

Appendix 9 – Legacy Migration

1.	Overview	2
2.	General Information – Legacy Migration	3
3.	Response to Procurement Enhancement Requirements	22

See the RFP Section 1.2 and the Task Order Section 1.2 for a complete list of all abbreviations and acronyms.

All requirements contain the word “shall” which may be part of the sentence containing the requirement or precede a list of requirements.

For requirements that contain a bulleted list, the bulleted list is provided for clarification, interpretation, reference, definition or example.

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

1. Overview

Legacy DIWS contains Operational Content and administrative content that must be migrated to DIWS 2. The migration of the administrative content is discussed in:

- DIWS 2 TO Appendix 6 Functional Requirements: Accounts Payable
- DIWS 2 TO Appendix 7 Functional Requirements: Human Resources
- DIWS 2 TO Appendix 8 Functional Requirements: Procurement

Migration of the operational unstructured content is discussed herein.

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

2. General Information – Legacy Migration

Legacy migration addresses the need to migrate content from the Legacy DIWS platform to the DIWS 2 ECM proposed by the Offeror. The following migration requirements shall be addressed:

- a. Define the scope of the content
- b. Identify the content and the as-is index/attribute values to be migrated
- c. Identify the to-be index/attribute values
- d. Identify the unstructured content mapping rules
- e. Content conversion rules
- f. Perform unstructured content and index/attribute cleansing
- g. Configure migration tools
- h. Iteratively perform unstructured content migration trial runs
- i. Iteratively analyze the migrated unstructured content for completeness and correctness
- j. Execute the final unstructured content migration for the production environment
- k. Validate the final migrated unstructured content for completeness and correctness
- l. Archive legacy the content

2.1 Process

There are no current unstructured content migration processes in Legacy DIWS for migrating Operational Content from the Legacy DIWS.

For the DIWS 2 migration process, **the Offeror shall:**

1. Propose a migration process that addresses the key activities necessary for migrating content from Legacy DIWS to the proposed ECM.
2. Ensure the legacy migration is consistent with requirements defined in DIWS 2 TO Appendix 5 Toolbox Requirements, section 6.6 Migration.

Functional Requirements

Appendix #: 09

Subject: Legacy Migration Requirements



3. Propose a process on how other vendors are to interact with the Contractor for requesting:
 - a. content to be migrated
 - b. changes to migration schedules
 - c. samples of content to be migrated for development or testing
 - d. access to migration environments and non-migration environments where migrated content is located
 - e. access to interfaces for accessing migration environments and non-migration environments where migrated content is located
 - f. migrated content to be made available in specific DIWS environments for development or testing
 - g. migrated content to be made available in the production DIWS environments
 - h. support on accessing the environments where migrated content is located
 - i. support on accessing migrated content
 - j. support on troubleshooting apparent problems with migrated content
 - k. problems with migrated content to be fixed
 - Interaction with the Contractor for migration matters is expected to be through a formal process. The Project Core Vendor Personnel are going to need access to migrated content, the environments where migrated content is located, and the interfaces for accessing migrated content. The Project Core Vendor Personnel will also require assistance and support in accessing migrated content and reporting problems with migrated content.
4. Identify all tools that will be used for performing the migration activities, especially tools for automating the migration and for validating the correctness and completeness of the migrated content.

For the DIWS 2 migration process, **the Contractor shall:**

5. Perform fact-finding to determine all necessary information required to perform the legacy content migration.
6. Work with the business areas to define the testing values for ensuring (a) 100% of the unstructured content is migrated and (b) 100% of the attributes associated with the unstructured content (after mapping) are migrated.
7. Work with the business to agree on the details and best approach for performing data cleansing.
8. Work with the business to agree on the details and best approach for performing data mapping.

Functional Requirements

Appendix #: **09**
Subject: **Legacy Migration Requirements**



9. Propose the detailed process that addresses the key activities necessary for migrating content from Legacy DIWS to the proposed ECM.
 - This migration process is expected to be a refinement of the migration process proposed by the Offeror based on fact-finding performed by the Contractor.
10. Present the migration process to the MVA for review.
11. Work with the MVA and content consumers to address all comments and questions on the migration process.
 - Content consumers tend to be business areas, but may be any person or group (e.g., a legacy system developer) that understands the content or migration process.
12. Confirm all tools that will be used for performing the migration activities, especially tools for automating the migration and for validating the correctness and completeness of the migrated content.
 - a. This activity shall be a confirmation of the migration tools proposed by the Offeror based on fact-finding performed by the Contractor.
 - b. Due to the significant quantity of content that must be migrated, the migration process shall be automated using tools appropriate for migration.
13. Obtain approval for the migration process from the MVA.
14. Prepare a schedule to implement the approved migration process.
15. Obtain approval from the MVA Project Manager for the schedule to implement the approved migration process.
16. Execute the approved migration process according to the schedule, in a manner consistent with **DIWS 2 TO Appendix 1 – Contractor Responsibilities & Duties: Project Execution.**

