



Product Guide
PG42-1010A

Programming Elster Meters for the New DST Rules

© 2006 by Elster Electricity, LLC. All rights are reserved.

No part of this software or documentation may be reproduced, transmitted, processed or recorded by any means or form, electronic, mechanical, photographic or otherwise, translated to another language, or be released to any third party without the express written consent of Elster Electricity, LLC.

Printed in the United States of America.

ALPHA and ALPHA Plus are registered trademarks; Metercat and AlphaPlus are trademarks of Elster Electricity, LLC. Other product and company names mentioned herein may be the trademarks and/or registered trademarks of their respective owners.

DISCLAIMER OF WARRANTIES AND LIMITATIONS OF LIABILITIES

There are no understandings, agreements, representations, or warranties either expressed or implied, including warranties of merchantability or fitness for a particular purpose, other than those specifically set out by any existing contract between the parties. Any such contract states the entire obligation of the seller. The contents of this document shall not become part of or modify any prior existing agreement, commitment, or relationship.

The information, recommendations, descriptions, and safety notices in this document are based on Elster Electricity, LLC experience and judgment with respect to operation and maintenance of the described product. This information should not be considered as all-inclusive or covering all contingencies. If further information is required, Elster Electricity, LLC should be consulted.

No warranties, either expressed or implied, including warranties of fitness for a particular purpose or merchantability, or warranties arising from the course of dealing or usage of trade, are made regarding the information, recommendations, descriptions, warnings, and cautions contained herein.

In no event will Elster Electricity, LLC be responsible to the user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental, or consequential damage or loss whatsoever, including but not limited to: damage or loss of use of equipment, cost of capital, loss of profits or revenues, or claims against the user by its customers resulting from the use of the information, recommendations, descriptions, and safety notices contained herein.



Contents

- Revisions to this document 4
- Overview 5
 - Background 5
 - Summary of Elster recommendations 6
- Recommendations for the new DST rules 6
 - Programming ALPHA and ALPHA Plus meters 6
 - Programming A3 ALPHA meters 9
 - Programming EMF registers 12
- Appendix A: Meter support for Update and Replace functions 14
- Appendix B: Using Metercat Replace Rates and Dates task 15
- Appendix C: USA DST schedule 16
- Appendix D: Questions & Answers 17

Revisions to this document

This document can be referred to by its document number: **PG42-1010**. Each revision of this manual is designated with a letter, with the first revision being **A**, the second being **B**, and so forth. The document number and its revision are located at the bottom of each page.

The following table lists the revisions to this document, the date of the release, and any notes about the changes made.

Revision	Date	Brief Description
A	12.January.2006	First release of the document. Describes how to program Elster meters to comply with changes to daylight saving time rules.

Overview

In the United States, daylight saving time (DST) currently starts on the first Sunday of April and ends on the last Sunday of October. The USA Energy Policy Act of 2005, which was signed into law in August 2005, changes the DST schedule. Beginning in 2007, DST will start on the second Sunday of March and end on the first Sunday of November.

The calendar of all current and historical Elster meters/registers can be modified to accommodate the new DST schedule without affecting the billing data. This document provides information on Elster's recommended approach for modifying the meter/register calendar to support these new DST dates that take effect in 2007.

Background

All calendars in Elster meter/registers offer two choices for entering dates: nonrecurring dates and recurring dates. Normally DST events in the calendar are entered as recurring date entries. In this manner, two recurring calendar entries (1 entry for Begin DST; 1 entry for End DST) are all that is necessary to properly handle DST. It is also possible to individually list the Begin DST and End DST events for each year as nonrecurring calendar entries. While the use of nonrecurring dates is a technically valid solution, it means that the calendar will expire at a future date (bounded by the most future nonrecurring calendar entry).

If you are using recurring dates in the meter calendar for the DST events (typical usage), the existing Elster meter software tools can be used to modify these recurring entries to follow the new DST schedule. However, this approach has a drawback - the change to these recurring DST dates must necessarily be made at a time between the old and new DST schedules (that is, between 06 November 2006 and 09 March 2007).

Most Elster meters support the use of a future program that will automatically take effect within the meter at a defined future date. While the future program capability might seem like an easy solution to this issue, it should be noted that the ALPHA and ALPHA Plus meters will automatically perform a demand reset at the date that the meter switches to a future program. This complication makes it less desirable to use the future program option as a means of effecting the change to the new DST schedule.

