出國報告〈出國類別：實習〉

航空內部查核員課程
Aviation Internal Auditor Course

服務機關：交通部民用航空局

姓名職稱：王華駿 科長

派赴國家：加拿大蒙特婁

出國期間：99 年 5 月 29 日～99 年 6 月 7 日

報告日期：99 年 8 月 31 日

目次

1. 目的

本參訓目的主要在介紹內部查核員應有之概念及技巧，其中包含查核作業程序及規劃、查核員訓練、一般查核技巧、查核員責任及做法、文件檢查、查核結果報告及對國際航空運輸協會安全查核介紹，可透過參訓了解航空業界於相關執行相關查核或檢查時之重點及要求，並可加強查核效率，以達國際上檢查人員之標準，同時提升查核效率。

2. 過程

本次出國預算由民航事業作業基金支應，課程由國際航空運輸協會（International Air Transport Association，簡稱 IATA）下轄之 Training & Development Institute 辦理，茲將訓練地點、往返行程、課程安排、講師及參訓學員簡述如下：

2.1 訓練地點#

IATA 總部介紹位於加拿大有北美小巴黎之稱的蒙特婁市，同時也是全世界最大的英法雙語城市，人口約 360 萬人，城市建設完善，鐵公路地下鐵，甚至腳踏車專用道因應運俱，市中心全地下商城號稱北美最大。除了機場內有英文標示之外，出了機場後幾乎全都是法語標示，然而使用英語溝通並不是問題。

國際航空運輸協會（International Air Transport Association，簡稱 IATA）是一個國際性的民航組織，總部設在加拿大的蒙特婁。和監管航空安全和航行規則的國際民航組織相比，它更像是一個由承運人（航空公司）組成的國際協調組織，管理在民航運輸中出現的諸如票價、危險品運輸等等問題。

大部分的國際航空公司都是國際航空運輸協會的成員，以便和其他航空公司共享連程中轉的票價、機票發行等等標準。但是有許多地區性的航空公司或者低成本航空公司並非國際航空運輸協會的成員。

IATA 總部設於鄰近火車站的一棟 25 層的金融商業大樓之中，與 ICAO 總部隔一

條街道，共佔據該金融商業大樓的第 6 到第 11 層樓，附屬之訓練中心則設於 11 樓，該金融商業大樓與地下鐵共構，地下樓設有規模不大美食街，約有 8 家各式各樣的料理，參訓期間的午餐都在美食街解決，每套簡餐約需台幣 350-400 元左右，雖然方便到也覺得物價頗高。

2.2 往返行程#

1. 99年5月29日搭乘長榮航空BR036班機，由台北出發，經加拿大多倫多機場轉搭加拿大航空434班機，並於99年5月30日抵達加拿大蒙特婁機場。

2. 99年5月31日至99年6月4日於蒙特婁國際航空運輸協會訓練中心進行「航空內部查核員訓練」課程。

3. 99年6月5日搭乘加拿大航空409班機，由加拿大蒙特婁出發，經多倫多機場轉搭長榮航空BR035班機，並於99年6月7日返抵台北。

2.3 課程安排#

五天課程內容共包含 16 節課、6 節角色扮演、課程最後並舉行測驗，課程表如下所示：

第 1 天

Session 1 Course Introduction & Ice Breaking with Participants
Session 2 Aviation Organization, Regulatory Agencies and Management
          Systems
Session 3 Introduction of Internal Audit
Session 4 Common Audit Terminology
Session 5 Audit Process & Program
Session 6 Human Factors

第 2 天

Session 7 Auditors Training
Session 8 Auditors Qualities
Session 9 Auditors Responsibilities and Activities
Exercise 1 (Audit importance to organization)

第 3 天

Exercise 2 (Auditor Communication Role Play)
Session 10 Initiation & Preparation
Session 11 Documentation Review
Session 12 Audit Performance and Evidence Gathering

Exercise 3 (Audit Plan)
Exercise 4 (Audit Agenda)

