

ATC Scripts and Automatic Workflow



This technical white paper is designed for Spitfire Project Management System users. This paper describes the ATC script commands that can be used for automatic workflow within Spitfire's routing.

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Introduction

This technical white paper describes the ATC script commands that can be used for automatic workflow within the Spitfire Project Management System (sfPMS).

This technical white paper assumes you have a basic understanding of sfPMS in general and routing in specific. If you do not, we suggest you read other documentation, such as the [Overview Guide](#), the [Focus on Document and Item Basics](#) guide, and the [Focus on Routes](#) guide before you read this technical white paper. In addition, managers who want to use ATC scripts in predefined routes should read the [Focus on the Manage Dashboard](#) guide.

Documentation referred to within this technical white paper can be found on the Spitfire Help menu.

The screenshot shows the Spitfire Project Management System interface. At the top right, there is a navigation bar with 'Chris Demo', a dropdown arrow, a 'Help' button (circled in red), and 'Home'. Below this is an 'INBOX' table with columns 'DocNo', 'Type', and 'Proj'. The table contains several rows of budget items. Below the inbox is a 'PROJECT LIST' table with columns 'Completion', 'Description', and 'Loc'. A 'Help Browser' window is open over the project list, displaying a 'Make a selection:' menu. The menu items include: Knowledge Base, KB About Home Dashboard, Tutorial for Home Dashboard, Overview Guide (highlighted), Focus Guides (expanded), Document and Item Basics, Files and Catalog, Routing, Alerts and Compliance, Batch Processing, BFA Workbook, Budgets and Period Distribution, Contacts, Doc Templates, Doc Types and Project Workflow, Forecast and Analysis, Manage Dashboard, SOV Billing, System Administration, Refresh Guide List, White Papers (highlighted), Spitfire Online, SpitfireManagement.com, and Blogs.

Note: sections and chapters that are new or changed from the V4.3 documentation appear with **green headers** and an *.

Concepts

sfPMS uses special ATC commands within workflow scripts as a means to tell the system to do specific things at specific times. By creating ATC workflow scripts, you can set up automatic workflow to run at specific times, for a specific document, or for certain documents that use predefined routes.

Workflow refers to the set of relationships between all the activities in a project, from start to finish. These activities are tracked by various Doc types, some of which trigger new activities during the course of their routing or when they are saved or their status changes to Pending, Approved or Closed.

Automatic workflows can include simple scripts to alter the workflow and even create new documents. For example, you might want a Project Setup document to use automatic workflow to create one or more Punchlist documents, each routed to the correct person. Or you might want your Pay Request document to create next month's Pay Request with instructions not to send it to the appropriate person until three or four days before it is due.

Automatic workflows are started in one of two ways:

- 1) **When a document condition triggers a workflow script according to a event established in the Workflow Script tool;**
- 2) When a Spitfire document is routed to a special built-in user called **Spitfire**. The basic concept is that you can route something to "Spitfire" and set a due date. When that due date is reached, "Spitfire" will send the document to the next sequence in the route, continuing the workflow. You can even use "Spitfire" as the routee more than once in a route, as [in the example](#) on page 37.

Permissions*

TIP

For more information about role capabilities, see the [Designing User Roles](#) technical white paper.

We recommend that most, if not all, workflow scripts be created and managed through the Workflow Scripts tool, found on the System Admin Dashboard. You must have the **SYS | Global Access** role capability or the **PAGE | System Admin Dashboard** and **PART | Maintain Workflow Script Library** role capabilities to access this tool.

In order to create the actual workflow scripts, whether on the Workflow Scripts tool, the Routes tool (on the Manage Dashboard) or a document's route, you must have the **DOC | Can edit workflow** role capability.

Workflow Scripts Tool*

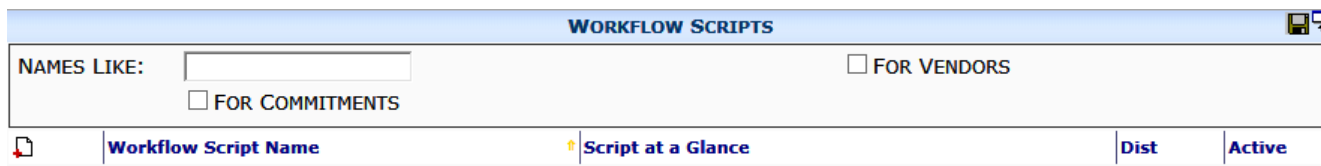
The Workflow Scripts tool on the System Admin Dashboard organizes ATC scripts to be used in automatic workflow in the system. Scripts added through this tool are considered part of a workflow script library.

After Setup

Once workflow scripts have been added to the workflow script library, they can be called through predefined routes or manually entered routes on a document. The scripts can also be triggered by certain actions (saving, changing the document status) on a document if these events have been established.

Workflow Scripts Part

When you select the Workflow Scripts tool on the System Admin Dashboard, the Workflow Scripts part appears:



Columns

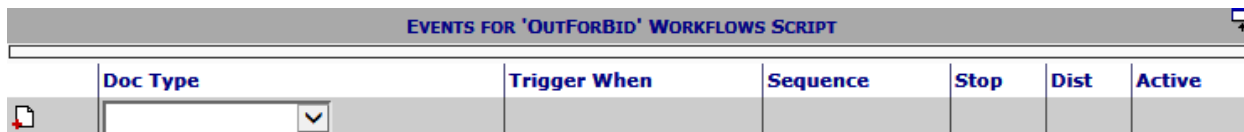
- **Workflow Script Name:** a name for your script.
- **Script at a Glance:** the beginning of the script.
- **Dist:** whether () or not () the script is distributed by Spitfire.
- **Active:** whether () or not () the script is currently active.

Filters

- **For Vendors:** Click the checkbox to show only scripts that are for Vendor documents.
- **For Commitments:** Click the checkbox to show only scripts that are for Commitment documents.

Events for Workflow Script

When you expand a workflow script, its Events for Workflow Script part appears. **Note:** events are not required for workflow scripts.






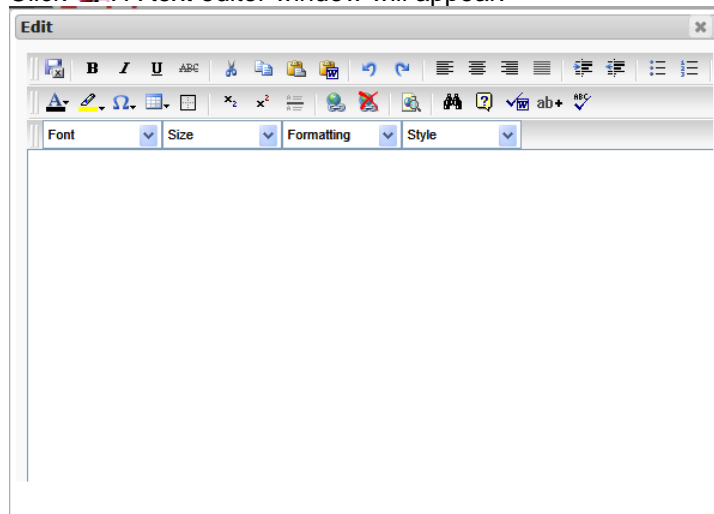
Columns



- **Doc Type** (required): the document type to trigger the workflow script when the indicated event occurs.
- **Trigger When:** the event that will trigger the workflow script.
- **Sequence:** a number indicating the order that events should be performed.
- **Stop:** whether () or not () sfPMS should stop performing other matching events with higher sequences for that Doc type.
- **Dist:** whether () or not () the script event mapping is distributed by Spitfire.
- **Active:** whether () or not () the script is currently active.