Fortunately, there is a solution to this issue for ALPHA, ALPHA Plus, and A3 ALPHA meters. By entering a unique combination of both *recurring* and *nonrecurring* DST events in the meter calendar, it is possible to configure a meter today such that it will not only follow the *existing* DST rules for 2006, but will also follow the *new* DST rules for 2007 and all future years in a recurring fashion. This is the ideal solution for the following reasons:

- You can immediately begin configuring meters with the new special dates list.
- It maintains a single step operation for programming meters.
- The meter calendar will not expire due to the DST entries.
- No future modifications will be required to update the meter program¹
- It allows use of standard/familiar Elster software functions to modify meters in the field.
- Billing data is not affected as a result of making this change on units in the field.

¹ Assuming future legislation does not change DST rules.

Summary of Elster recommendations

ALPHA and ALPHA Plus meters. Using AlphaPlus software, modify special dates lists to use a unique combination of 2 recurring calendar entries and 4 nonrecurring calendar entries. Meters can be programmed today; they will properly follow the current DST rules for 2006 and will follow the new DST rules for 2007 and all future years in a recurring fashion (calendar will not expire). For meters already deployed in the field, the Update function or Replace function may be used to configure the meter with the new special dates without affecting billing data. See “Programming ALPHA and ALPHA Plus meters” on page 6 for details.

A3 ALPHA meters. Using Metercat software, modify special dates lists to use a unique combination of 2 recurring calendar entries and 3 nonrecurring calendar entries. Meters can be programmed today; they will properly follow the current DST rules for 2006 and will follow the new DST rules for 2007 and all future years in a recurring fashion (calendar will not expire). For meters already deployed in the field, the Replace Rates and Dates task may be used to configure the meter with the new special dates without affecting billing data. See “Programming A3 ALPHA meters” on page 9 for details.

EMF registers. After 06 November 2006, use AlphaPlus software to modify the DST entries in the special dates lists used on these registers to follow the new DST rules. Use the Update function or Replace function to configure the meters with the new special dates without affecting billing data. See “Programming EMF registers” on page 12 for details.

If you cannot wait until 06 November 2006 to make the calendar changes on EMF registers, you may convert the special dates lists used on these registers to use multiple nonrecurring DST entries instead of the typical recurring entries. See “Appendix C: USA DST schedule” on page 16 for a list of DST dates for the next 20 years.

NOTICE

The Elster-recommended calendar entries used on the A3 ALPHA meter are different than those used on the ALPHA or ALPHA Plus meters. Be sure to use the correct instructions for the meter you want to program.

Recommendations for the new DST rules

Programming ALPHA and ALPHA Plus meters

ALPHA and ALPHA Plus meters are programmed using AlphaPlus software. The instructions below assume you are familiar with the special dates lists of AlphaPlus software. For information on using AlphaPlus software, consult the online help. Use the following steps for all special dates lists that are to be used to program ALPHA and ALPHA Plus meters.

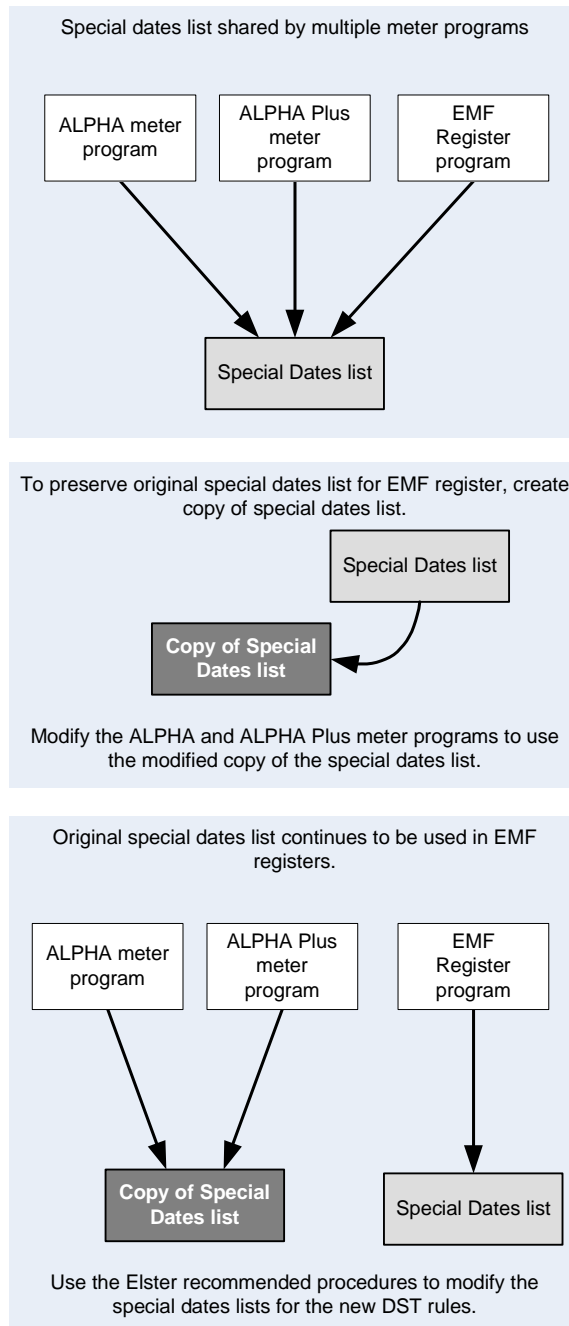
Before you begin.

