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National Aeronautics and
Space Administration

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**INFORMATION MANAGEMENT HANDBOOK FOR
NASA ELECTRONIC FORMS
REQUIREMENTS DOCUMENT**

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SYSTEM REQUIREMENTS DOCUMENT (SRD)

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1.0 INTRODUCTION

1.1 Handbook Purpose

The purpose of this handbook is to set the requirements for the creation and maintenance of all NASA and Center electronic forms. The handbook ensures there is conformity and consistent development across the Agency to support the goals and objectives of an enterprise architecture that focuses on a data-centric secure framework, incorporates best practices, simplifies work processes, achieves efficiencies, ensures a capability-driven approach for the creation of data and information, and allows for data to be searched and analyzed.

This document is intended to be a foundation for the development approach and as the process matures the content may change.

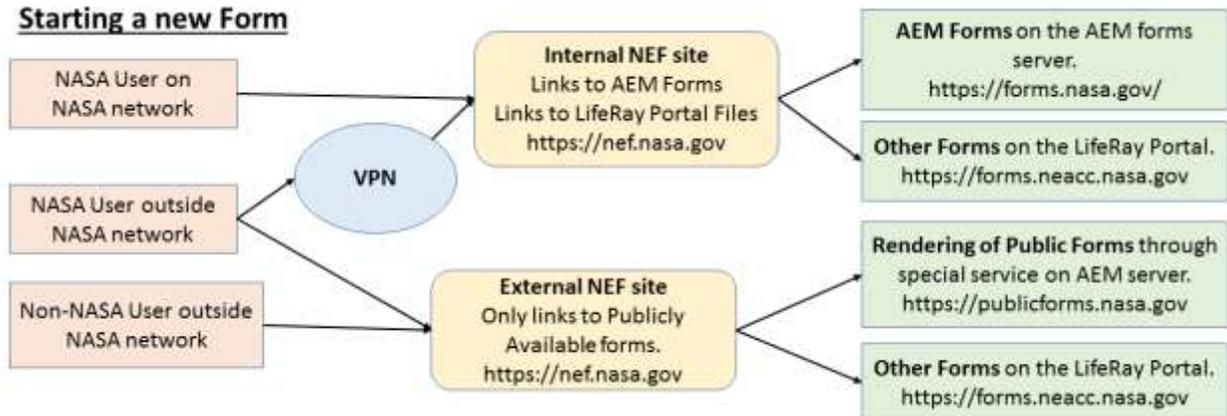
1.2 System Overview

Current layout of servers – Figure 1

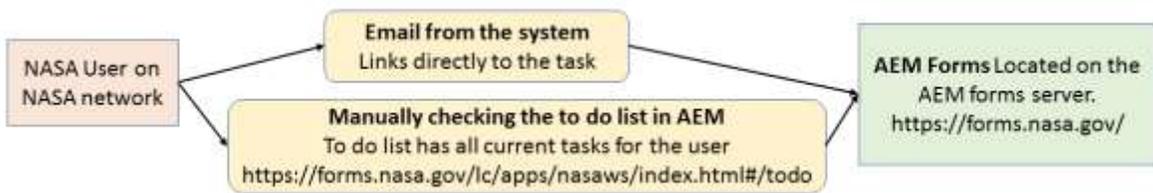


Normal User Interactions – Figure 2

Starting a new Form

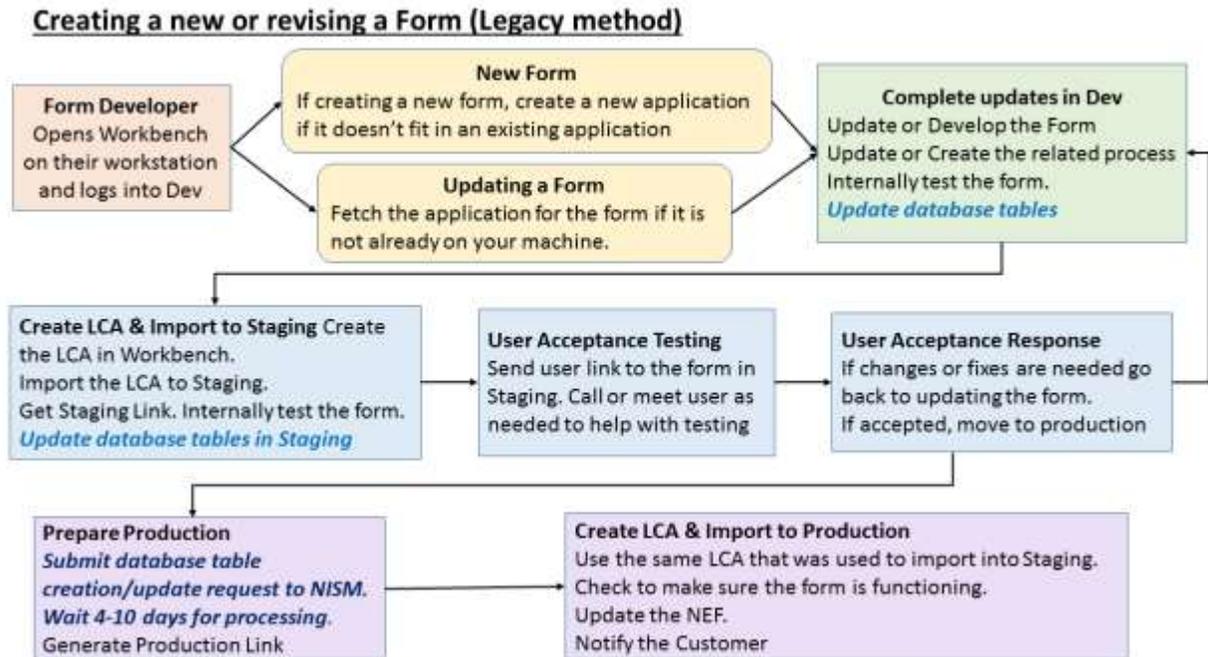


Responding to form tasks



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Normal Developer Interactions – Figure 3



1.3 Roles and Responsibilities

1.3.1 Senior Forms Developer

- 1.3.1.1 CRX permissions - Create and modify folders, metadata and any other sections required to create/support adaptive forms
- 1.3.1.2 CRX Package creation and uploads CRX packages to all environments
- 1.3.1.3 Creates OSGI Custom Components
