A Scheme for PIV Visual Card Topography

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I N F O R M A T I O N   S E C U R I T Y

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Acknowledgements

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1.   Introduction

1.1   Authority

This document has been developed by the National Institute of Standards and Technology (NIST) in furtherance of its statutory responsibilities under the Federal Information Security Management Act (FISMA) of 2002, Public Law 107-347.

NIST is responsible for developing standards and guidelines, including minimum requirements, for providing adequate information security for all agency operations and assets, but such standards and guidelines shall not apply to national security systems. This recommendation is consistent with the requirements of the Office of Management and Budget (OMB) Circular A-130, Section 8b(3), Securing Agency Information Systems, as analyzed in A-130, Appendix IV: Analysis of Key Sections. Supplemental information is provided in A-130, Appendix III.

This recommendation has been prepared for use by Federal agencies. It may be used by non-governmental organizations on a voluntary basis and is not subject to copyright. Nothing in this document should be taken to contradict standards and guidelines made mandatory and binding on Federal agencies by the Secretary of Commerce under statutory authority. Nor should this recommendation be interpreted as altering or superseding the existing authorities of the Secretary of Commerce, Director of the Office of Management and Budget, or any other Federal official.

1.2   Purpose and Scope

The purpose of this document is to provide additional recommendations on the Personal Identity Verification (PIV) Card color-coding for designating employee affiliation. Compliance with this document is voluntary; however, a department or agency shall not claim compliance unless it adheres to all requirements of this document. This document is not intended to contradict requirements specifically identified in the Federal Information Processing Standard 201 (FIPS 201) or its associated documents, nor to limit options permitted by FIPS 201 except as explicitly stated herein. The recommendations in this document complement FIPS 201 in order to increase the reliability of PIV card visual verification.

## 2.	Color-coding for Employee Affiliation

This section provides a background color-coding scheme for Zones 15 and 12 to describe employee affiliation using FIPS 201 color designations. It also defines additional requirements for Zones 18 and 19.

### 2.1	Zones 15 and 12

All letterings on the PIV card shall be printed in black except as explicitly stated herein. Figure 1 illustrates use of Zones 15 and 12 to color-code employee affiliation.
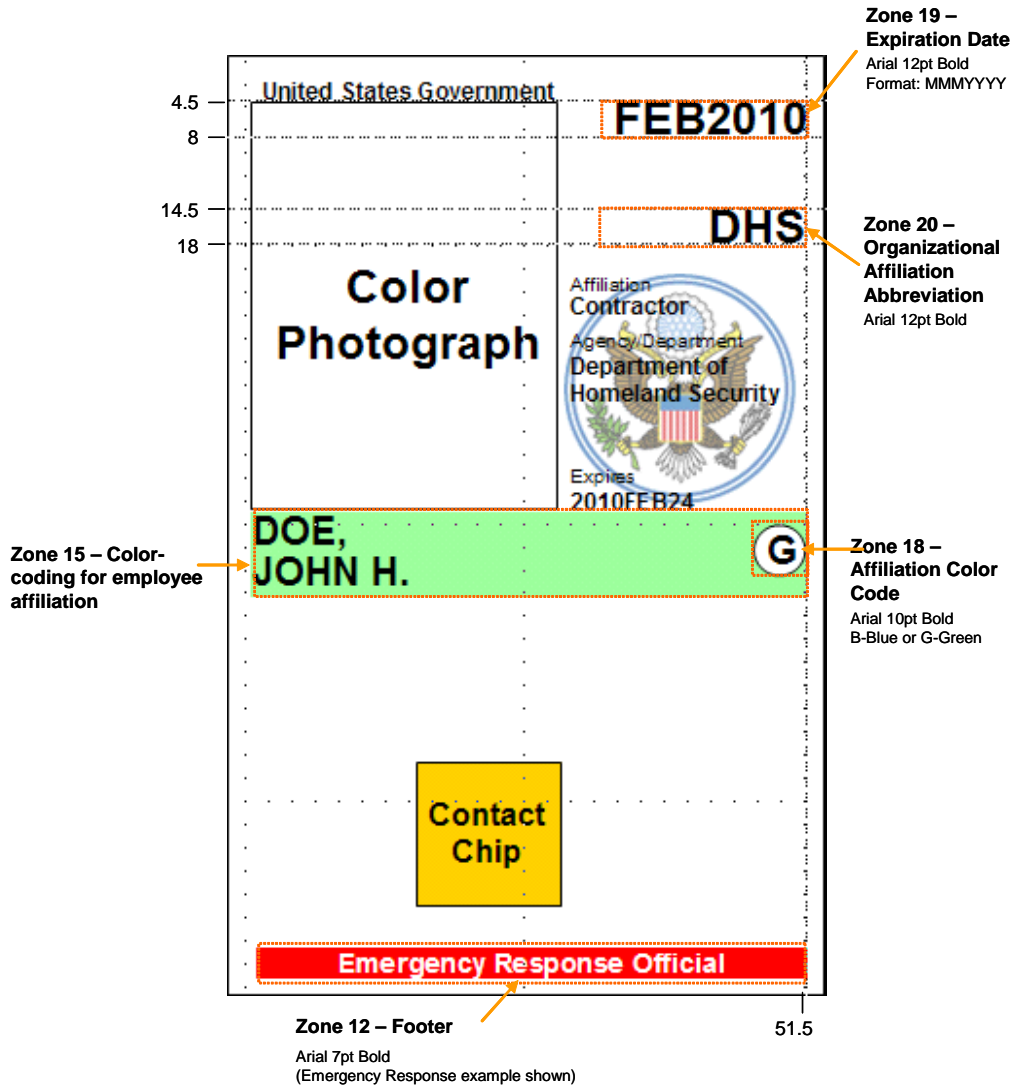