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

17. Provide the MVA Project Manager with the final processes rules defining how the Contractor will perform the following tasks:
 - a. Requesting disk storage in an environment for either staging content for migration or for migrating content into the ECM.
 - b. Scheduling servers and other migration resources in an environment.
 - c. Defining document/content types in an environment.
 - d. Establishing rules for standing up an environment or server within an environment (including funding).
 - e. Installing migration-related software in an environment.
 - f. Promoting migrated content between environments (e.g., from the test environment to the production environment).
 - g. Resolving conflicts between migration environments (e.g., storage conflicts, scheduling conflicts, content conflicts).
 - h. Establishing the criteria for promoting migrated content into the production environment (e.g., first demonstrate successful migration of content into a test or migration environment with zero errors).
 - i. Identifying rules governing any other activity, resource or access necessary to maintain and promote effective unstructured content migration.
 - j. Defining the process for altering the rules when required.

2.2 Document/ Content Types

The Legacy DIWS system has a robust set of document/content types containing a large number of attributes. Most of the attribute information for each document/content type will be migrated to DIWS 2, along with unique identifiers and some additional attribute values. For example:

- Many of the existing document/content types may be extended to include an identifier for customer, business, vehicle or other entities.
- There may be a unique identifier provided by the external system that allows for fast access to the content.

For the DIWS 2 migration document/content type activities, **the Contractor shall iteratively apply all rules listed below as many times as needed to perform a successful migration of the unstructured content and attributes associated with each business area:**

1. Identify the legacy document/content types and associated index/attributes subject to migration in each business area.

Functional Requirements

Appendix #: **09**
Subject: **Legacy Migration Requirements**



2. Work with the business areas to identify changes to the document/content types including, but are not limited to:
 - a. Renaming document/content types.
 - b. Combining document/content types.
 - c. The addition or removal of attributes associated with a document/content type.
 - d. Redefining existing attributes (e.g., data type, validation, mandatory).
3. Define rules for mapping the legacy (as-is) document/content types attributes to the to-be document/content types.

Rules may include, but are not limited to:

- a. Copying the attribute values without change.
 - b. Mapping the existing attribute values to new values
 - c. Splitting attribute values across multiple attributes
 - d. Inserting unique values into the attributes
 - e. Inserting business area-supplied values into the attributes
 - f. Validating attribute values against an MVA-supplied table of values.
4. Create one or more unique identifier(s), as specified by the content consumer, for all content that shall ensure the content is able to be retrieved in the most rapid manner possible while ensuring enforcement of all applicable access rules and restrictions.
 - For example, a document might be retrieved by specifying four attributes that uniquely identify the document, or by specifying a unique identifier. However, the unique identifier is optimized to provide a retrieval rate that is 0.10 seconds faster than specifying four attributes.
 - The primary content consumer for the Operational Content identified in Section 2.6.1 Content Inventory and Section 2.6.2 Extrinsic Content Migration Concurrence, is Project Core. Project Core is expected to require and/or provide a unique identifier (or a rule(s) for calculating a unique identifier) for all content that it requires access to. This unique identifier should allow the Project Core applications to retrieve content using the interfaces defined in Appendix 10 in a highly optimized manner. The unique identifier is in addition to the other attributes used to index the unstructured content.
 - The actual manner in which a content consumer may specify one or more unique identifiers will be determined by the content consumer. These rules are all related to SQL calculations that typically involve a sequence number, a date/time, and/or some existing database fields.

Functional Requirements

Appendix #: 09

Subject: Legacy Migration Requirements



5. Define rules for converting the legacy (as-is) unstructured content to the to-be unstructured content.

Rules may include, but are not limited to:

- a. Creating thumbnail images.
 - b. Converting unstructured content from one format to another format (e.g., TIFF to PDF)
 - c. Converting multi-image files to multiple single-image files.
 - d. Converting multiple single-image files to a single multi-image file.
 - e. Validating successful content conversion.
6. Ensure all unstructured content is able to be retrieved using the document/content types and values agreed to.
 7. Define rules for performing data cleansing and ensuring clean content.
 8. Obtain approval for the initial to-be document/content types from the MVA Project Manager.
 9. Obtain approval for the initial rules to-be document/content types from the MVA Project Manager.
 10. Define and/or update the to-be document/content types and associated attributes in DIWS 2.
 11. Export the legacy (as-is) document/content type attribute values and the corresponding to-be attribute values, as an electronic list, to the MVA.
 12. Obtain any changes to the to-be attribute values from the MVA.
 13. Configure the rules in the migration tool for mapping the legacy document/content types and attributes to the to-be document/content types and attributes.
 14. Validate the correctness of the rules in the migration tool for mapping the legacy document/content types to the document/content types.

