RESULTS:

The ECU was removed from the Bond Cage where it had been stored since being received Jan. 10th.

The ECU was removed from the shipment packaging, photographed (see Appendix A), and found to be significantly damaged due to the impact of the crash landing. The ECU was disassembled to allow for the inspection of the internal circuit card assemblies (CCA) which were found to be wet with water droplets, presumably from the accident sight that was snow covered at the time of the accident.

The impact damage (dent) to the ECU cover resulted in the damaging the Reversionary Governor (RG) CCA. The ARINC interface component on the RG CCA was found to be cracked in half. The RG housing was removed exposing the Primary Governor (PG) CPU Circuit Card Assembly (CCA) that holds the non-volatile memory device (design position U40). The U40 memory component contains the fault history, engine history and Incident Recorder data if it was triggered.

The PG CPU CCA was found to have several damaged components but the U40 device appeared to be intact. Because of the recognized damage to the processor system components and the risk that the processor system would not function, the U40 memory device was removed from the CPU CCA, installed in a test ECU, and the data was successfully download using standard software tools.
Copies of the recovered data (Engine History, Fault History, and Incident Reorder) are presented in Appendix B of this report.

The Reversionary Governor (RG) was also installed in a test bed to attempt the extraction of the non-volatile fault history memory store which was successfully completed and is included in Appendix B. Because the downloaded data found no Last Engine Run faults and contained 21 Time Stamped faults the most recent of which (733 hours) was recorded 270 engine operating hours prior to the accident the RG faults recovered are considered irrelevant to the aircraft incident.

Primary Governor (PG) NVM Data Analysis;
The "User Defined" data (Appendix B Figure 1) is extracted to record the NVM data corruption status. The software variables EECalFlt and EEPROMFlt are both in a FALSE condition indicating that the memory data areas, that are validated with a checksum algorithm, have not been corrupted.

The Engine History indicated the ECU operating time to be 1196.8 hours and the engine run time at 1003.06 hours (1003:03:36.000). The engine run time is used to time stamp the "Time Stamped" faults and the Incident Recorder data.
There are 2112 engine starts recorded and an accumulated 0.1 seconds of time with the engine power turbine above 107.3 %Np (exceedance) threshold.

Fault History had no faults recorded in either of the Last Engine Run, Time Stamped, or Accumulated fault store areas of memory.

The Incident Recorder data recovered contained three snapshot triggers.
The first trigger was caused by a high engine torque (> 109 %Q) incident (QExcHiRcrd) due to an engine torque value of 110 %Q.

The twelve seconds of pre-incident data (10 data sets at 1.2 seconds per set) show normal operation of the engine system The Engine Status Words (ESW) indicate normal FADEC System operating condition. There are no explanations in the data as to why the torque increased in that the collective pitch remained constant at 60 to 58 %Cp. Variations in pilot commanded cyclic and the pedal controls, are not captured by the Incident Recorder, will affect engine loading / torque, and may be the reason for the swings in engine torque readings recorded in the Incident Recorder just prior to the aircraft impact.

Over the next five seconds the Incident Recorder data indicates two additional cycles of torque variation, again with little change on collective pitch.

Because the Engine History data did not contain any torque exceedances (Peak, Run Limit, or Transient) the engine torque did not exceed:
- 116.3 %Q for more than 24 msecs.
- 108 %Q for more than 0.5 secs.
- 100 %Q for more than 2.5 secs.

In the final 1.6 seconds the rotor system and power turbine rpm increased, causing the second and third Incident Recorder triggers due to unexpectedly high power turbine and rotor system speeds. The "OSEventLmp" bit is ESW5 (engine overspeed in process) is set due to the power turbine speed exceeding 107.3 %Np.
During this time, the decline in fuel flow, engine torque and collective pitch as well as the reduction in gas turbine speed indicate that the aircraft was in a descent such that the rotor system was aerodynamically driven above the 100% setpoint to a final recorded power turbine and rotor systems rpm of 109 %.