第 4 天

Session 13 Analysis of Findings
Session 14 Audit Reporting and Follow up
Session 15 IOSA Awareness and Audit Program
Exercise 5 (Audit Situation 1)
Exercise 6 (Audit Situation 2)

第 5 天

Session 16 Overall Summaries
Course Evaluation
Examination & Review

2.4 講師及參訓學員介紹#

講師介紹：

Vesna Petrak 女士於 2004 年迄今一直擔任國際航空運輸協會作業安全查核認證
（IATA Operational Safety Audit, IOSA）之稽核員，並於 2006 年到 2008 年間擔
任 IOSA 之主任稽核員（Lead Auditor），她同時也是一家顧問公司的負責人，
對於 IOSA 認證之相關標準及稽核程序相關熟捻，由於其具備極豐富之稽核經
驗，遂由 IATA 邀請擔任本次課程之講師。

學員介紹：

課程學員有六位來自加拿大、一位來自盧森堡、一位來自哥倫比亞、一位來自菲
律賓、一位來自荷屬安的列斯及我共十一位成員，成員背景除了我來自民航管理
當局外，一位來自 IATA、其他均來自航空公司。

3. 課程內容

3.1 國際民航組織、民航管理機構及法規介紹#

3.1.1 民航組織介紹#

國際民航組織（英文：International Civil Aviation Organization，簡稱
ICAO）是聯合國屬下專責管理和發展國際民航事務的機構。其職責包括：
發展航空導航的規則和技術；預測和規劃國際航空運輸的發展以保證航空

安全和有序發展。國際民航組織還是國際範圍內製定各種航空標準以及程序的機構，以保證各地民航運作的一致性。國際民航組織還制定航空事故調查規範，這些規範被所有國際民航組織的成員國之民航管理機構所遵守。

3.1.2 民航管理機構及法規介紹#

美國聯邦航空總署（FAA, Federal Aviation Administration）是美國運輸部下屬負責民用航空管理的機構，相關所制定的法規為聯邦航空法規（FAR, Federal Aviation Regulations）。

歐洲聯合航空署（Joint Aviation Authorities）：歐洲聯合航空署為歐洲的航空管理機構，相關制定之法規則為聯合航空法規（JAR, Joint Aviation Regulations），之後管理機構轉型為歐洲航空安全局（EASA, European Aviation Safety Agency），與美國聯邦航空總署同為世界上主要的航空器適航證頒發者。

圖表 3-1 說明當國際民航組織於各附約中制定相關的標準及建議措施（SARPs）後，經由美國聯邦航空總署或歐洲航空安全局轉變為國內航空法規及命令時，美國及法國均為航空大國，相關法規命令之制定或修訂，應有其緣由及依據。
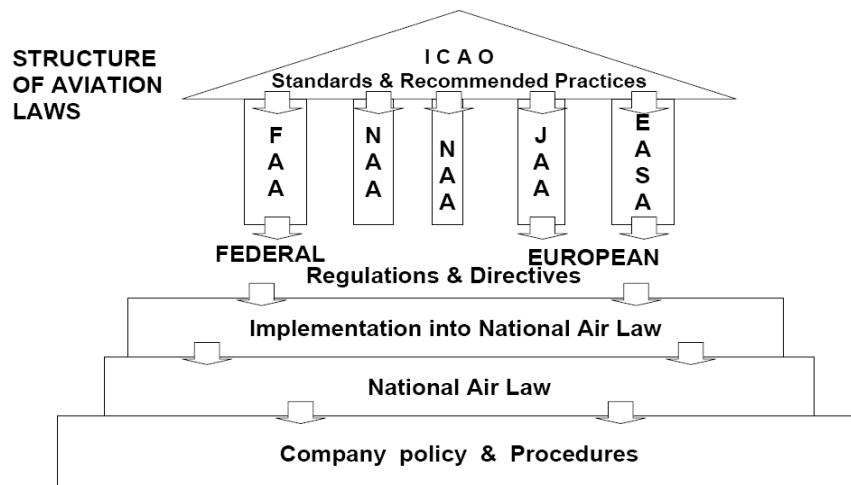
圖表 3-1 民航法規架構