1. Special dates lists can be shared among all meters that are supported by AlphaPlus software (ALPHA, ALPHA Plus, and EMF registers). The procedure below for programming meters with the new DST settings is valid only for ALPHA and ALPHA Plus meters.

Before proceeding please make sure that the special dates lists used by ALPHA and ALPHA Plus meters are not shared with any programs for EMF registers. As necessary, copy any such shared special dates lists

and then modify all ALPHA and ALPHA Plus meter programs to use the appropriate copy of the special dates list (Figure 1). You will then be able to make the modifications to these special dates lists without any adverse effects to EMF registers.

Figure 1. Using shared special dates list (AlphaPlus software)



2. Before making any changes to meter programs, Elster Electricity recommends you backup all meter programs. In AlphaPlus, you can do this by copying the contents of the *Aplus\programs* folder.

3. AlphaPlus software releases 1.31 and earlier are designed to prohibit consecutive END DST or BEGIN DST events as used in the following “Instructions” section.

AlphaPlus software release 1.32, released in January 2006, allows consecutive END DST or BEGIN DST entries. You must update to AlphaPlus software version 1.32 to use the Elster recommended approach to update DST events in the special dates list.

Instructions.

1. In AlphaPlus, open the appropriate special dates list.
2. Delete all existing BEGIN DST and END DST entries in the Recurring Dates and the Nonrecurring Dates columns.

NOTICE

It is important to enter the dates *exactly* as indicated in the following table in step 3 **even if the nonrecurring dates specified have already passed**. Failure to enter *all* the dates *exactly as indicated* may result in the meter not being properly programmed for handling the DST rules change.

3. Add the following entries in the Recurring Dates and Nonrecurring Dates columns (Table 1).

Note: For the DST rule change to be processed correctly, you must add the entries *exactly as indicated even if the nonrecurring dates specified have already passed*.

Table 1. AlphaPlus special dates list (ALPHA and ALPHA Plus meters)

Add to Recurring Dates		
Month/Day	Day type	Day of week
03/08	BEGIN DST	SUNDAY
11/01	END DST	SUNDAY

Add to Nonrecurring Dates	
Month/Day/Year	Day type
03/12/2006	BEGIN DST
04/02/2006	BEGIN DST
10/29/2006	END DST
11/05/2006	END DST

4. Use this new special dates list to program/modify ALPHA and ALPHA Plus meters to handle the new DST rules.
 - Meter Shop: Use AlphaPlus software as you normally would to program ALPHA and ALPHA Plus meters with the above special dates.

- Field: Use the AlphaPlus software Update function or Replace function to configure the meters with the new (modified) special dates without altering the billing data.

When using the Replace function, AlphaPlus software allows you to enter the Effective Date that the new program should take effect. Elster recommends that you accept the current date (default value), which will result in the immediate replacement of the meter's special dates list.

Note: Any pending future program will be canceled.

Why this works. Assume an ALPHA or ALPHA Plus meter is programmed with the dates as given in step 3.