Adding a Workflow Script

To create a new workflow script:

1. Click  at the Workflow Scripts tool.
2. Enter a unique name in the **Workflow Script Name** field.
Note: we recommend you not include spaces in the name.
3. Click to accept the row.
4. Click  to save your changes.
5. Click . A text editor window will appear:





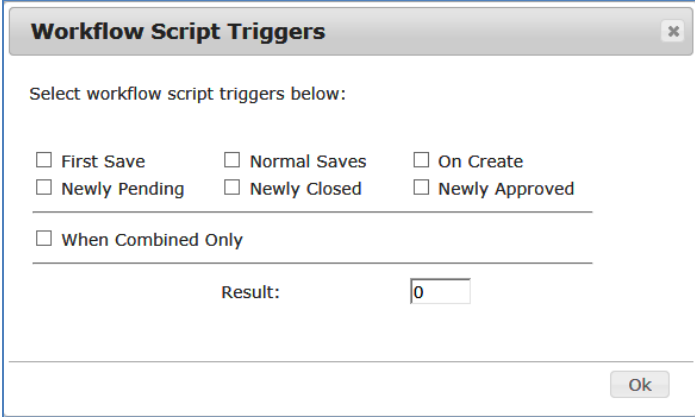
6. Type your workflow script. (See [ATC Commands](#) on page 15.)
7. Click  to save the script and close the window.
8. Click  to save your changes.

Adding a Script Event




The workflow script library can include both scripts that are included in a document's route (and need no further setup) and scripts that are triggered by document events. If you want a script to be triggered by an event, you must indicate the event in the Events for Workflow Script part.

To associate an event with a workflow script:

1. Click  at the script row. The Events for Workflow Script part will appear.
2. Select a **Doc type** from the drop-down.
3. Click  to add a new event row.
4. Click in the **Trigger When** field. A Workflow Script Triggers window will pop up.














5. Click on the triggers you want to set up for your workflow script. You can choose one or more of the following:
 - **First Save:** the script will run when the document is first saved.
 - **Normal Saves:** the script will run every time the document is saved.
 - **On Create:** the script will run when the document is first started.
 - **Newly Pending:** the script will run when the document status changes to any Pending status.
 - **Newly Closed:** the script will run when the document status changes to any Closed status.
 - **Newly Approved:** the script will run when the document status changes to any Approved status.
 - **When Combined Only:** the script will run only when the selected triggers both occur. For example, if you select **Newly Closed** and **Newly Approved** and **When Combined Only**, the script will run only when a document status is both Approved and Closed.

6. Click . A number representing your choice will appear in the **Trigger When** field.
7. (optional) It is possible to have different scripts be triggered by the same event on a document. In those situations, the events are triggered in the Sequence order. If you want to change the order in which this event will be triggered, change the **Sequence** number.
8. (optional) If you want the system to stop running triggered scripts after an event has triggered this script, click on the **Stop** checkbox to check it.
9. Click  to accept the row.
10. Click  to save your changes.

Example

Let's say you want to set up three workflow scripts, two of which will be triggered by events, and one to be called as needed.









WORKFLOW SCRIPTS 				
NAMES LIKE: <input type="text"/>		<input type="checkbox"/> FOR VENDORS		
<input type="checkbox"/> FOR COMMITMENTS				
	Workflow Script Name	Script at a Glance	Dist	Active
  	<input type="text" value="NewBidPackages"/>	ATC: SET Subtype = POATC: SET...	X	<input checked="" type="checkbox"/>
  	<input type="text" value="OutForBid"/>	ATC: STATUS 0	X	<input checked="" type="checkbox"/>
  	<input type="text" value="WhenClosed"/>	ATC: ALERT [Chris Demo] TITLE ...	X	<input checked="" type="checkbox"/>

First Script

The first script, called **NewBidPackages**, sets the document's subtype to Purchase Order and fills in the Submit To field on the document with the "From User" name:

```
ATC: SET Subtype = PO
ATC: SET DocRevision.NoteA = [DocHeader_FromUser]
```

This script will be triggered by an event, specifically when a new Bid Package is first started:

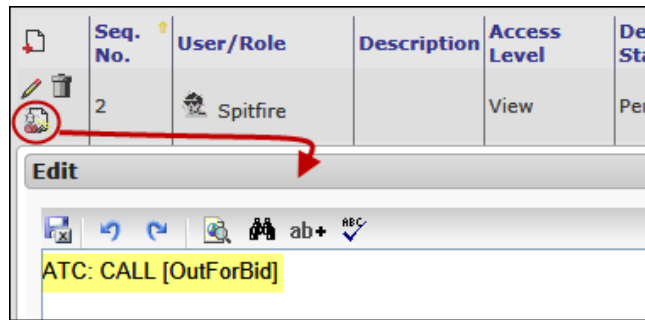
	Workflow Script Name	Script at a Glance		
  	<input type="text" value="NewBidPackages"/>	ATC: SET Subtype = POATC: SET...		
EVENTS FOR 'NEWBIDPACKAGES' WORKFLOWS SCRIPT				
 	Doc Type	Trigger When	Sequence	Stop
 	Bid Package	On create only;	20	<input checked="" type="checkbox"/>

Second Script

The second script, called **OutForBid**, sets the document's status to Out For Bid.

ATC: STATUS 0

This script has no events associated with it. It is meant to be called as needed through another workflow script, such as one in a predefined route ([see page 13](#)).



Third Script

The third script, called **When Closed**, sends a specified Alert to Chris Demo when the document's status is Closed.

ATC: ALERT [Chris Demo] TITLE Document Closed; For your information, this document has been closed.

This script has an event for two different Doc types associated with it. When either an RFI or Issue document changes its status to Closed, the script will be triggered.

	Workflow Script Name	Script at a Glance	
	WhenClosed	ATC: ALERT [Chris Demo] TITLE ...	
EVENTS FOR 'WHENCLOSED' WORKFLOWS SCRIPT			
	Doc Type	Trigger When	Sequence
	RFI	Closed;	30
	Issue	Closed;	40


Workflow Script Creation

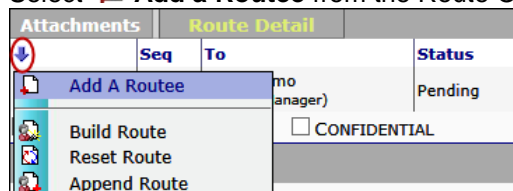
As mentioned in the previous chapter, workflow scripts can be created within the Workflow Scripts tool. However, workflow scripts can also be created by individuals who have permission to create new documents and by individuals who have permission to create predefined routes.

On a Document

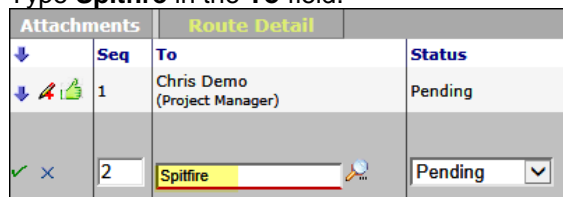
Workflow scripts on a document apply only to that document. For this reason, we recommend you set up workflow scripts in a predefined route (as described in the next section) or—even better—through the Workflow Scripts tool whenever possible so that the script can apply to many documents.

