Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC					Component No.:			
Subsystem: AC power supply system 1				Component function: supply AC power			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-01-01.01	PVGC cannot supply	All	a) PVGC cannot supply AC	a) CAS: L GEN FAULT; b) Malfunctions of LGCU, LOPU, LGC, etc.	a) Yes; b) RVFG and PSF power	None.	13.48	13.48	12	1.618E-4	IV	

	AC power. Failure cause: PVGC body failure.		power; b) Electric power system PSF replaces faulty PVGC to supply power; c) Aircraft power supply redundancy is decreased.	c) Try to reset PVGC via PVGC control switch, if warning information still exists, disconnect the PVGC; d) TBD; e) Disconnect PVGC and aircraft electric power network; f) Replace the PVGC.	supply is in normal condition, and electric power system interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: APBE					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC control and protection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-02-01.01	Faulty control and protection of APBE for PVGC. Failure cause:	All	a) PVGC cannot supply AC power; b) Electric power system PSF	a) CAS: L GEN FAULT; b) Malfunctions of PVGC, LOPU, LGC, etc. c) Try to reset PVGC via PVGC control switch, if warning information still exists, disconnect the PVGC; d) TBD;	a) Yes; b) RVFG and PSF power supply is in normal condition, and electric power	None.	22.77	22.77	4	9.108E-5	IV	

	APBE circuit failure.		replaces faulty PVGC to supply power; c) Aircraft power supply redundancy is decreased.	e) Disconnect PVGC and aircraft electric power network, and cut off APBE power input; f) Replace APBE.	system interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: MEQC					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC over-voltage protection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-03-01.01	MEQC malfunction. Failure cause:	All	a) Open circuit occurs to PVGC excitation circuit due to MEQC failure, and	a) CAS: L GEN FAULT; b) Malfunctions of PVGC, APBE, LGC, etc. c) Try to reset PVGC via PVGC control switch, if warning	a) Yes; b) RVFG and PSF power supply is in normal	None.	2.66	2.66	5	1.33E-5	IV	

	MEQC circuit failure.		PVGC cannot supply AC power; b) Electric power system PSF replaces faulty PVGC to supply power; c) Aircraft power supply redundancy is decreased.	information still exists, disconnect the PVGC; d) TBD; e) Disconnect PVGC and aircraft electric power network, and cut off MEQC power input; f) Replace MEQC.	condition, and electric power system interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: EQW					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-04-01.01	EQW is closed due to failure. Failure cause:	All	a) PVGC and L AC Bus remain power-on condition; b) Unable to	a) Electric power system OMS information; b) None; c) None; d) TBD;	a) Yes; b) None;	None.	4.62	2.31	12	2.772E-5	No effect on safety	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: EQW					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	EQW mechanical failure.		isolate PVGC and aircraft electric power network via disconnecting EQW when required; c) No effect.	e) None; f) Replace EQW;								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: EQW					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-04-01.02	EQW is disconnect due to failure. Failure cause: EQW	All	a) PVGC and L AC Bus are disconnected, and PVGC cannot supply power to the external users; b) Electric power	a) CAS: L GEN FAULT; b) Malfunctions of PVGC, APBE, MEQC, etc. c) Try to reset PVGC via PVGC control switch, if warning information still exists, disconnect the PVGC;	a) Yes; b) RVFG and PSF power supply is in normal condition, and electric power	None.	4.62	2.31	2	4.62E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: EQW					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	mechanical failure.		system PSF replaces faulty PVGC to supply power; c) Aircraft power supply redundancy is	d) TBD; e) Disconnect PVGC and aircraft electric power network; f) Replace EQW;	system interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: EQW					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			decreased.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-05-01.01	PVGC control switch is closed due to failure.	All	a) Unable to manually disconnect PVGC; b) No effect. c) No effect.	a) Electric power system OMS information; b) None; c) None; d) TBD; e) None;	a) Yes; b) None;	None.	0.1208	0.0604	15	9.06E-7	No effect on safety	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: switch mechanical failure.			f) Replace PVGC control switch								
24-20-05-01.02	PVGC control	All	a) PVGC and L AC Bus are	a) CAS: L GEN FAULT; b) Malfunctions of PVGC, APBE,	a) Yes; b) RVFG and	None.	0.1208	0.0604	5	3.02E-7	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	switch is disconnected due to failure. Failure cause: switch mechanic		disconnected, and PVGC cannot supply power to the external users; b) Electric power system PSF replaces faulty	MEQC, etc. c) Try to reset PVGC via PVGC control switch, if warning information still exists, disconnect the PVGC; d) TBD; e) Disconnect PVGC and aircraft electric power network;	PSF power supply is in normal condition, and electric power system interconnection and power							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al failure.		PVGC to supply power; c) Aircraft power supply redundancy is decreased.	f) Replace PVGC control switch	supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-06-01.01	PVGC manual tripping switch is opened	All	a) Unable to manually disconnect the mechanical connectors	a) None; b) None; c) None; d) TBD; e) None;	a) Yes; b) None;	None.	0.1208	0.0604	70000	4.228E-3	No effect on safety	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	due to failure. Failure cause: switch mechanical failure.		between PVGC and left engine; b) No effect; automatic tripping mechanism is provided between PVGC and left	f) Replace PVGC tripping switch								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			engine; c) No effect.									
24-20-06-01.02	PVGC manual tripping switch is	All	a) The mechanical connectors between PVGC and left engine are	a) CAS: L GEN FAULT; b) Malfunctions of PVGC, APBE, MEQC, etc. c) Try to reset PVGC via PVGC	a) Yes; b) RVFG and PSF power supply is in	None.	0.1208	0.0604	5	3.02E-7	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	closed due to failure. Failure cause: switch mechanic		disconnected, and PVGC is faulty due to loss of mechanical drive; b) Electric power system PSF replaces faulty	control switch, if warning information still exists, disconnect the PVGC; d) TBD; e) Disconnect PVGC and aircraft electric power network; f) Replace PVGC manual tripping	normal condition, and electric power system interconnection and power supply are in							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al failure.		PVGC to supply power; c) Aircraft power supply redundancy is decreased.	switch	normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED					Component No.:			
Subsystem: AC power supply system 1				Component function: supply AC power			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-07-01.01	PBED cannot supply AC power. Failure cause: PBED body	All	a) PBED cannot supply AC power. b) Electric power system PSF replaces faulty PBED to supply power; c) Aircraft	a) CAS: R GEN FAULT; b) Malfunctions of GRFS, PECU, RBD, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect the PBED; d) TBD; e) Disconnect PBED and aircraft electric power network;	a) Yes; b) PVGC and PSF power supply is in normal condition, and electric power system	None.	13.48	13.48	12	1.618E-4	IV	

