DGP RELAY SYSTEM – PROM history Rev. 1 – Last updated by ECO DGP-031

			DGP***AAA
Item	Version	Ship dates	Comments
А	V001.00000A ①	Prior to 10/14/93	• Temporary Prom Version that must be upgraded.
В	V002.21000B	10/15/93 to 04/19/94	• Added Oscillography data capture, Multiple V/Hz curves, TPL plugs, etc. Also this version is included in modification kit 286A5368G1 (Rev 0, 1) for upgrading the temporary version (A) in DGP systems shipped prior to 9/25/93.
E1	V003.11000E	04/20/94 to 05/30/94	 Expanded setting ranges of #2501, 1704. Implemented a routine to correct up to 2 samples over a period of 12 cycles on 87G pickup (alarm 373) to enhance security of function 87G.
E2	V003.21000E	05/31/94 to 11/30/95	 Eliminated overflow in a S/W register to enhance security of functions 40 during generator synchronizing. Implemented "TRIP 32-2" display fix. Also this version is included in modification kits 286A5572G1 & 286A5368G1 for upgrading the versions (B), (A) & (E1) in relays shipped prior to 5/31/94.
F1	V004.12400F ①	12/01/95 to 2/24/97	 Revised to support both 1 & 5 Amps rated CT's. Implemented following enhancements: Security of alarms 351 (3 cycles delay in alarming/block 87 in DSP) and 373 (changed the routine to correct 3 samples over a period of 2 cycles with no 373-alarm). These changes also provide added security of function 87G. Improved performance of IRIG-B time synch feature.
			 Improved accuracy of function 32 at low watt settings. Hysterisis for 87G (DO/PU=0.75) to minimize chattering of outputs near the balance point. Optimized setting ranges of 46A/32-1 timers & K2 factor of 46T, and improved reset characteristics of function 40 timers.
F2	V004.12500F ①	02/25/97 to 02/01/98	 Security of 87G enhanced by revised Current Sum routine (increased security delay from 6 to 12 samples). Enhanced 32-1 & 32-2 performance (at balance-point) by converting TL1 & TL2 to integrating timers (positive direction) & blocking their reset until power flow is either zero or forward. This version is included in modification kit 358A1180G1 for upgrading the version F1in the DGP systems shipped prior to 02/25/97 and in kit 355A3489G1 for upgrading the versions E & B in the DGP systems shipped prior to 12/01/95.
F3	V212.00000F	02/02/98 to 12/18/00	Similar to F2 except implemented simpler Password system.
F4	V212.10000F (Standard)	12/18/00 to Present	Similar to F3 except fixed IRIG-B time-sync (see ECO DGP-011). Use Kit 355A3489 to upgrade from older AA versions.
F1a	V103.21000F	4/1/97 to 4/1/99	Similar to PROM F1 except the following: (First made for special DGP**AAAA-0101 for Hydro Quebec; superseded by F1b). • FD supervision of 51V disabled. (DOES NOT include enhancements made F2 or later)
F1b	V103.31000F (DGP-AA0102)	4/2/99 to Present	Similar to PROM F1a except compatible with DEC1000A015H00CPrinter port configured to print new events only and PRT (Print) key of the MMI disabled.
F1c	V104.12400F (DGP-AA0003)	No Shipment	Similar to PROM F1 except the following: (First made for special DGP**AAAA-0003 , compatible with GEPCE's DEC1000) • Printer port configured to print new events only and PRT (Print) key of the MMI disabled.

① Indicates PROM's superseded by later release.