To create workflow for a document:


1. Create or open a document of the desired type from the Project Dashboard.
2. Click on the Route Detail tab.
3. Select  **Add a Routee** from the Route Options menu.

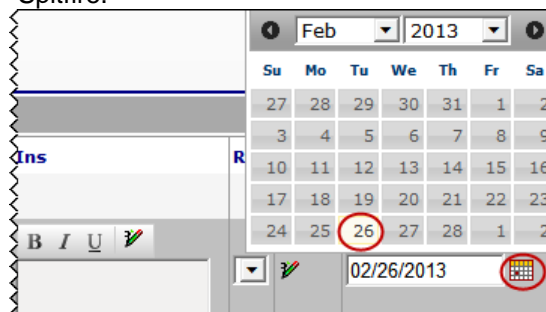



4. Type **Spitfire** in the **To** field.















Note: **Spitfire** is not available through the Lookup feature; you need to type it in. However, once you start typing Spitfire, it will appear in the auto-fill choices.

5. In the **Due** field, click  to open the calendar then select a due date for when the workflow should start. If no date is indicated, the workflow script will start as soon as the document is routed to "Spitfire."









6. Click ✓ to accept the row.
7. Select  **Create Workflow** from the row's Options menu.

Attachments	Route Detail		
	Seq	To	Status
	1	Chris Demo (Project Manager)	Pending
 	2	Spitfire	Pending



	Edit Note		
	Transmittal		DENTIAL
	Collaborator		
	Subscribed to Alerts		
	E-mail "From"		
	Route Via		
	Added by Chris Demo		
	Viewed (never)		
	Create Workflow		

A pop-up editor window will appear:

Edit

     ab + 

ATC:

8. Type your workflow script. (See [ATC Commands](#) on page 15.)
9. Click  to save the script and close the window.
10. Back on your document, click  to save your changes.


On a Predefined Route

TIP

For more information about predefined routes, see the Routes chapter in the [Focus on the Manage Dashboard](#) guide.

If you add one or more workflow scripts to a predefined route, those workflow commands will be added to all documents that acquire the predefined route.

To create a workflow in a predefined route:

1. Create or open a route from the Route List on the Manage Dashboard.
2. In the **Details for Selected Route** section, click  to add a routee row.
3. If necessary, change the **Seq. No.** to reflect where you want the workflow to begin in your routing sequence. (For example, if John Doe is Seq. 2 and Mary Smith is Seq. 3 and you want the workflow to be triggered after John routes the document but before Mary gets the document, enter 3 in the Seq. No. field for your workflow and then change Mary's Seq. No. to 4.)

- Type **Spitfire** in the User/Role field.

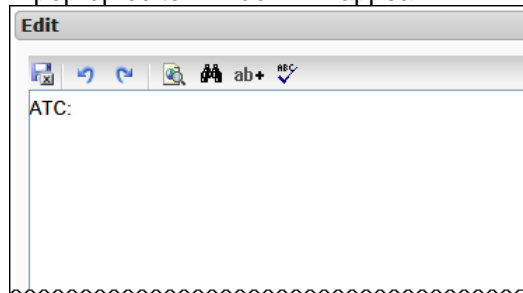


Note: **Spitfire** is not available through the Lookup feature; you need to type it in. However, once you start typing Spitfire, it will appear in the auto-fill choices.

- Keep the **Default Status** field as **Pending** or choose **CC'd** from the drop-down menu. Other statuses are invalid for "Spitfire."
- (*optional*) You can enter information in the **Description** and **Default Note** fields or leave them blank. sfPMS ignores the other fields."
- Click to accept the row.
- Click .

DETAILS					
STATUS: <input type="checkbox"/> Destination					
	Seq. No. ▲	User/Role	Description	Access Level	Default Status
	2	Accounting	To the accountant	Collaborate	Pending
	3	Spitfire		View	Pending

A pop-up editor window will appear:



- Type your workflow script. (See [ATC Commands](#) on page 15.)
- Click to save the script and close the window.
- Back on the Routes tool, click to save your changes.

TIP

The Compliance Types tool also uses automatic workflow. For more information, see the Compliance Types chapter in the [Focus on System Administration](#) guide.

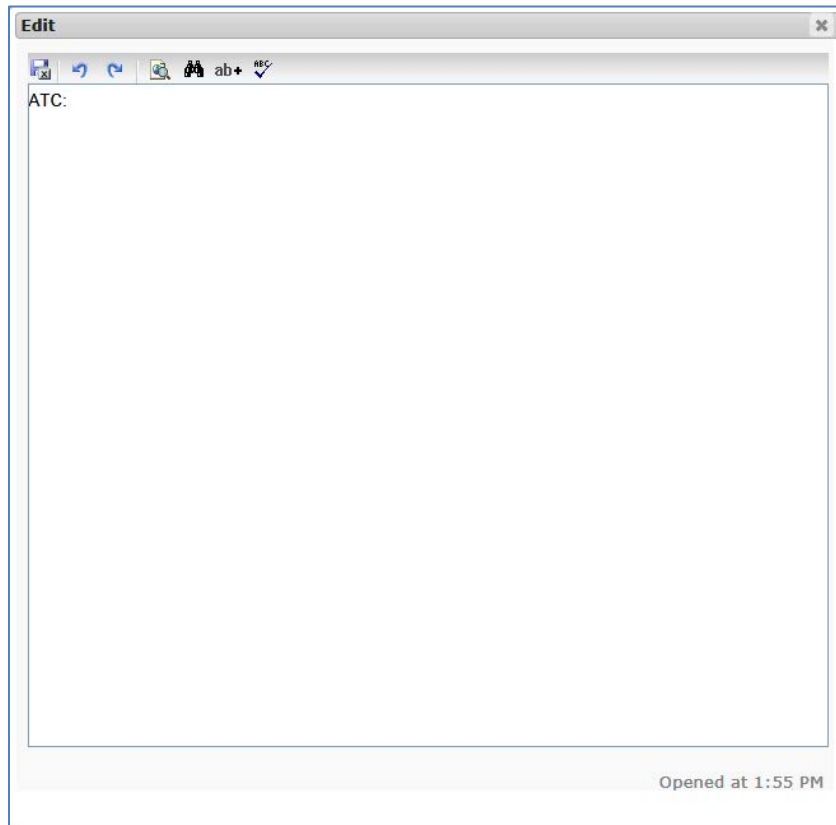
ATC Commands

TIP

Although ATC: commands in all caps in this document, only ATC: needs to be capitalized. The rest of the command can be in lower case. For example, **ATC: close** is valid. Document and route names are case-sensitive, however.

The ATC scripting language is a set of English directives. A script command can span multiple lines. Each script begins in the context of the source document with which the script is associated.

Each command begins with the letters ATC followed by a colon. When you open the popEdit window, the first ATC: may already be there:



Note: unless changed through a command, the document that starts the workflow is considered the current (source) document.

The script commands are described on the following pages.

Action Commands

ATC: ADDR

TIP

AddrType codes can be viewed and edited through the Code Maintenance tool on the System Admin Dashboard. See the [Focus on System Administration](#) guide.

TIP

For more information about the [Workflow Script tool](#), see page 7.

This command sets the target address in the target document based on the specified source address type in the source document.