3.1.3 管理系統#

1. ISO 9000品質管理系統

   IATA所推動之IOSA認證及目前推動之國際航空運輸協會地勤服務安全審查（IATA Safety Audit for Ground Operations, 以下簡稱ISAGO）認證ISAGO認證，主要係參考係ISO 9000品質管理系統所建置，ISO 9000品質管理系統四項核心標準介紹如下：

   ISO 9000：概念及術語

   ISO 9001：品質保證要求項目，以提供對產品/服務結果能符合所建立要求之信心。

   ISO 9004：品質管理指導綱要，組織機構經由確認顧客滿意以獲取所有投資者的利益。

   ISO 10011：稽核品質管理系統指導綱要。

   註：ISO 9002及ISO 9003的相關內容於2000年已併入ISO 9001。

2. 安全管理系統（Safety Management System）

   有關安全管理系統，IATA所提出的要項如下所示，其與ICAO Doc.9859安全管理手冊所列之12要項差異不大。

   a. 安全權責（Accountability）

   b. 安全政策（Safety Policy）

   c. 文件化（Documentation）

   d. 危害辨識及分析（Hazard Identification & Analysis）

   e. 危害追蹤（Hazard Tracking）

   f. 安全－風險圖像（Safety-Risk Profile）

   g. 變動管理（Change Management）

   h. 查核及評估（Audit & Evaluation）

   i. 安全量測（Safety Measurement）

   j. 訓練及推廣（Training & Promotion）

k. 緊急應變計畫（Emergency Response Plan）

品質管理系統與安全管理系統都希望能藉由主動的方法來找出管理系統的缺失，差異只在管理標的不同，前者在辨識出組織管理系統中的各項缺點，後者則在辨識出組織管理系統中的相關安全議題。

3.2 內部查核介紹#

3.2.1 稽核類型#

一般來說，稽核可分為以下三種類型：

a. 第一者稽核（First-Party Audits）：屬內部查核（自我診斷），由組織內部人員對組織本身所執行之內部查核，定期執行以驗證公司本身品質系統執行的效果。

b. 第二者稽核（Second-Party Audits）：屬客戶間稽核（雙方約定標準），顧客對組織或其協力廠商（或組織對供應商）執行之品質制度查核作業稽核。

c. 第三者稽核（Third-Party Audits）：屬獨立公信力機構（行業特定標準），組織外的獨立機構或個人（可能是認證機構或潛在客戶）對組織所執行之稽核。

3.2.2 內部查核之目的在於協助管理階層檢查及覆核內部控制制度之缺失及衡量營運之效果及效率，並適時提供改進建議，以確保內部控制制度得以持續有效實施及作為檢討修正內部控制制度之依據。

3.3 一般稽核術語#

1. 稽核計畫（Audit Plan）：對稽核的範圍及實施方式所做的規劃，係稽核員於接受委託到提出整個稽核過程相關工作內容的綜合計畫。

2. 稽核依據（Audit Criteria）：即標準或法規要求。

3. 稽核證據（Audit Evidence）：任何與查核依據有關的紀錄及可查證的事實等謂之。

4. 稽核發現（Audit Findings）：稽核員對稽查依據與稽證據的評估結果。

5. 不符（Non compliance ＆ Non conformity）：此2個英文用法於平常使用總不易分辨清楚，茲依其定義說明如下：

    a. Non compliance：一個事件、程序或系統不符合（meet）管理的要求或標準，以事件為主。

    b. Non conformity：不符合法規要求或標準，以法規要求或標準為準，進行相關檢查時，如IATA於執行IOSA認證時，均係遵照IOSA Standards Manual, 2nd Edition (July 2009)執行相關查核，當確認查核發現（Audit Finding）確定與規範不相符時，係採Non conformity作為稽核不符合的判定術語。

