program fills a critical gap. Repositories that curate or store archaeological artifact collections do not maintain copies of the digital data associated with collecting and analyzing the artifacts. The tDAR approach focuses just on these digital files. After researching the program, Dr. Green secured funding to curate the digital cultural resources records of three ACC installations in 2014: Shaw AFB, Dyess AFB, and Avon Park Range, Florida. These data were reviewed in detail by base personnel and Dr. Green before publication in tDAR. Original and publicly accessible versions of the data are available for viewing by authorized personnel and the public, respectively, at [www.tdar.org](http://www.tdar.org). This solution relieves the Air Force of department-wide costs in the range of tens of thousands of dollars to keep up with new versions of digital media and meets the compliance requirement in Section 112 of the NHPA regarding cultural resources databases. Dr. Green programmed for a second round of three installations' data in the Pacific area of responsibility for 2014-2015, and additional bases in the following years.

## Overall Cultural Resources Management:

From February to July 2014, Dr. Green co-authored with the AF Cultural Resources SME the complete revision and update of AFI 32-7065, *Cultural Resources Management*, the first update since 2004. He also updated significant portions of the Air Force Cultural

Resources Playbook, those focused on cultural resource inventory and planning and Section 106 compliance. The Playbook, hosted on the Air Force Civil Engineer portal, contains much of the granular technical detail about cultural resources management formerly contained in the AFI and in draft manuals. It is designed to be easily updated by Air Force technical personnel.



### Dr. Green with Caddo Nation Tribal Elders

Dr. Green conversing with Caddo Nation elders at Barksdale Air Force Base, Louisiana. He has experience in tribal consultations in several regions. This experience was critical in developing the Powder River Training Complex programmatic agreement and Environmental Impact Statement.

Since 1998, Dr. Green has been an Air Force representative on the Federal Geographic Data Committee's Subcommittee for Cultural Resources. In 2013-2014, he served on the Sensitive Data Working Group and provided input toward developing a federal standard for a sensitive data transfer standard.