- 1.3.1.4 Creates standardized forms themes, templates, Adaptive fragments, and workflows for reuse
- 1.3.1.5 Performs production database updates
- 1.3.1.6 Also encompasses Forms Developer responsibilities
- 1.3.1.7 Works with Server Administrators to develop access roles and permissions for forms servers
- 1.3.1.8 Required experience
 - 1.3.1.8.1 HTML5, CSS, Java

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1.3.1.8.2 Database development and management

1.3.1.8.3 AEM Training for CRX functions

1.3.1.8.4 All requirements for Forms Developers

1.3.2 Forms Developer

1.3.2.1 Shall be responsible for the design, development, and maintenance of forms.

1.3.2.2 Develops the form layout and code required to support development of the form while adhering to NASA Standards

1.3.2.3 Works with the customer to gather requirements

1.3.2.4 Builds databases in development and staging servers and tests the integration between the form and the database, if skill level allows

1.3.2.5 Builds Workbench workflows on the development server

1.3.2.6 Creates the AEM – Forms Archive (also known as LiveCycle Archive (LCA) file) for the form and associated files and provides them to the senior forms developers for promoting to staging and production servers.

1.3.2.7 New developers should look at the Important Links section at the end of this document for links to guides and other important documents.

1.3.2.8 Required Experience

1.3.2.8.1 JavaScript

1.3.2.8.2 Good Documentation Skills

1.3.2.8.3 Adobe LiveCycle/AEM experience or training

1.3.3 Server Administrators

1.3.3.1 Handled by AAO at this time

1.3.3.2 Handles all hardware configuration and application configuration to allow senior forms developers and forms developers to perform their duties

