

# COMMONWEALTH OF VIRGINIA



**Information Technology Resource Management (ITRM)**

**ENTERPRISE ARCHITECTURE**

**HUMAN RESOURCES EMPLOYEE INFORMATION  
DATA STANDARD**

**Virginia Information Technologies Agency (VITA)**



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## Human Resources Employee Information Standard Owners

The human resource data standard owners shall have authority for the interpretation and application of this standard. The owners responsible for the development and ongoing maintenance of the Commonwealth's Human Resources Employee Information Data Standard are as follows:

- Department of Human Resource Management (DHRM) – Sara Redding Wilson, Director

The Data Stewards associated with each agency are as follows:

- DHRM – Rue Collins White and Bob Weaver, Data Stewards
- DHRM – Belchior Mira, IT Director
- DHRM – David Savanyu, IT Data Architect

The VITA Enterprise Application Division (EAD) has supported the development of the Human Resources Employee Information data standard and has reviewed it for completeness and accuracy according to data management best practices. The EAD resources responsible for supporting the Human Resources Employee Information standard are as follows:

- VITA EAD – Peggy Feldmann, Director Enterprise Applications Division
- VITA EAD – Nadine Hoffman, Data Manager
- VITA EAD – Akeisha Heard, Data Analyst

## Publication Version Control

This following table contains a history of revisions to this publication.

Version	Date	Revision Description
1.0	mm/dd/2010	Initial Document

## Reviews

- This publication was reviewed and approved by the Director of the Policy, Practice and Architecture Division.
- Online review was provided for agencies and other interested parties via the VITA Online Review and Comment Application (ORCA).

# Components of the Human Resources Employee Information Data Standard

The Human Resources Employee Information Data Standard consists of the following components:

1. A business narrative describing the standard, (this document)
2. A data model which can be viewed by going to <http://www.vita.virginia.gov/oversight/EDM/EmplInfo/index.htm>.
3. Data definition reports derived from the data model which can be viewed by going to [http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data\\_Management\\_Group/EmplInfoStandardDataDictionary.pdf](http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data_Management_Group/EmplInfoStandardDataDictionary.pdf)

## Human Resources Employee Information Data Standard Background

The Code of Virginia § [2.2-1201](#) defines the duties of the Department of Human Resource Management (DHRM), which include:

Make recommendations to the Governor regarding the establishment and maintenance of a classification plan for the service of the Commonwealth, and recommend necessary amendments thereto.

Make recommendations to the Governor regarding the establishment and administration of a compensation plan for all employees, and recommend necessary amendments thereto.

Design and maintain a personnel information system that shall support the operational needs of the Department and of state agencies, and that shall provide for the management information needs of the Governor, his secretaries, and the General Assembly. The system shall provide at a minimum a roster of all employees in the service of the Commonwealth, in which there shall be set forth as to each employee, the employing agency, the class title, pay, status and such other data as may be deemed desirable to produce significant facts pertaining to personnel administration.

As part of the [2008 Appropriation Act](#), DHRM was mandated to “support the system modernization effort of the Department of Transportation through the adoption of statewide data standards. These data standards shall include, but not be limited to, ... state employee identification information ... and any other essential data standards necessary to conduct business. ... Upon approval by the Information Technology Investment Board, the Commonwealth shall use such data standards for all new Commonwealth information systems implementation projects including, but not limited to, Commonwealth enterprise application initiatives.”

## Scope

Per the mandate, DHRM must define a data standard for state employee identification information. Thus, the scope of this standard is defined to be the data fields required to support the management of the Commonwealth of Virginia (COV) employee and position information in DHRM's Personnel Management Information System (PMIS) and Human Resource (HR) Data Warehouse. Additional fields needed for analysis and tracking are also included in this standard.

Executive branch agencies with employees under the Virginia Personnel Act are required to use PMIS or with DHRM approval submit information to the HR Data Warehouse. Such agencies are required to provide classified, other non-classified, agency heads and full-time faculty employee and position information and may optionally provide wage and adjunct faculty employees and positions. Judicial, legislative, independent agencies, and executive branch agencies without classified employees may enter employee and position information in PMIS, provide the data to the HR Data Warehouse, or choose not to provide data to DHRM.

All employees entered into PMIS or entered into the Commonwealth Integrated Payroll/Personnel System (CIPPS) are assigned an Employee ID number. PMIS and CIPPS carry the same Employee ID number, which is generated by PMIS. At a minimum, seven (7) data fields are required to generate the number: Agency Number, Social Security Number, First Name, Last Name, Sex (Gender), Race, and Birth Date.

## Definitions

**Agency:** An agency is a legally authorized organizational entity through which state services are provided. Legal authorization comes from approved actions by the General Assembly.

**Attribute:** An attribute is a specific characteristic that describes an entity (e.g. customer name, employer identification number, commodity code, etc.).

**Concatenation:** Concatenation is the state of being linked together as in a chain; union in a linked series. These are data attributes typically joined together to create uniqueness. (e.g. combining tax identification type and tax identifier to ensure identification numbers issued by Social Security and the IRS are unique).

**Data Dictionary:** A data dictionary is a centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format." (ACM, IBM Dictionary of Computing, 10th edition, 1993) A data dictionary includes such items as complete and accurate definitions of both entities and attributes, attribute domains, valid values, synonyms or aliases, default values, data type and length, required/not required constraints, etc.