The discontinuance of Incident Recorder data records is likely due to a sudden power loss to the FADEC System from ground impact.

CONCLUSIONS:
The Incident Recorder data recovered indicates that the engine system was operating normally before and at the time of the incident that lead to the crash landing of the helicopter. Engine torque variations and rotor system rpm run-up may indicate erratic helicopter maneuvers shortly before the crash impact.

Appendix B

```
          Data Source: ECU                        Data Time: 2/7/13  10:16:58 AM
      Aircraft Model: Bell 407              Engine Model: 250-C47B
         ECU Version: 257-5358                        ID: 211A
           User Name: 40167                  Engine S/N: CAE-848212
            ECU S/N: JG09ANU1247          Compressor S/N: CAC-45866
         Turbine S/N: CAT-45401                  HMU S/N: JGALM1316
      Eng Gearbox S/N: CAG-48212            Aircraft ID: 53959
```

Parameter	Value	Units	Description
KinP1Cal	-27	Counts	P1 Offset Correction
KinP1Gn	0.970	unitless	P1 Gain Correction
EECalFlt	FALSE	Boolean	EEPROM Calibration Data Fault
EEPROMFlt	FALSE	Boolean	EEPROM Hardware Fault
MaxRTUsed	20.628	msec	Maximum Cycle Time Used in any Control Cycle

Figure 1
CALDATA.rtd

```
          Data Source: ECU                        Data Time: 2/7/13  10:20:25 AM
      Aircraft Model: Bell 407              Engine Model: 250-C47B
         ECU Version: 257-5358                        ID: 211A
           User Name: 40167                  Engine S/N: CAE-848212
            ECU S/N: JG09ANU1247          Compressor S/N: CAC-45866
         Turbine S/N: CAT-45401                  HMU S/N: JGALM1316
      Eng Gearbox S/N: CAG-48212            Aircraft ID: 53959
```

Parameter	Value	Units	Description
ECUOpTm	1196.80	Hours	ECU Operating Time (counter)
EngRnTm	1003.06	Hours	Engine Operating (Running) Time (counter)
MGTLmPk	0.0	Deg F	MGT Limit Exceedance Peak
MGTLmTm	0.00	Seconds	MGT Limit Exceedance Time
MGTRLmPk	0.0	Deg F	MGT Run Limit Exceedance Peak
MGTRLmTm	0.00	Seconds	MGT Run Limit Exceedance Time
MGTSLmPk	0.0	Deg F	MGT Start Limit Exceedance Peak
MGTSLmTm	0.00	Seconds	MGT Start Limit Exceedance Time
MGTSRLmPk	0.0	Deg F	MGT Start Run Limit Exceedance Peak
MGTSRLmTm	0.00	Seconds	MGT Start Run Limit Exceedance Time
NgLmPk	0.00	%Ng	Ng Limit Exceedance Peak
NgLmTm	0.00	Seconds	Ng Limit Exceedance Time
NgRLmPk	0.00	%Ng	Ng Run Limit Exceedance Peak
NgRLmTm	0.00	Seconds	Ng Run Limit Exceedance Time
NpRLmPk	0.00	%Np	Np Run Limit Exceedance Peak Value
NpRLmTm	0.00	Seconds	Np Run Limit Exceedance Time
NumStrt	2112	Starts	Number of Engine Starts
OSCyc	A	Boolean	Overspeed Cycle
QLmPk	0.0	%Q	Q Limit Exceedance Peak
QLmTm	0.00	Seconds	Q Limit Exceedance Time
QRLmPk	0.0	%Q	Q Run Limit Exceedance Peak
QRLmTm	0.00	Seconds	Q Run Limit Exceedance Time
QXLmPk	0.0	%Q	Q Transient Limit Exceedance Peak Value
QXLmTm	0.00	Seconds	Q Transient Limit Exceedance Time
SgCtr	0	Surges	Number of Surge Occurrences Counter
EngRunCtr	142.97	Seconds	Engine Run Time Interval Counter
NpLmPk	107.39	%Np	Np Limit Exceedance Peak Value
NpLmTm	0.10	Seconds	Np Limit Exceedance Time
OSCtr	0	Events	Engine Overspeed Counter
SpareData1	0	packed word	
SpareData2	0	packed word	
SpareData3	0	packed word	
SpareData4	0	packed word	
SpareData5	0	packed word	
SpareData6	0	packed word	
NpLmEvts	1	Counts	Np Limit Exceedance Events
NpRLmEvts	0	Counts	Np Run Limit Exceedance Events
NpMLmEvts	0	Counts	Np Max Limit Exceedance Counter
NpExcInd	FALSE	Boolean	Np Exceedance Indication for Engine Maintenance
EngRunCtrDummy	0	packed word	
EmData_Chksum	34714	packed word	