1.3.3.3 Handles all security settings for the server

1.3.3.4 Support of the server including website breakages, server delays, and error logs

1.3.3.5 Manages all upgrades and patches of the server

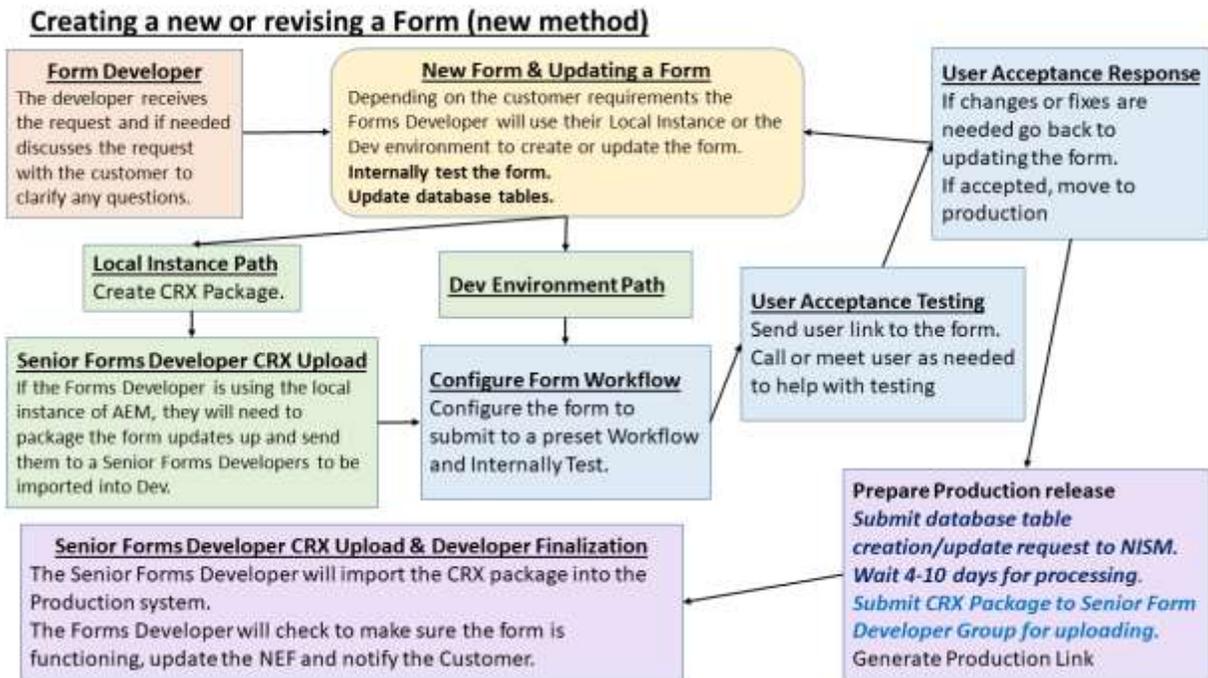
1.3.3.6 Works with the Vendor to correct any issues with the

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upgrades, patches, or bugs

1.3.4 First Draft of new Forms LiveCycle

First Draft New Forms LiveCycle – Figure 4



2.0 SYSTEM REQUIREMENTS

2.1 Information Architecture Requirements for Forms Servers

2.1.1 Data persistence

2.1.1.1 Open access to data

2.1.1.1.1 Basic read access granted to all NASA users

2.1.1.1.2 Special access granted as requested via NAMS (see Security requirements section)

2.1.1.2 Centralized storage for forms schema (e.g. templates) and form instance data

2.1.1.2.1 Production CRX and GDS repository hosted on NAS Share (//nasprod01/eformsprod)

2.1.1.2.2 Enterprise Databases hosted on MS SQL Server Cluster with connections established between Application and DBs

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2.1.1.3 Analytics requirements

2.1.1.3.1 Pulse.nasa.gov tracks access by Center/Browser

2.1.1.3.2 NEF Audit History is available for tracking per form from the NEF site

2.1.2 Forms centralized server

Adobe Experience Manager (AEM) 6.2 (Production):

User Guide: [Link](#)

Technical Specifications: [Link](#)

Application Server: JBoss EAP 6.4.5

Database: MS SQL Server 2008

OS: Windows 2012 R2

CRX/Oak: TarMK

2.1.3 Security requirements

2.1.3.1 Client connection to Adobe Experience Manager (AEM) is facilitated via Secure-Socket-Layer (SSL) using port 443 instead of the default 8443

2.1.3.2 User authentication via Kerberos over LDAP for Workspace and other AEM Forms functionality with user accounts in the NCAD (Active Directory)

2.1.3.3 User authentication via Basic Authentication over LDAP for AdminUI (Forms Developers and Senior Forms Developers only) and Workbench

2.1.3.4 User authorization governed via NAMS Requests with specific roles granted in Production as follows:

Group	Roles:
ND-GG-13229 eForms-Forms-Developer-Prod (Forms Developers and Senior Forms Developers)	LiveCycle Workspace User Application Administrator Services User Reader Extensions Web Application
ND-GG-13229-eForms-Forms-Developer-Stg-Dev (Forms Developers and Senior Forms Developers)	LiveCycle Workspace User Services User
ND-GG-13230-eForms-Forms-Admin (Senior Forms Developers)	LiveCycle Workspace User Application Administrator Services User