2.3 User Interfaces

No user interfaces for migration from Legacy DIWS have been identified at this time.

NOTE: Additional user interfaces may be added as a result of the requirements verification activities and design activities.

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

2.4 Reports

For migration reports and data extracts are necessary for working with the business areas in (a) identifying the content that must be migrated, (2) identifying the rules for migrating the content, and (3) reporting on the success of the migration.

For the DIWS 2 migration reporting activities, **the Contractor shall:**

1. Produce reports and extracts that consistent with requirements defined in DIWS 2 TO Appendix 5 Toolbox Requirements, section 4.8 Reports and Queries.
2. Produce an electronic report in human readable format that identifies the attributes of all content that is subject to migration for each business area.
 - Although it is unlikely a human would read one or more reports that contain(s) information on nearly 300 million documents, there should be a means for a business user to look for content that is subject to migration.
3. Produce a data extract in machine readable format that identifies the attributes of all content that is subject to migration for each business area.
4. For each business area, produce an electronic report in human readable format that maps all content in Legacy DIWS to the attributes identifying the content in the proposed ECM.
 - Although it is unlikely a human would read one or more reports that contain(s) information on nearly 300 million documents, there should be a means for a business user to look for the specific mapping that will take place for any set of migrated content.
5. For each business area, produce a data extract in machine readable format that maps all content in Legacy DIWS to the attributes identifying the content in the proposed ECM.
6. For each business area, produce an electronic report in human readable format that indicates the success or failure for all content in Legacy DIWS that has been migrated to the proposed ECM.
 - For the purpose of this report, the success or failure shall include supporting information such as the observed and measured metrics used to determine the success or failure.
 - Examples of metrics that could be used include, but are not limited to, file size in bytes, file 32-bit CRC checksums, and MD5 checksums. The mechanism for ensuring 100% file match is not prescribed by MVA, but must be an industry recognized approach for ensuring perfect copies.
 - Although it is unlikely a human would read one or more reports that contain(s) information on nearly 400 million documents, there should be a means for a business user to look for the success details on content that was migrated.

7. For each business area, produce a data extract in machine readable format that indicates the success or failure for all content in Legacy DIWS that has been migrated to the proposed ECM.

NOTE: Additional reports and information may be added as a result of the requirements verification activities and design activities.

2.5 External Interfaces

No Legacy DIWS external interfaces are currently identified for migrating legacy content.

NOTE: Additional interfaces and information exchange may be added as a result of the requirements verification activities and design activities.

2.6 Data Model Content Inventory, and Scope

The current Legacy DIWS data model is available in the supplemental materials.

The content within the scope of the migration includes the inventory identified in both:

- Section 2.6.1 Content Inventory
- Section 2.6.2 Extrinsic Content Migration Concurrence.

NOTE: Additional data model elements may be added as a result of the requirements verification activities and design activities.

2.6.1 Content Inventory

The scope of the migration activity covered by this appendix includes the operational unstructured content and the associated index/attribute values. The quantity of the Legacy DIWS content subject to migration is approximated in **Table 1 Approximate content count by business division as of 1H2015**.

Table 1 Approximate content count by business division as of 1H2015

Category	Division	Approximate Image Count (Documents)
Vehicle Services	Vehicle Services	227,000,000
Driver Licensing	Administrative Adjudication	20,700,000

Category	Division	Approximate Image Count (Documents)
Driver Licensing	Driver Control	11,500,000
Vehicle Services	Insurance Compliance	6,490,000
Driver Licensing	Driver Services	1,330,000
Business Licensing	Driver Instruction	381,000
Business Licensing	Business Licensing	1,600,000
Vehicle Services	Out of State Title	824,000
	Approximate Total	269,825,000

The quantity of the Legacy DIWS document/content types subject to migration is approximated in **Table 2 Approximate number of document/content types by business division as of 1H2015.**

Table 2 Approximate number of document/content types by business division as of 1H2015

Division	Number of Document/Content Types
Vehicle Services	27
Administrative Adjudication	94
Driver Control	93
Insurance Compliance	3
Driver Services	48
Driver Instruction	24
Revenue Reporting	1
Business Licensing	7
Out of State Title	3
Approximate Total	300

The quantity of the Legacy DIWS document formats is approximated in Table 3 Legacy DIWS Content by Document Format. This is current as of May 2016 and includes both operational (i.e., Appendix 9 Table 1 Approximate content count by business division as of 1H2015) and administrative (i.e., Appendix 6 and Appendix 7) content.