Figure 1. Employee Affiliation Color-coding

Zone 15 shall be color-coded using one of the following colors:

+	Blue—Foreign National

+	White[1]—Government Employee

+	Green—Contractor

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[1] Note that the card body shall be white.

Foreign National color-coding has precedence over Government Employee and Contractor color-coding. Foreign National, Government Employee, and Contractor color-coding have precedence over Emergency Response Official color-coding (this implies that Red will never be visible in Zone 15).

The color-coding for Emergency Response Official (ERO) is optional. The ERO color-coding, when used, shall be depicted at the footer location of Zone 12 and must print "Emergency Response Official" with white lettering on a red background. No other color-coding is permitted in Zone 12 when implementing SP 800-104.

When Zone 15 indicates Foreign National affiliation and the department or agency does not need to highlight ERO status, the footer location of Zone 12 may be used to denote the country or countries of citizenship. If so used, the department or agency shall print the country name or the three letter country abbreviation (alpha-3 format) in accordance with ISO 3166-1, Country Codes [ISO 3166]. Figure 2 illustrates an example of Foreign National color-coding using country abbreviations.
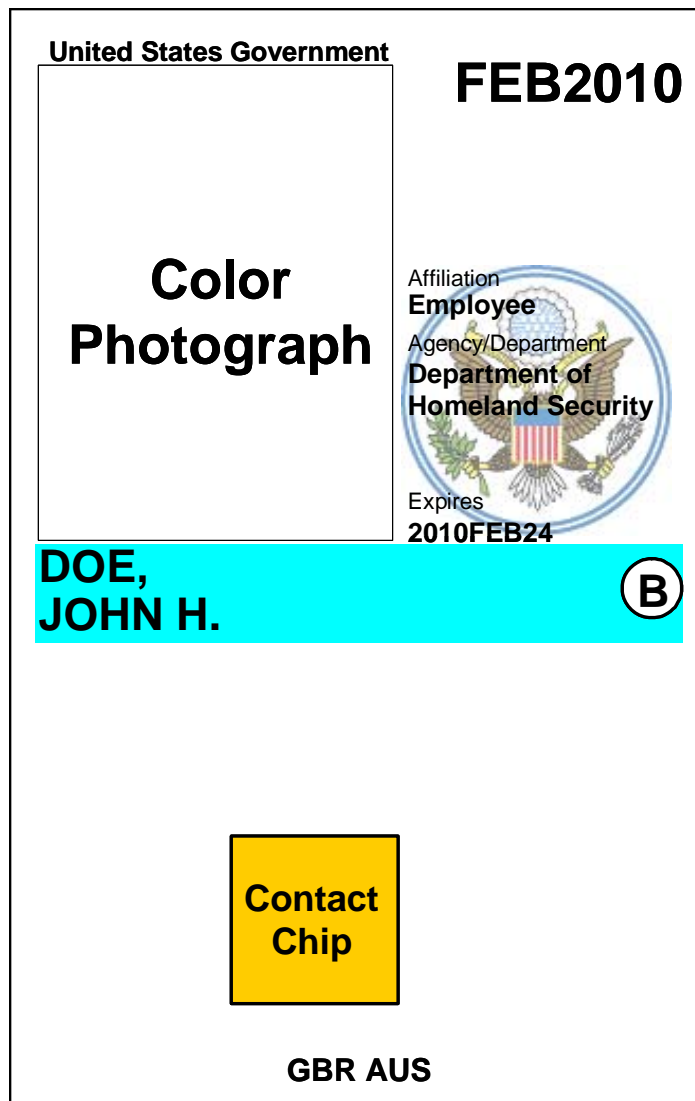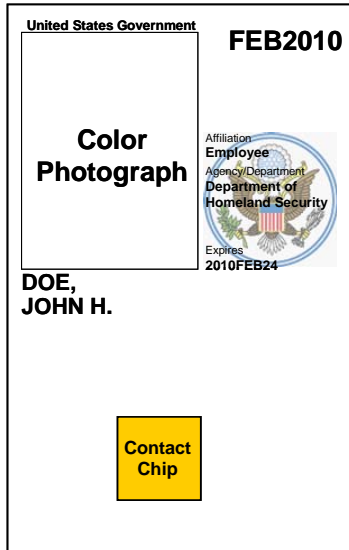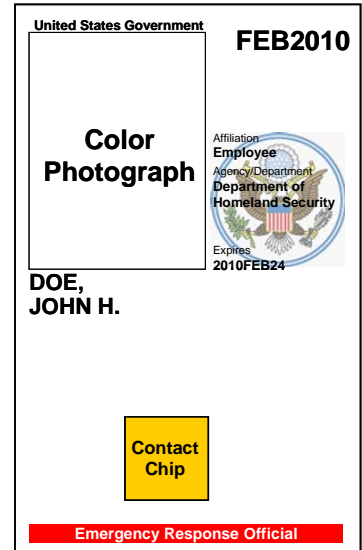

Figure 2. Foreign National Color-coding

Figure 3 provides all the possible card configurations defined in this document.

Configuration 1

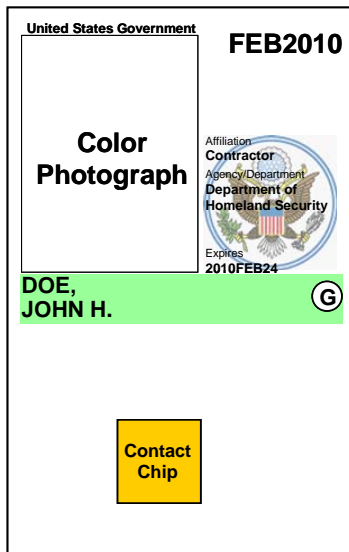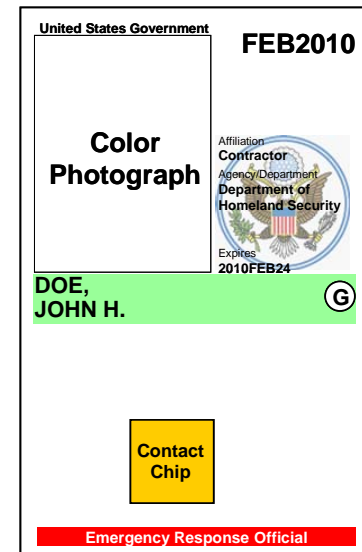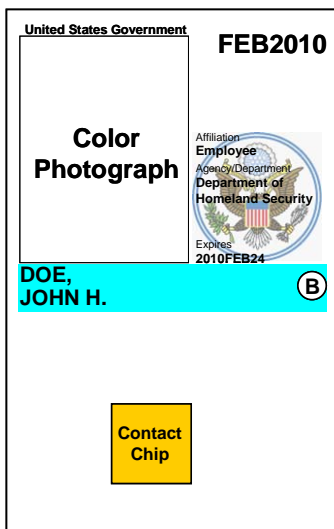Configuration 2

United States Government   **FEB2010**

Color Photograph

Affiliation
Employee
Agency/Department
Department of Homeland Security

Expires
2010FEB24

DOE, JOHN H.