其他稽核相關術語於後續章節陸續介紹，

3.4 稽核過程及計畫#

本課程主要目的在介紹一個典型的稽核計畫執行過程所應包括的事項如下：

1. 稽核計畫的管理當局的支持

    任何一個稽核計畫一定由管理單位負責啟動，管理高層理所當然應全力支持稽核計畫的執行。

2. 稽核計畫的建立（PLAN）：

    a. 在管理高層授權下，負責執行者應適切建立稽核的範圍及目的，此規劃階段扮演極重要的角色，當稽核範圍涉及多領域或地點過大時，相關稽核團隊成員的擇定、時間的安排及最後稽核的結果都必須仔細考量。

    b. 稽核之程序、規劃、時程、稽核團隊的擇定、稽核工作之進行、向高層通報之通報方式，都必須涵括在稽核計畫之中。

3. 稽核計畫的執行（DO）：

    a. 各項稽核活動必須先獲得稽核者及被稽核者雙方的同意後實施。

    b. 一套完整稽核程序必須包括事前溝通協調、查核時程表、執行查核

及所有查核結果均妥善保存。

c. 「實務技術（Practical techniques）」及「人為因素」係影響查核是否成功的兩大重要因素。

4. 稽核計畫的監督（CHECK）

查核過程必須加以監督及檢查已確保各相關區域及要項均已完成查核工作，最妥適的監督方式應從組織著手然後根據各項資訊（線索）往下追蹤直到最基層。

5. 稽核計畫的改善（ACT）

稽核提供一個持續改善的機會，同時也有助於組織運作方面各項相關改善決策之正確裁定，並可藉由獨立地（independently）且客觀地（objectively）進行稽核工作，以確保稽核品質。

3.5 人為因素#

當工程師設計出一項產品系統時，必須將使用人與產品系統同時考慮成為一套人機系統（Human-Machine System），而評估分析此系統的可靠度、操作難易度、所發揮的績效功能等，由於使用人係人機系統的主要部份，使用人的感知、判斷、反應、行動力、性向、持續力、壓力等生理、心理的反應與能力，直接影響系統的績效，這些心理與生理的反應與能力統稱為人為因素。美國人因學會（Human Factors Society）所發表的定義為：「人為因素可適用於所有的系統與產品的規範、設計、評估、操作與維護等過程，以提高其安全性、效率與滿意程度的有關人的行為與生理上的科學與技術。」