Figure 2
Engine History Data

Appendix B

```
Last Engine Run Faults at 2/7/13  10:17:56 AM                          Page 1 of 1

        Data Source: ECU                        Data Time: 2/7/13  10:17:55 AM
   Aircraft Model: Bell 407                   Engine Model: 250-C47B
      ECU Version: 257-5358                             ID: 211A
        User Name: 40167                      Engine S/N: CAE-848212
         ECU S/N: JG09ANU1247             Compressor S/N: CAC-45866
     Turbine S/N: CAT-45401                     HMU S/N: JGALM1316
  Eng Gearbox S/N: CAG-48212                   Aircraft ID: 53959


  Fault Name          Description
  No Faults Found
```

Figure 3
Last Engine Run Fault Data

```
Time Stamped Faults at 2/7/13  10:19:02 AM                             Page 1 of 1

        Data Source: ECU                        Data Time: 2/7/13  10:19:02 AM
   Aircraft Model: Bell 407                   Engine Model: 250-C47B
      ECU Version: 257-5358                             ID: 211A
        User Name: 40167                      Engine S/N: CAE-848212
         ECU S/N: JG09ANU1247             Compressor S/N: CAC-45866
     Turbine S/N: CAT-45401                     HMU S/N: JGALM1316
  Eng Gearbox S/N: CAG-48212                   Aircraft ID: 53959


  Fault Time        Fault Name    Description
  No Faults Found
```

Figure 4
Time Stamped Fault Data

```
Accumulated Faults at 2/7/13  10:18:36 AM                              Page 1 of 1

        Data Source: ECU                        Data Time: 2/7/13  10:18:36 AM
   Aircraft Model: Bell 407                   Engine Model: 250-C47B
      ECU Version: 257-5358                             ID: 211A
        User Name: 40167                      Engine S/N: CAE-848212
         ECU S/N: JG09ANU1247             Compressor S/N: CAC-45866
     Turbine S/N: CAT-45401                     HMU S/N: JGALM1316
  Eng Gearbox S/N: CAG-48212                   Aircraft ID: 53959


  Fault Name          Description
  No Faults Found
```

Figure 5
Accumulated Fault Data

Appendix B
Reversionary Governor Fault History

Last Engine Run Faults

CH A_B LAST ENG RUN

```
+-------------------------------------------------------------------+
|CHANNEL A EEPROM CURRENT FAULTS      CHANNEL B EEPROM CURRENT FAULTS|
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|-------------------------------------------------------------------|
|HIT ANY KEY TO RETURN                                              |
|                                                                   |
|                                                                   |
+-----------------F1 - ALTERABLE PARAMETER MENU---------------------+
```

Accumulated Faults

CH A_B EEPROM FAULT HIST

```
+-------------------------------------------------------------------+
|CHANNEL A EEPROM FAULT HISTORY    CHANNEL B EEPROM FAULT HISTORY    |
|                                  AF28RgFlt   AF28Flt    WDTTimeOut |
|                                  MaintFlt    CPUHardFlt Np1RgFlt   |
|                                  Np1Flt      PriGovHFlt QRgFlt     |
|                                  QFlt        WDTFlt     SwPwrFlt   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|                                                                   |
|-------------------------------------------------------------------|
|HIT ANY KEY TO RETURN                                              |
|                                                                   |
|                                                                   |
+-----------------F1 - ALTERABLE PARAMETER MENU---------------------+
```