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Group	Roles:
only)	<p>Reader Extensions Web Application</p> <p>Forms Manager Administrator</p> <p>Forms Administrator</p> <p>LiveCycle Workspace Administrator</p>
ND-GG-13230-eForms- LiveCycle-Admin (Server Administrators only)	<p>Administration Console User</p> <p>Application Administrator</p> <p>Correspondence Management Administrator</p> <p>Correspondence Management Application Specialist</p> <p>Correspondence Management Claim Adjustor</p> <p>Correspondence Management Developer</p> <p>Correspondence Management Form Designer</p> <p>Correspondence Management Subject Matter Expert</p> <p>Document Services Administrator</p> <p>Document Upload Application User</p> <p>Forms Administrator</p> <p>Forms Manager Administrator</p> <p>LiveCycle Workflow Process Administrator</p> <p>LiveCycle Workflow Process Developer</p> <p>LiveCycle Workspace Administrator</p> <p>LiveCycle Workspace User</p> <p>Output Administrator</p> <p>PDFG Administrator</p> <p>PDFG User</p> <p>Process Administrator</p> <p>Reader Extensions Web Application</p> <p>Resource Administrator</p> <p>Rights Management Administrator</p> <p>Rights Management End User</p> <p>Rights Management Invite User</p> <p>Rights Management Manage Invited and Local Users</p> <p>Rights Management Policy Set Administrator</p> <p>Rights Management Super Administrator</p> <p>Security Administrator</p> <p>Services User</p> <p>Super Administrator</p>

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Group	Roles:
	Trust Administrator

2.2 Information Architecture Requirements for NEF

2.2.1 Data persistence

2.2.1.1 Access to data

2.2.1.2 Centralized storage for forms metadata

2.2.1.3 Analytics requirements

2.2.2 Server specifications

2.2.3 Security Requirements

2.3 Developer System Requirements

2.3.1 Developers will need to be able to run the current version of AEM.
Please refer to the vendor website for specifics.

3.0 GENERAL REQUIREMENTS

3.1 Waiver Process

3.1.1 Forms that are not fully utilized as an electronic form (i.e. may need to be printed before filled) or developed in a format other than an adaptive form must have a waiver approved by a center forms manager.

3.1.2 Approved waivers must then go to the Agency Forms Manager for review.

3.2 Forms Architecture

3.2.1 File Format requirements

3.2.1.1 XDP as Form Template

3.2.1.2 XML or JSON Schema as Form Data Model

3.2.1.3 HTML as Adaptive Forms

3.2.1.4 PDF as Document of Record (DoR)

3.2.1.5 XFA based JS for dynamic functionality

3.2.1.6 CSS for Themes / XFS for Embedded Styles

3.2.1.7 PNG/JPG/SVG for Embedded Images

3.2.1.8 WDSL for Web Services

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- 3.2.1.9 UL for User Lists referenced in process files
- 3.2.1.10 DDX for Draft Watermarking
- 3.2.1.11 Process files for Workbench Workflows
- 3.2.1.12 OSGi Framework for AEM Workflows
- 3.2.1.13 LCA as Archive File (to migrate Workbench items)
- 3.2.1.14 ZIP as Package File (to migrate CRX items)
- 3.2.2 Mobile/Responsive forms
 - 3.2.2.1 Electronic forms shall be developed to be mobile friendly whenever feasible
- 3.2.3 Controlled vocabulary for Forms Attributes
i.e. Policy Document, Requirement Number
- 3.2.4 Integration with External Data Sources
 - 3.2.4.1 Pulling from external data sources
 - 3.2.4.1.1 Pre-population from LDAP, SharePoint
 - 3.2.4.2 Pushing to external data sources
 - 3.2.4.2.1 SharePoint, External databases
- 3.2.5 Ensuring agency conformity on forms
- 3.2.6 Security Requirements
 - 3.2.6.1 Security access requirements can differ per form and per document of record based on the form owner requirements or the information filled in the form.
- 3.2.7 Form data Identification Strategy
 - 3.2.7.1 Form instance data identifiers
i.e. Control Number, Tracking Number
- 3.3 Forms Development Process
 - 3.3.1 Forms Re-use Strategy
 - 3.3.1.1 Custom Components – Use of fragments and templates
 - 3.3.2 Iterative Design
 - 3.3.2.1 Reference Normal Developer Interactions Figure in the System Overview Section
 - 3.3.3 Change Management
 - 3.3.3.1 Form version history will be maintained to allow for rollback

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to previous versions as necessary and for audit history record.

3.3.4 Testing, Staging, and Deployment

3.3.4.1 Development shall occur on the Agency AEM Developer server.

3.3.4.2 Agency AEM Staging Server shall be used for user testing and acceptance.

3.3.4.3 Agency Production Server shall house all actively used forms and make them accessible to users.

4.0 ADAPTIVE FORM STANDARDS

4.1 Agency themes shall be utilized, to keep a consistent look and feel across the Agency and for ease of customer use.

4.1.1 Agency Themes will be designed according to NASA style guides where possible.

4.2 Agency templates shall be utilized whenever possible. This reduces time and effort by streamlining the development process. Utilization of Agency templates also helps support data consistency.