The generic form of the command is

ATC: ADDR *target addr type* *source addr type*

- ***target addr type*** is required. Only single letters defined in the AddrType code (such as T, F, S) are allowed.
- ***source addr type*** is required, however, only one of the following options can be used at a time.
 - * copies the same address type from the source to the target document.
 - **GUID** indicates a GUID for a specific contact.
 - **[template bookmark that resolves to a GUID]** indicates a bookmark that points to a specific contact. The square brackets are required.
 - **addr type** can be either a single letter as defined in the AddrType code or any team address alias as used in bookmarks (see “From the Project Team Contacts” in the [Focus on Bookmark Templates](#) guide.)
Note: team address aliases will not work for workflow scripts that are triggered on “create” or “first save”.

Examples

```
ATC: ADDR F *
```

The above example means “set the From address in the target document to match the From address in the source document.”

```
ATC: ADDR S T
```

The above example means “set the Site address type in the target document to match the To address on the source document”

```
ATC: ADDR T [DKEY_DocHeader_ResponsibleParty]
```

The above example means “set the To address in the document to match the address of the person who is the document’s responsible party.”

ATC: ALERT*

This command sends an alert with free-form text to a specified user.

The generic form of the command is

ATC: ALERT [user] TITLE *title*; *free-form text*

- **[user]** is required. It specifies the person to receive the alert. Square brackets are required. The alert recipient can be identified by login user ID, email address, user key, or the full name as entered in your system.
- **TITLE *title*;** is optional but requires the semicolon. If no title is specified for the Alert, the default title of **Workflow Alert** will be used.
- ***free-form text*** is optional, but the Alert will be blank without text, so should be specified.

Example

```
ATC: ALERT [Chris Demo] TITLE Document Closed;
    For your information, this document has been closed.
```

The above example means “create an Alert with the title ‘Document Closed’ and containing the message ‘For your information, this document has been closed.’ and send the Alert to Chris Demo.”

ATC: ATTACH

This command attaches files from the source document to the target document.

The generic form of the command is

ATC: ATTACH MATCHING *pattern*

- ***pattern*** is required. It can include one or two wildcards (%) at the beginning and/or end, along with a case-sensitive filename.

Examples

```
ATC: ATTACH %.pdf
```

The above example means “attach all PDF Attachment files on the source document to the target document.”

```
ATC: ATTACH %Notification%
```

The above example means “attach all Attachment files that contain the word **Notification** on the source document to the target document.”

ATC: ATTACH FILE

This command attaches a file from the Spitfire Catalog to a document being created or modified by the workflow script.

The generic form of the command is

ATC: ATTACH FILE [*full filename*] **COMMENT** *text*

- **full filename** is required. It specifies the full catalog path and filename for the file. The full filename must be within square brackets.
- **COMMENT text** is optional. This text will appear as a note on the Attachment grid.

Example

```
ATC: ATTACH FILE [/Compliance Forms/W9.pdf]
COMMENT blank W9 form to be completed and returned
```

The above example means “attach the W9.PDF file that is found on the Compliance Forms folder in the Catalog to the document and add the note ‘blank W9 form to be completed and returned’ to the grid on the Attachment tab.”

ATC: BOOKMARK SOURCE

This command sets either the source document or a new document as the reference for future bookmark evaluations in upcoming ATC commands. The default is the source document.

The generic form of the command is

ATC: BOOKMARKSOURCE *option*

- **option** is required; however, only one of the following options can be used at a time.
 - **SOURCE** selects the source document that opened the workflow script as the current document.
 - **NEW** selects the new document as the current document.

Example

```
ATC: BOOKMARKSOURCE NEW
```

The above example means “set future bookmarks (in the following ATC commands) to reference the document most recently created.”

ATC: CATCH*

This command prevents the script from failing when non-critical situations (such as “file not found”) arise. By default, an alert is still sent.

The generic form of the command is

ATC: CATCH FOR *nnn* *Target*

- **FOR *nnn*** is optional. It specifies the number of lines in the script to monitor for non-critical situations. The default is **1**. The maximum is 65536.
- ***Target*** is required; however, only one of the following options can be used at a time.
 - **TO *who*** indicates the specified user or contact to whom the alert should be sent. The alert recipient can be identified by login user ID, email address, user key, or the full name as entered in your system.
 - **SILENTLY** sets the alert recipient to no one and no alert is generated.

TIP

Text in regular caps (e.g., ATC: COPY) is to be typed as shown; text in italics (e.g., *doctype*) needs to be replaced by whatever is described.

Example

```
ATC: CATCH FOR 20 TO support@spitfiremanagement.com
```

The above example means “during the next 20 lines in the script, if a non-critical situation arises, send an alert to support@spitfiremanagement.com.”

ATC: CLOSE

This command sets the closed date on the current document to today. This effectively closes the document, regardless of status.

Example

```
ATC: CLOSE
```

ATC: COPY

This command creates a new document using an existing document as a template. After this command, the new document is selected as the current document.

The generic form of the command is

ATC: COPY [*doctype*] *project docno supplemental*; *WITH option*

- **[doctype]** is optional. It specifies the source Doc type by name or internal key. Doc type names must be within square brackets and are case-sensitive, for example, [Meeting Min]. If you don't include a *doctype*, the Doc type of the current document is assumed.
- **project** is required. It specifies the Project ID. You can use an * to specify the same project as the current document.
- **docno** is required. It specifies the source document number of the document that is to be copied. Alternatively, if you want to create a new document not from a template, type the word **NEW** instead or, if you want to copy the current document, type =.
- **supplemental** is optional and rarely used. It specifies either a batch number or the contract ID.
- ; (semicolon) is required.
- **WITH option** is optional. There are several *options* that can be used singularly or together.
 - **DUE *n*** specifies the number of days in which the new document is due; the default of this option if not specified is to use the value set up by the System Administrator.
 - **ATTACHMENTS** copies the attachments on the template to the new document.
 - **LINK** links the new document to the source document (as an additional attachment).
 - **AUTOACCEPTED** specifies that the creator of the document (always copied from the current document) at Seq. 1 should be recorded as having accepted the route so the document is sent on to Seq. 2 immediately.
 - **ITEMS** copies the Items on the template to the new document.
Note: if ITEMS is used, neither ITEMFILTER nor CURRENTITEM can be used.
 - **ITEMFILTER *filterexpression*** copies the Items on the template that match the *filterexpression* to the new document. See [Appendix A](#) on page 40 for more information about *filterexpression*.
Note: if ITEMFILTER is used, neither ITEMS nor CURRENTITEM can be used.
 - **CURRENTITEM** limits the Item copied from the template to the one matching the current iteration of the [ATC: FOREACH](#) command (see page 36).

Note: if CURRENTITEM is used, neither ITEMS nor ITEMFILTER can be used.

- **ROUTE *routelist*;**
The ROUTE option specifies the routing for the new document; the default is to apply standard routing rules. The *routelist* can contain any of the following, but at least one element is required.
 - **PER SOURCE** is optional, but if used, must begin the route-list. This option copies the routing from the template document. You can also specify * or = as shorthand for this option.
 - **AUTO** is optional. This option selects the route based upon standard routing rules.
 - ***routename*** is optional. This option specifies a route name. Multiple route names can be separated by commas.
 - **;** (semicolon) is required to end the route-list clause.

Examples

ATC: COPY * =; WITH ATTACHMENTS

The above example means “create a document identical to the current document in the current project, including attachments.”

ATC: COPY [Pay Request] * NEW

The above example means “create a new Pay Request document for the same project as the source document. Create the document as new, not from a template.”

