Business Continuity Manual

Business Continuity Plan: F1

Access Control System

		Signature	Revision	Effective Date
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A. BCP – F1. Access Control System Table of Contents

B   Failure of Headend Server

1.0   Failure Impacts

1.   Scenario 1 – Failure of the Primary Headend Server Only
- No service impact.

a. AVSECO-IAC Action:
   i.   No action is required.

b. TSS Action:
   i.   AA-FRT will check on the central system, and confirm a successful changeover to the Secondary Headend Server;
   ii.   AA-FRT will check and confirm the ACS system's functionality;
   iii. AA-FRT will coordinate with AVSECO-IAC on the operation of the ACS system and confirm it is operating normally;
   iv.   AA-FRT will update the AA-ADM on the ACS system's status; and
   v.   AA-Second Line Maintenance team will trouble shoot, follow up on the ACS system's fault, and ensure the system's return to normal.

2.   Scenario 2 – Failure of Both the Primary and Secondary Headend Servers
- Operations of ACS workstations interrupted.
- Alarm monitoring interrupted.
- Permit productions interrupted.
- No service impact to ACS devices, as they work locally.

a.   AVSECO-IAC Action:
   i.   Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
   ii.   Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT for the Servers urgent repairs;
   iii. Inform APCR, C&ED, ImmD and ASU;
   iv.   Alert Command Posts of: TAD; AAD; BSD; PSD; and TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
   v.   Instruct TAD staff to check the Landside/Airside ACS doors, for urgent ACS door controls prepare to use Special Access Control Cards and, when conducting permit checks, to pay attention to Card-Reader images / visual checks;
   vi.   Use CCTVs to monitor affected areas;
   vii. Make log records / OB entries for the incidents; and
   viii. Prepare Incident Reports for both the HKIA and IAC SITREPS.

    b. TSS Action:
- i. AA-FRT will alert and periodically update the AA-ADM, AA-SSBC and AVSECO-IAC on the ACS system's status;
- ii. AA-FRT will coordinate with AVSECO-IAC for any support;
- iii. AA-FRT, with the AA Second Line Maintenance team, will trouble shoot and follow up on the ACS system's fault until the system resumes normal operation; and
- iv. For remote support, if required, the AA-Second Line Maintenance team will coordinate with the CEM.

C   Failure of Controller

1.0   Failure Impacts

1. <u>Scenario 1 – Failure of the Server-Based Controller</u>
   - No service impact, if the primary controller is down.
   - If both primary and secondary controllers are down, the ACS devices that are under the control of the corresponding controller cannot transmit alarms to the ACS workstations.

   a. AVSECO-IAC Action:
   - If the primary controller only is down, no action is required.

   - If both the primary and secondary Server-Based Controllers are down:
     - i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
     - ii. Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT for the Controllers urgent repairs;
     - iii. Inform APCR, C&ED, ImmD and ASU;
     - iv. Alert the Command Posts of: TAD; AAD; BSD; PSD; and TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
     - v. Instruct TAD staff, for urgent ACS door controls, to prepare to use Special Access Control Cards and, when conducting permit checks, to pay attention to Card-Reader images / visual checks;
     - vi. Use CCTVs to monitor affected areas;
     - vii. Make log records / OB entries for the incidents; and
     - viii. Prepare Incident Reports for both the HKIA and IAC SITREPs.

   b. TSS Action:
   - i. AA-FRT will check on the system and identify the impact on field devices;
   - ii. AA-FRT will inform AVSECO-IAC of the impact on field devices, for the on-site support arrangement by AVSECO (if required);
   - iii. AA-FRT, with the AA Second Line Maintenance team, will trouble shoot, and follow up on the ACS system's fault until the system resumes normal operation; and

        iv.   AA-Second Line Maintenance team will coordinate with the AA-FRT for a follow up on the system level configuration, if required.

  2. <u>Scenario 2 – Failure of Appliance-Based Controller</u>
- ACS devices which are under the control of the corresponding controller cannot propagate alarms to the ACS workstations.

  a. AVSECO-IAC Action:
      i.   Alert the Command Posts of TAD, AAD, BSD, PSD, and TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
      ii.   Instruct TAD staff, for urgent ACS door controls, to prepare to use Special Access Control Cards, and, when conducting permit checks, to pay attention to Card-Reader images / visual checks
      iii. Use CCTVs to monitor affected areas; and
      iv.   Instruct TAD staff to conduct on-site alarm functioning tests with the ACS Controller.

  b. TSS Action:
      i.   AA-FRT will check on the system and identify the impact on field devices;
      ii.   AA-FRT will inform AVSECO-IAC of the impact on field devices, for on-site support arrangement by AVSECO, if required;
      iii. AA-FRT, with the AA Second Line Maintenance team, will trouble shoot, follow up on the ACS system's fault until the system resumes normal; and
      iv.   AA-FRT will coordinate with the AA-Second Line Maintenance team to follow up on the system level configuration, if required.

D   No Response on the ACS Workstation

1.0   Failure Impacts:
- Operations of the affected ACS workstation may be interrupted;
- Alarm monitoring via the affected workstations may be interrupted;
- Permit production via the affected workstations may be interrupted; and
- No service impact to the central system or ACS devices, as they work locally.

  a. AVSECO-IAC Action:
- If both primary and secondary Server-Based Controllers are down:

      i.   Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
      ii.   Alert the AA-ADM, AA-IAC, AA-SSBC, and inform AA-FRT for the Servers urgent repairs;
      iii. Inform APCR, C&ED, ImmD and ASU;

  iv. Alert Command Posts of TAD, AAD, BSD, PSD and TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;

  v. Instruct TAD staff, for urgent ACS door controls, to prepare to use Special Access Control Cards and, when conducting permit checks, to pay attention to Card-Reader images / visual checks;

  vi. Instruct TAD / AAD / TRA staff to conduct manual / visual permit checks;

  vii. Use CCTVs to monitor affected areas;

  viii. Make log records / OB entries for the incidents;

  ix. Prepare Incident Reports for both the HKIA and IAC SITREPs; and

  x. Instruct TAD staff to conduct on-site alarm function tests.

b. TSS Action:

  i. AA-FRT will check and confirm the ACS central system is operating normally;

  ii. AA-FRT, with the AA Second Line Maintenance team will trouble shoot, follow up on the ACS system's workstation fault until the system resumes normal; and

  iii. AA-FRT will coordinate with AA-Second Line Maintenance team for a follow up on the system level configuration, if required.

E Malfunction of Card Reader (staff access control point)

1.0 Failure Impacts

- Card reader cannot properly read the ARA permit.
- Access rights of the ACS doors cannot be granted to the ARA permit holder.
- ACS doors cannot be controlled remotely by the ACS workstations.
- ACS reader cannot propagate the alarms to the ACS workstations.

a. AVSECO-IAC Action:

- If both primary and secondary Server-Based Controllers are down:

  i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;

  ii. Report to AA-FRT for repairs;

  iii. Inform APCR, C&ED, ImmD and ASU;

  iv. For the urgent control of ACS doors, instruct TAD staff to prepare to use Special Access Control Cards, and, when conducting permit checks, to pay attention to Card-Reader images / visual checks;

  v. Instruct TAD / AAD / TRA staff to use the portable card-readers and, when conducting manual / visual permit checks, pay attention to Card-Reader images;

  vi. Use CCTVs to monitor affected areas;

  vii. Make log records / OB entries for the incidents; and

  viii. Prepare Incident Reports for both the HKIA and IAC SITREPs.

b. TSS Action:
   i. AA-FRT, with AA Second Line Maintenance team, will trouble shoot, and follow up on the ACS card reader fault(s), with and any hardware replacement, ensuring the system resumes normal operation.

F   Malfunction of Permit Production System in Permit office

1.0   Failure Impacts

1.   Scenario 1 – Server Issue
   - Refer to Section B

2.   Scenario 2 – Workstation Issue
   - Refer to Section D

3.   Scenario 3 – Network Issue
   - Refer to Section H

4.   Scenario 4 – Power Issue (Interruption exceeding 4 hours)
   - Refer to Section G

G   Prolonged Power Interruption Exceeding 4 hours

1.0   Failure Impacts

1.   Scenario 1 – Server Level

   - No impact, assuming backup power supply is provided. Otherwise please refer to Section B.

2.   Scenario 2 – Workstation Level

   - ACS workstations become unusable. Please refer to Section D.

3.   Scenario 3 – Network Level

   - If the networking equipment is installed at communication rooms, no impact, assuming backup power supply is provided.
   - If otherwise, the networking equipment becomes unusable. Please refer to Section H.

4.   Scenario 4 – Local Device Level

   - Local devices, including readers, sounder, door locks etc. will become unusable.
   - Card reader cannot read the ARA permit.
   - Access rights to the ACS doors cannot be granted to the ARA permit holder.

- ACS doors cannot be controlled remotely by the ACS workstations.
- ACS doors will unlock.

a. AVSECO-IAC Action:
- If both primary and secondary Server-Based Controllers are down:
  i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
  ii. Alert the Command Posts of TAD, AAD, BSD, PSD & TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
  iii. For the urgent control of the ACS doors, instruct TAD staff to prepare to use Special Access Control Cards and, when conducting permit checks, to pay attention to the Card-Reader images / visual checks;
  iv. Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT to conduct urgent repairs;
  v. Inform APCR, C&ED, ImmD and ASU;
  vi. Use CCTVs to monitor the affected areas;
  vii. Make log records / OB entries for the incidents;
  viii. Prepare Incident Reports for both the HKIA and IAC SITREPs; and
  ix. Instruct TAD staff to place additional guard(s) to monitor the unlocked ACS doors.

b. TSS Action:
  i. AA-FRT will trouble shoot, if necessary, arrange the provision of temporary power, and ensure the devices resume normal operation.

H   Failure of ACS Network

1.0   Failure Impacts

1. <u>Scenario 1 - One uplink failure of an access switch</u>

- No service impact.

a. AVSECO-IAC Action:
  i. No action is required.

b. IT Action:
  i. To restart the failed uplink.

2. <u>Scenario 2 - One access switch failure</u>

- Devices connected to the failed access switch fail to connect.
- Alarms generated by some local devices cannot be transmitted to the ACS workstations.

- Some ACS doors cannot be controlled remotely by the ACS workstations.

a. AVSECO-IAC Action:
   i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
   ii. Alert the Command Posts of TAD, AAD, BSD, PSD & TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
   iii. For the urgent control of the ACS doors, instruct TAD staff to prepare to use Special Access Control Cards and, when conducting permit checks, to pay attention to the Card-Reader images / visual checks;
   iv. Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT to conduct urgent repairs;
   v. Inform APCR, C&ED, ImmD and ASU;
   vi. Use CCTVs to monitor the affected areas;
   vii. Make log records / OB entries for the incidents;
   viii. Prepare Incident Reports for both the HKIA and IAC SITREPs; and
   ix. Instruct TAD staff to conduct on-site alarm function tests.

b. IT Action :
   i. To repair / replace the non-functioning access switch.

3. Scenario 3 - Both access switch failure

- No network service can be provided to the ACS devices connected to this CR. The impact is localised to this CR, not this zone nor all zones.
- Alarms generated by some local devices cannot be transmitted to the ACS workstations.
- Some ACS doors cannot be controlled remotely by the ACS workstations.

a. AVSECO-IAC Action:
   i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
   ii. Alert the Command Posts of TAD, AAD, BSD, PSD & TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
   iii. For the urgent control of the ACS doors, instruct TAD staff to prepare to use the Special Access Control Cards and, when conducting permit checks, to pay attention to the Card-Reader images / visual checks;
   iv. Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT to conduct urgent repairs;
   v. Inform APCR, C&ED, ImmD and ASU;
   vi. Use CCTVs to monitor the affected areas;
   vii. Make log records / OB entries for the incidents;

      viii.   Prepare Incident Reports for both the HKIA and IAC SITREPs; and

      ix.   Instruct TAD staff to conduct on-site alarm function tests.

  b. IT Action:

      i.   To repair / replace the non-functioning access switches.

4. <u>Scenario 4 - One distribution switch failure</u>
   - No service impact.

  a. AVSECO-IAC Action:

      i.   No action is required.

  b. IT Action:

      i.   To repair / replace the non-functioning distribution switch.

5. <u>Scenario 5 - Both distribution switches failure</u>
   - No network service can be provided within the zone. The impact is localised to this zone, not all zones, nor the whole ACS network.
   - Alarms generated by local devices for this affected zone cannot be transmitted to the ACS workstations.
   - ACS doors of the affected zone cannot be controlled remotely by the ACS workstations.

  a. AVSECO-IAC Action:

      i.   Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;

      ii.   Alert the Command Posts of TAD, AAD, BSD, PSD & TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;

      iii.   For the urgent control of the ACS doors, instruct TAD staff to prepare to use the Special Access Control Cards and, when conducting permit checks, to pay attention to Card-Reader images / visual checks;

      iv.   Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT to conduct urgent repairs;

      v.   Inform APCR, C&ED, ImmD and ASU;

      vi.   Use CCTVs to monitor the affected areas;

      vii.   Make log records / OB entries for the incidents;

      viii.   Prepare Incident Reports for both the HKIA and IAC SITREPs; and

      ix.   Instruct TAD staff to conduct on-site alarm function tests.

  b. IT Action:

      i.   To repair / replace the non-functioning distribution switches.

6. <u>Scenario 6 - One core switch failure</u>
   - No service impact.

    a. AVSECO-IAC Action:
       i. No action is required.

    b. IT Action:
       i. To repair / replace the non-functioning core switch.

7. <u>Scenario 7 - Both core switches failure</u>

- All zones work locally, but cannot communicate across zones.
- The CDC at each zone can manage and control the ACS devices, but with no communication to the headend servers. (Refer to section 1, Failure of the Headend Servers)
- Alarms generated by local devices cannot be transmitted to ACS workstations.
- ACS doors cannot be controlled remotely by the ACS workstations.

    a. AVSECO-IAC Action:
      i. Immediately inform: AED Ops I; AED Ops II; SM Ops I-AC; SM Ops II-AS; DSM; DSC; DDSC; and ADSC;
      ii. Alert the Command Posts of TAD, AAD, BSD, PSD & TRA to enhance patrols of Terminal 1, Sky Bridge, T1S, T1M, SkyPier Terminal, and the apron areas;
      iii. For the urgent use of the ACS doors, instruct TAD staff to prepare to use the Special Access Control Cards and, when conducting permit checks, to pay attention to the Card-Reader images / visual checks;
      iv. Alert AA-ADM, AA-IAC, AA-SSBC, and inform the AA-FRT to conduct urgent repairs;
      v. Inform APCR, C&ED, ImmD and ASU;
      vi. Use CCTVs to monitor the affected areas;
      vii. Make log records / OB entries for the incidents;
      viii. Prepare Incident Reports for both the HKIA and IAC SITREPs; and
      ix. Instruct TAD staff to conduct on-site alarm function tests.

    b. IT Action:
      i. To resume the operational serviceability of the failed core switches.

End of BCP – F1