Appendix B
Reversionary Governor Fault History

```
                              CH A TIME STAMP

+----------------------------------------------------------------------------+
|                   EEPROM FAULT TIME STAMPS (CHANNEL 1)                      |
|        FAULT      8 MIN/CT   24 MSEC/CT                                     |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|                   HIT ANY KEY TO CONTINUE, (ESC) TO EXIT                    |
|                                                                            |
+-------------------F1 - ALTERABLE PARAMETER MENU----------------------+
A

                              CH B TIME STAMP

+----------------------------------------------------------------------------+
|                   EEPROM FAULT TIME STAMPS (CHANNEL 2)                      |
|        FAULT      8 MIN/CT   24 MSEC/CT                                     |
|                                                                            |
|                                                                            |
|                                                                            |
|                                                                            |
|        WDTFlt          5501        271                                      |
|        MaintFlt        5501        271                                      |
|        SwPwrFlt        2742        472                                      |
|        CPUHardFlt      2742        472                                      |
|        MaintFlt        2742        472                                      |
|        WDTTimeOut      2742        472                                      |
|                                                                            |
|                   HIT ANY KEY TO CONTINUE, (ESC) TO EXIT                    |
|                                                                            |
-------------------F1 - ALTERABLE PARAMETER MENU----------------------+

+----------------------------------------------------------------------------+
|                   EEPROM FAULT TIME STAMPS (CHANNEL 2)                      |
|        FAULT      8 MIN/CT   24 MSEC/CT                                     |
|        MaintFlt        4           2229                                     |
|        AF28Flt         4           2229                                     |
|        AF28RgFlt       4           2229                                     |
|        QFlt            0           47                                       |
|        QRgFlt          0           47                                       |
|        PriGovHFlt      0           47                                       |
|        Np1Flt          0           47                                       |
|        Np1RgFlt        0           47                                       |
|        CPUHardFlt      0           47                                       |
|        MaintFlt        0           47                                       |
|        PriGovHFlt      0           -1                                       |
|        QFlt            0           -1                                       |
|        QRgFlt          0           -1                                       |
|        CPUHardFlt      0           -1                                       |
|        MaintFlt        0           -1                                       |
|                                                                            |
|                   HIT ANY KEY TO CONTINUE, (ESC) TO EXIT                    |
|                                                                            |
+-------------------F1 - ALTERABLE PARAMETER MENU----------------------+
```

Appendix B
Reversionary Governor Fault History

Chan. B (KG) Time-Stamped Faults

Time	Fault
0733:28:06.504	WDTFlt
0733:28:06.504	MaintFlt
0365:36:11.328	SwPwrFlt
0365:36:11.328	CPUHardFlt
0365:36:11.328	MaintFlt
0365:36:11.328	WDTTimeOut
0000:32:53.496	MaintFlt
0000:32:53.496	AF28Flt
0000:32:53.496	AF28RgFlt
0000:26:12.840	PriGovHFlt
0000:26:12.840	QFlt
0000:26:12.840	QRgFlt
0000:26:12.840	CPUHardFlt
0000:26:12.840	MaintFlt
0000:00:01.128	QFlt
0000:00:01.128	QRgFlt
0000:00:01.128	PriGovHFlt
0000:00:01.128	Np1Flt
0000:00:01.128	Np1RgFlt
0000:00:01.128	CPUHardFlt
0000:00:01.128	MaintFlt