**Data Owner:** The Agency Data Owners define, manage and control the use of data within their organizations. The Agency Head or designee designates the Agency Data Owner(s) for the functional/subject areas within their jurisdictional control or authority. They also ensure adequate resources for Agency Data Owners to effectively develop and maintain their respective functional/subject areas in support of the Commonwealth's Data Management Program.

**Data Steward:** A data steward is the person assigned by an agency to represent the agency's interagency data needs and ensure that proposed standards meets those needs. The Agency Data Steward works on behalf of their Agency Data Owner. The data steward should have a broad understanding of the agency's data, be able to research data usage, and be empowered to obtain agreement from data owners and speak authoritatively for the agency.

**Employee:** An employee is a person who performs one or more services for a state agency or organization, who has an expectation of receiving compensation for those services, and who works under the control of the agency as to what activities are performed and how they are performed. Employees are assigned one of the following role types through their positions:

1. **Classified** – A Classified employee is an individual employed by a Commonwealth of Virginia agency or institution who is covered by the Virginia Personnel Act ([Chapter 29, Title 2.2](#) of the Code of Virginia).
2. **Non-classified** – A Non-classified employee is an individual employed by a Commonwealth of Virginia agency or institution who is not covered by the Virginia Personnel Act as listed in the Code of Virginia [§ 2.2-2905](#). Subtypes of non-classified employees are:
  - a. **Agency Head** – An Agency Head employee is an individual employed by the Commonwealth of Virginia to lead a state agency or institution.

- b. **Faculty** – A Faculty employee is an individual employed by a higher education institution in the Commonwealth of Virginia who falls within one of the following categories:
  - i. **Instruction/Research Faculty** are persons whose specific assignments customarily are made for the purpose of conducting instruction, research, or public service as a principal activity (or activities), and who hold academic-rank titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks.
  - ii. **Administrative Faculty** are persons whose work is directly related to the management of the educational and general activities of the institution, department or subdivision thereof. Incumbents exercise discretion and independent judgment and generally direct the work of others.
  - iii. **Professional Faculty** are persons whose work requires advanced learning and experience acquired by prolonged formal instruction and/or specialized work experience. This category is normally limited to librarians, counselors, coaches, lawyers, physicians, dentists, veterinarians, and other positions serving educational, research, athletic, medical, student affairs, and development functions or activities.
- c. **Other Non-classified** – An Other Non-classified employee is any individual employed by a Commonwealth of Virginia agency or institution who is not covered by the Virginia Personnel Act as listed in the Code of Virginia § 2.2-2905 (such as the Virginia College Savings Plan, Virginia Retirement System and State Lottery Department) and is not an agency head or faculty employee.

**Employee Compensation Type:** An employee type details how the employee is compensated. There are two types:

- 1. **Salaried** – A salaried employee is an individual employed by the Commonwealth of Virginia who works up to 40 hours per week for 9 to 12 consecutive months a year and whose pay is based on a regular amount per pay period.
- 2. **Wage** – A Wage employee is an individual employed by the Commonwealth of Virginia who is an hourly employee that works on a seasonal or temporary basis that (a) is paid by the hour and limited to 1500 hours of work per agency in a consecutive 365-day period beginning on the anniversary of their hire date and (b) is paid only for hours actually worked.

**Entity:** An entity is a person, place, thing, event or concept identified by the user or the business as in independent existence, and can be uniquely identified (e.g. Customer, Vendor, and Address).

**Entity Relationship Diagram/Model (ERD/ERM):** An entity-relationship diagram is an abstract representation of structured data, which produces a conceptual data model of a system, and its requirements. The actual model is frequently called an "Entity Relationship Model", because it depicts data in terms of the entities and relationships described in the data. An ERD (the diagram of the model) may also be referred to as an Entity Relationship Model (ERM) or a logical data model (LDM).

**Human Resource (HR) Data Warehouse:** The HR Data Warehouse contains data entered into PMIS by agencies and institutions in addition to data submitted alternatively by Tier 3 higher education institutions (currently only UVA and VA Tech as W&M and VCU use PMIS) and legislative, judicial, and independent agencies (such as the State Corporation Commission and Virginia Retirement System). The HR Data Warehouse is synched with PMIS regularly.

**Pay Band:** A pay band details the employee compensation structure for the Commonwealth of Virginia.

**Personnel Management Information System (PMIS):** PMIS is the enterprise Human Resource (HR) application.

**Position:** A position is a specific function that is established by a Commonwealth of Virginia agency or institution. The person employed to fill a position is considered an employee of the Commonwealth of Virginia. The agency defines the position and includes tasks and education requirements specific to the job.