	DGP***ABA			
Item	Version	Ship dates	Comments	
С	V001.22211C ①	04/22/94 to 11/30/94	• Initial release.	
G1	V005.12400G	12/01/95 to 02/24/97	• Revised to supports both 1 & 5 Amps rated CT's.	
	0		• Implemented following enhancements:	
			- Security of alarms 351 (3 cycles delay in alarming/block 87 in DSP) and 373 (changed the routine to correct 3 samples over a period of 2 cycles with no 373-alarm). These changes also provide added security of function 87G.	
			- Improved accuracy of function 32 at low watt settings.	
			- Hysterisis for 87G (DO/PU=0.75) to minimize chattering of outputs near the balance point.	
			- Optimized setting ranges of 46A/32-1 timers & K2 factor of 46T, and improved reset characteristics of function 40 timers.	
			This version is included in modification kit 355A3490G1 for upgrading the versions C in DGP systems shipped prior to 12/01/95.	
G2	V005.12500G	02/25/97 to 02/01/98	Used for DGP***ABA until superseded by prom J1).	
	1		• Security of 87G enhanced by revised Current Sum routine (increased security delay from 6 to 12 samples).	
			• Enhanced 32-1 performance (at balance-point) by converting TL1 to integrating timer (positive direction) & blocking its reset until power flow is either zero or forward.	
			Also this version is included in modification kit 358A1181G1 for upgrading the version G1 in DGP systems shipped prior to 2/25/97.	
Ι	V105.12400I	04/19/96 to 11/07/96	Similar to G1 except the following: (First made for special DGP**AABA-0202. Used for DGP***ABA-0002 until superseded by prom M).	
	1		• Includes oscillography data capture and IRIG-B capabilities.	
M1	V105.32400M	11/08/96 to	Similar to G1 except the following: (First made for special DGP***ABA-0002 for American Maize).	
	1	02/24/97	• Includes osc data capture and IRIG-B capabilities.	
			• Includes expanded ranges of setting # 114, 1503, & 2903 to accommodate Nominal Voltage of 100.0 - 225.0 VAC.	
M2	V105.32500M	02/25/97 to	• Security of 87G enhanced by revised Current Sum routine (increased security delay from 6 to 12 samples).	
	① (Inactive DGP-BA0002)	Present	• Enhanced 32-1 performance (at balance-point) by converting TL1 to integrating timer (positive direction) & blocking its reset until power flow is either zero or forward.	

(see next page for DGP***ABA0005 PROM history)

06/24/02

	DGP***ABA0005		
Item	Version	Ship dates	Comments
J	V201.00000J ①	04/11/97 to 02/01/98	Similar to prom M2 except the following: (First made for special DGP***ABA-0005 for Drive Sys./C&C).
			• Includes function 27TN.
			• Includes timers TL21 & TL22 (0 - 9.99 sec) associated with DI3 & DI4 respectively.
			• Expanded range of TL1 timer (for 32-1) from 1-120 to 0-120 seconds.
			This version is included in modification kit 358A1186 for converting DGP-BA to DGP-BA-0005.
J1	V211.01000J ①	02/02/98 to 3/10/98	Similar to J except fixed failure to operate 51GN in Normal mode (it operated correctly in Test mode only), also implemented simpler Password system. Made DGP-BA0005 a standard for the BA models. Included in kit 358A1186 to convert older DGP models to DGP-BA0005.
J2	V211.02000J ①	3/10/98 to 4/29/98	Similar to J1 except fixed 1 Amp version to properly calculate forward power for 27TN supervision. Was off by a factor of 5.
J3	V211.12000J ①	4/30/98 to 5/5/98	Similar to J2 except fixed display of V_3 (phase & neutral) units from % to Volt. The values were in volt even though the unit displayed was %.
J4	V211.22000J (DGP-BA0005) ①	5/6/98 to 12/18/00	Similar to J3 except fixed DI6 performance anomaly. With setting #2508 = DISPROT, DGP-BA was getting FAIL 520 message if it was powered down & then powered up.
J5	V211.32000J	12/18/00 to	Similar to J4 except fixed IRIG-B time-sync (see ECO DGP-011).
	(DGP-BA0005)	Present	Use kit 358A1186 to convert older DGP models to DGP-BA0005.
	(Standard)		Currently Standard firmware version for BA models