	failure.		power supply redundancy is decreased.	f) Replace PBED.	interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRFS					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED control and protection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-08-01.01	Faulty control and protection of GRFS for PBED. Failure cause: GRFS circuit	All	a) PBED cannot supply AC power. b) Electric power system PSF replaces faulty PBED to supply power; c) Aircraft	a) CAS: R GEN FAULT; b) Malfunctions of PBED, PECU, RBD, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect the PBED; d) TBD; e) Disconnect PBED and aircraft electric power network, and cut off	a) Yes; b) PVGC and PSF power supply is in normal condition, and electric power system	None.	22.77	22.77	4	9.108E-5	IV	

	failure.		power supply redundancy is decreased.	GRFS power input; f) Replace GRFS.	interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PECU					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED over-voltage protection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-09-01.01	PECU malfunction. Failure cause: PECU	All	a) Open circuit occurs to PBED excitation circuit due to PECU failure, and PBED cannot supply AC	a) CAS: R GEN FAULT; b) Malfunctions of PBED, GRFS, RBD, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect	a) Yes; b) PVGC and PSF power supply is in normal condition,	None.	2.66	2.66	5	1.33E-5	IV	

	circuit failure.		power; b) Electric power system PSF replaces faulty PBED to supply power; c) Aircraft power supply redundancy is decreased.	the PBED; d) TBD; e) Disconnect PBED and aircraft electric power network, and cut off PECU power input; f) Replace PECU.	and electric power system interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: RBD					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and R AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-10-01.01	RBD is closed due to failure. Failure cause:	All	a) PBED and R AC Bus remain power-on condition; b) Unable to isolate PBED and	a) Electric power system OMS information; b) None; c) None; d) TBD; e) None;	a) Yes; b) None;	None.	4.62	2.31	12	2.772E-5	No effect on safety	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: RBD					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and R AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	RBD mechanical failure.		aircraft electric power network via disconnecting RBD when required; c) No effect.	f) Replace RBD;								
24-20-10	EQW is	All	a) PBED and R	a) CAS: R GEN FAULT;	a) Yes;	None.	4.62	2.31	2	4.62E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: RBD					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and R AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	disconnect due to failure. Failure cause: RBD mechanical failure.		AC Bus are disconnected, and PBED cannot supply power to the external users; b) Electric power system PSF replaces faulty	b) Malfunctions of PBED, GRFS, PECU, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect the PBED; d) TBD; e) Disconnect PBED and aircraft	b) PVGC and PSF power supply is in normal condition, and electric power system							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: RBD					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and R AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			PBED to supply power; c) Aircraft power supply redundancy is decreased.	electric power network; f) Replace RBD;	interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-11-01.01	PBED control switch is closed due to failure.	All	a) Unable to manually disconnect PBED; b) No effect. c) No effect.	a) Electric power system OMS information; b) None; c) None; d) TBD; e) None;	a) Yes; b) None;	None.	0.1208	0.0604	15	9.06E-7	No effect on safety	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: switch mechanical failure.			f) Replace PBED control switch.								