At each DST event in 2006, the following will occur:

March 12, 2006	<p>The meter identifies two DST entries in the calendar:</p> <ul style="list-style-type: none"> ■ There is a recurring date entry for BEGIN DST on the first SUNDAY on or after March 8th. ■ There is a nonrecurring date entry for BEGIN DST on March 12, 2006. <p>When a recurring calendar entry and a nonrecurring calendar entry occur on the same date and for the same day type (for example, BEGIN DST), the two entries cancel each other out. The meter will not perform any DST action on this date.</p>
April 2, 2006	<p>The meter identifies a nonrecurring date entry to BEGIN DST. The meter enters DST on the first SUNDAY of April, the appropriate time to start DST in 2006.</p>
October 29, 2006	<p>The meter identifies the nonrecurring date entry for END DST. The meter exits DST on the last SUNDAY of October, the appropriate time to end DST in 2006.</p>
November 5, 2006	<p>The meter identifies two DST entries in the calendar:</p> <ul style="list-style-type: none"> ■ There is a recurring date entry for END DST on the first SUNDAY on or after November 1st ■ There is a nonrecurring date entry for END DST on November 5, 2006. <p>When a recurring calendar entry and a nonrecurring calendar entry occur on the same date and for the same day type (for example, END DST), the two entries cancel each other out. The meter will not perform any DST action on this date.</p>

At this point there are no more nonrecurring dates for DST events. Beginning in 2007 and for all future years, ALPHA and ALPHA Plus meters will follow the recurring entries for DST according to the new rules.

Programming A3 ALPHA meters

A3 ALPHA meters are programmed using Metercat software. The instructions below assume you are familiar with the special dates component of Metercat. See the *Metercat User Guide* or online help for information on using Metercat.

Use the following steps for all special dates components that are to be used to program A3 ALPHA meters.

Before you begin.

- Before making any changes to meter programs, Elster Electricity recommends you backup all meter programs. In Metercat, you can do this by copying the **mcats.mdb** file which is normally found in the *C:\Program Files\Elster\Metercat\Config* folder.

Instructions.

1. In Metercat, open the appropriate special dates component.
2. Delete all existing Start Daylight Saving Time and End Daylight Saving Time entries in the recurring and nonrecurring calendar.

NOTICE

It is important to enter the dates *exactly* as indicated in the following table in step 3 **even if the nonrecurring dates specified have already passed**. Failure to enter *all* the dates *exactly as indicated* may result in the meter not being properly programmed for handling the DST rules change.

3. Add the following entries in the recurring and nonrecurring calendar (Table 2).

Note: For the DST rule change to be processed correctly, you must add the entries *exactly as indicated even if the nonrecurring dates specified have already passed*.

Table 2. Metercat special dates component (A3 ALPHA meter)

Add to Recurring Dates					
Month	Day	Calendar action	When	Self read	Demand reset
March	8	Start Daylight Saving Time	On the first Sunday on or after this date	No	No
November	1	End Daylight Saving Time	On the first Sunday on or after this date	No	No
Add to Nonrecurring Dates					
Date	Calendar action		Self read	Demand reset	
March 12, 2006	End Daylight Saving Time		No	No	
April 2, 2006	Start Daylight Saving Time		No	No	
October 29, 2006	End Daylight Saving Time		No	No	

4. Check or uncheck the End of calendar warning option as desired:
 - If there are no other nonrecurring dates after the October 29, 2006 End Daylight Saving Time entry, uncheck the End of calendar warning option.
 - If you have other nonrecurring dates in the calendar (such as Good Friday, Easter Monday, etc.), check or uncheck the End of calendar

warning option as desired.

5. Use this new special dates component to program/modify A3 ALPHA meters to handle the new DST rules.
 - Meter shop: Use Metercat as you normally would to program A3 ALPHA meters with the above special dates.
 - Field: Use the Metercat Replace Rates and Dates task (see “Appendix B: Using Metercat Replace Rates and Dates task” on page 15) to configure the meters with the new (modified) special dates without altering the billing data.

When using the Replace Rates and Dates task, Metercat allows you to select the Effective Date that the new special dates component should take effect. Elster recommends that you accept the current date (default value), which will result in the immediate replacement of the meter’s special dates component.

Note: Any pending future rates and dates will be canceled.

Why this works. Assume an A3 ALPHA meter is programmed with the dates as given in step 3.

