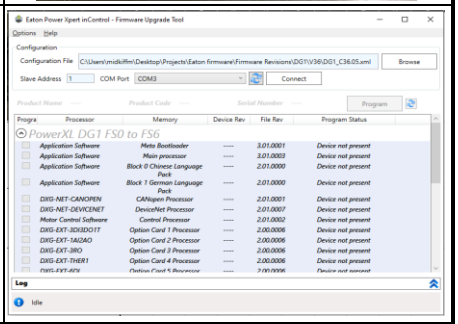
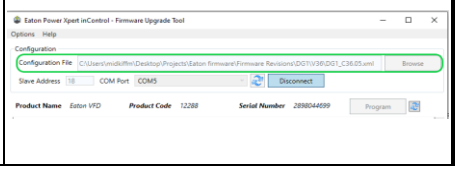
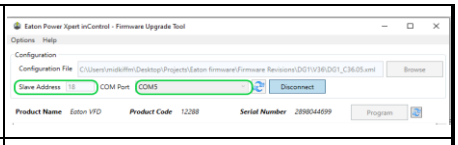
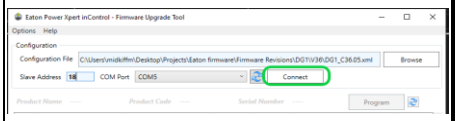
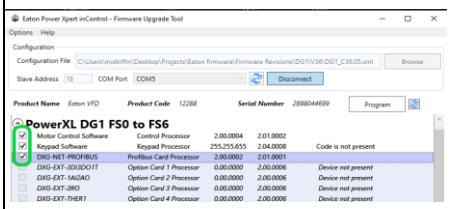
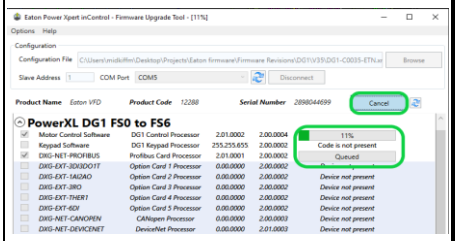
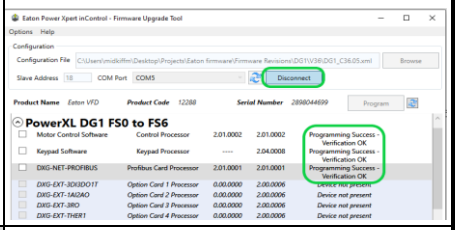
Maintenance Job Planning/Estimating Worksheet

Planner:		WO#:		Date:	
Job Contact:		Location:		Asset ID#:	
Job Description:	This job plan guides you through upgrading the firmware on DG1 drives.				

Job Scope

Job Plan Seq.	Task Description	Task Duration	Number of Resources Required	Total Estimated Labor Hours	Reference Pictures
PLEASE READ					
Upgrading any version firmware requires the same steps. To flash the profibus card to match the drives it must be plugged into the drive during the update. **It is recommended to setup all spare profibus cards to v35 firmware!** This way if the card needs to be used on a v36 drive, the drive will passively upgrade the card. **A v36 profibus card plugged into a v35 drive will not passively downgrade the card!** This will require you to flash the card following this process.					
Firmware Version and File Name			**Internal Drive Parameter Firmware Name (Parameter #: P21.2.2/3)**		
V34 Firmware (file name: DG1_C0034/V0034)			01.03.XXXX		
V35 Firmware (file name: DG1_C0035-ETN/V0035-ETN)			02.00.XXXX		
V36 Firmware (File name: DG1_C36.05/V36.05)			02.01.XXXX or V36.05		
Setting up the Firmware Software					
0	Install the "Eaton-xpert-oneinstaller", this will install both the drive software, and the firmware upgrade tool.	0.00	1	0.00	Link to software download
10	If the above link is broken, you can also try directly from Eatons website.	0.00	1	0.00	Link to website
20	Once installed the Firmware Upgrade Tool may not get a shortcut generated for it, if this is the case navigate to the root folder. *NOTE: You many not have exact file path to the right, if don't see the tool in the path to the right go to the "Eaton" folder and look around in all "Power Xpert" folders.	0.00	1	0.00	C:\Program Files (x86)\Eaton\Power Xpert inControl\Firmware Upgrade Tool
30	If you can't find it then we can try installing the standalone firmware tool.	0.00	1	0.00	Link to standalone firmware tool software

Downloading the required Firmware files					
Store the firmware files in your NACF-AE drive VFD Config backup folders for future use!					
40	Version 35 files can be found at the link to the right. ***NOTE:** You require both the C35 and V35 file! When setting up the file in the software use the C file! Both files must be in the same file path!	0.00	1	0.00	V35 Firmware files
50	Version 36 files can be found at the link to the right. ***NOTE:** You require both the C35 and V35 file! When setting up the file in the software use the C file! Both files must be in the same file path!	0.00	1	0.00	V36 Firmware files
60	If the above links are broken, you can also download the firmware directly from Eaton. Follow the link to the right.	0.00	1	0.00	Eaton Website
Upgrading the firmware					
0	Connect to the DG1 using a laptop with the required firmware installed, and the DG1 Ethernet to USB cable from Eaton.	0.1	1	0.1	
10	Launch the firmware upgrade tool software.	0.05	1	0.05	
20	Set your "configuration file" path to the "C" file of the version you are flashing the VFD to.	0.05	1	0.05	

30	Set your slave address to 18, and the com port to the assigned port found in device manager.	0.05	1	0.05	
40	Once the slave address is set, and the com port is set, click "connect". *NOTE: If the drive fails to connect, double check your connection, and the chosen com port.	0.05	1	0.05	
50	Navigate the list below and check all the boxes on the left hand side for the firmware files you need to upgrade. *NOTE: Keypad firmware can be skipped *NOTE: If this is a spare drive/card, or your only updating the profibus card firmware, only update the card to v35. DO NOT update a profibus card to a v36 spare.	0.05	1	0.05	
60	Once the required boxes are check click "Program". The software will now start updating the VFD. **DO NOT DISCONNECT THE DRIVE OR REMOVE POWER!** The drive may become inoperable if this occurs.	0.25	1	0.25	
70	Once the firmware update is complete the tool will verify the update. Once complete **DO NOT** just unplug the VFD! Click "Disconnect" at the top to take the drive out of firmware flash mode.	0.05	1	0.05	

Total Job Plan Duration:	**0.65**	**Total Backlog Labor Hours:**	**0.65**

Materials Required

Seq#	Material Description/Specification	Quantity	Price/Unit	Total Cost	SKU#
			$0.00	$ -	
			$0.00	$ -	
			$0.00	$ -	
		Total Material Cost:		**$**	**-**

Safety Requirements

Permits:	Confined Space Entry		Hot Work		Lockout/Tagout
PPE:	Safety Glasses, Safety Shoes, Gloves				

Additional Comments:

Special Tools Needed: Laptop, Eaton DG1 Ethernet to USB connection cable.

(Insert Job Site Photos)