Appendix B

IRDATA..eep - Snapshot Data Page 1 of 1

ECU Version: C-00257-5358   211A Date Extracted: 02/07/13 15:21:55 UTC

Description: SN JG09ANU1247 - ACCIDENT INVESTIGATION

Snapshot	TypeWrd1	TypeWrd2	Time Stamp HH:MM:SS.mmm	NgInRcrd %Ng	NrInRcrd %Nr	MGTInRcrd Deg F	QInRcrd %Q	NpInRcrd %Np	WfActInRcrd pph	NDOTFilt %Ng/Sec	PlInRcrd psia	Mode	CPInRcrd %CP	ESW Counts	ESW2 Counts	ESW3 Counts	ESW4 Counts	ESW5 Counts	ESW6 Counts	NDOTWRCd	PLAInRcrd Deg PLA	TlInRcrd Deg F	EngRnTm	EngRnCtr	NumStarts Counts	Spare2	Spare3	Spare4
1	0x0020	0x0000	1003:06:16.344	101	99	1440	110	99	452	7.5	13.33	1	58	0x0024	0x0000	0x0000	0x0000	0x0050	0x8080	4	66	32	7523	5681	2112	0	0	0
2	0x0008	0x0000	1003:06:22.872	81	108	980	10	108	36	-22.4	13.78	1	32	0x0024	0x0000	0x0000	0x0000	0x2090	0x8080	17	66	32	7523	5953	2112	0	0	0
3	0x0004	0x0000	1003:06:22.920	80	109	960	10	109	36	-21.3	13.92	1	32	0x0024	0x0000	0x0000	0x0000	0x2090	0x8080	17	66	32	7523	5955	2112	0	0	0
4	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
5	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
6	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
7	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
8	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
9	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
10	0x0000	0x0000	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0

Incident Recorder Snapshot Data

ECU Version: C-00257-5358   211A Date Extracted: 02/07/13 15:21:55 UTC

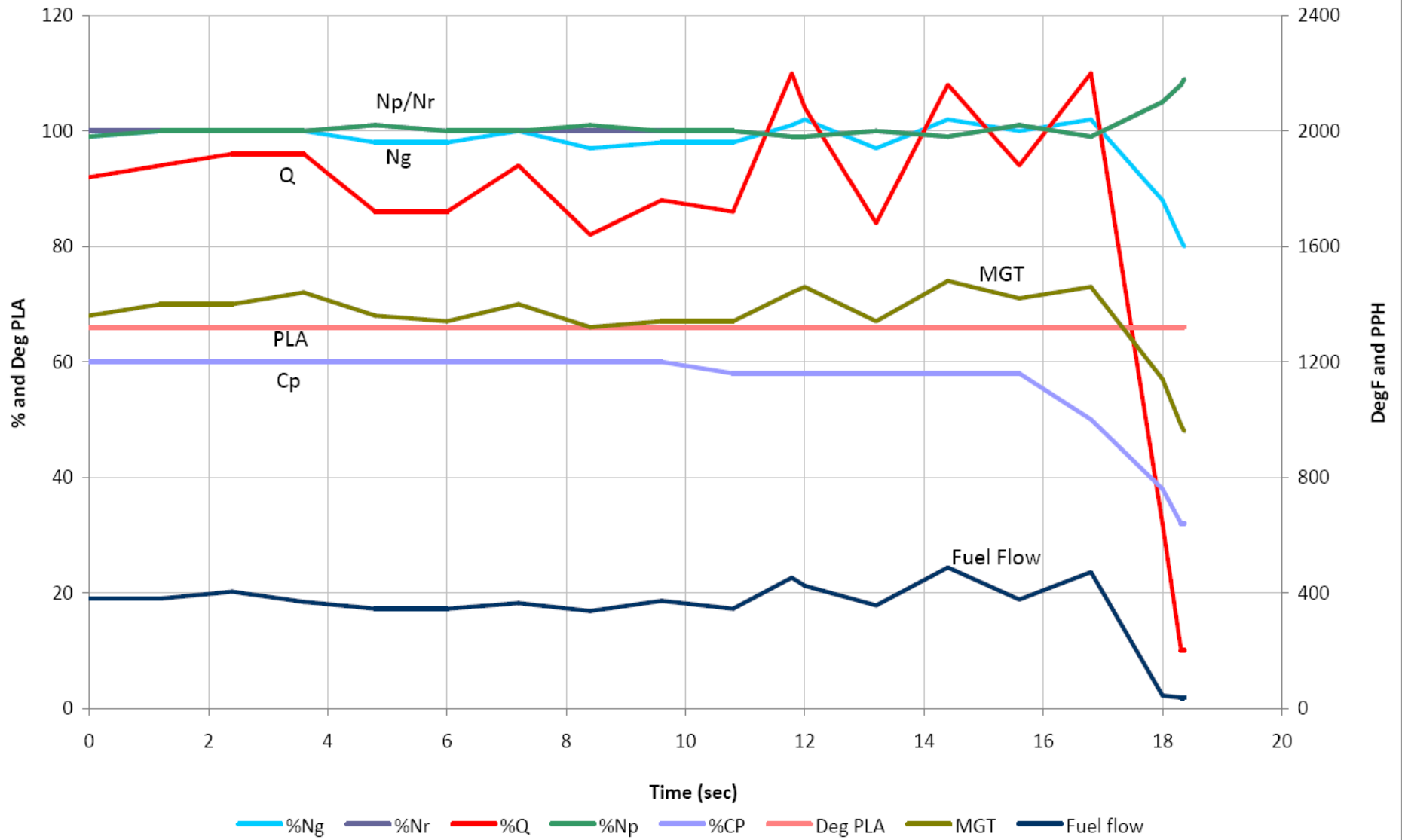Description: SN JG09ANU1247 - ACCIDENT INVESTIGATION