	DGP****CA			
Item	Version	Ship dates	Comments	
D	V210.01000D	02/02/98 to 03/10/98	Similar to K2 except the following:	
	0		• Includes 27TN function.	
			• Includes expanded ranges of setting # 114, 1503, & 2903 to accommodate Nominal Voltage of 100.0 - 225.0 VAC.	
			• Expanded TL1, TL2 (functions 32) ranges to 0 - 120 sec & TL21, TL22 (Digital Inputs) ranges to 0 - 9.99 sec.	
			• Includes simpler Password system.	
			• Created kit 361A7507 to convert older DGP models to DGP-CA.	
D1	V210.02000D	03/10/98 to 4/29/98	Similar to D except fixed 1 Amp version to properly calculate forward power for 27TN supervision. Was off by a factor of 5.	
D2	V210.12000D (GE Modem)①	4/30/98 to 12/18/00	Similar to D1 except fixed printer port for proper output. Also fixed display of V_3 (phase & neutral) units from % to Volt, the values were in volt even though the unit displayed was %.	
D3	V210.22000D	12/18/00	Similar to D2 except fixed IRIG-B time-sync (see ECO DGP-011).	
	(GE Modem) (Standard)	to Present	Use kit 361A7507 to convert older DGP models to DGP-CA.	
н	V106.12400H	04/19/96	Combines the functions of group A & B (PROM's F1 & G1) with following enhancements: (First made for special DGP**AACA-0004)	
	1	to 10/17/96	• Added timers TL21 and TL22 (0 - 1.00 sec) for DI3 & DI4 respectively.	
			• Function 59 includes inverse & instantaneous characteristics.	
			• Printer port configured to print new events only and PRT (Print) key of the MMI disabled (to make it compatible with DEC1000).	
K1	V106.13410K	10/17/96 to 02/24/97	Similar to H except the following: (used for DGP***ACA-0004)	
	0		• Eliminated inadvertent reporting of error #76	
			• Renumbered INST PU setting of function 59 from 1505 to 1506	
			• Added setting CURVE # (set #1505) to select inv./definite time for function 59.	
K2	V106.13510K	02/25/97	• Security of 87G enhanced by revised Current Sum routine (increased security delay from 6 to 12 samples).	
	0,0	to 04/25/97	• Enhanced 32-1 & 32-2 performance (at balance-point) by converting TL1 & TL2 to integrating timers (positive direction) & blocking their reset until power flow is either zero or forward.	
			• Use kit 358A1182G0001 to upgrade K1 to K2.	
L	V106.23510L	04/25/97	Supersedes PROM K2. Similar to K2 except the following:	
	(DGP-CA0004)	to Present	• Expanded ranges of TL1 & TL2 timers (for 32-1 & -2) from 1-120 & 1-60 to 0-120 seconds.	
			• Increased auto-logout time for password protected activities from 15 to 30 minutes following the period of inactivity.	
			Use kit 355A7691G1 for upgrading the versions H or K to L.	

② A version bearing the same number (but with 32 timer changes only) was sent to Sandwell Eng. To our knowledge, it was NOT installed by Sandwell.

(see next page for DGP***BCA PROM history)

DGP***BCA			
Item	Version	Ship dates	Comments
Р	V210.12000P (Modbus) ①	4/26/99 to 12/18/00	Similar to D2 except Modbus Protocol.
P1	V210.22000P (Modbus) ①	12/18/00 to 06/25/02	Similar to P except fixed IRIG-B time-sync and VARS display for MODBUS (see ECO DGP-011). Use kit MOD_001 to convert models DGP***ACA to DGP***BCA
P2	V210.32000P (Modbus) (Standard)	06/25/02 to Present	Same as P2 except SOE that are outputted from PL-2 were corrected (see ECO DGP-031). Use kit MOD_001 Rev. 1 to correct problem found in V210.22000P or to convert models DGP***ACA to DGP***BCA. Use kit MOD_002 Rev. 1 to convert any DGP relay to DGP***BCA.