ATC: COPY [Submittal] GC12400 2; WITH ROUTE
PER SOURCE APVouch1;

The above example means “create a new Submittal document using the template from document number 2 in project GC12400. Route the document according to the automated route APVouch1 from the source document.”

ATC: COPY [Meeting Min] GC12300 7; WITH
ATTACHMENTS ITEMS LINK DUE 99
AUTOACCEPTED

The above example means “create a new Meeting Minutes document using the template from document number 7 in project GC12300. Include attachments and items from the source document and link the new document to the template as an attachment. The new document is due in 99 days. Send this new document on to the routee in Seq. 2 immediately.”

ATC: DUE

This command sets the document due date or optionally, sets it to a specific day of the month.

The generic form of the command is

ATC: DUE *n* DAY *nth*

- ***n*** is required. It indicates the number of days to add or subtract to the current due date for the document. Use the minus sign (–) to indicate number of days to subtract and use 0 to leave the due date as is.
- **DAY *nth*** is optional. It indicates that the due date should be changed to the *nth* day of the month, advancing to the next month if needed. sPMS figures out which month by first calculating the DUE *n* date and then the DAY *nth* day.

Examples:

ATC: DUE -2

The above example means “change the due date to be two days earlier.”

ATC: DUE 6 DAY 5

The above example means “change the due date to be 6 days later, then change the due date to the 5th of the month, moving to the next month if necessary.” For example, if the due date is originally Oct. 1 then this command will first change it to Oct. 7 then, using that starting point, change the due date to the 5th of the next month: Nov. 5.

ATC: ERRORIF

This command ends the workflow script if conditions are met (i.e., an error is detected) and sends an Alert. This is a useful way to have the remainder of the script be ignored if there is a “problem.”

The generic form of the command is

ATC: ERRORIF *option*

- **option** is required. There are several options but you can use only one at a time.
 - **CLOSED** ends the script if the document is closed.
 - **STAGE *stagenumber*** indicates the routing stage at which the workflow script should end. If no number is included, 2 is used by default.
 - **NOSEQ *n*** ends the script if there are no routees in Seq *n*. You can use * instead of *n* to indicate “next Seq.”
 - **HASSEQ *n*** ends the script if there is a routee in Seq *n*. You can use * instead of *n* to indicate “next Seq.”
 - **DOCEXISTS *doctype project docno supplemental***; ends the script if the specified document exists.
 - **NODOC *doctype project docno supplemental***; ends the script if the specified document does not exist.

TIP

See page 20 for an explanation of [doctype](#), [project](#), [docno](#) and [supplemental](#).

Examples

```
ATC: ERRORIF CLOSED
```

The above example means “if the document has been closed through a closing document status, end the workflow script and send an Alert.”

```
ATC: ERRORIF NOSEQ 2
```

The above example means “if there is no routee in Seq #2, end this workflow script and send an Alert.”

```
ATC: ERRORIF NODOC [PERMIT] ZZ000 01;
```

The above example means “if there is no Permit document with a Doc No. of 01 in project ZZ000, end this workflow script and send an Alert.”

ATC: EXIT

This command ends the workflow script if conditions are met. This is a useful way to have the remainder of the script be ignored if the document is “sent back” or “rejected.”

The generic form of the command is

ATC: EXIT *option*

- **option** is required. There are several options but you can use only one at a time.
 - **CLOSED** ends the script if the document is closed.
 - **STAGE *stagenumber*** indicates the routing stage at which the workflow script should end. If no number is included, 2 is used by default.
 - **NOSEQ *n*** ends the script if there are no routees in Seq *n*. You can use * instead of *n* to indicate “next Seq.”
 - **HASSEQ *n*** ends the script if there is a routee in Seq *n*. You can use * instead of *n* to indicate “next Seq.”
 - **DOEXISTS *doctype project docno supplemental***; ends the script if the specified document exists.
 - **NODOC *doctype project docno supplemental***; ends the script if the specified document does not exist.

Examples

ATC: EXIT STAGE 3

The above example means “if the document has been routed back to a previous routee multiple times and is, therefore, currently in stage 3 (or greater) of the route, end the script.”

ATC: EXIT NOSEQ *

The above example means “if there is no routee in the next Seq, end the workflow script.”

ATC: ITEM DUE*

This command sets the Item Due date for a document Item.

The generic form of the command is

ATC: ITEM DUE *item option*

- **item** is required. It specifies the Item that will have the due date. You can specify the Item in one of three ways.
 - @ references the current Item in a [FOREACH loop](#) (see page 36).
 - **Itemnumber** is the exact Item number. If the Item does not exist, an error will occur.
 - **LIKE itemnumber-pattern** indicates Items that match the pattern specified. Use * as a wildcard in your pattern. **Note:** LIKE can be used with an exact Item number to avoid an error when the Item is missing.
- **option** is required. There are several options, some of which can be combined.
 - **DUE n** sets the Item due date based on the document due date plus or minus *n*. If no number is specified, the document due date is used.
 - **n** can include decimals and a plus or minus sign; for example, DUE -3.5 means 3 and a half days before the document due date.
 - **NOW n** sets the Item due date based on the current date plus or minus *n*. NOW without *n* means “right away.”
 - **n** can include decimals and a plus or minus sign; for example, NOW 1.5 means 1 and a half days from now.
 - **DAY nth** indicates that the Item due date should be changed to the *nth* day of the month, advancing to the next month if needed. sfPMS figures out which month by first calculating the DUE *n* or NOW *n* date and then the DAY *nth* day.
 - **AT hour** indicates the exact hour (time) for the Item to be due. AT must be used with DUE, NOW or DAY.
 - **hour** is expressed in the 24-clock and can include decimals; for example, AT 15.5 means 3:30 PM.

Examples

```
ATC:ITEMDUE @ DUE -5
```

The above example means “set the due date for each Item to be 5 days before the document due date.”

```
ATC:ITEMDUE 0001 DAY 15 AT 17
```

The above example means “set the due date for Item 0001 to be the next 15th of the month at 5:00 PM.”

```
ATC: ITEM DUE LIKE 0* NOW 5
ATC: ITEM DUE LIKE 0001-001 NOW 1
```

The above example means “set the due date for all Items beginning with 0 to 5 days from now then set the due date for Item 0001-001 to 1 day from now.”

ATC: RELEASE

This command immediately releases (sends on to the next routee) another document that is currently routed to Spitfire.

The generic form of the command is

ATC: RELEASE *option*

- ***option*** is optional. There are several options but you can use only one at a time.
 - **ALL** releases all documents of the same type and project.
 - **NEXT** releases the document with the lowest DocNo of the same type and project.
 - ***docno*** releases the document with the specified DocNo of the same type and project.
 - **TO *docno*** releases the document of the same type and project with a DocNo less than or equal to the specified DocNo.

Examples

```
ATC: RELEASE NEXT
```

The example above means “send the document with the lowest document number of the same type and project as the source document on to the next routee.”

ATC: RELEASE TO 15

The example above means “send the document of the same type and project as the source document that has a document number less than or equal to 15 on to the next routee.”

ATC: ROUTE

This command alters the route of the current document.