4.3 OSGI Workflows and Workbench Workflows are to be reused whenever possible.

5.0 DOCUMENT OF RECORD STANDARDS

5.1 Documents of Record shall be developed according to the standards listed in Appendix I of this document.

6.0 STANDARD NAMING CONVENTIONS

6.1 Form Names

6.1.1 Forms shall have unique forms numbers to identify them per center and per agency, as necessary.

6.1.2 Form names shall be center identifier followed by the form number.

6.1.2.1 Examples: KSC16-30, ARC826

6.2 Workbench Naming Conventions

6.2.1 Application Naming

6.2.1.1 All applications shall be created with center identifier followed by the form number or group name

6.2.1.1.1 Examples: JSC1172, KSC50-225, MSFC-Medical

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6.2.1.2 Public applications shall have the word "Public" prefixed to the application name.

6.2.1.2.1 Examples: PublicJSC1172, PublicKSC16-30, PublicMSFC-Environmental

6.2.1.3 Non-NASA Forms, if approved to be released, shall be prefixed with the current standard prefix.

6.2.1.3.1 Examples: DD250, SF120

6.2.2 Process Naming

6.2.2.1 The main form process shall be named the form number appended with the word "Process."

6.2.2.1.1 Examples: KSC16-30Process, ARC826Process

6.2.2.2 Other processes related to a form need to have the form number and related function.

6.2.2.2.1 Examples: JF111PrepareData, JF111CopyGen, JF837Lookup

6.2.3 Schema Names within Workbench

6.2.3.1 Schema names shall be the form number appended with the word "Schema."

6.2.3.2 Examples: KSC16-30Schema, ARC826Schema

6.3 Field Names

6.3.1 Fields shall be uniquely named.

6.3.2 Fields shall be named using Title Case.

6.3.3 Field names shall be understandable and make sense with regard to the caption or function of the field itself.

6.3.4 Attempts should be made to make field names universal across forms. For example, a phone number field might be named PhoneNumber across all forms containing that field.

6.3.5 Field names shall not be reserved words or use invalid Symbols.

6.3.5.1 Reserved Words: In Appendix V

6.3.5.2 Invalid/Bad symbols: hyphen (-), spaces () and period (.).

6.4 NEF Storage Repository Naming Guidelines

6.4.1 Suggested sample file naming conventions within the NEF storage repository

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6.4.1.1 Center identifier\Center identifier_Sample\Center identifier####_Sample

6.4.1.1.1 Examples:
KSC\KSC_Sample\KSC28-13_Sample.jpg,
LaRC\LaRC_Sample\LaRC78_Sample.pdf

6.4.2 Suggested artwork file naming conventions within the NEF storage repository in the artwork folder

6.4.2.1 Center identifier\Center identifier_Artwork\Center identifier####

6.4.2.1.1 Examples: KSC\KSC_Artwork\KSC42-24.zip,
GSFC\GSFC_Artwork\GSFC1254.indd

6.4.2.2 If there are multiple artwork files associated with the same form, they shall be compressed together into a zip file and the zip file uploaded.

6.4.3 Case Files for NF forms shall be stored with the naming convention NF####_Version_CaseFile_YYYYMMDD.zip in the NASA_CaseFiles folder

6.4.3.1 Date is date of form request submission

6.4.3.2 Add link to Case File when you release the form in the NEF notes field for that form.

7.0 Compliance and Usability

7.1 The agency will adhere to NASA 508 Standards

[NASA Section 508 Overview](#)

8.0 NASA ELECTRONIC FORMS (NEF) SYSTEM GUIDELINES

8.1 Minimum Required Fields

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New Form	Revised Form	Cancelled Form	Reinstated Form
<ul style="list-style-type: none"> • Visibility • Cancelled • Title • In Progress • Version • Center • Type • Number • Status • OPR • Release Date • Edition Date • Complexity • Format • Owner 	<ul style="list-style-type: none"> • Version • Edition Date • Release Date • Complexity 	<ul style="list-style-type: none"> • Cancelled • Add obsolete Date • Description (note reason for cancellation and if another form replaces it) 	<ul style="list-style-type: none"> • Cancelled • Clear Obsolete Date • Update Release Date • Complexity • Update Owner (If Applicable)

8.2 Every effort shall be made to be as thorough as possible with NEF updates, updating as many fields as pertain to the form or the action being performed in addition to the Minimum Required Fields.