24-20-11-01.02	PBED control	All	a) PBED and R AC Bus are	a) CAS: R GEN FAULT; b) Malfunctions of PBED, GRFS,	a) Yes; b) PVGC and	None.	0.1208	0.0604	5	3.02E-7	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	switch is disconnected due to failure. Failure cause: switch mechanic		disconnected, and PBED cannot supply power to the external users; b) Electric power system PSF replaces faulty PBED to supply	PECU, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect the PBED; d) TBD; e) Disconnect PBED and aircraft electric power network;	PSF power supply is in normal condition, and electric power system interconnection and power							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PVGC control switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC and L AC Bus on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al failure.		power; c) Aircraft power supply redundancy is decreased.	f) Replace PBED control switch.	supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-12-01.01	PBED manual tripping switch is opened	All	a) Unable to manually disconnect the mechanical connectors	a) None; b) None; c) None; d) TBD; e) None;	a) Yes; b) None;	None.	0.1208	0.0604	70000	4.228E-3	No effect on safety	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	due to failure. Failure cause: switch mechanical failure.		between PBED and right engine; b) No effect; automatic tripping mechanism is	f) Replace PBED tripping switch								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			provided between PBED and right engine; c) No effect.									
24-20-12	PBED	All	a) The	CAS: R GEN FAULT;	a) Yes;	None.	0.1208	0.0604	5	3.02E-7	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	manual tripping switch is closed due to failure. Failure		mechanical connectors between PBED and right engine are disconnected,	b) Malfunctions of PBED, GRFS, PECU, etc. c) Try to reset PBED via PBED control switch, if warning information still exists, disconnect the PBED; d) TBD;	b) PVGC and PSF power supply is in normal condition, and electric power system							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	cause: switch mechanical failure.		and PBED is faulty due to loss of mechanical drive; b) Electric power system	e) Disconnect PBED and aircraft electric power network; f) Replace PBED manual tripping switch	interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PBED manual tripping switch					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED and left engine mechanical tripping control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			PSF replaces faulty PVGC to supply power; c) Aircraft power supply redundancy is decreased.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PSF					Component No.:			
Subsystem: BQT start and power generation system				Component function: supply AC power and APU starting torque			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-13-01.01	PSF power supply malfuncti	All	a) PSF cannot supply AC power. b) PSF cannot	a) CAS: APU GEN FAULT; b) Malfunctions of SQEP, AGC, etc. c) Try to reset PSF via PSF	a) Yes; b) PVGC and PBED is in normal	None.	43.5	33.3	2	6.66E-5	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PSF					Component No.:			
Subsystem: BQT start and power generation system				Component function: supply AC power and APU starting torque			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	on. Failure cause: PSF mechanical/electric		replace faulty VFG to supply power; c) Aircraft power supply redundancy is	control switch, if warning information still exists, disconnect the PSF; d) TBD; e) Disconnect PSF and aircraft electric power network;	condition, and electric power system interconnection and							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PSF					Component No.:			
Subsystem: BQT start and power generation system				Component function: supply AC power and APU starting torque			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al failure.		decreased.	f) Replace PSF.	power supply are in normal condition							
24-20-13-01.02	PSF APU start	All	a) PSF cannot start APU;	a) CAS: APU GEN FAULT; b) Malfunctions of SQEP, SPU,	a) Yes; b) PVGC	None.	43.5	10.2	5	5.1E-5	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PSF					Component No.:			
Subsystem: BQT start and power generation system				Component function: supply AC power and APU starting torque			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	malfunction. Failure cause: PSF mechanic		b) PSF cannot supply AC power due to APU start failure; c) APU fails, and	etc. c) Try to reset PSF via PSF control switch, if warning information still exists, disconnect the PSF; d) TBD;	and PBED is in normal condition, and electric power system							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PSF					Component No.:			
Subsystem: BQT start and power generation system				Component function: supply AC power and APU starting torque			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al/electrical failure.		aircraft power supply redundancy is decreased.	e) Disconnect PSF and aircraft electric power network; f) Replace PSF.	interconnection and power supply are in normal condition							

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-14-01.01	PSF unable to start APU due to SQEP failure.	All	a) PSF cannot start APU; b) PSF cannot supply AC power due to APU start	a) CAS: APU GEN FAULT; b) Malfunctions of PSF, SPU, etc. c) Try to reset PSF via PSF control switch, if warning information still exists, disconnect the PSF; d) TBD;	a) Yes; b) PVGC and PBED is in normal condition, and electric power	None.	48.62	15.45	6	9.27E-05	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: SQEP circuit failure.		failure; c) APU fails, and aircraft power supply redundancy is decreased.	e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	system interconnection and power supply are in normal condition							
24-20-14	PSF	All	a) PSF cannot	a) CAS: APU GEN FAULT;	a) Yes;	None.	48.62	3.6	2	7.2E-06	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	unable to supply power due to SQEP failure. Failure cause:		supply AC power. b) PSF cannot replace faulty VFG to supply power; c) Aircraft power supply	b) Malfunctions of PSF, AGC, etc. c) Try to reset PSF via PSF control switch, if warning information still exists, disconnect the PSF; d) TBD; e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	b) PVGC and PBED is in normal condition, and electric power system interconnection and power							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	SQEP circuit failure.		redundancy is decreased.		supply are in normal condition							
24-20-14-01.03	PSF complete malfunction due to	All	a) PSF cannot start APU and supply AC power.	a) CAS: APU GEN FAULT; b) Malfunctions of PSF, SPU, etc. c) Try to reset PSF via PSF control switch, if warning information still	a) Yes; b) PVGC and PBED is in normal	None.	48.62	29.35	2	5.87E-05	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	SQEP failure. Failure cause: SQEP circuit failure.		b) PSF cannot replace faulty VFG to supply power; c) APU fails, and aircraft power supply redundancy is	exists, disconnect the PSF; d) TBD; e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	condition, and electric power system interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			decreased.									
24-20-14-01.03	SQEP wrong control of PSF and thus entering	All	a) BQT start and power generation system malfunction; b) It may be	a) CAS: APU GEN FAULT; b) Malfunctions of PSF, SPU, etc. c) Try to reset PSF via PSF control switch, if warning information still exists, disconnect the PSF; d) TBD;	a) Yes; b) PVGC and PBED is in normal condition, and electric power	None.	48.62	0.00614	5	3.07E-08	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	power generation mode. Failure cause: SQEP circuit failure.		unable to start APU, and cause loss of PSF power supply. c) APU fails, and aircraft power supply	e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	system interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			redundancy is decreased.									
24-20-14-01.04	SQEP wrong control of PSF and thus	All	a) BQT start and power generation system malfunction;	a) CAS: APU GEN FAULT; b) Malfunctions of PSF, SPU, etc. c) Try to reset PSF via PSF control switch, if warning information still exists, disconnect the PSF;	a) Yes; b) PVGC and PBED is in normal condition, and	None.	48.62	0.0037	5	1.85E-08	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	entering APU start mode. Failure cause: SQEP circuit failure.		b) It may be unable to start APU, and cause loss of PSF power supply. c) APU fails, and aircraft	d) TBD; e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	electric power system interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			power supply redundancy is decreased.									
24-20-14-01.05	SQEP launches warning of start	All	a) BQT start and power generation system false	a) CAS: APU GEN FAULT; b) TBD; c) Try to reset PSF via PSF control switch, if warning information still	a) Yes; b) PVGC and PBED is in normal	None.	48.62	0.212	4	8.48E-07	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	and power generation system; Failure cause: SQEP circuit		warning; b) PSF may be disconnected due to flight crew wrong actions; c) Minor increase of	exists, disconnect the PSF; d) TBD; e) Disconnect PSF and aircraft electric power network; f) Replace SQEP.	condition, and electric power system interconnection and power supply are in normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SQEP					Component No.:			
Subsystem: BQT start and power generation system				Component function: provide control and protection for BQT start and power generation system			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	failure.		flight crew work load, and PSF failure may be caused by flight crew actions.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-15-01.01	SAV generator malfunction. Failure	All	a) SAV generator cannot supply AC power when required;	a) None b) None c) TBD d) TBD e) Not applicable.	a) No b) Not applicable.	None.	2.45	2.32	4000	9.28E-03	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	cause: SAV generator mechanical/electrical failure.		b) Electric power system’s power redundancy is decreased. c) No effect.	f) Replace SAV.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-15-01.02	SAV lever failure. Failure cause: SAV generator	All	a) SAV generator cannot supply AC power when required; b) Electric power	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace SAV.	a) No b) Not applicable.	None.	2.45	0.0145	4000	5.8E-05	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	mechanical/electrical failure.		system’s power redundancy is decreased. c) No effect.									
24-20-15	SAV	All	a) SAV	a) None	a) No	None.	2.45	0.059	4000	2.36E-04	IV	Hidden

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.03	gearbox failure. Failure cause: SAV generator mechanic		generator cannot supply AC power when required; b) Electric power system’s	b) None c) TBD d) TBD e) Not applicable. f) Replace SAV.	b) Not applicable.							failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al/electrical failure.		power redundancy is decreased. c) No effect.									
24-20-15-01.04	SAV heater	All	a) SAV generator	a) CAS: SAV HEAT FAULT b) None	a) No b) Not applicable.	None.	2.45	0.06	15	9.00E-07	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	failure. Failure cause: SAV electrical failure.		cannot supply power properly due to icing; b) Electric power system’s power	c) TBD d) TBD e) Not applicable. f) Replace SAV.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV generator					Component No.:			
Subsystem: AC power supply system 2				Component function: supply AC power under emergency power supply condition			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			redundancy is decreased. c) No effect.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV GCU					Component No.:			
Subsystem: AC power supply system 2				Component function: control and protection of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-16-01.01	SAV GCU malfunction (detectable via BIT). Failure cause: SAV	All	a) SAV generator malfunction. b) Electric power system's power redundancy is decreased. c) No effect.	a) Electric power system OMS information; b) None c) TBD d) TBD e) Not applicable. f) Replace SAV GCU.	a) No b) Not applicable.	None.	0.84	0.262	15	3.93E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV GCU					Component No.:			
Subsystem: AC power supply system 2				Component function: control and protection of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	GCU circuit failure.											
24-20-16-01.02	SAV GCU malfunction (undetectable via BIT). Failure	All	a) SAV generator malfunction. b) Electric power system’s power redundancy is	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace SAV GCU.	a) No b) Not applicable.	None.	0.84	0.477	4000	1.908E-3	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV GCU					Component No.:			
Subsystem: AC power supply system 2				Component function: control and protection of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	cause: SAV GCU circuit failure.		decreased. c) No effect.									
24-20-16-01.03	SAV GCU failure occurs to SAV generator	All	a) SAV generator malfunction. b) Electric power system’s	a) Electric power system OMS information; b) None c) TBD d) TBD e) Not applicable.	a) No b) Not applicable.	None.	0.84	0.1006	15	1.509E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV GCU					Component No.:			
Subsystem: AC power supply system 2				Component function: control and protection of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	excitation. Failure cause: SAV GCU circuit failure.		power redundancy is decreased. c) No effect.	f) Replace SAV GCU.								

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-17-01.01	SAV cannot be released due to actuator	All	a) SAV generator failure due to being unable to release; b) Electric power	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace actuator	a) No b) Not applicable.	None.	2.02	0.255	1500	3.825E-4	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	failure. Failure cause: actuator mechanical failure.		system’s power redundancy is decreased. c) No effect.									
24-20-17	SAV	All	a) SAV	a) None	a) No	None.	2.02	0.26	1500	3.9E-4	IV	Hidden

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	cannot be released due to actuator upper lock failure.		generator failure due to being unable to release; b) Electric power system’s power redundancy is decreased.	b) None c) TBD d) TBD e) Not applicable. f) Replace actuator	b) Not applicable.							failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: actuator electrical failure.		c) No effect.									
24-20-17-01.03	Failure of automati	All	a) SAV generator	a) None b) None	a) No b) Not	None.	2.02	1.5	3500	5.25E-3	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	c release thread tube in the actuator. Failure cause: actuator		cannot be automatically released; b) Flight crew manually release SAV when required; c) Minor effect.	c) TBD d) TBD e) Not applicable. f) Replace actuator	applicable.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	electrical failure.											
24-20-17-01.03	Failure of manual release thread tube in	All	a) SAV generator cannot be manually released;	a) None b) None c) TBD d) TBD e) Not applicable.	a) No b) Not applicable.	None.	2.02	0.0003	1500	4.5E-7	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: actuator					Component No.:			
Subsystem: AC power supply system 2				Component function: release control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	the actuator. Failure cause: actuator electrical failure.		b) Flight crew cannot manually release SAV when required; c) Minor effect.	f) Replace actuator								

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV recovery control panel					Component No.:			
Subsystem: AC power supply system 2				Component function: recovery control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-18-01.01	Recovery control panel recovers SAV without command. Failure cause:	All	a) Failure of SAV generator due to abnormal recovery; b) Electric power system’s power redundancy is	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace recovery control panel	a) No b) Not applicable.	None.	0.038	0.038	1500	5.7E-5	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV recovery control panel					Component No.:			
Subsystem: AC power supply system 2				Component function: recovery control of SAV generator			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	recovery control panel mechanical failure.		decreased. c) No effect.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-19-01.01	PEUC mistakenly detects that aircraft is on	All	a) PEUC judges that aircraft is on ground, and cannot automatically control the SAV	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace PEUC.	a) No b) Not applicable.	None.	32.5	32	1500	0.048	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	ground. Failure cause: PEUC circuit failure.		release when required; b) Under emergency power supply condition, flight crew need to manually									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			release SAV; c) No effect.									
24-20-19-01.02	PEUC airspeed signal detection failure.	All	a) Wrong airspeed signal detected by PEUC; b) PEUC cannot	a) None b) None c) TBD d) TBD e) Not applicable.	a) No b) Not applicable.	None.	32.5	0.25	1500	3.75E-4	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: PEUC circuit failure.		control the SAV automatic release, or could release SAV when the airspeed does not meet specific requirements	f) Replace PEUC.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			c) No effect.									
24-20-19-01.03	PEUC malfunction. Failure cause: PEUC	All	a) PEUC SAV automatic release control and heating control failure; b) It may cause	a) Electric power system OMS information; b) None c) TBD d) TBD e) Not applicable.	a) No b) Not applicable.	None.	32.5	0.13	150	1.95E-5	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	circuit failure.		SAV generator failure due to icing, and lead to decrease in electric power system’s power redundancy. c) No effect.	f) Replace PEUC.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-19-01.04	PEUC mistakenly detects that AGC is closed. Failure cause: PEUC	All	a) PEUC mistakenly detects that AGC is closed, so it considers that PSF is still serviceable; b) PEUC cannot	a) None b) None c) TBD d) TBD e) Not applicable. f) Replace PEUC.	a) No b) Not applicable.	None.	32.5	0.0634	4500	2.853E-4	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	circuit failure.		control SAV automatic release, and it may require that flight crew manually release SAV under									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			emergency power supply condition; c) Minor increase of flight crew workload.									
24-20-19	PEUC	All	a) PEUC	a) None	a) No	None.	32.5	0.0634	4500	2.853E-4	IV	Hidden

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.05	mistakenly detects that EQW is closed. Failure cause: PEUC circuit		mistakenly detects that EQW is closed, so it considers that PVGC is still serviceable; b) PEUC cannot control SAV	b) None c) TBD d) TBD e) Not applicable. f) Replace PEUC.	b) Not applicable.							failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	failure.		automatic release, and it may require that flight crew manually release SAV under emergency									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			power supply condition; c) Minor increase of flight crew workload.									
24-20-19-01.06	PEUC mistakenl	All	a) PEUC mistakenly	a) None b) None	a) No b) Not	None.	32.5	0.0634	4500	2.853E-4	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	y detects that RBD is closed. Failure cause: PEUC circuit failure.		detects that RBD is closed, so it considers that PBED is still serviceable; b) PEUC cannot control SAV automatic	c) TBD d) TBD e) Not applicable. f) Replace PEUC.	applicable.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			release, and it may require that flight crew manually release SAV under emergency power supply									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: PEUC					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV automatic release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			condition; c) Minor increase of flight crew workload.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV heating control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV heating power supply on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-20-01.01	SAV heating control relay is opened due to failure	All	a) SAV heater loses power input; b) It may cause SAV generator failure due to	a) CAS: SAV HEAT FAULT b) TBD; c) TBD; d) TBD; e) None; f) Replace SAV heating control relay	a) No b) Not applicable.	None.	4.48	2.24	15	3.36E-5	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV heating control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV heating power supply on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: relay mechanical/electrical failure		icing, and lead to decrease in electric power system’s power redundancy. c) No effect.									
24-20-20	SAV	All	a) SAV heating	a) CAS: SAV HEAT FAULT	a) No	None.	4.48	2.24	15	3.36E-5	No	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV heating control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV heating power supply on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	heating control relay is closed due to failure. Failure cause: relay		relay remains closed, and SAV is constantly in heating condition; b) No effect. c) No effect.	b) TBD; c) TBD; d) TBD; e) None; f) Replace SAV heating control relay	b) Not applicable.						effect on safety	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV heating control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV heating power supply on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	mechanical/electrical failure											

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV manual release control switch					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV manual release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-21-01.01	SAV manual release switch is disconnected due to failure.	All	a) Flight crew cannot manually release SAV; b) SAV is automatically released only;	a) None; b) None; c) None; d) TBD; e) None; f) Replace control switch.	a) No b) Not applicable.	None.	0.1208	0.0604	4000	2.416E-4	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV manual release control switch					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV manual release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: switch mechanical failure.		c) No effect.									
24-20-21-01.02	SAV manual release	All	a) SAV is released by mistake;	a) SAV is released by mistake; b) TBD; c) None;	a) No b) Not applicable.	None.	0.1208	0.0604	5	3.02E-7	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV manual release control switch					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV manual release control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	switch is closed due to failure. Failure cause: switch mechanical failure.		b) No effect; c) Minor effect on aircraft aerodynamics performance.	d) None; e) Try to recover SAV; f) Replace control switch.								

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV reset switch					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV reset control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-22-01.01	Abnormal command of SAV reset switch Failure cause: switch mechanical failure.	All	a) Abnormal reset after SAV is released; b) It may cause SAV generator failure, and lead to decrease in	a) None; b) None; c) None; d) TBD; e) None; f) Replace control switch.	a) No b) Not applicable.	None.	0.362	0.362	4000	1.448E-3	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: SAV reset switch					Component No.:			
Subsystem: AC power supply system 2				Component function: SAV reset control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			electric power system’s power redundancy; c) No effect.									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-23-01.01	GRPE is closed due to	All	a) GRPE remains closed, and L AC Bus or R AC Bus cannot	a) CAS: AC ESS BUS; b) TBD; c) TBD;	a) No b) Not applicable.	None.	3	1.5	5	7.5E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	failure. Failure cause: GRPE mechanic		supply power to 3-Phase AC ESS Bus; b) It may cause disconnection of	d) TBD; e) TBD; f) Replace GRPE.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al/electrical failure.		3-Phase AC ESS Bus power supply; c) It may cause power supply disconnection of partial AC power									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			users									
24-20-23-01.02	GRPE is disconnected due	All	a) GRPE remains disconnected, and SAV generator cannot	a) None; b) None; c) None;	a) No; b) Not applicable.	None.	3	1.5	3500	5.25E-3	IV	Hidden failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	to failure. Failure cause: GRPE mechanic		connect with 3-Phase AC ESS Bus; b) Under emergency power supply condition, SAV	d) TBD; e) TBD; f) Replace GRPE.								

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al/electrical failure.		generator cannot supply power to 3-Phase AC ESS Bus; c) Under emergency									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			power supply condition, power outage occurs to the 3-Phase AC ESS Bus power supply									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE					Component No.:			
Subsystem: AC power supply system 2				Component function: on/off control between SAV generator and 3-Phase AC ESS Bus			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			equipment									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: GRPE on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-24-01.01	GRPE control relay is closed due to failure. Failure cause: relay mechanic	All	a) GRPE remains closed, and L AC Bus or R AC Bus cannot supply power to 3-Phase AC ESS Bus; b) It may cause	a) CAS: AC ESS BUS; b) TBD; c) TBD; d) TBD; e) TBD; f) Replace relay.	a) No; b) Not applicable.	None.	0.711	0.356	5	1.78E-6	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: GRPE on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	al/electrical failure		disconnection of 3-Phase AC ESS Bus power supply; c) It may cause power supply disconnection of partial AC power users									
24-20-24	GRPE	All	a) GRPE	a) None	a) No;	None.	0.711	0.356	4500	1.602E-3	IV	Hidden

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: GRPE on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
-01.02	control relay is disconnected due to failure. Failure cause: relay mechanical/electrical failure		remains disconnected, and SAV generator cannot connect with 3-Phase AC ESS Bus; b) Under emergency power supply condition, SAV	b) None c) None d) TBD e) TBD; f) Replace relay.	b) Not applicable.							failure