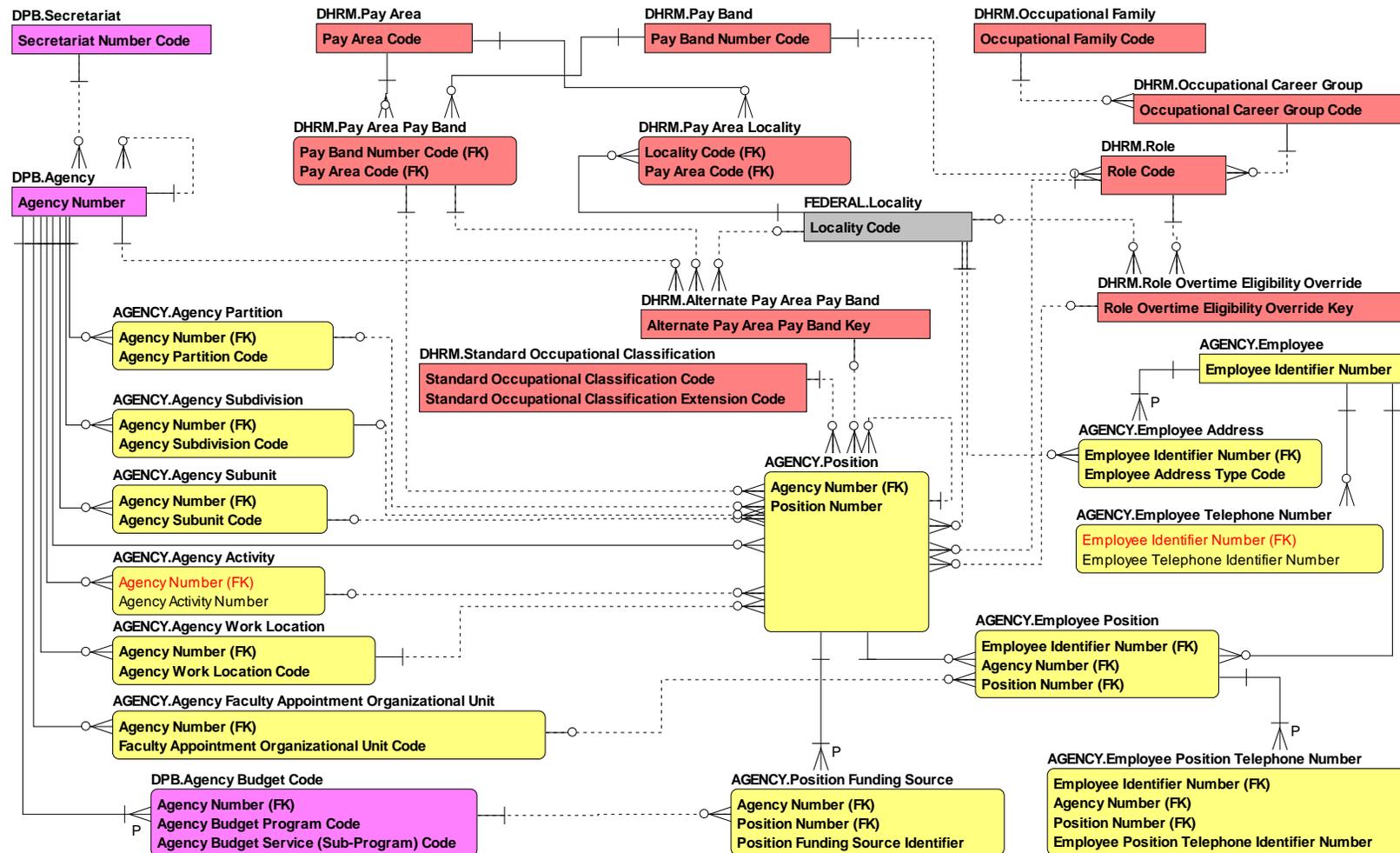
**Primary Key:** A primary key is an attribute that uniquely identifies each instance of the entity. For example, for each vendor location must be identifiable as a location and therefore each location has a unique number to identify it.

**Relationship:** A relationship is an association between entities that is relevant to the constraints, rules and policies of the business. Relationships can be thought of as verbs, linking two or more nouns. Examples: an *owns* relationship between a company and a computer, a *supervises* relationship between an employee and a department, a *performs* relationship between an artist and a song, a *proved* relationship between a mathematician and a theorem, *employed* relationship between an employee and one or more positions.

**Role:** A role describes a broad group of occupationally related positions that represent one or more levels of work or career progression. Examples are Information Technology Specialist II (39112), Licensed Practical Nurse (49111), and Commissioner Department of Motor Vehicles (00154).

**Virginia Personnel Act:** The Virginia Personnel Act is the Code of Virginia Title 2.2 Chapter 29 which defines "for the Commonwealth a system of personnel administration based on merit principles and objective methods of appointment, promotion, transfer, layoff, removal, discipline, and other incidents of state employment."