Contact Chip

United States Government   **FEB2010**

Color Photograph

Affiliation
Employee
Agency/Department
Department of Homeland Security

Expires
2010FEB24

DOE, JOHN H.

Contact Chip

Emergency Response Official

Configuration 3

Configuration 4

United States Government   **FEB2010**

Color Photograph

Affiliation
Contractor
Agency/Department
Department of Homeland Security

Expires
2010FEB24

DOE, JOHN H.   (G)

Contact Chip

United States Government   **FEB2010**

Color Photograph

Affiliation
Contractor
Agency/Department
Department of Homeland Security

Expires
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Emergency Response Official

Configuration 5

Configuration 6

Configuration 7

United States Government   **FEB2010**

Color Photograph

Affiliation
Employee
Agency/Department
Department of Homeland Security

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Emergency Response Official

Figure 3. SP 800-104 Configurations

Configuration 1		Configuration 2
- Government Employee		- Government Employee
		- Optional Emergency Response Official displayed
Configuration 3		**Configuration 4**
- Contractor		- Contractor
		- Optional Emergency Reponse Official displayed
Configuration 5	**Configuration 6**	**Configuration 7**
- Foreign National	- Foreign National	- Foreign National
- Government Employee or a Contractor	- Government Employee or a Contractor	- Government Employee or a Contractor
	- Optional country of citizenship displayed	- Optional Emergency Response Official displayed

Figure 4. SP 800-104 Configuration Description

2.2 Zones 13, 14, and 16

The use of Zones 13, 14, and 16 is not restricted nor altered from [FIPS 201] in this document.

2.3 Zones 18, 19, and 20

Zone 18—Affiliation Color Code. The affiliation color code "B" for Blue or "G" for Green shall be printed in a white circle in Zone 15. The diameter of the circle shall not be more than 5 mm. Note that the lettering shall correspond to the printed color in Zone 15.

Zone 19—Expiration Date. The card expiration date shall be printed in a MMMYYYY format in the upper right hand corner. The expiration date shall be printed in Arial 12pt Bold.

Zone 20—Organizational Affiliation Abbreviation. The organizational affiliation abbreviation may be printed in the upper right hand corner below the date as shown in Figure 1. If printed, the organizational affiliation abbreviation shall be printed in Arial 12pt Bold.

2.4 Color Representation

Table 1 provides quantitative specifications for colors in three color systems. The colors are specified in the sRGB Tristimulus, sRGB ([IEC 61966], Color management – default RGB color space), and CMYK (Cyan, Magenta, Yellow and Key or 'blacK') systems. Since the card body is white, the white color-coding is achieved by the absence of printing. Note that [FIPS 201] requires the presence of at least one security feature which may overlap colored or printed regions, thus modifying the perceived color. In the case of colored regions, the effect of overlap shall not prevent the recognition of the principal color by a person with normal vision (corrected or uncorrected) at a working distance of 50 cm to 200 cm.

Table 1. Color Representation

Color	Zone	sRGB Tristimulus Value (IEC 61966-2-1)	sRGB Value (IEC 61966-2-1)	CMYK Value {C,M,Y,K}
White	15	{255, 255, 255}	{255, 255, 255}	{0, 0, 0, 0}
Green	15	{153, 255, 153}	{203, 255, 203}	{40, 0, 40, 0}
Blue	15	{0, 255, 255}	{0, 255, 255}	{100, 0, 0, 0}
Red	12	{253, 27, 20}	{254, 92, 79}	{0, 90, 86, 0}

The colors in Table 1 can be mapped to the Pantone[2] color cue; however, note that this will not produce an exact match. An agency or department may use the following Pantone mappings in cases where Table 1 scales are not available.

+ Blue—630C

+ White—White

+ Green—359C

+ Red—032C

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[2] Pantone is a registered name protected by law.

3.   References

[FIPS 201]   Federal Information Processing Standard 201-1, Change Notice 1, Personal Identity Verification (PIV) of Federal Employees and Contractors, March 2006. (See http://csrc.nist.gov)

[IEC 61966]   IEC 61966-2-1:1999. Multimedia systems and equipment - Colour measurement and management - Part 2-1: Colour management - Default RGB colour space - sRGB

[ISO 3166]   ISO 3166-1:2006. Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes.