Federal Aviation Administration

Technical Design Document

Application:	Dynamic Regulatory System (DRS)
Interface Names:	External Applications

Revision History

Version	Description	Date
1.0	Initial version	02/09/2022
2.0	Release 7 Changes	05/19/2022
3.0	Release 15 Changes	04/11/2024
4.0	Release 15.a - Updates to include 'docLastModifiedDateSortOrder' as a request parameter	05/23/2024
5.0	Release 16 – DRS API to download files	07/18/2024
6.0	Release 21 – DRS API to include metadata filters	08/07/2025

Contents

1.0   Overview

This document presents the details for retrieving regulatory and guidance documents from Dynamic Regulatory System (DRS) by external applications.

2.0   Scope

The scope of this document is to provide technical details of DRS API for external applications.

2.1   Dynamic Regulatory System (DRS)

DRS is a comprehensive knowledge center of regulatory and guidance material from the Office of Aviation Safety (AVS) and beyond. It provides one central location for aviation regulations and guidance materials.

DRS combines numerous document types from a dozen repositories into a single searchable application. The system includes pending, current and historical versions of all documents along with their revision history. And to ensure you have the most current documents, it is updated every 24 hours.

3.0   Interface Details

3.1   API URLs

HTTP Method	URL
GET	https://drs.faa.gov/api/drs/data-pull/<doctypeName>
GET	https://drs.faa.gov/api/drs/data-pull/download/<id>
GET	https://drs.faa.gov/api/drs/data-pull/get-other-attachment-details/<id>
POST	https://drs.faa.gov/api/drs/data-pull/<doctypeName>/filtered

3.2   API Key

Header parameters key	Header parameters value
x-api-key	To request an API key, please visit the **DRS API** page in the **DRS Help & Training** section and click on **"Request / Renew API Key"**, then follow the steps outlined.

3.3 API Endpoints to Retrieve Documents

The following API endpoints are used to retrieve document-related data from the Dynamic Regulatory System (DRS) for a specified document type.

- The first API retrieves document metadata.
- The second and third APIs use information returned from the first API to download document attachments or retrieve additional attachment details.
- The fourth API allows metadata-based filtering in the request, returning only documents that match the specified criteria.

3.3.1 Retrieve Document Metadata

API URL - 1	https://drs.faa.gov/api/drs/data-pull/<doctypeName>
Method	GET

Request Parameters	Header:
	{
	　　"x-api-key" : "{key}"
	}
	
	Note: To request an API key, please visit the **DRS API** page in the **DRS Help & Training** section and click on **"Request / Renew API Key"**, then follow the steps outlined.
	
	Input parameters:
	Path variable: doctypeName
	Request Parameters: offset(optional), docLastModifiedDate(optional), docLastModifiedDateSortOrder(optional)
	
	1. Use Document Type name as path parameter in the API URL.
	
	　　https://drs.faa.gov/api/drs/data-pull/AC
	
	2. Provide "offset" as request parameter. It is an optional field. The DRS API will return the first 750 documents by default if an "offset" is not received in the request. If an offset is provided in the request parameter, the API skips the documents till the offset value and returns next 750 documents starting from the "offset value +1".
	
	　　https://drs.faa.gov/api/drs/data-pull/AC (return first 750)
	
	　　https://drs.faa.gov/api/drs/data-pull/AC?offset=750 (Skip first 750, start
	
	　　= 751 and returns next 750)
	
	　　https://drs.faa.gov/api/drs/data-pull/AC?offset=1500 (Skip first 1500, start=1501 and returns next 750)
	
	3. Provide "docLastModifiedDate" as request parameter. It is an optional field. This request parameter is used to retrieve documents added or updated after the requested date.
	
	The "docLastModifiedDate" value is included in the DRS API response, but by default, the response data is not sorted by this date. Instead, documents are sorted according to the default sort order configuration of the DRS browse screen for that document type. The default sort order is detailed in the Metadata mapping

spreadsheet available on the API help page. If a DRS API consumer needs to retrieve documents added or updated after a specific date, they can use "docLastModifiedDate" as a filter in the API request parameter.

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDate=2021-05-09T14:38:11.964Z&offset=0 (Return first 750 documents that have docLastModifiedDate > 2021-05-09T14:38:11.964Z)

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDate=2021-05-09T14:38:11.964Z&offset=750 (Skip first 750, start = 751 and return next 750 documents that have docLastModifiedDate > 2021-05-09T14:38:11.964Z)

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDate=2021-05-09T14:38:11.964Z&offset=1500 (Skip first 1500, start=1501 and returns next 750 documents that have docLastModifiedDate > 2021-05-09T14:38:11.964Z)

4. Include "docLastModifiedDateSortOrder" as a request parameter. This optional field allows you to retrieve documents sorted by their last modified date. Accepted values are "ASC" or "DESC."

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDateSortOrder=DESC&offset=0 (Return first 750 documents sorted by docLastModifiedDate descending)

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDateSortOrder=ASC&offset=0 (Return first 750 documents sorted by docLastModifiedDate ascending)

https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDate=2021-05-09T14:38:11.964Z&offset=0&docLastModifiedDateSortOrder=DESC (Return first 750 documents sorted by docLastModifiedDate descending that have docLastModifiedDate > 2021-05-09T14:38:11.964Z)

If this request parameter is not provided, the documents will be sorted according to the default sort order configuration of the DRS browse screen for that document type.

Note: To apply additional filters, please refer to the API URL -4

CURL Request Examples	To get First 750 documents from document type "AC" curl --location --request GET 'https://drs.faa.gov/api/drs/data-pull/AC?offset=0' --header 'x-api-key: xxx' > AC_external_only.json To get First 750 documents from document type "AC" that are added or updated after the date-time '2021-05-09T14:38:11.964Z' curl --location --request GET 'https://drs.faa.gov/api/drs/data-pull/AC?docLastModifiedDate=2021-05-09T14:38:11.964Z&offset=0' --header 'x-api-key: xxx' > AC_external_only.json

Response - Success	Received response with HTTP Code 200
	
	`{`
	   `"summary": {`
	     `"doctypeName": "AC",`
	     `"drsDoctypeName": "Advisory Circulars (AC)", "count": 750,`
	     `"hasMoreItems": true,`
	     `"totalItems": 1765,`
	     `"offset": 0,`
	     `"sortBy": "drs:documentNumber",`
	     `"sortByOrder": "ASC"`
	   `},`
	   `"documents": [..list of documents…]`
	`}`
	
	Summary section has below details
	
	1. doctypeName – Requested Document Type name
	2. drsDoctypeName – Document Type name used in DRS application
	3. count – Number of documents returned in the response (Maximum 750 in each call, can expect less than 750 based on offset and available items)
	4. hasMoreItems – Boolean flag indicates whether more documents are available or not
	5. totalItems – Total number of documents available
	6. offset – Offset value from the request
	7. sortBy – Metadata field name used for sorting while retrieving documents
	8. sortByOrder – The sort order used for sorting while retrieving documents

"documents" is an array where each entry represents a document and contains a list of metadata names and their corresponding values. A metadata name is a string, and its value can be of one of the following types: text, array of text values, or date. All metadata fields of type date will use the format YYYY-MM-DD.

The following details are common to all documents across all document types in DRS.

docLastModifiedDate - The date and time (in UTC) when the document was last modified. This metadata field can be used as a request filter to retrieve documents that were added or updated after a specific date and time.

documentGuid - Unique Id for the document in DRS documentURL

- Unique URL for the document in DRS

Example is provided below.

```json
{
    "summary": {
        "doctypeName": "AC",
        "drsDoctypeName": "Advisory Circulars (AC)",
        "count": 750,
        "hasMoreItems": true,
        "totalItems": 1774,
        "offset": 0,
        "sortBy": "drs:approvalDate",
        "sortByOrder": "DESC"
    },
    "documents": [
        {
            "drs:documentNumber": "AC 00-46F",
            "drs:status": "Current",
            "drs:docID": "AC 00-46F",
            "drs:changeNumber": null,
            "drs:acPolicyNumber": null,
            "drs:title": "Aviation Safety Reporting Program",
            "drs:cancels": [
                "AC 00-46E"
            ],
            "drs:cancelledBy": null,
            "drs:standards": null,
            "drs:changeDesc": null,
            "drs:partNumber": [
                "Part 27"
            ],
            "drs:subPart": [
                "Subpart B - Flight"
            ],
            "drs:sectionNumber": [
                "Sec. 27.27"
            ],
            "drs:approvalDate": "2021-04-02",
            "drs:lastReviewedDate": "2021-07-14",
            "drs:comments": null,
            "drs:ABReference": [
                "7-G"
            ],
            "drs:ADReference": null,
            "drs:CARReference": null,
            "drs:EXReference": null,
            "drs:SFARReference": null,
            "drs:documentOwner": [
                "AFS-200"
            ],
            "drs:primaryRespOffice": [
                "AFS-200"
            ],
            "docLastModifiedDate": "2025-07-24T18:36:46.481Z",
            "documentGuid": "FCDFC09CD36D2CC9862586C3005DAE49",
            "documentURL": "https://drs-dev.faa.gov/browse/excelExternalWindow/FCDFC09CD36D2CC9862586C3005DAE49.0001",
            "mainDocumentDownloadURL": "https://drs-dev.faa.gov/api/drs/data-pull/download/ee96f863-4a7f-4d5e-9e1b-3b46756cfab2",
            "mainDocumentFileName": "Doc5.pdf",
            "hasMoreAttachments": true,
            "otherAttachmentDetailsUrl": "https://drs-dev.faa.gov/api/drs/data-pull/get-other-attachment-details/ee96f863-4a7f-4d5e-9e1b-3b46756cfab2"
        },
        {
```

Response - Error	If the provided API key is invalid, the API will return a 403 Forbidden response code.
	Other possible error responses include:
	1. If the document type requested is invalid

	``
	{
	"errorMessage": "The doctype <document type name> is not present in DRS"
	}
	``

	2. If the internal only document type is requested using external only api-key

	``
	{
	"errorMessage": "Could not process the request. The doctype <document type name> is internal only doctype"
	}
	``

	3. If any system error occurs

	``
	{
	"errorMessage": "Unable to retrieve documents due to system error, Please try after some time or contact DRS application team."
	}
	``

3.3.2 Download Files

API URL - 2	https://drs.faa.gov/api/drs/data-pull/download/<id>
Method	GET

Request Parameters	Header:
	{
	  "x-api-key" : "{key}"
	}
	{key}: same key used for retrieving the document metadata (API URL – 1)
	
	Input parameters:
	
	Path variable: id of the file to be downloaded. The response from the first API (API URL – 1) includes the following fields for each document's metadata details. These fields are only present if a valid file exists for download.
	
	"mainDocumentDownloadURL": < API Endpoint URL for File Download > "mainDocumentFileName": <File Name>
	
	The 'mainDocumentDownloadURL' provides the API endpoint for downloading the main document file. Use this URL to download the file. 'mainDocumentFileName' refers to the name of the file.

CURL Request Examples	curl -k --location --request GET 'http://drs.faa.gov/api/drs/data-pull/download/<id>' -- header 'x-api-key: xxx' > FileName
Response - Success	Success response with HTTP Code 200 and the response body is a byte stream.
Response - Error	If the provided API key is invalid, the API will return a 403 Forbidden response code. Other possible error responses include: '404 Not Found,' '504 Gateway Timeout,' or '500 Internal Server Error' Consider incorporating retry logic to manage '504 Gateway Timeout' occurrences.

3.3.3 Get Additional Attachment Details

API URL - 3	https://drs.faa.gov/api/drs/data-pull/get-other-attachment-details/<id>
Method	GET

Request Parameters	Header:
	{
	    "x-api-key" : "{key}"
	}
	{key}: same key used for retrieving the document metadata (API URL – 1)
	
	Input parameters:
	Path variable: fille id of the primary document file
	
	The response from the first API (API URL – 1) includes the following fields to determine if this document has valid additional attachments. These fields are only present if a valid file exists for download.
	
	"hasMoreAttachments": <true/false>
	"otherAttachmentDetailsUrl": <URL to get other attachment details if other attachments exists >
	
	If the 'hasMoreAttachments' value is 'false', the document has no additional attachments, and the 'otherAttachmentDetailsUrl' field will be absent from the response of the first API. If the 'hasMoreAttachments' value is 'true', the document has additional attachments, and the 'otherAttachmentDetailsUrl' field will be present. This URL can be used to retrieve details about the additional attachments, including their download URLs and file names.
	
	Once the response with details is received, API URL – 2 can be used to download these additional attachments.

CURL Request Examples	curl -k --location --request GET 'http://drs.faa.gov/api/drs/data-pull/get- other-attachment-details/<id>' --header 'x-api-key: xxx' > other- attachments.json

Response - Success	A successful response will have a status code of 200. A sample response is shown below.
	
	``json
	{
	    "otherAttachmentDownloadDetails": [
	        {
	            "fileDownloadURL": "https://drs.faa.gov/api/drs/data-pull/download/56b54a18-cba4-4101-8ebd-95610ac03edd",
	            "fileName": "SP_2_3_0_135B_OP_V26.HTML"
	        },
	        {
	            "fileDownloadURL": "https://drs.faa.gov/api/drs/data-pull/download/c13462bf-da96-4a31-827a-7e6b0638ee14",
	            "fileName": "SP_2_3_0_135B_OP_V26.DOC"
	        },
	        {
	            "fileDownloadURL": "https://drs.faa.gov/api/drs/data-pull/download/bed8d204-1dda-4bf4-a8ea-c1b8179e8711",
	            "fileName": "SP_2_3_0_135B_OP_V26.XML"
	        }
	    ]
	}
	``
	
	If the API key is designated for external-only documents and the document contains internal-only additional attachments, those attachments will not be included in the response. If no additional attachments are present or if all additional attachments are internal-only, the response will be as shown below.
	
	``json
	{
	    "comments": "The main document you've requested either lacks additional attachments or all additional attachments are restricted to internal use only."
	}
	``

Response - Error	If the provided API key is invalid, the API will return a 403 Forbidden response code. Other possible error responses include: 1. If any system error occurs { "errorMessage": "Unable to retrieve documents due to system error, Please try after some time or contact DRS application team."}

3.3.4 Retrieve Document Metadata with Filters

API URL - 4	https://drs.faa.gov/api/drs/data-pull/<doctypeName>/filtered
Method	POST

Request Parameters	Header:
	{
	   "x-api-key" : "{key}"
	}
	
	Note: To request an API key, please visit the **DRS API** page in the **DRS Help & Training** section and click on **"Request / Renew API Key"**, then follow the steps outlined.
	
	Request parameters
	
	Path Variable: doctypeName
	
	• **Required**: Yes
	
	• **Description**: The document type name to retrieve metadata for.
	
	Request Body
	
	• **Required**: Yes
	
	• **Payload**: Must be a valid JSON object. It can be an empty JSON {}, or include one or more of the following optional fields:
	
	{
	    "offset": <int value>,
	    "docLastModifiedDate": <date-time>,
	    "sortOrder": <"DESC"> or <"ASC">,
	    "documentFilters": {
	        "<metadata key>": [<value1>, <value2>, ...],
	        "<another metadata key>": [<value1>, <value2>],
	        "<date metadata key>": [<from date>, <to date>]
	    }
	}
	
	Example Payload for PMA Document Type
	{
	    "offset": 0,
	    "docLastModifiedDate": "2021-12-21T14:04:31.062Z",
	    "sortOrder": "DESC",
	    "documentFilters": {
	        "drs:status": [
	            "Current",
	            "Historical"
	        ],
	        "drs:pmaNumber": [
	            "PQ04418CE"
	        ],
	        "drs:pmaSupDate": [
	            "2020-01-01",
	            "2025-07-31"
	        ]
	    }
	}
	
	1. Use Document Type Name as Path Parameter
	
	    Example:
	    https://drs.faa.gov/api/drs/data-pull/PMA/filtered

2. Using the **offset** Parameter

It is an optional field. The DRS API will return the first 750 documents by default if an "offset" is not received in the request. If an offset is provided in the request parameter, the API skips the documents till the offset value and returns next 750 documents starting from the "offset value +1".

Request JSON without offset (or with offset = 0):

```
{}
```

Returns 750 documents.

Request with offset = 750:

```
{
      "offset": 750
}
```

Skips the first 750 documents and return the next 750 (starting from 751).

3. Using the **docLastModifiedDate** Parameter.

It is an optional field. This field is used to retrieve documents added or updated after the requested date.

The "docLastModifiedDate" value is included in the DRS API response, but by default, the response data is not sorted by this date. Instead, documents are sorted according to the default sort order configuration of the DRS browse screen for that document type. The default sort order is detailed in the Metadata mapping spreadsheet available on the API help page. If a DRS API consumer needs to retrieve documents added or updated after a specific date, they can use "docLastModifiedDate" as a filter in the API request body.

```
{
      "offset": 0,
      "docLastModifiedDate": "2021-05-09T14:38:11.964Z"
}
```

Returns first 750 documents with docLastModifiedDate > 2021-05-09T14:38:11.964Z.

```
{
      "offset": 750,
      "docLastModifiedDate": "2021-05-09T14:38:11.964Z"
}
```

Skip first 750 and return next 750 documents that have docLastModifiedDate > 2021-05-09T14:38:11.964Z

4. Using the **sortOrder** Parameter. This optional field allows you to retrieve documents sorted by their last modified date. Accepted values are "ASC" or "DESC."

```
{
     "offset": 0,
     "sortOrder": "DESC"
}
```

Returns first 750 documents sorted by docLastModifiedDate in descending order.

```
{
     "offset": 0,
     "sortOrder": "ASC"
}
```

Returns first 750 documents sorted by docLastModifiedDate in ascending order.

```
{
      "offset": 0,
      "docLastModifiedDate": "2021-05-09T14:38:11.964Z",
            "sortOrder": "DESC"
}
```

Returns first 750 documents that have docLastModifiedDate > 2021-05-

	09T14:38:11.964Z, sorted in descending order.
	If this request parameter is not provided, the documents will be sorted according to the default sort order configuration of the DRS browse screen for that document type.
	5. Using the **documentFilters** Parameter.
	The documentFilters field is optional. It allows you to retrieve documents that match specific Metadata filters provided in the request.
	Each filter is specified as a key-value pair, where:
	• Key = metadata field name
	• Value = array of filter values
	Example**:**

	<pre>{
	    "offset": 0,
	    "docLastModifiedDate": "2021-12-21T14:04:31.062Z",
	    "sortOrder": "DESC",
	    "documentFilters": {
	        "drs:status": [
	            "Current",
	            "Historical"
	        ],
	        "drs:pmaNumber": [
	            "PQ04418CE"
	        ],
	        "drs:pmaSupDate": [
	            "2020-01-01",
	            "2025-07-31"
	        ]
	    }
	}</pre>

	This request will:
	• Return the first 750 documents
	• Only include documents with a docLastModifiedDate **after** 2021-12-21T14:04:31.062Z
	• Sort results by docLastModifiedDate in **descending** order
	• Filter documents that:
	✓ Have a drs:status of **Current** or **Historical**
	✓ Have a drs:pmaNumber value of **PQ04418CE**
	✓ Have a drs:pmaSupDate **between** "2020-01-01" and "2025-07-31"

Rules for Using metadata filters in documentFilters	• Each metadata field must be passed as a list (array), even if only one value is provided.
	    ✓ "drs:status": ["Current"]
	    ✓ "drs:status": ["Current", "Historical"]
	
	• For date-type metadata fields, the array must contain exactly two values:
	    ✓ The first is the start date
	    ✓ The second is the end date
	    ✓ Format: YYYY-MM-DD
	
	Example:
	"drs:pmaSupDate": ["2020-01-01", "2025-07-31"]

Rules for Using Keyword Search filters in documentFilters	• In addition to metadata fields specific to the selected document type, the filter also supports **keyword search** within document content.
	To enable keyword search, pass "Keyword" as the key and provide a list of terms to search for.
	Example:
	``
	{
	    "offset": 0,
	    "documentFilters": {
	        "drs:status": [
	            "Current",
	            "Historical"
	        ],
	        "Keyword": [
	            "ASTM International",
	            "Shearography"
	        ]
	    }
	}
	``
	The above request will filter documents that:
	✓ Have a drs:status of **Current** or **Historical**
	✓ Have documents that contain **ASTM Internationa**l or **Shearography** anywhere in the document content

Validation Rules for documentFilters	• Unsupported Filter Key: Metadata filter keys must be defined for the requested document type. Unrecognized or unsupported keys will cause the request to be rejected. • Maximum Number of Filters: The total number of filters must not exceed the 5. • Maximum Values Per Filter: Each filter can include multiple values but must not exceed the allowed 10. • Empty Filter Values: Filters with no usable value (null, empty, or whitespace-only) will be ignored. If all filters are empty after cleaning, the entire documentFilters section is treated as null. • Date Filter Format: Date filters must be a list of exactly two valid dates in YYYY-MM-DD • Invalid Date Values: If either the start or end date is invalid or unpassable, the request will be rejected. • Invalid Filter Value Type: If the value is not an array, the request will be rejected. • Date filters must not be passed as plain strings. • Post-Cleaning Empty Filter: After removing null/empty values, if a filter has no values left, it will be skipped. If all filters become empty, the entire documentFilters section is removed from the request.
Response - Success	**Success** response is received with HTTP Code 200 API Response data is same as first API's Response data

Response - Error	If the provided API key is invalid, the API will return a 403 Forbidden response code.
	If the **documentFilters** validation fails, the API will return a 400 Bad Request code with below error message.
	``
	{
	  "errorMessage": "One or more filters provided are invalid or not applicable for the requested document type. Please review the filter names and their values."
	}
	``
	Other possible error responses include:

<table>
<tr>
<td></td>
<td>

If the document type requested is invalid
```
{
    "errorMessage": "The doctype <document type name> is not present in DRS"
}
```
If the internal only document type is requested using external only api-key
```
{
    "errorMessage": "Could not process the request. The doctype <document type name> is internal only doctype"
}
```
If any system error occurs
```
{
    "errorMessage": "Unable to retrieve documents due to system error, Please try after some time or contact DRS application team."
}
```
</td>
</tr>
</table>

4.0   Additional Details

DRS will provide a detailed spreadsheet of all Document Types available along with their metadata field names. The details below can be found in the spreadsheet.

1.   Document Type Name in API request (a short name for the document type)

2.   Document Type name in DRS

3.   Metadata names for the Document Type that are sent in the response

4.   Metadata names for the Document Type that are used in DRS application

5.   Metadata value data type (can be Text or Date or Array of values)