Record	Time Stamp HH:MM:SS.mmm	NgInRcrd %Ng	NrInRcrd %Nr	MGTInRcrd Deg F	QInRcrd %Q	NpInRcrd %Np	WfActInRcrd pph	NDOTFilt %Ng/Sec	PlInRcrd psia	Mode	CPInRcrd %CP	ESW Counts	ESW2 Counts	ESW3 Counts	ESW4 Counts	ESW5 Counts	ESW6 Counts	NDOTWRCd	PLAInRcrd Deg PLA	T1InRcrd Deg F	EngRnTm	EngRnCtr	NumStarts Counts	Spare2	Spare3	Spare4
1	1003:06:04.560	99	100	1360	92	99	380	1.6	13.27	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5190	2112	0	0	0
2	1003:06:05.760	100	100	1400	94	100	380	0.4	13.13	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5240	2112	0	0	0
3	1003:06:06.960	100	100	1400	96	100	404	0.9	13.21	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5290	2112	0	0	0
4	1003:06:08.160	100	100	1440	96	100	368	-1.0	13.23	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5340	2112	0	0	0
5	1003:06:09.360	98	101	1360	86	101	344	-2.0	13.30	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5390	2112	0	0	0
6	1003:06:10.560	98	100	1340	86	100	344	-0.4	13.13	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5440	2112	0	0	0
7	1003:06:11.760	100	100	1400	94	100	364	0.4	13.26	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5490	2112	0	0	0
8	1003:06:12.960	97	100	1320	82	101	336	-1.7	13.35	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5540	2112	0	0	0
9	1003:06:14.160	98	100	1340	88	100	372	2.5	13.29	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5590	2112	0	0	0
10	1003:06:15.360	98	100	1340	86	100	344	-0.1	13.36	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5640	2112	0	0	0
11	1003:06:16.560	102	99	1460	104	99	424	2.6	13.43	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5690	2112	0	0	0
12	1003:06:17.760	97	100	1340	84	100	356	-3.8	13.43	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	24	66	32	7523	5740	2112	0	0	0
13	1003:06:18.960	102	99	1480	108	99	488	5.2	13.43	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5790	2112	0	0	0
14	1003:06:20.160	100	101	1420	94	101	376	-2.9	13.63	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5840	2112	0	0	0
15	1003:06:21.360	102	99	1460	110	99	472	6.4	13.84	1	50	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	23	66	32	7523	5890	2112	0	0	0
16	1003:06:22.560	88	105	1140	32	105	44	-22.1	14.01	1	38	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	1	66	32	7523	5940	2112	0	0	0
17	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0
18	00:00:00.000	0	0	0	0	0	0	0.0	0.00		0	0x0000	0x0000	0x0000	0x0000	0x0000	0x0000		0	0	0	0	0	0	0	0