The generic form of the command is

ATC: ROUTE *routelist*; *option*

- **routelist** is required. It specifies the routing to be applied to the document. The *routelist* can contain any of the following, but at least one element is required and multiple elements must be separated by commas.
 - * is optional, but if used, must begin the route-list. This option preserves the existing routing on the document (which may have come from the template document).
 - **AUTO** is optional. This option selects the route based upon standard routing rules.
 - **routename** is optional. This option specifies a route name. Multiple route names can be separated by commas.
 - ; (semicolon) is required to end the route-list clause.
- **option** is optional. You can use these options together.
 - **AUTOACCEPTED** specifies that the routee at Seq. 1 should be recorded as having accepted his/her route so the document is sent on to Seq. 2 immediately.
 - **AUTOSAVE** causes the current document to be saved with its new route (otherwise an ATC: SAVE command is required).
 - **FROM** *from option* makes the target document be “from” a specified person by replacing Seq. 1 in the Route Detail. The *from option* can be any of the following:
 - **FIRST** makes Seq. 2 of the resolved route replace Seq. 1 (removing the default creator).
 - **FINAL** sets Seq. 1 to match the last routee in the resolved route.
 - **n** sets Seq. 1 to match the first routee in the resolved route at the specified sequence.

TIP

Because FIRST replaces Seq 1 with Seq 2 (moving Seq 2 up), Seq 2 is the route that is AutoAccepted if that option is also specified. If you do not wish the route to move up, use FROM 2 instead because this will copy the route instead of move the route up.

Examples

```
ATC: ROUTE AUTO; AUTOSAVE
```

The example above means “select a route based upon standard routing rules and save the current document with this route.”

```
ATC: ROUTE *, InvScan; AUTOACCEPTED
```

The example above means “keep the current routing on the document, append the automated route InvScan, then accept the route and send the document on to the routee in Seq. 2.”

```
ATC: ROUTE AUTO; FROM 2 AUTOACCEPTED
```

The example above means “select a route based upon standard routing rules, make Seq. 1 equal to the first routee in Seq. 2, then accept the route for Seq. 1 and send the document on to the routee in Seq. 2 (which in this case, will be the same person.)”

ATC: SAVE

This command saves the current document.

Example

```
ATC: SAVE
```

ATC: SELECT

This command selects either the source document or the new document as the current document. Most commands affect the current document.

The generic form of the command is

ATC: SELECT *option*

- **option** is required; however, only one of the following options can be used at a time.
 - **SOURCE** selects the source document that opened the workflow script as the current document.
 - **NEW** selects the new document as the current document.

Example:

```
ATC: COPY * NEW;
ATC: SELECT NEW
```

The above example means “create a new document of the same Doc type of the current document and in the same project, then make the new document the current document.”

ATC: SEQ

This command allows the due date for routees to be set. It does not work with individual routees, but rather with all routees at a given sequence. You can base the route due date on either the current date or the document due date. It would therefore make sense to set the document due date first ([ATC: DUE](#)).

The generic form of the command is

ATC: SEQ *s option n AT h*

- **s** is required. It indicates the sequence number to be affected. You can use * to mean “next Seq.”
 - **option** is required; however, only one of the following options can be used at a time.
 - **DUE** sets the due date based on the document due date plus or minus *n*.
 - **NOW** sets the due date based on the current date plus or minus *n*. NOW without *n* means “right away.”
 - **n** is required. It indicates how many days to add or subtract to get to the due date. (Positive numbers add, negative numbers subtract.)
 - **AT h** is optional. It sets the hour portion of the due date.

Examples:

```
ATC: SEQ 2 NOW 1
```

The example above means “set the due date for Seq 2 to tomorrow.”

```
ATC: SEQ 3 DUE -4
```

The above example means “set the due date for Seq 3 to four days before the document due date.”

```
ATC: SEQ * NOW 2 AT 11.5
```

The above example means “set the due date for the next Seq to two days from today at 11:30 a.m.”

ATC: SET

This command sets a specified field on the current document to the value specified.

The generic form of the command is

ATC: SET *tablename.fieldname* = *value*

- ***tablename*** is optional; however, if it is omitted, the Document Header (DocMasterDetail) is assumed. It specifies the target of the assignment. You can use @ to reference the current row in a [FOREACH loop](#) (see page 36).
- . (period) is required only if *tablename* is specified. It separates *tablename* from the *fieldname*.
- *fieldname* is required. It specifies the field in *tablename* to receive the value.
- = (equal sign) is required.
- *value* is required. The value can be a Word Template bookmark surrounded by square brackets, for example, **[DV_DocHeader_ProjectFinishDate]**. Any one of the following values can also be entered:
 - ***new value*** specifies the value to be stored for the field.
 - * (asterisk) indicates that the value should be copied from the source document.
 - **NULL** indicates a NULL value for the field.
 - **#** has special meaning when used with DocNo: indicates that the document number should be reassigned.
 - **NOW ()** specifies that the current date and time is to be used.

Examples

```
ATC: SET SourceContact = *
```

The example above means “set the field SourceContact in DocMasterDetail equal to the value of the same field in the source document.”

```
ATC: SET DocNo = #
```

The example above means “reassign the doc number to the next available document number when the document is saved.”

```
ATC: SET DocRevision.Title=Notification
```

The example above means “set the value of the field Title in the table DocRevision equal to ‘Notification’.”

See also the example for [ATC: ENDLOOP](#).

ATC: SETHTML*

This command is identical to the ATC: SET command but maintains any HTML formatting of text expressed in the command. The text editor within the Workflow Script tool supports HTML formatting.

The generic form of the command is

ATC: SETHTML *tablename.fieldname* = *value*

- ***tablename*** is optional; however, if it is omitted, the Document Header (DocMasterDetail) is assumed. It specifies the target of the assignment. You can use @ to reference the current row in a [FOREACH loop](#) (see page 36).
- . (period) is required only if *tablename* is specified. It separates *tablename* from the *fieldname*.
- *fieldname* is required. It specifies the field in *tablename* to receive the value.
- = (equal sign) is required.
- *value* is required. The value can be a Word Template bookmark surrounded by square brackets, for example, **[DV_DocHeader_ProjectFinishDate]**. Any one of the following values can also be entered:
 - **new value** specifies the value to be stored for the field.
 - * (asterisk) indicates that the value should be copied from the source document.
 - **NULL** indicates a NULL value for the field.
 - **#** has special meaning when used with DocNo: indicates that the document number should be reassigned.
 - **NOW ()** specifies that the current date and time is to be used.

Example

```
ATC: SETHTML DocRevision.NoteA = Please send your response to the
Attention Of [DocHeader_FromUser]
```

The example above means “include the text ‘Please send your response to the Attention of the “From User”’ in the Note A field and keep the text formatting as shown.”

ATC: STATUS

This command sets the status code on the current document to the value specified.

The generic form of the command is

ATC: STATUS *statuscode*

- ***statuscode*** is required. It specifies the value of the Status Code. This value is stored in xsfDocHeader.status; no validation is performed. Status Codes are set up through the Code Maintenance tool. Examples of codes might be
 - O** = Open
 - C** = Closed
 - A** = Approved
 - X** = Canceled
 - OB** = Out for Bid
 - BB** = Bid Back

Example

```
ATC: STATUS X
```

The example above means “make the status equal to canceled.”

Flow of Control Commands

ATC: BACKGROUND

If this command appears anywhere in the script, the entire script is run in the background (even if the command is in an ATC: IF command).

Example

```
ATC: BACKGROUND
```

ATC: CALL*

This command calls a workflow script from the Workflow Script library. When the called script finishes, execution of the calling script resumes (unless the called script causes errors).