# Human Resources Employee Information Entity Relationship Diagram (ERD) (as of May 21, 2010)



- Note:
1. This model does not show database or application administrative columns like: create date, last update date or last update user. It is assumed that in the physical implementation developers would add those as needed
  2. True/False attributes are generally shown as FLAGS with datatype of CHAR(1). This is not binding on a physical modeler. FLAGS can be changed to INDICATORS with an integer/smallint/bit datatype.
  3. Color indicates responsible agency: Yellow = Agency, Pink = DHRM, Violet = DPB, Grey = Federal

**Figure 1 Human Resources Employee Information Data Model**

### HR Employee Information Data Standard Agency Entity Group

Note: Data entities are prefixed by their owners (e.g., DPB owns the Agency entity, Agencies own the Position entity, DHRM owns the Role entity)

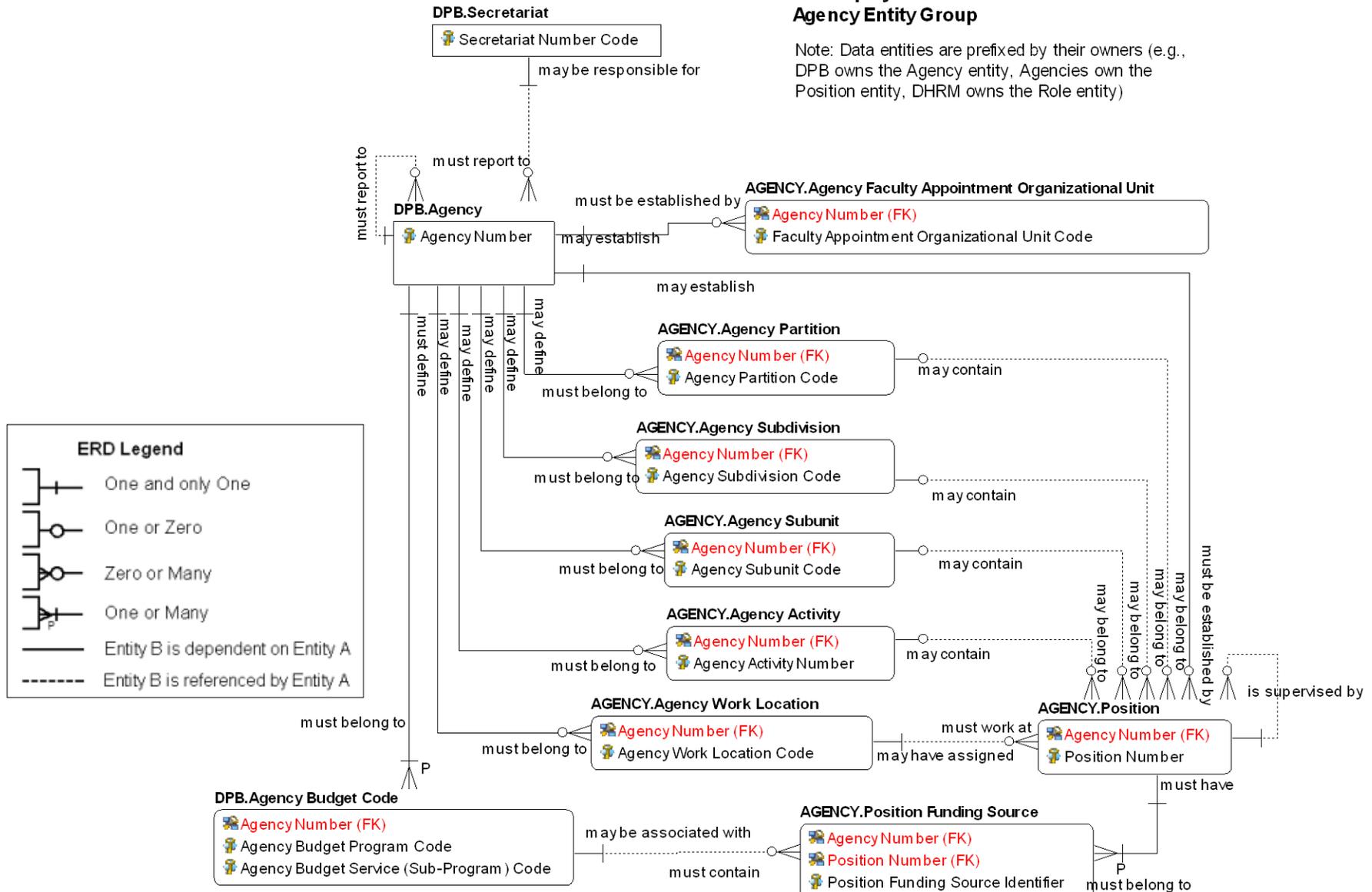
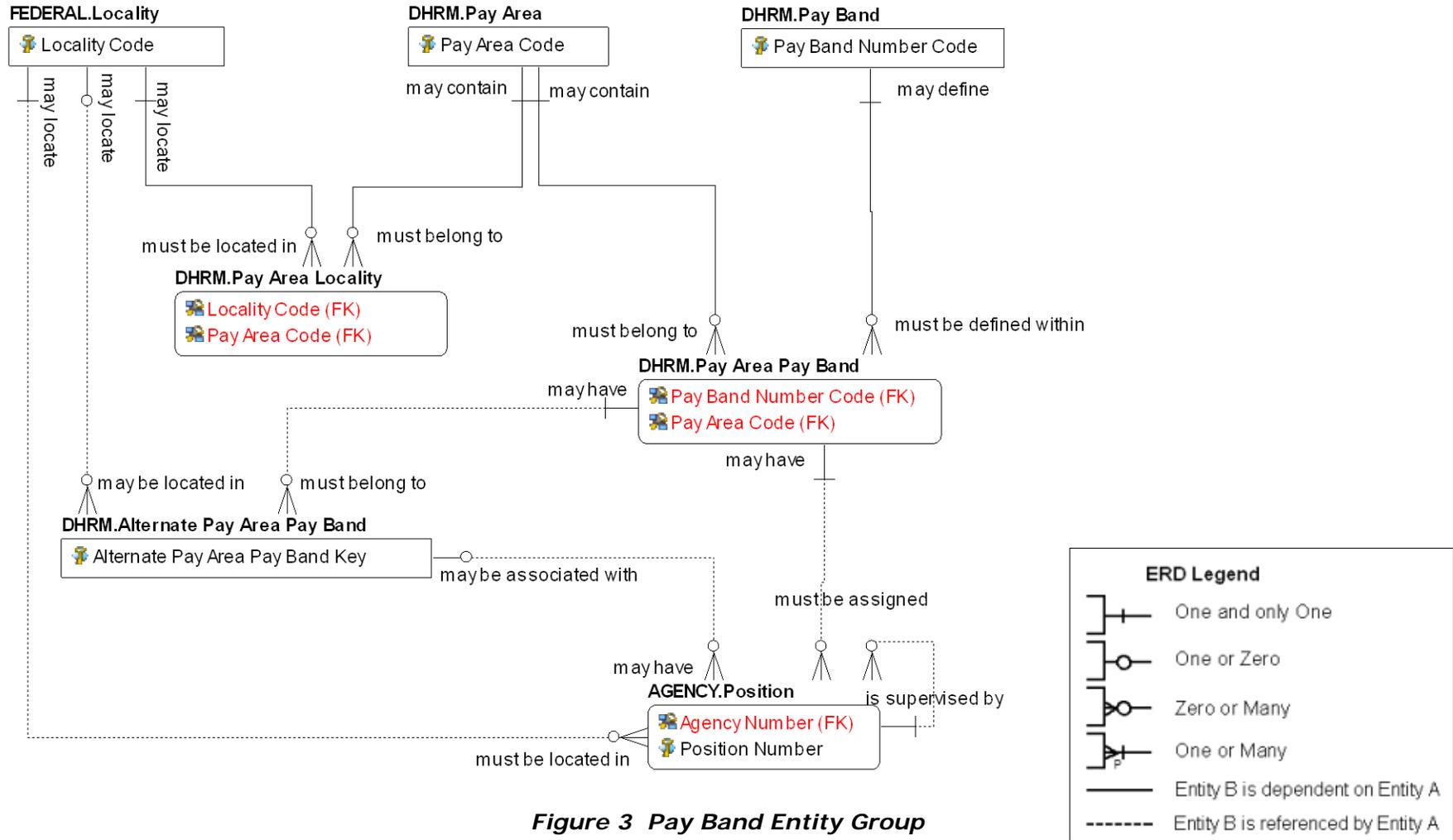