Table 3 Legacy DIWS Content by Document Format

Document Format	Count	%
TIFF	277,173,015	98.1
DOC	3,204,515	1.134
PDF	1,911,667	0.68
JPEG	320,331	0.1133
MISC	5	.000001769

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

Total	282,609,533	100
--------------	--------------------	------------

2.6.2 Extrinsic Content Migration Concurrence

The quantity of the external system content, not originating in a traditional ECM system, that is expected to be migrated concurrently with the migration work outlined in Section 2.6.1 Content Inventory is approximated in **Table 4 Approximate content count of non-Legacy DIWS content to be migrated into DIWS 2 as of 2H2015.**

Table 4 Approximate content count of non-Legacy DIWS content to be migrated into DIWS 2 as of 2H2015

Application/System	Approximate Image Count (including Documents)
Driver License System (including POS)	137,000,000
ARS Notices	189,000
Case Investigation	49,000
Business Licensing System	17,000
Correspondence Tracking System (CorTrak2)	16,000
ARS Templates	370
Approximate Total	137,271,370

The quantity of the external system content/document types, not originating in a traditional ECM system, that are expected to be migrated concurrently with the migration work outlined in Section 2.6.1 Content Inventory is approximated in **Table 5 Approximate number of document/content types for non-Legacy DIWS content as of 2H2015.**

Table 5 Approximate number of document/content types for non-Legacy DIWS content as of 2H2015

Application/System	Number of Document/Content Types
Driver License System	27
ARS Notices	30
Case Investigation	27
Business Licensing System	10
Correspondence Tracking System (CorTrak2)	15
ARS Templates	20
Approximate Total	146

2.6.3 Migration Scope

The scope of the migration activity covered by this appendix includes the operational unstructured content and the associated index/attribute values. The quantity of the Legacy DIWS content subject to migration is approximated in Section 2.6.1 Content

Functional Requirements

Appendix #: 09
Subject: Legacy Migration Requirements



Inventory and the quantity of the non-Legacy DIWS content subject to migration is approximated in Section 2.6.2 Extrinsic Content Migration Concurrence.

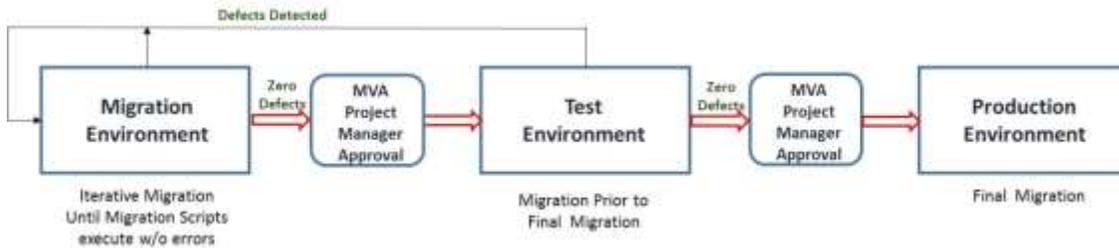


Figure 1 DIWS 2 Migration Environment Promotion

Reference Figure 1 DIWS 2 Migration Environment Promotion when considering Section 2.6.3 Migration Scope, Requirements 11, 12, 13, 14, 15, and 16.

For the DIWS 2 migration activities, **the Offeror shall:**

1. Propose the number of migration environments that are required for performing the migrations within the schedule identified in Section 2.9 Scheduling.
 - a. The Offeror shall specify the processors, memory, storage, networks, operating systems, and databases, required for all migration environments.
 - b. The Offeror shall specify the configuration of all migration environments.

For the DIWS 2 migration activities, **the Contractor shall:**

2. Confirm the adequacy of the migration environments proposed by the Offeror, including all necessary processors, memory, storage, networks, operating systems, and databases, one year prior to the environments being needed, that are required for performing the migrations within the schedule identified in Section 2.9 Scheduling and those environments required for migrating content in Appendices 6, 7 and 8.
 - If the existing MVA development and test environments are not sufficient to perform development, testing and migration, the Contractor is expected to propose changes to the required migration environments with at least one year advance notice. It is possible that one or more environments dedicated to migration may be required to allow the ~400 million documents and images to be migrated and be available when needed.