At each DST event in 2006, the following will occur:

March 12, 2006	<p>The meter identifies two DST entries in the calendar.</p> <ul style="list-style-type: none"> ■ There is a recurring date entry for Start Daylight Saving Time on the first Sunday on or after March 8. ■ There is a nonrecurring date entry for End Daylight Saving Time on March 12, 2006. <p>When handling DST entries in the calendar, the A3 ALPHA meter gives precedence to nonrecurring dates. The DST event in the recurring dates list is ignored by the meter because the nonrecurring DST event takes precedence. The meter will perform the nonrecurring date entry and end daylight saving time. Since DST is already turned off, no action is taken.</p>
April 2, 2006	<p>The meter identifies the nonrecurring date entry for Start Daylight Saving Time. The meter enters DST on the first Sunday of April, the appropriate time to start DST in 2006.</p>
October 29, 2006	<p>The meter identifies the nonrecurring date entry to End Daylight Saving Time. The meter exits DST on the last Sunday of October, the appropriate time to end DST in 2006.</p>
November 5, 2006	<p>The meter identifies the recurring date entry for End Daylight Saving Time on the first Sunday on or after November 1. Since DST is already turned off, no action is taken.</p>

At this point there are no more nonrecurring dates for DST events. Beginning in 2007 and for all future years, ALPHA and ALPHA Plus meters will follow the recurring entries for DST according to the new rules.

Programming EMF registers

EMF registers are programmed using AlphaPlus software. The instructions below assume you are familiar with the special dates lists of AlphaPlus software. For information on using AlphaPlus software, consult the online help. Use the following steps for all special dates lists that are to be used to program EMF registers.

Option 1: Configure new DST using Recurring Dates. (Recommended)

Before you begin

1. These instructions, while being the recommended approach for EMF registers, are actually valid for all Elster meter/register. These instructions assume that no meters are modified until the time between the old and the new DST schedules (between 06 November 2006 and 09 March 2007).
2. Before making any changes to meter programs, Elster Electricity recommends you backup all meter programs. In AlphaPlus, you can do this by copying the contents of the *Aplus\programs* folder.

Instructions

Caution: Wait until 06 November 2006 or later before making the below changes to the special dates list.

1. In AlphaPlus, open the appropriate special dates list.
2. Delete all existing BEGIN DST and END DST entries in the Recurring Dates and Nonrecurring Dates columns.
3. Add the following entries to the recurring calendar (Table 3).

Table 3. AlphaPlus special dates list (EMF registers)

Add to recurring dates		
Month/Day	Day type	Day of week
03/08	BEGIN DST	SUNDAY
11/01	END DST	SUNDAY

4. Use this new special dates list to program/modify EMF Registers to handle the new DST rules.
 - Meter Shop: Use AlphaPlus software as you normally would to program EMF registers with the above special dates.
 - Field: Use the AlphaPlus software Update function to configure the EMF registers with the new (modified) special dates without altering the billing data. Some EMF registers support the Replace function and a few of these also support a future replace (see "Appendix A: Meter support for Update and Replace functions" on page 14).

When using the AlphaPlus software on EMF registers that support a future replace function, AlphaPlus software allows you to enter the Effective Date that the new special dates list should take effect. Elster recommends that you accept the current date (default value) which will result in the immediate replacement of the meter's special dates list.

Option 2: Configure using Nonrecurring Dates.

Before you begin

1. These instructions are actually valid for all Elster meter/registers. These instructions assume that all DST events are entered as nonrecurring dates.

Note: The impact of this procedure is that you will be creating a calendar with a definite expiration date.

2. Before making any changes to meter programs, Elster Electricity recommends you first backup all meter programs. In AlphaPlus, you can do this by copying of the contents of the *Aplus\programs* folder.

Instructions

1. In AlphaPlus, open the appropriate special dates list.
2. Delete all existing BEGIN DST and END DST entries in the Recurring Dates and Nonrecurring Dates columns.
3. Using “Appendix C: USA DST schedule” on page 16 as a reference, add all of the DST events (2 per year) into the nonrecurring dates list.
4. Use this new special dates list to program/modify EMF registers to handle the new DST rules.
 - Meter Shop: Use AlphaPlus software as you normally would to program EMF registers with the above special dates.
 - Field: Use the AlphaPlus software Update function to configure the EMF registers with the new (modified) special dates without altering the billing data. Some EMF registers support the Replace function and a few of these also support a future replace (see “Appendix A: Meter support for Update and Replace functions” on page 14).

When using the AlphaPlus software on EMF registers that support a future replace function, AlphaPlus software allows you to enter the Effective Date that the new special dates list should take effect. Elster recommends that you accept the current date (default value) which will result in the immediate replacement of the meter’s special dates list.