8.3 The version listed for a form within the NEF should match the version number on the footer of the form.

8.4 It is recommended to add a note into the Notes field for any major changes or updates.

8.5 NF Forms shall have Managing Center set, if applicable.

8.6 Print media stored in the NEF shall have a sample file available to view.

8.6.1 Sample URL should be entered into the NEF record so that the customer can view the sample item uploaded.

9.0 FORM COMPLEXITIES

9.1 Form complexities shall be defined as described in Appendix II of this document.

10.0 REQUIREMENTS FOR ADMINISTRATIVE ADOBE SERVER ACCESS

10.1 NASA Electronic Forms Working Group meeting attendance

10.1.1 To receive and retain access to the servers, you or someone in your development group shall attend and participate in NEFWG meetings.

10.1.2 Nonattendance or participation for four months shall be considered grounds for revocation of access.

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10.2 Additional Requirements

10.2.1 Those with access shall follow all guidelines laid out in this document.

10.2.2 Failure to follow any of the requirements laid out in this document shall be grounds for revocation of access to the servers.

11.0 Best Practices and Lessons Learned

11.1 Workbench Guidelines

11.1.1 One form per application shall be maintained, except where multiple forms are part of the same process, or are “sister” forms that are always revised at the same time.

11.1.2 Application versioning shall be utilized, so that the version number on the application within Workbench matches the version number in the footer of the form itself.

11.1.3 A maximum of 50 items per application version shall be maintained.

11.1.4 Obsolete forms shall be removed from all three server environments and archived on the NEF in LifeRay to free space on the servers and to help clear the application list of applications no longer in use.

11.1.4.1 Center identifier\Center identifier_Archive\

11.1.5 DoR forms shall utilize a reader extension Workbench process whenever feasible. Otherwise, a direct linking method shall be used. Using a process is the preferred method.

11.1.6 DoR forms created with Adobe Forms Designer (previously known as LiveCycle Designer) shall be stored and maintained within the Workbench development server.

11.2 Standard Processes for regular use

11.2.1 Submit and Email to target.

11.2.2 Submit, route for approval, and E-mail to target.

11.2.3 Submit Loop for approval and E-mail to target.

11.2.4 Approval routing update Process.

12.0 DEFINITIONS AND ACRONYMS

12.1 Acronyms

12.1.1 AAO Agency Applications Office

12.1.2 AEM Adobe Experience Manager

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12.1.3	CRX	Content Repository
12.1.4	DBs	Data Bases
12.1.5	DoR	Document of Record
12.1.6	JSON	JavaScript Object Notation
12.1.7	LCA	LiveCycle Archive
12.1.8	LDAP	Lightweight Directory Access Protocol
12.1.9	MS SQL	MicroSoft Structured Query Language
12.1.10	NAMS	NASA Access Management System
12.1.11	NASA	National Aeronautics and Space Administration
12.1.12	NEF	NASA Electronic Forms
12.1.13	NEFWG	NASA Electronic Forms Working Group
12.1.14	NRRS	NASA Records Retention Schedule
12.1.15	PDF	Portable Document Format
12.1.16	OSGI	Open Service Gateway Initiative
12.1.17	QR Codes	Quick Response Code

12.2 Definitions

- 12.2.1 Adaptive Forms – Web Forms developed to work on web browsers and other devices (desktops, tablets, mobile phones etc.)
- 12.2.2 Document of Record (DoR) – Flat file containing adaptive form data to be used as an archive file of that adaptive form’s instance.
- 12.2.3 Themes – A collection of Cascading Style Sheet (CCS) IDs, classes and properties that are configured to apply constant visual styles to forms.
- 12.2.4 Global Document Storage (GDS) – A directory used to store critical LiveCycle ES2 product components and long-lived files used within a process.
- 12.2.5 Print Media – Hardcopy output on various materials requiring controlled original files and customized printing at a print shop (Tags, Signs, Labels, Envelopes, Stickers, Folders, Notebooks, etc.)

13.0 NOTES

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APPENDIX I – DOCUMENT OF RECORD STANDARDS

1.0 Font

- 1.1 Title Size: Arial, 14pt, Bold, Title Case
- 1.2 Section Titles: Arial, 10pt, Bold
- 1.3 Captions: Arial, 8pt
- 1.4 Values: Times New Roman, 10pt
- 1.5 General Text: Arial, 8pt
- 1.6 Changes to these default styles may be made on a per form basis according to customer and individual form requirements.

2.0 Form Header Information

- 2.1 Header information shall be placed on the Master page(s) $\frac{3}{4}$ inch at the top.
- 2.2 The NASA Meatball should be .75in wide, center left aligned on the Header.
 - 2.2.1 Use of the NASA Meatball or Logo will follow the NASA Style Guide.
 - 2.2.2 Use the standard Flat Meatball located on the NEFWG SharePoint.
- 2.3 NASA or Center acronym(s) should be spelled out as standard 3-4 lines
 - 2.3.1 Adjacent to the right of the NASA Meatball in ALL CAPS Arial 8pt bold
- 2.4 The title of the form should be center right aligned on the Form Header.