Functional Requirements

Appendix #: **09**
Subject: **Legacy Migration Requirements**



3. Configure, manage, maintain, and support the migration environments required for performing migrations.
 - a. The Contractor shall support the environment for the four migration efforts identified in Section 2.6 Data Model Content Inventory, and Scope, and the three migration efforts associated with Appendices 6, 7, and 8.
 - b. The Contractor shall verify the processors, memory, storage, networks, and operating systems, and databases, for all migration environments within ninety (90) days of NTP.
 - c. The Contractor shall provide the necessary processors, memory, storage networks, and operating systems, and databases, for all cloud-hosted or IaaS migration environments.
 - MVA will provide the necessary processors, memory, storage networks, and operating systems, and databases, for all MVA-hosted migration environments.
 - The Contractor shall provide everything not provided by the MVA for all migration environments.
4. Work with the MVA Project Manager to inventory the content within Legacy DIWS and extrinsic sources (see Section 2.6.2 Extrinsic Content Migration Concurrence) that must be migrated.
5. Work with the MVA Project Manager to establish specific dates and durations for having snapshots of legacy content available for migration.
6. Migrate the content for each business area/division as identified in Section 2.6.1 Content Inventory and Section 2.6.2 Extrinsic Content Migration Concurrence.
 - Migration includes as one of the activities physical extraction of content from the legacy system. Legacy systems include both production environments and test environments where test environments include a recent copy of the content in the production environment.
7. Perform migrations outside of business hours to minimize the impact on business operations.
8. Ensure that no production content is modified, altered or otherwise changed within the legacy production environment.
 - Assume that read-only access is provided to the legacy production databases and repositories.
9. Preserve segregation of content by business area/division.
 - The business currently segregates the storage by business area onto separate volumes. This practice is expected to be continued in the future.

Functional Requirements

Appendix #: **09**
Subject: **Legacy Migration Requirements**



10. Perform the migration in manageable collections that can be performed over night or over a weekend.
 - Multiple collections may be performed in a time period. For example, it may be practical to migrate five or six overnight collections during a weekend.
 - For most business areas/divisions this means splitting the content into two or more collections.
11. Iteratively perform the migrations for each collection of content (“iterative migrations”) until the migration of the collection of content executes without error.
12. Perform the iterative migrations in an environment other than the production environment.
 - One or more environments known as migration environments shall be designated for performing migrations. These migration environments shall be used to execute and re-execute the migration scripts until the migration scripts execute without error.
 - Depending on the integration needs and the migration needs, the migration environments may be part of the five environments used for deploying DIWS 2 and the DIWS 2 applications (see Appendix 3 section 2.2), or the environments may be designated migration environments that are in addition to the five environments.
13. Obtain approval from the MVA Project Manager to perform migrations in the designated test environment prior to the final migration of each collection of content into the production environment.
14. After the migration executes without error perform the migration into the designated test environment prior to the final migration of each collection of content into the production environment.
 - a. Once a migration script executes without error in the migration environment, the migration script shall be expected to be executed in an environment designated for executing migration scripts that have executed without error.
 - Migrations are performed multiple times in the migration environment until the migration scripts get everything correct. The migration is then performed in a test environment that looks like the production environment. If the migration in the test environment executes without error, the migration is then performed in the production environment.
 - See Figure 1 DIWS 2 Migration Environment Promotion.
15. Obtain approval from the MVA Project Manager to perform the final migration for each collection of content into the production environment.

Functional Requirements

Appendix #: **09**
Subject: **Legacy Migration Requirements**



16. After the migration executes without error in the test environment, the final migration for each collection of content into the production environment.
 - Once a migration script executes without error in the test environment, the migration script is expected to be executed in the production environment.
17. Migrate audit trail information associated with all migrated content.
18. Capture the migration operation as part of the DIWS 2 audit trail for all migrated content.
19. Ensure all content is accessible and navigable using the DIWS 2:
 - a. user interface
 - b. external systems interface defined in DIWS 2 TO Appendix 10 DIWS External Systems Integration
20. Perform automated verification and validation on 100% of the migrated content to ensure the content was correctly and completely migrated.
 - a. Evidence of validation and verification shall be provided showing that 100% of the unstructured content in the legacy system(s) has been migrated to DIWS 2.
 - b. Evidence of validation and verification shall be provided showing that 100% of the migrated unstructured content has not been changed in length, structure, bit/byte order, or format.
 - c. Evidence of validation and verification shall be provided showing that 100% of the indexes, attributes, and metadata remains associated with the correct unstructured content.
 - d. Evidence of validation and verification shall be provided showing that 100% of the indexes, attributes, and metadata has been mapped correctly and uniquely when migrated from the legacy system(s) to DIWS 2.
 - e. Evidence of validation and verification shall be provided showing that 100% of the audit trail information has been migrated.
 - f. Evidence of validation and verification shall be provided showing that 100% of the audit trail information remains associated with the correct unstructured content.
 - The validation and verification activities will verify many aspects of the migrated content. For example, a byte count, a checksum, a CRC, and other checks would be expected to be performed on the unstructured content. The associated metadata would be checked for the required number of fields, correct application of rules, correct data values, etc.

Functional Requirements

Appendix #: 09

Subject: Legacy Migration Requirements



21. Producing a content dictionary containing the following information for each migrated content document/image:
 - a. Content metadata as it existed in the legacy system
 - b. Content metadata as it exists in DIWS 2
 - c. The date and time the content was migrated into DIWS 2
 - d. The number of audit trail records migrated from the legacy system
 - e. The date and time verification and validation was performed on the migrated content.
 - The content dictionary is anticipated to be significantly large and is expected to be delivered electronically in a database or other form acceptable to the MVA Project Manager.
22. Complete all iterations of business licensing-related content migrations within one year, including as many iterations as necessary to achieve a clean migration.