Figure 2 Agency Entity Group

## HR Employee Information Data Standard Pay Band Entity Group

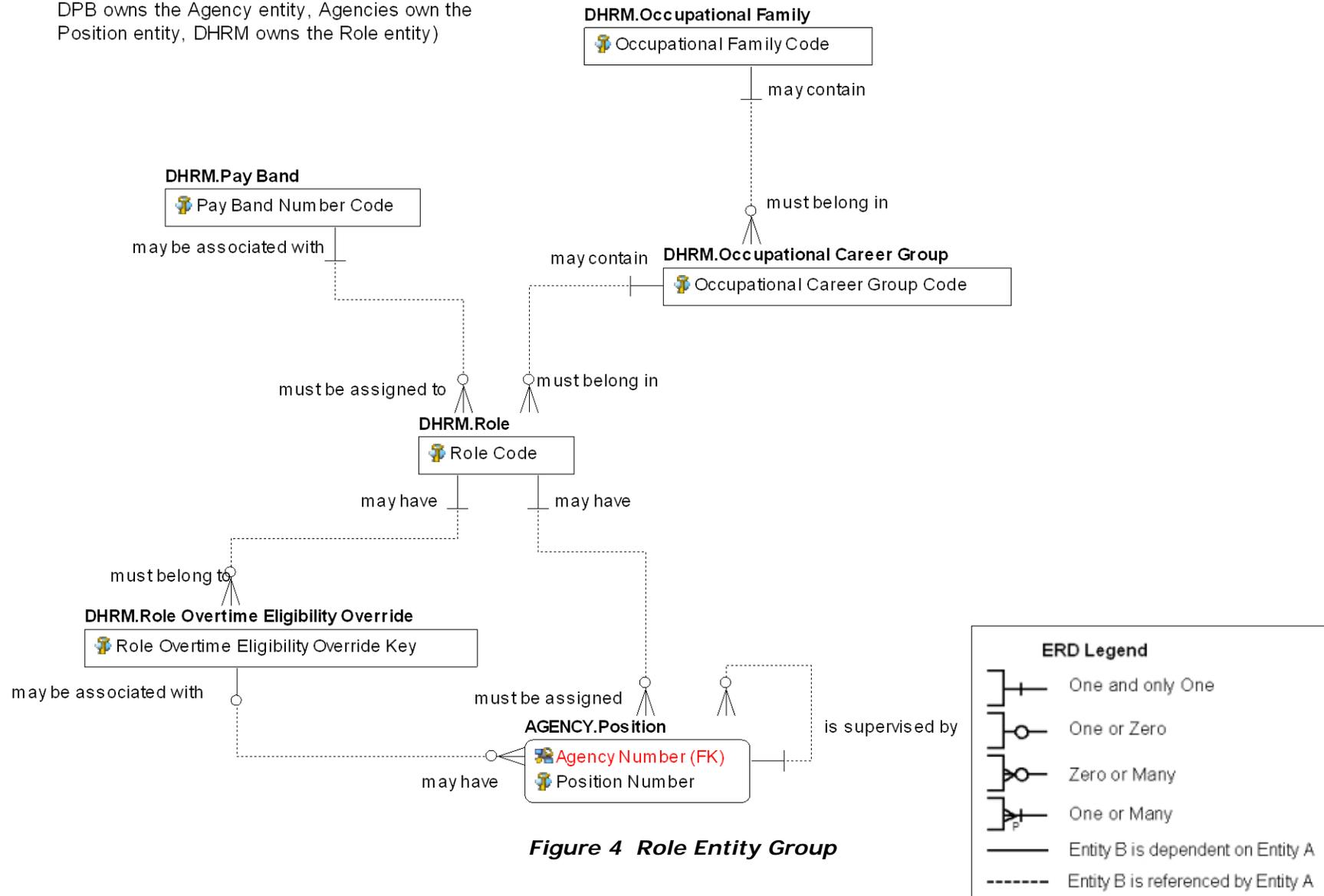
Note: Data entities are prefixed by their owners (e.g., DPB owns the Agency entity, Agencies own the Position entity, DHRM owns the Role entity)