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: GRPE on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			generator cannot supply power to 3-Phase AC ESS Bus; c) Under emergency power supply condition, power outage occurs to the 3-Phase AC									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: GRPE control relay					Component No.:			
Subsystem: AC power supply system 2				Component function: GRPE on/off control			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			ESS Bus power supply equipment									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: static inverter					Component No.:			
Subsystem: AC power supply system 2				Component function: supply single phase AC power			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-25-01.01	Static inverter unable to supply AC power. Failure cause: static inverter	All	a) Static inverter unable to supply AC power; b) Under emergency power supply condition, prior to releasing SAV and	a) CAS: INVERTER FAULT; b) None; c) None; d) TBD; e) TBD; f) Replace static inverter.	a) No; b) Not applicable.	None.	20.5	20.5	4	8.2E-5	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: static inverter					Component No.:			
Subsystem: AC power supply system 2				Component function: supply single phase AC power			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	electrical failure.		before SAV becomes available, key single-phase AC bus power supply is disconnected; c) Under emergency power supply condition, the power									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: static inverter					Component No.:			
Subsystem: AC power supply system 2				Component function: supply single phase AC power			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			interruption duration of power users connected to the key single-phase AC bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-26-01.01	Current detection failure of current transformer.	All	a) Wrong PBED feeder line current is detected by GRFS; b) It may cause GRFS's electrical	a) CAS: R GEN FAULT; Malfunctions of TDPBE 2, etc. c) Try to reset PBED, if failure still exists, disconnect the PBED; d) TBD; e) TBD;	a) Yes; b) PVGC and PSF is in normal condition, and electric power	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	Failure cause: current transformer electrical failure.		protection to the PBED, PBED failure, or decrease in the electric power system's power redundancy; c) Under	f) Replace current transformer.	system interconnection and power supply are in normal condition.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			emergency power supply condition, the power interruption duration of power users connected to the key single-phase AC									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-27-01.01	Current detection failure of current transformer. Failure cause: current transform	All	a) Wrong PBED feeder line current is detected by GRFS; b) It may cause GRFS's electrical protection to the PBED,	a) CAS: R GEN FAULT; Malfunctions of TDPBE 1, etc. c) Try to reset PBED, if failure still exists, disconnect the PBED; d) TBD; e) TBD; f) Replace current transformer.	a) Yes; b) PVGC and PSF is in normal condition, and electric power system interconnection and power supply are in	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	er electrical failure.		PBED failure, or decrease in the electric power system's power redundancy; c) Under emergency power supply condition, the power		normal condition.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: TDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PBED feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			interruption duration of power users connected to the key single-phase AC bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-28-01.01	Current detection failure of current transformer. Failure cause: current transform	All	a) Wrong PVGC feeder line current is detected by APBE; b) It may cause APBE's electrical protection to the PVGC,	a) CAS: L GEN FAULT; b) Malfunctions of NDPBE 2, etc. c) Try to reset PVGC, if failure still exists, disconnect the PVGC; d) TBD; e) TBD; f) Replace current transformer.	a) Yes; b) PBED and PSF is in normal condition, and electric power system interconnection and power supply are in	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	er electrical failure.		PVGC failure, or decrease in the electric power system's power redundancy; c) Under emergency power supply condition, the power		normal condition.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			interruption duration of power users connected to the key single-phase AC bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-29-01.01	Current detection failure of current transformer. Failure	All	a) Wrong PVGC feeder line current is detected by APBE; b) It may cause APBE's	a) CAS: L GEN FAULT; b) Malfunctions of NDPBE 1, etc. c) Try to reset PVGC, if failure still exists, disconnect the PVGC; d) TBD; e) TBD; f) Replace current transformer.	a) Yes; b) PBED and PSF is in normal condition, and electric power system	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	cause: current transformer electrical failure.		electrical protection to the PVGC, PVGC failure, or decrease in the electric power system's power redundancy; c) Under		interconnection and power supply are in normal condition.							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			emergency power supply condition, the power interruption duration of power users connected to the key									

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: NDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PVGC feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			single-phase AC bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-30-01.01	Current detection failure of current transformer. Failure cause: current transform	All	a) Wrong PSF feeder line current is detected by SQEP; b) It may cause SQEP's electrical protection to the PSF, PSF	a) CAS: APU GEN FAULT; b) Malfunctions of BDPBE 2, etc.; c) Try to reset PSF, if failure still exists, disconnect the PSF; d) TBD; e) TBD; f) Replace current transformer.	a) Yes; b) PVGC and PBED is in normal condition, and electric power system interconnection and power supply are in	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	er electrical failure.		failure, or decrease in the electric power system's power redundancy; c) Under emergency power supply condition, the power		normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 1					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			interruption duration of power users connected to the key single-phase AC bus exceeds the maximum allowable value									

Continued Table B.1 Information of Electric Power System FMEA

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
24-20-31-01.01	Current detection failure of current transformer. Failure cause: current transform	All	a) Wrong PSF feeder line current is detected by SQEP; b) It may cause SQEP's electrical protection to the PSF, PSF	a) CAS: APU GEN FAULT; b) Malfunctions of BDPBE 1, etc.; c) Try to reset PSF, if failure still exists, disconnect the PSF; d) TBD; e) TBD; f) Replace current transformer.	a) Yes; b) PVGC and PBED is in normal condition, and electric power system interconnection and power supply are in	None.	0.00247	0.00247	4	4.94E-9	IV	

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
	er electrical failure.		failure, or decrease in the electric power system's power redundancy; c) Under emergency power supply condition, the power		normal condition							

Failure Mode and Effects Analysis (FMEA)												
System: electric power system				Component: BDPBE 2					Component No.:			
Subsystem: AC power supply system 1				Component function: PSF feeder line current detection			ATA No.: 24-20		Drawing No. and revision:			
FMEA No.	Failure modes and causes	Flight phase	Failure effect a) Local effect b) Higher-level effect c) Final effect (for aircraft)	Identification and corrective actions a) Provide indication to the flight crew; b) Other failures with same indication; c) Failure identification, isolation and corrective actions made by flight crew; d) Effect caused by possible improper actions; e) Fault isolation—maintenance personnel; f) Corrective actions—maintenance personnel;	Requirements for dispatch with failure a) Yes, the aircraft can be dispatched b) If "yes", what restrictions apply	Effect caused by cascaded/ concurrent hazardous failures	Single component failure rate (1E-6/H)	Failure rate of failure mode (1E-6/H)	Exposure time (H)	Occurrence probability of failure mode	Hazard level	Remark
			interruption duration of power users connected to the key single-phase AC bus exceeds the maximum allowable value									