For the purpose of this requirement:

- Business licensing-related content is defined as the content listed as “Business Licensing” in **Table 1 Approximate content count by business division as of 1H2015** and **Table 2 Approximate number of document/content types by business division as of 1H2015**.
 - The beginning of the one year period for completing the migration will be determined by the MVA Project Manager.
23. Complete all iterations of vehicle-related content migrations within two years, including as many iterations as necessary to achieve a clean migration.

For the purpose of this requirement:

- Vehicle related content is defined as the content listed as “Vehicle Services”, “Insurance Compliance”, and “Out of State Title” in **Table 1 Approximate content count by business division as of 1H2015** and **Table 2 Approximate number of document/content types by business division as of 1H2015**.
- The beginning of the two year period for completing the migration will be determined by the MVA Project Manager.
- The migration of vehicle-related content is anticipated to begin prior to the completion of business-related content, but is dependent on the Project Core dependencies.

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

24. Complete all iterations of driver licensing-related content migrations within eighteen months, including as many iterations as necessary to achieve a clean migration.

For the purpose of this requirement:

- Driver licensing-related content is defined as the content listed as “Administrative Adjudication”, “Driver Control”, “Driver Services”, “Driver Instruction”, and “Revenue Reporting” in **Table 1 Approximate content count by business division as of 1H2015** and **Table 2 Approximate number of document/content types by business division as of 1H2015**.
- The beginning of the eighteen-month period for completing the migration will be determined by the MVA Project Manager.
- The migration of driver licensing-related content is anticipated to begin prior to the completion of vehicle-related content, but is dependent on the Project Core dependencies.

25. Complete all iterations of non-Legacy DIWS content migrations within eighteen months, including as many iterations as necessary to achieve a clean migration.

For the purpose of this requirement:

- Non-Legacy DIWS content is defined as the content listed as the content listed in **Table 4 Approximate content count of non-Legacy DIWS content to be migrated into DIWS 2 as of 2H2015** and **Table 5 Approximate number of document/content types for non-Legacy DIWS content as of 2H2015**.
- The beginning of the eighteen-month period for completing the migration will be determined by the MVA Project Manager.
- The migration of non-Legacy DIWS content is anticipated to begin concurrently with the migration of the driver license-related content, but is dependent on the Project Core dependencies.

26. Provide all tools that will be used for performing the migration activities, including tools for automating the migration and for validating the correctness and completeness of the migrated content.

27. Execute the agreed to plan for the approved migration process.

Functional Requirements		
Appendix #:	09	
Subject:	Legacy Migration Requirements	

2.7 Security

The security model is expected to be migrated with the document types and attributes, subject to modification based on approved requirements determined as a result of Contractor’s meetings with MVA.

For the DIWS 2 migration security activities, **the Contractor shall:**

1. Identify the legacy security model for all content subject to migration in each business area.
2. Work with the business areas to identify changes to the security model.
 - a. The security model shall be consistent with requirements defined in DIWS 2 TO Appendix 5 Toolbox Requirements, section 4.11 Security and Privacy.
 - b. Changes may include, but shall not be limited to:
 - 1 The addition of new security roles
 - 2 The removal of existing security roles
 - 3 Changes to existing security roles
3. Define rules for applying the security rules to the content for the DIWS 2 user interfaces and the external system interfaces.
 - The external system interfaces are defined in **DIWS 2 TO Appendix 10**.
4. Obtain approval for the security model from the MVA.
5. Apply the security model to the migrated content.
6. Validate the correctness of the security model and apply corrections as required.
7. Iteratively apply all rules listed in section **2.7 Security** as many times as needed to perform a successful application of the security rules to the migrated content associated with each business area.

2.8 Records Management

The DIWS 2 records management model is expected to be defined and applied to the migrated content.

For the DIWS 2 migration records management activities, **the Contractor shall iteratively apply the following listed rules as many times as needed to perform a successful application of the records management rules to the migrated content associated with each business area:**

1. Work with the business areas to identify a records management model for migrated content.
2. Ensure that records management is consistent with requirements defined in DIWS 2 TO Appendix 5 Toolbox Requirements, section 4.14 Records Management and Legal Hold.
3. Define rules for applying the records management model to all migrated content.
4. Obtain approval for the records management model as it applies to migrated content.
5. Apply the records management model and any extensions for required for migrated content.
6. Validate the correctness of the records management model and apply corrections as required.

2.9 Scheduling

The DIWS 2 migration activities are expected to take place concurrently with activities of other vendors. There is an important activity that must be considered:

- Synchronizing the DIWS 2 migration activities with key milestones of Project Core, the primary external system dependent on the migrated content.