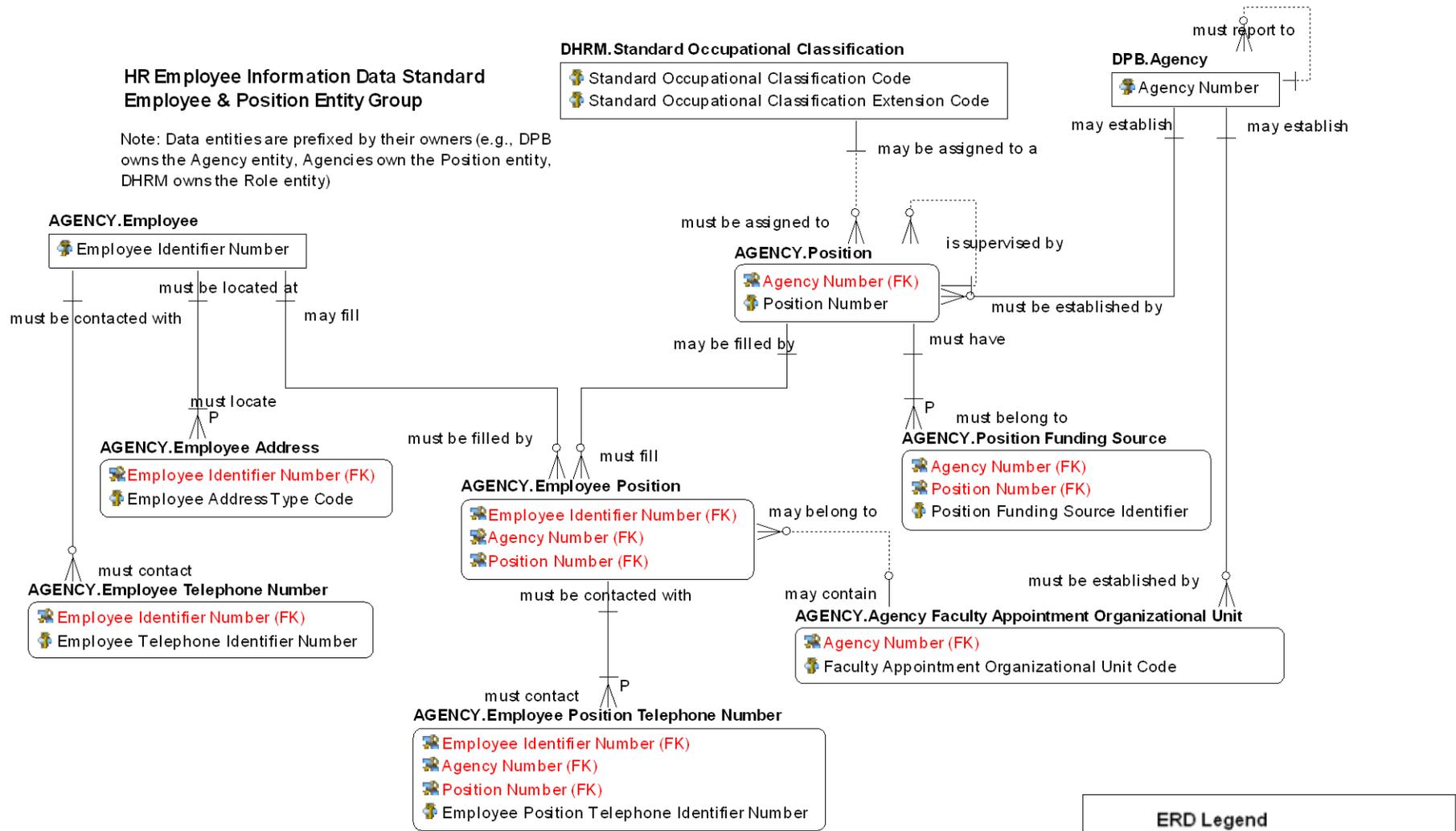
**Figure 3 Pay Band Entity Group**

## HR Employee Information Data Standard Role Entity Group

Note: Data entities are prefixed by their owners (e.g., DPB owns the Agency entity, Agencies own the Position entity, DHRM owns the Role entity)