The generic form of the command is

ATC: CALL [*script name or GUID*]

- [*script name or GUID*] is required. It specifies a workflow script that exists in the system's Workflow Script library, either by name or by GUID. Square brackets are required.

Example

```
ATC: CALL [OutForBid]
```

The above example means "run the workflow written in the OutForBid script, as created in the Workflow Scripts tool."

([See also page 11.](#))

ATC: IF

This command begins a conditional block of commands. ATC: IF commands can be nested. See also [ATC: ELSE](#) and [ATC: ENDIF](#).

The generic form of the command is

ATC: IF *table.field operator value-expression* | *IsChanging*

- ***table*** is optional; however, if it is omitted, the Document Header (DocMasterDetail) is assumed. It specifies the target of the assignment. You can use @ to reference the current row in a [FOREACH loop](#).
- . (period) is required only if *table* is specified. It separates *table* from the *field*.
- ***field*** is required. It specifies the field to be evaluated.

- **operator** is required with value-expression. Valid operators are
 =
 <>
 >
 <
 LIKE
 NOTLIKE
- **value-expression** is optional, but required if an operator is specified. The value can be an alphanumeric string, a [bookmark] or NULL (which means the field has never been set).
- **IsChanging** is optional. It indicates that if the table.field has changed, the IF will be considered “true”.

Examples

```

ATC: IF DocDate IsChanging
  ATC: SET Title = Report for [DocHeader_DocDate]
  ATC: SAVE
ATC: ENDIF

```

The example above means “if the document date field changes, use the new document date in the document title, beginning with **Report for**, then save the document; otherwise, do nothing.”

```

ATC: IF ProjectSubtype = CC
  ATC: SET Location = Downtown
ATC: ENDIF

```

The example above means “if the Project Subtype is equal to CC, set the Location on the document to **Downtown**; otherwise, do nothing.”

See also the examples under [ATC: ELSE](#) and [ATC: ENDIF](#).

ATC: ELSE

This command can be used for an IF/ELSE situation, [with ATC: IF](#). It indicates the ATC commands to be used when the ATC: IF command evaluates to false.

The generic form of the command is

ATC: ELSE

Example

```
ATC: IF Final = true
ATC: SEQ * NOW
ATC: ELSE
ATC: SEQ * NOW 14
ATC: ENDIF
```

The above example means “if the Final field on the document is checked (i.e., True), make the next Seq due right away; otherwise, set the Seq due date to 14 days from now.”

ATC: ENDIF

This command marks the end of an IF block ([see ATC: IF](#)).

The generic form of the command is

ATC: ENDIF

Example

```
ATC: IF SourceDocNo = NULL
ATC: SET SourceDocNo = DocNo
ATC: ENDIF
```

The above example means “if the current document has no Source Doc Number, set the Source Doc Number equal to the Doc Number.”

ATC: FOREACH

This command begins a block of commands that will repeat once for each row in the specified table (that matches the filter).

The generic form of the command is

ATC: FOREACH *table* BY *sortfield* WITH *filter*;

- ***table*** is required. It indicates the tablename (e.g. DocItem).
- ***sortfield*** is required. It indicates the field in the table and is used to control the order of rows in the loop (e.g., DocItemNumber).
- **WITH *filter*** is optional but requires a semicolon (;) after it. It specifies a filter for limiting the rows to those that match.

Example

See the example under [ATC: ENDLOOP](#)

ATC: ENDLOOP

This command marks the bottom of a loop and returns to the start of the loop if there are additional iterations remaining.

The generic form of the command is

ATC: ENDLOOP

Example

```
ATC: FOREACH DocItem BY DocItemNumber
ATC: SET @.Evaluation = P
ATC: ENDLOOP
```

The above example means “for each Item, based on Item Number, set the Evaluation field to P (Pending).”

ATC: EXIT LOOP

This command exits the current [ATC: FOREACH](#) loop. It is usually used within an ATC: IF block.

Examples of Workflow Scripts

By combining the ATC commands, you can write a script for your workflow.

Sample Workflow for Compliance

For example, let us say that you want a script for when Compliance items go out of compliance. You write a script that creates a new Compliance Notification document and sets some fields in the new document then resets the route on the new document, finally sending it onto the routee in Seq. 2 on the first of the month.

The script would look as follows:

The screenshot shows a window titled "popEdit" with a toolbar and a text area containing the following ATC script:

```

ATC: COPY [Compliance Note] * NEW;
ATC: SET Sourcecontact = *
ATC: SET Title = Compliance Notification
ATC: SET DocRevision.Note = Our office needs the following
information from you ASAP.
ATC: SET DocRevision.NoteA = Items:
ATC: SET DocRevision.NoteB = Failure to provide this
information could result in payment being delayed.
ATC: DUE 0 DAY 1
ATC:ROUTE AUTO; AUTOACCEPTED |
  
```

Callout boxes provide the following explanations:

- Create new Compliance document.** Points to the first line of the script: `ATC: COPY [Compliance Note] * NEW;`
- Set some fields in the new document.** Points to the next three lines: `ATC: SET Sourcecontact = *`, `ATC: SET Title = Compliance Notification`, and `ATC: SET DocRevision.Note = Our office needs the following information from you ASAP.`
- Set due date to the first of the month.** Points to the line: `ATC: DUE 0 DAY 1`
- Reset the route for the new Compliance document starting with Seq 2.** Points to the final line: `ATC:ROUTE AUTO; AUTOACCEPTED |`

Sample Workflow for a Punchlist

In this example, a Punchlist document is created automatically from a workflow script for the Project Setup Doc type:

The screenshot shows a window titled "popEdit" with a toolbar and a text area containing the following ATC script:

```

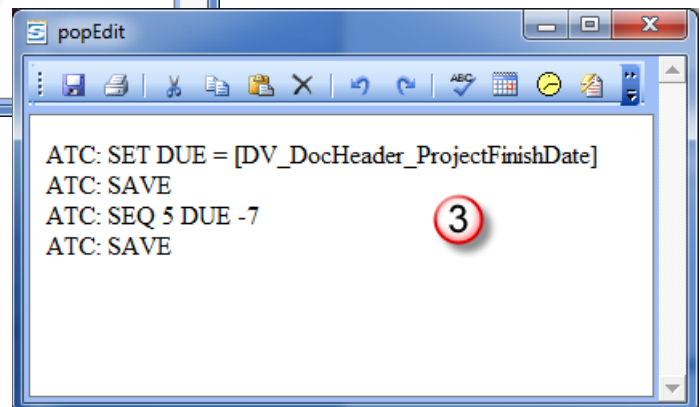
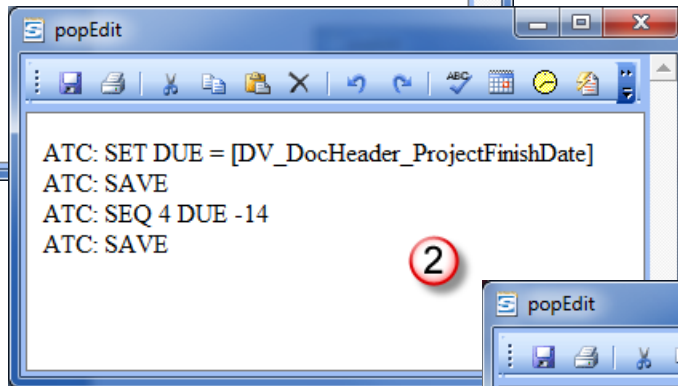
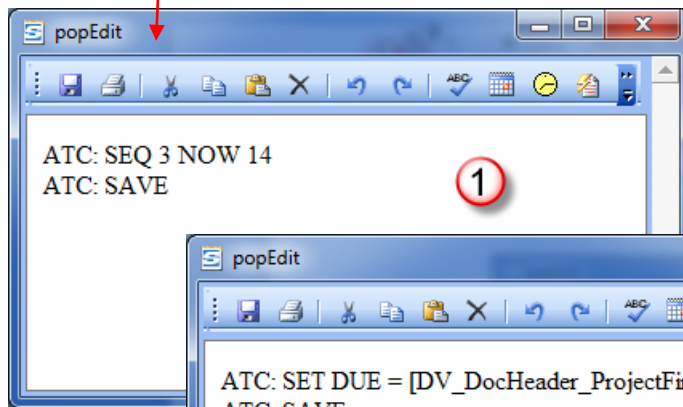
ATC: COPY [Punchlist] * NEW;
ATC: SAVE
  