The key Project Core date ranges for completing the content migration are listed in **Table 6 Project Core Content Migration Completion Date Dependencies**. It is important to recognize that these date ranges are planning date ranges at this time and are subject to change.

Table 6 Project Core Content Migration Completion Date Dependencies

Content Area	Duration (months)	Completion (quarter)
Business Licensing Content	12-15	Jul-Sep 2018
Vehicle Services Content	24-27	Mar-Jun 2020
Driver Licensing Content	18-24	Jul-Sep 2021
Non-Legacy DIWS Content	18-24	Jul-Sep 2021
Notes:		
<ul style="list-style-type: none"> a. Business Licensing Content, Vehicle Services Content, and Driver Licensing Content are defined in Section 2.6.1 Content Inventory. b. Non-Legacy DIWS Content refers to the content identified in Section 2.6.2 Extrinsic Content Migration Concurrence 		

For the DIWS 2 migration scheduling, **the Contractor shall:**

Functional Requirements

Appendix #: 09

Subject: Legacy Migration Requirements



1. Work with the Project Core MVA Project Manager and his/her designees to verify the groupings of content, consolidating content areas or splitting content areas into two or more subareas.
 - These content areas may vary from the content areas given in Table 6 Project Core Content Migration Completion Date Dependencies.
2. Work with the Project Core MVA Project Manager and his/her designees to establish specific dates and durations for having acceptable subsets of migrated content available for testing.
 - For the purpose of this requirement, “specific dates” refers to dates for the subsets of content and dates for various types of training and testing (e.g., system testing and user acceptance testing).
 - For the purpose of this requirement, “durations” refers to durations for the subsets of content and durations for various types of training and testing (e.g., system testing and user acceptance testing).
3. Work with the Project Core MVA Project Manager and his/her designees to establish specific dates for having an acceptable subset of migrated content available for other purposes such as development.
4. Work with the MVA Project Manager to establish dates for taking snapshots of the legacy content.
 - When a snapshot of the legacy content is taken in the early days of content migration, it is a snapshot of an active repository that continues to grow. Periodic snapshots of the legacy content are expected over time to ensure the migration activities are working with reasonably current and reasonably complete content.
5. Work with the MVA Project Manager to establish dates for taking snapshots of the legacy content within one business day of the go live date.
 - Due to the reality that the legacy content is coming from an active repository that is updated throughout the day, it is important to schedule a snapshot that is within one business day of the go-live date.
6. Develop schedules and plans to complete migration, including all of the interim dependencies and milestones.
7. Identify risks and implement risk mitigation to ensure the agreed to migration schedule contains minimum risk and has adequate schedule buffer.

3. Response to Procurement Enhancement Requirements

The table below identifies the topics which the Offeror shall address in its Technical Proposal. Each topic in the response shall be identified with a heading corresponding to the table below. Responses should not be placed in the table.

Offeror shall refer to the referenced section of the Task Order to fully understand the State’s requirements and expectations when preparing the response. The Offeror shall address the topics/questions identified in the table but is expected to elaborate or add additional information as appropriate to fully understand the Offeror’s solution and approach.

The Offeror should provide a detailed description of the proposed solution but does not need to address every item or sentence in a particular section. The Offeror’s response shall be construed to be inclusive of all requirements referenced by the table and shall bind the Offeror to all such requirements unless the Offeror specifically addresses partial or non-compliance in its response. Offerors shall describe requirements that cannot be met or that can only partially be met as part of the final question of the response table.

The Offeror shall adhere to any page limit for the topic.

In some topics below, the State has requested a sample of work from a previous project or a draft version of an artifact for this project (e.g. include a draft Project Plan for this project). These items are identified below and shall be included in [TAB O] and not inserted into the narrative. Such items are not included in page limits. If requested items are not available, briefly describe.

In addition to completing the Legacy Migration response table below, Offerors shall complete the worksheet in the Excel spreadsheet (see Appendix 17 Offeror Response) that corresponds to this Appendix.

Response Requirements			
Appendix 9 Legacy Migration			
Appdx Ref	Topic Title	Response Requirements	Page Limit
2.1	Process	<ul style="list-style-type: none"> a. The responses to this section should align with the Offeror requirements within the Section 2.1 Process. Provide the process you are proposing for migrating the legacy content from Legacy DIWS to DIWS 2. Specifically identify key areas such as data cleansing, data mapping, and data validation b. Identify the tools you propose to use, why these tools were selected, what area they help automate and why. 	