**Figure 4 Role Entity Group**



**Figure 5 Employee and Position Entity Group**

## Entity Relationship Model (ERM) Overview

The Human Resources Employee Information ERD graphically defines the employee, position and related information that is required to support employee and position maintenance. Detailed definitions for each entity and attribute, attribute characteristics, mandatory requirements, and valid reference values are contained in the Human Resources Employee Information Dictionary. The Human Resources Employee Information Data Dictionary may be accessed at [http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data\\_Management\\_Group/EmpInfoStandardDataDictionary.pdf](http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data_Management_Group/EmpInfoStandardDataDictionary.pdf). This overview provides a summary of the ERD and its key attributes for the five entity groups: Agency, Pay Band, Role, Position and Employee.

### *Agency Entity Group (Figure 2)*

The **Agency** entity is the core of the Agency entity group. It has an Agency Number which represents the agency in systems across the Commonwealth. An **Agency** has two key organizational relationships. It is assigned a **Secretariat** for overall management and policy direction. It will have another agency or itself designated as its Controlling Agency for administrative oversight.

There are three ways an **Agency** can define internal organizational relationships to assign to **Positions**. Use of **Agency Partitions** supports analysis through reporting relationships, regional areas, or other agency defined segments. **Agency Subdivisions** and **Agency Subunits** can also be used to denote reporting relationships within the agency. **Agency Subunits** may also indicate performance management segments.

An **Agency** defines valid **Agency Budget Codes**, which denote the valid Program and Service (Sub-program) financial codes that can be assigned to a position's **Position Funding Source**. **Agency Work Locations** are a physical location that the agency maintains for conducting business operations.

### *Pay Band Entity Group (Figure 3)*

The Pay Band entity group defines the pay structure for the Commonwealth of Virginia. At the top are the **Locality**, **Pay Area** and **Pay Band** entities. The **Locality** entity contains the American National Standards Institute (ANSI) codes for all counties and cities in Virginia. The **Pay Area** and **Pay Band** entities define the structure for pay areas (e.g., SW (Statewide), FP (Northern VA)) and pay bands (e.g., 01, 02), respectively.

The entity **Pay Area Pay Band** associates pay areas to the pay band structure; this association, for example, connects pay area FP to pay band 02 with the appropriate compensation range amounts. Pay areas are connected to the localities they cover by the **Pay Area Locality** entity (e.g., 001 to SW, 153 to FP).

Finally, the **Alternate Pay Area Pay Band** details the modified compensation range amounts within an agency for a particular locality, role, role and locality combination, Standard Occupational Classification (SOC) code and locality combination, or position.

## ***Role Entity Group (Figure 4)***

In the Role entity group, a **Role** describes broad group of occupationally related positions that represent one or more levels of work or career progression (such as Law Enforcement Officer II and Emergency Coordinator II). A **Role** is associated with a particular **Pay Band**, a Classification code (e.g., classified or wage) and an Overtime Eligibility code.

The Overtime Eligibility code indicates whether straight overtime, time and a half overtime or no overtime is pre-approved for **Positions** assigned to the role. The code can be modified for a particular agency using the **Role Overtime Eligibility Override** entity. Override codes can be defined for a particular locality, role, role and locality combination, Standard Occupational Classification (SOC) code and locality combination, or position for the agency.

Roles are grouped into an **Occupational Career Group**, which identifies a specific occupational field (such as Law Enforcement and Emergency Coordinators). Similarly, Occupational Career Groups are grouped into an **Occupational Family**, which is a broad grouping of jobs that share similar vocational interests (such as Public Safety).

## ***Employee Entity Group (Figure 5)***

For the Employee entity group, the **Employee** entity details general employee information that is not modified if the employee accepts a new position with the Commonwealth. Examples include First and Last Name, Citizenship Status, State Begin Date and Prior State Months of Service Number. An **Employee** is uniquely identified by the Employee Identifier Number, a nine digit number where the last digit can be used to check that the first eight digits are a valid number.

The **Employee Address** entity lists one or more addresses for the employee (such as residential and mailing) while the **Employee Telephone** entity contains one or more telephone numbers.

## ***Position Entity Group (Figure 5)***

The **Position** entity is the core of the Position entity group. A Position contains the position information that does not change when a new employee begins the position. Examples include Position Work Title, Position Duration Code (e.g., restricted, wage) and Position Established Date. A **Position** is identified by the Position Number which is unique within an agency.

A **Position** is connected to a locality via the **Locality** entity and to an **Agency Work Location**. It is also assigned a **Standard Occupational Classification** (SOC) Code and Extension Code to indicate an occupational category or title. A **Position** can be connected to an **Agency Partition**, an **Agency Subdivision**, or an **Agency Subunit** if they are defined in the associated entities. If an **Alternate Pay Area Pay Band** or **Alternate Role Overtime Eligibility** code applies to a Position due to the locality, role, SOC code or position number, then those relationships will be indicated in the **Position** entity.