```

The Punchlist then uses an automated route with three different Spitfire workflow scripts to do the following:

ROUTE LIST									
Route Name	Active	UseCount							
PunchList	<input checked="" type="checkbox"/>	1							

DETAILS FOR SELECTED ROUTE									
STATUS: <input type="checkbox"/> Destination									
Seq. No.	User/Role	Description	Access Level	Default Status	Default Note	With Transmittal	At Source Contact	Alerts	
2	Spitfire	Make Seq 3 due in 14 days	View	Pending		X	X	X	
3	Spitfire	Set Doc Due date to Project Finish date then make Seq 4 due 14 days before Due date	View	Pending		X	X	X	
4	Spitfire	Reestablish Doc Due date then make Seq 5 due 7 days before Due date	View	Pending		X	X	X	
5	Project Manager	Due 7 days before Due date	Collaborate	Pending		X	X	X	

RULES FOR SELECTED ROUTE									
SOURCE CONTACT: <input type="text"/> <input type="checkbox"/> SHOW RESPONSIBLE									
<input type="checkbox"/> SHOW DOC REFERENCE <input type="checkbox"/> SHOW GLOBAL REFERENCE									
<input type="checkbox"/> SHOW COMPANY									
Doc Type	Source Contact	Project	Priority	Status	Sub Type	Low	High	Auto	Active
PunchList								<input type="checkbox"/>	<input checked="" type="checkbox"/> True



1) The Spitfire script in Seq 2 establishes the route due date for Seq 3 to be 14 days hence (to ensure that a Finish date has been entered on the Project Setup document) then routes the document to Seq 3.

2) The Spitfire script in Seq 3 waits 14 days (during which time the Punchlist document appears in no user's Inbox) then sets the document's Due date equal to the Project's Finish date. It then sets the route due date for Seq 4 to be 14 days prior to the Due date and routes the document to Seq 4.

3) The Spitfire script in Seq 4 waits until 14 days prior to the document's Due date (presumably months during which time the Punchlist document appears in no user's Inbox) then sets the document's Due date equal to the Project's Finish date again, in case it changed during this time. It then sets the route due date for Seq 5 to be 7 days before the Due date and routes the document to Seq 5—the Project Manager.

The Project Manager in Seq 5 receives the Punchlist document in his Inbox and has until 7 days before the document's Due date to take action on his route. The automated route ends here but the Project Manager could, of course, add routees to continue routing the document, if desired.

Sample Workflow for Creation of New Documents

Let's say you have an Invitation to Bid document and want to create a new Invitation to Bid document for each Item on the original document. You use ATC commands within the [ATC: FOREACH](#) and [ATC: ENDFOR](#) commands to accomplish this.

End this script if the route goes to Stage 2
For each Item (based on Item Number) do the following
Create a new document by copying the current document and the current Item in the loop
Use the bookmark from the New document in the following command
Set the title of the document to the Item's Cost Code
Save the new document
Make the original document the source document again
Return to the ATC: FOREACH command

```

ATC: EXIT STAGE 2
ATC: FOREACH DocItem BY DocItemNumber
ATC: COPY * =, CURRENTITEM
ATC: BOOKMARKSOURCE NEW
ATC: SET Title = [DV_DocItemTask_ProjEntity]
ATC: SAVE
ATC: SELECT SOURCE
ATC: ENDFOR
    
```

Appendix A: Fields for ATC Commands

The following fields can be used in the *filterexpression* of certain ATC commands.

Field on Document	Fieldname
DRAWING NUMBER <input type="text"/> REV <input type="text"/>	DrawingNumber
SPEC <input type="text"/>	Specification
PARAGRAPH <input type="text"/>	Paragraph
DESCRIPTION <input type="text"/>	Description
: <input type="text"/>	RevisionNumber
STATUS <input type="text"/>	ItemStatus
EVALUATION <input type="text"/>	Evaluation
ITEM TYPE <input type="text"/>	ItemType
SUB TYPE <input type="text"/>	ItemSubtype
DRAWINGS <input type="text"/>	Drawings
SAMPLES <input type="text"/>	Samples
DATA <input type="text"/>	ProductData
REPORTS <input type="text"/>	TestReport
DESIGN <input type="text"/>	MixDesign
SCHEDULE <input type="text"/>	Schedule
MOCKUP <input type="text"/>	FieldMockup
GUARANTEE <input type="text"/>	Guarantee
SOURCE <input type="text"/>	ItemSource
CERTIFICATION <input type="text"/>	Certification
SHOP <input type="text"/>	Shop
MANUFACTURER <input type="text"/>	Manufacturer
SUPPLIER <input type="text"/>	Supplier
SOURCE NUMBER <input type="text"/>	SourceItemNumber
SOURCE INITIAL <input type="text"/>	SourceInitialNumber
ARCHITECT NUMBER <input type="text"/>	ArchitectItemNumber

ARCHITECT INITIAL <input type="text"/>	ArchitectInitialNumber
REVENUE CODE <input type="text"/>	RevenueEntity
ORIGINAL ESTIMATE <input type="text"/>	OriginalEstimate
AMOUNT <input type="text"/>	OriginalQuote
STARTED <input type="text"/>	Started
SUBMITTED <input type="text"/>	Submitted
REVIEWED <input type="text"/>	Reviewed
DUE <input type="text"/>	Due
COMPLETED <input type="text"/>	Completed
SOV LINE <input type="text"/>	SOVLineNumber
QUANTITY <input type="text"/> (on Change Order)	ItemQuantity
Item	DocItemNumber*
Bill	Billable
<i>Work Retention on SOV workbook</i>	CWRetention
<i>Material Retention on SOV workbook</i>	SMRetention

*If no other fields need to be referenced, you can use **ItemNumber** instead for faster processing.

Expressions

Expressions can be used with the fieldnames. Any required quotes should be single quotes.

- End the filter expression with a semicolon. Semicolons cannot be used within the filter expression.

Example

```
ATC: COPY * =; ITEMFILTER Description LIKE 'S%';
ATC: SET Title = Special Items
ATC: SAVE
ATC: SELECT SOURCE
ATC: COPY * =; ITEMFILTER Description LIKE 'R%';
```

which means "in the same project, copy the current document and all Items with descriptions that start with S then change the Description of the new document to 'Special Items' and save that document. Make the source document the current document again then copy all Items with descriptions that start with R to the new document.