3.0 Margins

- 3.1 Margins around the form shall be 0.5 inches, unless it is necessary to shrink the margin based on the amount of data being captured on the form.
- 3.2 Margins shall not be less than 1.25 inches on any side.
- 3.3 Margins should be set on the Master page(s).

4.0 Borders

- 4.1 Recommended page border within the margins of the page is 0.02 inches on all sides.
- 4.2 Borders shall be no thicker than 0.02 inches.
- 4.3 Borders around fields, where present, shall be 0.0069 inches.

5.0 Form Footer Information

- 5.1 Footer information shall be placed on the Master page(s).
- 5.2 Footer information shall be no more than two lines of text, unless the form is of an especially small size.

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5.3 Center identifier, form number, revision date, and version shall be left justified and aligned to the left border of the form.

5.4 Page number and NRRS number (if present), shall be right justified and aligned to the right border of the form.

5.4.1 It is recommended that instructional pages be numbered separately from the remainder of the form to avoid confusion.

5.5 PREVIOUS EDITIONS ARE OBSOLETE and other necessary text items shall be centered, unless there is not enough room for the text to be centered.

5.5.1 If there is not enough room for the text to be centered, the text shall be put on the next line, underneath the form number and left justified and aligned to the left border of the form.

5.6 Full size form footer example

JSC Form ###A 06/13 (1.0)	PREVIOUS EDITIONS ARE OBSOLETE	NRRS ###/###X Page # of ##
---------------------------	--------------------------------	-------------------------------

5.7 Half size form footer example

JSC Form ###A 06/13 (1.0)	PREVIOUS EDITIONS ARE OBSOLETE	NRRS ###/###X Page # of ##
---------------------------	--------------------------------	-------------------------------

5.8 Form footer shall be located at the bottom of the form page, leaving at least a 0.25 inch margin between the form footer text and the end of the page. The form footer may be located above or below the 0.5 inch page border, as long as the minimum 0.25 inch margin with the end of the page is maintained.

6.0 Recommended interval for Drawing Aids in Designer

6.1 15/in X, 16/in Y or

6.2 32/in X, 32/in Y

6.3 Any changes to the Drawing Aids interval shall be made in multiples of 2.

7.0 Custom color for background shading

7.1 Gray backgrounds

7.1.1 Red: 221, Green: 221, Blue: 221 or

7.1.2 Hex: #dddddd

8.0 Input field layout

8.1 Captions shall be at the top of input fields, unless the customer or form design requires differently.

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8.2 There shall be no separating lines between captions and values of input fields.

8.3 A solid border on all sides of the field is recommended.

APPENDIX II – FORM COMPLEXITIES

1.0 Form Functionality

1.1 Basic Functionality

1.1.1 Electronic DoR Forms that include the following functionality:

- 1.1.1.1 No calculations
- 1.1.1.2 Non-Locking Signature(s)
- 1.1.1.3 No more than 10 mutually exclusive checkboxes
- 1.1.1.4 Basic email submit button
- 1.1.1.5 Attach button
- 1.1.1.6 Expanding field(s)
- 1.1.1.7 Global field(s)
- 1.1.1.8 Static table(s)

1.2 Moderate Functionality

1.2.1 Electronic DoR Forms that include the following functionality:

- 1.2.1.1 Auto increment numbering
- 1.2.1.2 Custom button(s)
- 1.2.1.3 Locking signature(s)
- 1.2.1.4 Dynamic table(s)
- 1.2.1.5 Basic math calculation(s)
- 1.2.1.6 Create basic schema from preview data
- 1.2.1.7 More than 10 mutually exclusive checkboxes

1.2.2 Adaptive forms that include the following:

- 1.2.2.1 Basic form layout without custom scripting
- 1.2.2.2 No approval steps or workflow beyond a simple submit

1.3 Low Complexity Functionality

1.3.1 Electronic DoR forms that include the following functionality:

- 1.3.1.1 User lookup(s)