Response Requirements			
Appendix 9 Legacy Migration			
Appdx Ref	Topic Title	Response Requirements	Page Limit
2.2	Document/ Content Types	<ul style="list-style-type: none"> a. Describe any requirements in this section that are not met using the out of the box application software with configuration and how and when you would meet these requirements. b. Describe the approach you are proposing for mapping document types. c. Describe the approach you are proposing for mapping fields within the source document type to the destination document type. 	
2.3	User Interfaces	Do you suggest any user interfaces for monitoring, reporting or other purposes?	
2.4	Reports	<ul style="list-style-type: none"> a. Considering the large volume of content to be migrated, describe how you will provide human-readable reports and machine readable extracts. b. Are there other reports or extracts that you would suggest? If so, how do these contribute to ensuring the quality of the migration? 	
2.5	External Interfaces	If you recommend external interfaces such as master data or reference data for data cleansing or other purposes, briefly discuss this.	
2.6	Data Model	Discuss how you would approach the large amount of content that must be migrated outside of business hours.	

Response Requirements			
Appendix 9 Legacy Migration			
Appdx Ref	Topic Title	Response Requirements	Page Limit
2.6.3	Migration Scope	<ul style="list-style-type: none"> a. Provide the process you are proposing for migrating the legacy content to DIWS 2. Specifically identify key areas such as data cleansing, data mapping, and data validation. b. Identify the tools you propose to use for performing all aspects of the migration, why these tools were selected, what area they help automate, and why. c. Explain how you will handle the structured content that must be migrated. d. Explain how you will handle the unstructured content that must be migrated. e. Explain how you will migrate the audit trail associated with the legacy content. f. If you are proposing utilizing multiple copies of databases or repositories to allow 24-hour, around the clock migration, how do you envision synchronizing the copies with the master? g. Explain how you will balance the need for a recent copy of legacy content with the need to minimize impact on the legacy system(s) (e.g., taking three weekend snapshots of the legacy content; one snapshot at the beginning, one snapshot one month prior, and one snapshot on the weekend of the final migration to production.) h. Identify your approach for performing the migration cutover to the test environment and to the production environment. i. Identify the tools and approach you will use to perform verification and validation that 100% of the migrated content is successfully migrated. In your response include a definition of “successfully migrated” and enumerate the elements that will verified and validated on 100% of the migrated content. 	

Response Requirements			
Appendix 9 Legacy Migration			
Appdx Ref	Topic Title	Response Requirements	Page Limit
2.6.3 (cont.)	Migration Scope	<ul style="list-style-type: none"> j. Provide a proposed schedule for performing the migration, including milestones and dependencies. Include: <ul style="list-style-type: none"> ▪ Begin and end dates for migrating all collections of content at a division level. ▪ Include dependencies on when a migration environment must be available. ▪ Include dependencies on MVA staff resources (e.g., to provide subject matter expertise required for data cleansing and document type mapping). ▪ Include tasks for content/document type and attribute mapping. ▪ Include tasks for data/content cleansing. ▪ Include expected content snapshots taken from legacy systems. ▪ Include the migration into the test environment after achieving 100% error free migration scripts. ▪ Include the migration into the production environment after achieving an error free migration into the test environment. ▪ Include tasks for making snapshots of migrated data/content available to external systems for use in development and testing. ▪ Include verification and validation activities for confirming successful migration. k. Identify the MVA staff resources you require to provide information necessary for migration (e.g., data cleansing and mapping) and an estimate on the hours required. l. Identify the hardware you require to perform the migrations. m. Estimate the number of days, nights and weekends required to perform the migrations. n. Identify any risks your perceive migrating this content and your recommendations for mitigating these risks. 	

Functional Requirements

Appendix #: 09
Subject: Legacy Migration Requirements



Response Requirements

Appendix 9 Legacy Migration

Appdx Ref	Topic Title	Response Requirements	Page Limit
2.7	Security	<ul style="list-style-type: none">a. Explain how you will approach migrating security information, along with new security groups provided by an external system and the security model of a different underlying content management system.b. Discuss any security-related challenges you envision and how you intend to overcome these challenges.	
2.8	Records Management	Discuss any records management-related challenges you envision and how you intend to overcome these challenges.	
2.9	Scheduling	<ul style="list-style-type: none">a. Discuss your approach to scheduling migration activities with specific attention provided to the requirements contained within this section.b. Identify any migration scheduling-related challenges you envision and how you intend to overcome these challenges.c. Discuss how you will work with the Project Core Vendor Personnel to verify, coordinate and agree on the groupings of content areas. Recognize that the content areas provided in Table 6 are placeholders that need to be negotiated and are very likely to change.d. Discuss how you will work with the Project Core Vendor Personnel to coordinate the availability of migrated content with the Project Core schedule. Recognize that the durations and completion dates provided in Table 6 are placeholders that need to be negotiated and are very likely to change.	
	Requirements not Met	The State assumes that the Offeror will meet all requirements described in Appendix 9 of the TO. For each section of this appendix, identify any requirements that cannot be met, why these requirements cannot be met, and any alternative proposed.	