Incident Recorder Data

N445MT Med-Trans 407 Accident
Jan 2, 2013 Ventura, IA

Plotted Incident Recorder Data

Appendix B

JG09ANU1247		Time		NgIn Rcrd	NrIn Rcrd	MGTIn Rcrd	QIn Rcrd	NpIn Rcrd	WfActIn Rcrd	NDOT Filt	Mode	CPIn Rcrd	ESW	ESW2	ESW3	ESW4	ESW5	ESW6	NDOT WRCd	PLAIn Rcrd	T1In Rcrd	EngRnTm	EngRnCtr
Record	Timestamp	Last Rcrd	Accum	%Ng	%Nr	MGT	%Q	%Np	Fuel Flow	%Ng/Sec		%CP	Counts	Counts	Counts	Counts	Counts	Counts		Deg PLA	Deg F	8 min cnts	24 msec
1	1003:06:04.560	-1.200	-11.784	99	100	1360	92	99	380	1.6	1 Auto Mode	60	0024 (norm) PLAFly Outputs Rdy	0x0000	0x0000	0x0000	0090 (norm) LghtOffFlg Fuel Enb	8080 (norm) AMSolIBit AutoSel	4	66	32	7523	5190
2	1003:06:05.760	-1.200	-10.584	100	100	1400	94	100	380	0.4	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5240
3	1003:06:06.960	-1.200	-9.384	100	100	1400	96	100	404	0.9	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5290
4	1003:06:08.160	-1.200	-8.184	100	100	1440	96	100	368	-1.0	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5340
5	1003:06:09.360	-1.200	-6.984	98	101	1360	86	101	344	-2.0	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5390
6	1003:06:10.560	-1.200	-5.784	98	100	1340	86	100	344	-0.4	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5440
7	1003:06:11.760	-1.200	-4.584	100	100	1400	94	100	364	0.4	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5490
8	1003:06:12.960	-1.200	-3.384	97	100	1320	82	101	336	-1.7	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5540
9	1003:06:14.160	-1.200	-2.184	98	100	1340	88	100	372	2.5	1	60	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5590
10	1003:06:15.360	-0.984	-0.984	98	100	1340	86	100	344	-0.1	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5640
TW1; 0020 QExcHiRcrd	1003:06:16.344	0.000	0.000	101	99	1440	110	99	452	7.5	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5681
11	1003:06:16.560	0.216	0.216	102	99	1460	104	99	424	2.6	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5690
12	1003:06:17.760	1.200	1.416	97	100	1340	84	100	356	-3.8	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	24	66	32	7523	5740
13	1003:06:18.960	1.200	2.616	102	99	1480	108	99	488	5.2	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5790
14	1003:06:20.160	1.200	3.816	100	101	1420	94	101	376	-2.9	1	58	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	4	66	32	7523	5840
15	1003:06:21.360	1.200	5.016	102	99	1460	110	99	472	6.4	1	50	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	23	66	32	7523	5890
16	1003:06:22.560	1.200	6.216	88	105	1140	32	105	44	-22.1	1	38	0x0024	0x0000	0x0000	0x0000	0x0090	0x8080	1	66	32	7523	5940
TW1; 0008 NpExcHiRcrd	1003:06:22.872	0.312	6.528	81	108	980	10	108	36	-22.4	1	32	0x0024	0x0000	0x0000	0x0000	0x2090 OSEventLmp	0x8080	17	66	32	7523	5953
TW1; 0004 NrExcHiRcrd	1003:06:22.920	0.048	6.576	80	109	960	10	109	36	-21.3	1	32	0x0024	0x0000	0x0000	0x0000	0x2090	0x8080	17	66	32	7523	5955
17	00:00:00.000			0	0	0	0	0	0	0.0		0	0000	0000	0000	0000	0000	0000		0	0	0	0

Incident Recorder Data Analysis