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- 1.3.1.2 Dynamic visibility
- 1.3.1.3 Workbench workflow, with one approval/rejection branch, up to 8 workflow items
- 1.3.1.4 Creation of schema data without preview data
- 1.3.1.5 Use of schema data
- 1.3.1.6 Custom JavaScript function(s)/functionality
- 1.3.1.7 Import/Export of data
- 1.3.1.8 Barcodes/QR Codes
- 1.3.2 Adaptive forms that include the following:
 - 1.3.2.1 No approval steps or workflow beyond a simple submit
 - 1.3.2.2 Any of the features listed above
- 1.4 Complex Functionality
 - 1.4.1 AEM HTML5 Forms
 - 1.4.2 Electronic DoR Forms that include the following functionality:
 - 1.4.2.1 Workbench workflow, including multiple approval/rejection branches and/or more than 8 workflow items
 - 1.4.2.2 Any type of workflow that contains 8 or more steps/items that a forms developer has to setup/maintain, even if it is outside of Workbench
 - 1.4.3 Adaptive forms that include the following:
 - 1.4.3.1 Approvals and workflows with no database integration
 - 1.4.3.2 Any of the features listed above
- 1.5 Highly Complex Functionality
 - 1.5.1 Electronic DoR Forms that include the following functionality:
 - 1.5.1.1 Database integration with the intent to integrate with outside systems
 - 1.5.1.2 Form based application development which includes, but is not limited to, the following features: Form with workflow, submits to a database, database query-able from external website (an example is NF1676B)
 - 1.5.2 Adaptive forms that include the following:
 - 1.5.2.1 Approvals and workflows with database integration

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1.5.2.2 Custom AEM Web Interface

1.5.2.3 Any of the features listed above

2.0 Revision Request Type Complexities

2.1 Basic Revision

2.1.1 Addition of any Basic Functionality

2.1.2 Removal of fields without scripting/calculation(s)

2.1.3 Changing the title/text of fields without change of schema or scripting/calculation(s)

2.1.4 Rearrangement of fields in a static form (no expanding fields)

2.1.5 Change of text

2.2 Moderate Revision

2.2.1 Addition of any Moderate Functionality

2.2.2 Change to or removal of any Moderate Functionality already in the form

2.2.3 Removal of fields with scripting/calculation(s)

2.2.4 No more than 10 changes of title/text fields with change of scripting/calculation(s) and/or schema according to Moderate Functionality requirements

2.2.5 Rearrangement of fields in a dynamic form that allows for expanding fields.

2.2.6 Removal of expanding fields

2.3 Low Complexity Revision

2.3.1 Addition of any Low Complexity Functionality

2.3.2 Change to or removal of any Low Complexity Functionality already in the form

2.3.3 More than 10 changes of title/text of fields with change of scripting/calculation(s) and/or schema

2.4 Complex Revision

2.4.1 Addition of any Complex Functionality

2.4.2 Change to more than four workflow steps/items that a forms developer has to setup/maintain, even if it is outside of workbench

2.5 Highly Complex Revision

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2.5.1 Addition of any Highly Complex Functionality

2.5.2 Change to or removal of any Highly Complex Functionality

APPENDIX III – SOFTWARE TECHNOLOGY USED

Adobe AEM

Adobe Form Designer

Adobe Workbench

APPENDIX IV – USEFUL LINKS

[Onboarding Document](#)

[Simple Process Creation](#)

[Public Form Submission](#)

[Complex Process Creation](#)

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APPENDIX V – RESERVED WORDS

abstract	double	implements	onerror	select
alert	element	import	onfocus	self
all	elements	in	onkeydown	setInterval
anchor	else	Infinity	onkeypress	setTimeout
anchors	embed	innerHeight	onkeyup	short
area	embeds	innerWidth	onload	static
arguments	encodeURIComponent	instanceof	onmousedown	status
Array	encodeURIComponent	int	onmouseover	String
assign	enum	interface	onmouseup	submit
blur	escape	isFinite	onsubmit	super
boolean	eval	isNaN	open	switch
break	eval	isPrototypeOf	opener	synchronized
button	event	java	option	taint
byte	export	JavaArray	outerHeight	text
case	extends	javaClass	outerWidth	textarea
catch	FALSE	JavaScript	package	this
char	fileUpload	JavaScriptPackage	packages	throw
checkbox	final	layer	pageXOffset	throws
class	finally	layers	pageYOffset	top
clearInterval	float	length	parent	toString
clearTimeout	focus	let	parseFloat	transient
clientInformation	for	link	parseInt	TRUE
close	form	location	password	try
closed	forms	long	pkcs11	typeof
confirm	frame	Math	plugin	undefined
const	frameRate	mimeTypes	private	unescape
constructor	frames	name	prompt	untaint
continue	function	NaN	propertyIsEnum	valueOf
crypto	function	native	protected	var
Date	getClass	navigate	prototype	void
debugger	goto	navigator	public	volatile
decodeURI	hasOwnProperty	new	radio	while
decodeURIComponent	h	null	reset	window
default	hidden	Number	return	with
defaultStatus	history	Object	screenX	x
delete	if	offscreenBuffering	screenY	y
do	image	onblur	scroll	yield
document	images	onclick	secure	z