Appendix A: Meter support for Update and Replace functions

The following meters and registers support special dates and are capable of being programmed for DST. The information below indicates which software functions are available for each device.

*Note: While this table indicates which meters/registers are capable of supporting a future replace, as previously noted, this is **not** the Elster Electricity recommended approach for moving to the new DST schedules.*

AlphaPlus software				
Meter	Update	Replace		
		Standard replace	Replace only switch times and special dates	Supports future replace
EMF-1A	Y	Y		
EMF-1B	Y	Y		
EMF-2	Y			
EMF-2300	Y			
EMF-2410	Y	Y		Y
EMF-2430	Y	Y		Y
EMF-2460	Y	Y		Y
EMF-2530	Y	Y		
EMF-2550	Y	Y		
EMF-2630	Y	Y		
EMF-2650	Y	Y		
EMF-3410	Y	Y		
A1T	Y	Y	Y	Y
A1K	Y	Y	Y	Y
A1R	Y	Y	Y	Y
A1T+	Y	Y	Y	Y
A1K+	Y	Y	Y	Y
A1R+	Y	Y	Y	Y
Metercat software				
Meter	Replace Rates and Dates		Supports future replace	
A3T		Y		Y
A3K		Y		Y
A3R		Y		Y
A3Q		Y		Y

Appendix B: Using Metercat Replace Rates and Dates task

The Replace Rates and Dates task is available in all Metercat versions 1.3 and later. If you do not have this function listed in your function list, use the following steps to build a function for the Replace Rates and Dates task. Refer to the *Metercat User Guide* or online help for additional information.

1. From the Metercat **Tools** menu, select **Function Management**.
2. Click **New**.

The *Function Builder* dialog displays.

3. In the **Function Name** text box, enter **Replace Rates and Date** as the name of the function (or any other name you would like to appear in the function list).
4. In the *Function Definition* tab, scroll through the **Available Tasks** to locate **Replace Rates and Dates**.
5. Select **Replace Rates and Dates** and click **Add**.

The *Replace Rates and Dates* dialog displays.

6. If all of your A3 ALPHA meters will use the same special dates component, you can simplify the execution of this function by selecting the new DST-adjusted special dates component from the **Special Dates** drop list and unchecking **Allow Override**.

Using this approach, no user prompts will display during function execution.

Note: You can name the function **Adjust for New DST** (step 3) to indicate the special nature of this function.

7. Do not select an **Effective Date**.
8. Uncheck **Perform a Demand Reset**.
9. Click **OK** to accept the settings and close the dialog.
10. In the *Function Builder* dialog, enter a **Keyboard Shortcut** for this function (optional).
11. If Metercat is configured for multiple users, click on the *Access Control* tab.
12. Specify the groups who are **Disallowed** to perform this function and the groups who are **Enabled** to perform this function.
13. Click **OK** to accept the new function and close the *Function Builder* dialog.
14. Click **Close** to close the *Function Management* dialog.

**Appendix C: USA DST
 schedule**

Year	DST Begins 1 st Sunday in April at 2 AM	DST Ends Last Sunday in October at 2 AM
2006	April 2	October 29
Year	DST Begins 2 nd Sunday in March at 2 AM	DST Ends 1 st Sunday in November at 2 AM
2007	March 11	November 4
2008	March 9	November 2
2009	March 8	November 1
2010	March 14	November 7
2011	March 13	November 6
2012	March 11	November 4
2013	March 10	November 3
2014	March 9	November 2
2015	March 8	November 1
2016	March 13	November 6
2017	March 12	November 5
2018	March 11	November 4
2019	March 10	November 3
2020	March 8	November 1
2021	March 14	November 7
2022	March 13	November 6
2023	March 12	November 5
2024	March 10	November 3
2025	March 9	November 2
2026	March 8	November 1

**Appendix D: Questions
& Answers**

Q: I made the Elster recommended changes to my special dates lists for ALPHA, ALPHA Plus and A3 ALPHA meters. I entered the Elster recommended nonrecurring 2006 DST dates. Do I need to keep these nonrecurring 2006 DST dates in my calendar forever?

A: No. You may edit the special dates lists and remove the nonrecurring 2006 DST dates at any time **AFTER** 06 November 2006.



Elster Electricity, LLC
Raleigh, North Carolina USA
+1 800 338 5251 (US Toll Free)
+1 919 212 4800 (US Main)
support@us.elster.com
www.elsterelectricity.com