A **Position** has between one and thirteen **Position Funding Source** records. Together they indicate where the position receives 100 percent of its funding. A **Position Funding**

**Source** must contain a valid Program/Service code pair as defined on the **Agency Budget Code** entity.

An **Employee Position** details information that is particular to a specific **Employee** being in a specific **Position**. Examples include Employee Position Annual Salary Amount, Employee Time Status Code (e.g., full time, part time, or quasi full time), and Employee Position Probation Expiration Date. An **Employee** can have one or more positions (e.g., employee holds two jobs with the state) and a **Position** can have one or more employees assigned (e.g., job sharing or providing job training for transition purposes).

## New Human Resources Requirements

As part of the Virginia Department of Transportation (VDOT) Financial Management Project, VDOT, Department of Accounts (DOA), and Department of Planning and Budget (DPB) are collaborating to create a new Chart of Accounts (COA). Once approved, the following elements will require modification to conform to the new COA:

- Agency Number attribute should be five characters in length instead of three
- Agency Budget Code and Position Funding Source entities should conform to the new COA structure and field lengths

During the development of this standard, new requirements for managing HR employee information were identified. This standard incorporates these new requirements as guidance for new application development. DHRM will determine if and when it is most appropriate to implement these new data requirements into PMIS and the HR Data Warehouse.

- Locality codes, which were previously known as FIPS codes, should be five characters instead of three in order to conform to the federal ANSI code standards. The first two digits identify the state code with the last three digits for the locality (county or city). Use of the complete locality code will allow DHRM to track the locality of out of state employees.
- Field lengths for Employee First Name and Employee Last Name attributes should be longer to accommodate longer names (such as hyphenated last names). Today such names are abbreviated or truncated.
- The entities Agency, Agency Work Location and Employee Address should allow for international addresses, requiring longer field lengths. Currently such addresses are truncated.
- The Employee Address entity should accommodate multiple employee addresses (e.g., when the mailing address is different from the employee's residential address). Currently only the mailing address is stored.
- The entities Agency and Employee Position Telephone Number should allow for international telephone numbers, requiring longer field lengths. Currently such telephone numbers cannot be stored.
- The Role Overtime Eligibility Override and Alternate Pay Area Pay Band functionality, which are optional components of the standard, are implemented in a different manner in the enterprise HR system than described in the standard. The associated entities are included as guidance, allowing for greater flexibility in managing the data in alternate situations.

In order to support these new requirements, the following attributes have been added to the standard. Please see the data dictionary for definitions of the attributes.

- Agency Partition Description Text
- Agency Work Location Supplemental International Line Text
- Agency Work Location Telephone Country Code
- Employee Address Type Code
- Employee Address Supplemental International Line Text
- Employee Position Telephone Identifier Number
- Employee Position Telephone Type Code
- Employee Position Telephone Country Code
- Pay Area Description Text
- Position Employee Type Code
- Position Role Type Code
- Role Type Code

## Human Resources Employee Information Data Standard Compliance

DHRM and VITA have established PMIS and the HR Data Warehouse as the enterprise authoritative source for human resource data. Executive branch agencies with employees covered under the Virginia Personnel Act are required to provide employee and position data to these enterprise applications. Agencies and institutions using the enterprise HR applications are in compliance with this standard.

As of July 1, 2010, agencies and institutions implementing new applications or upgrading applications that contain Human Resources Employee information must comply with all aspects of the Human Resources Employee Information Data Standard prior to production use of the application or, if approved, by providing data to the HR Data Warehouse. DHRM will collaborate with agencies to ensure interoperability between the agencies' systems and the enterprise HR applications.

Agencies and Institutions which are unable to comply with the standard must inform the Data Standard Owners using the VITA Exception Form available at [http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data\\_Management\\_Group/EA%20Change-Exception%20Request%20Form.doc](http://www.vita.virginia.gov/uploadedFiles/Oversight/EA/Data_Management_Group/EA%20Change-Exception%20Request%20Form.doc). The completed form should be emailed to [ea@vita.virginia.gov](mailto:ea@vita.virginia.gov).

### ***General Guidance***

- This data standard defines the data required in a data exchange with the enterprise HR application or the HR Data Warehouse.
- All data exchanges with the enterprise HR application or HR Data Warehouse must use the reference values defined in this standard.
- When passing employee information in a data exchange, the DHRM-assigned Employee Identifier Number must be used as the unique identifier for the Employee. Additional attributes required to be passed are Agency Number and Position Number.
- When passing position information in a data exchange, the agency-assigned Position Number recorded in the enterprise HR application must be used as the unique identifier for the Position. An additional attribute required to be passed is Agency Number.
- Data from external applications provided directly to the HR Data Warehouse must contain the employee Social Security Number (SSN) as the unique identifier when the state Employee Identifier Number is not carried.
- All employee and position data maintained within another system must be kept current (within 24 hours) with the enterprise HR application. In order to assist with this requirement, DHRM, VITA EAD and Virginia Community College System (VCCS) are collaborating to create an interface for the enterprise HR application. When it is completed in late 2010, it will cover many data elements in the standard. Upon completion, interface documentation will be shared with all interested agencies and institutions.