稽核人員對於人為因素應有之認知及能力說明如下：

1. 稽核人員必須了解對人為因素有充分的認知，並適時對蓄意產生的誤失的可能性及一般常發生的錯誤行為及條件提出警告。

2. 稽核人員應有能力指出，當被稽核單位為提升各項程序或措施的符合程度，致所採行的一些不妥適之控制方法及建議。

3. 稽核人員對於人為因素的認知，於進一步的調查時，可提供一有效辨識
   既存或潛在問題的方法。

3.6 稽核人員訓練#

儲備稽核員必須經過相關的訓練以確保其具備執行及管理稽核的技巧，相關訓練
包括：

1. 充分了解各項稽核標準的相關訓練。

2. 進行評估（evaluating）、檢細檢查（examining）、提問（questioning）、
   報告（reporting）作業的相關技術

3. 管理稽核過程的技巧，包括規劃、組織、溝通、指揮。

稽核員的能力可經由筆試或口試或其他可接受的方法來進行驗證，於訓練足夠稽
核員後，再經由主任稽核員的挑選以組成合適的稽核團隊，後續再藉由持續的訓
練以維持並改善稽核人員的能力，稽核員之培育及遴選過程如圖表 3-2。
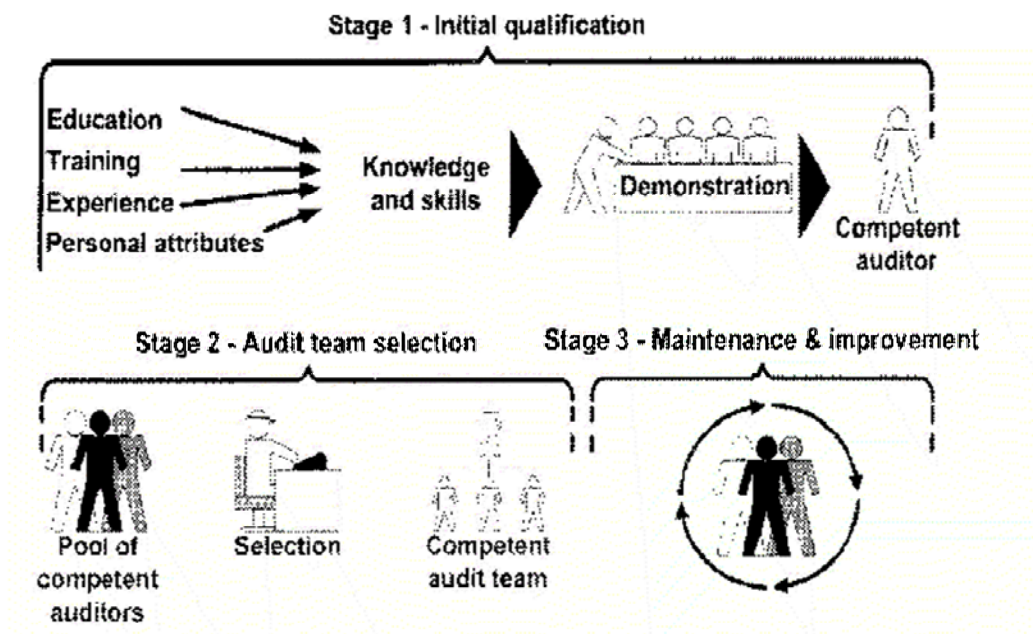
圖表 3-2 稽核員之培育及遴選過程

3.7 稽核員的品質#

3.7.1 稽核員於執行稽核工作時，以下之溝通技巧應加以考量：#

1. 在提出問題之前，應仔細考慮，因為問題一但提出就不能消除或收

回。

2. 問題應以清楚簡單的方式提出。

3. 稽核開始前，不得預設任何立場或隱藏稽核議程。

4. 說話應緩慢且清楚。

5. 溝通過程如產生誤會，應就誤解處儘速澄清。

6. 如果被稽核人員無法理解所提問的問題，應換個角度或用法將問題重新提出。

7. 勿勿忙忙作出結論

3.7.2 稽核員於執行稽核工作時，以下之提問技巧應加以考量：#

1. 稽核期間，稽核員的主要任務係收集訊息，而不是提供訊息。

2. 於稽核晤談期間，被稽核人員才是主要應該說話並表達意見的人。

3. 被稽核人員所提供之資訊類型及數量端視稽核員所提的問題類型而定。

4. 稽核員可採用開放性或收斂性問題進行提問。

3.7.3 稽核員於執行稽核工作時，以下之傾聽技巧應加以考量：#

1. 一旦拋出問題，稽核員應傾聽答案。

2. 傾聽同屬溝通的一部分，但對大多數人而言似乎是最困難的部分。

3. 在稽核過程中，稽核員即便有諸多事情尚待進行，但仍需專心傾聽並蒐集相關資訊，而此點通常都長也常被稽核員所忽略。

4. 改善傾聽技巧的方法之一，就是讓溝通過程增加互動性，其方法有：澄清（Clarifying）、確認（Confirming）、核對（Checking）、回應（Responding）、告知知悉答案（Acknowledging answer）、總結（Summarizing）；透過上述各種方法的綜合運用，除可使被稽核人員於回答過程中更為舒適，亦可讓稽核員更能融入對話過程中，同時也更能專心的傾聽。

3.7.4 非口語上的溝通方式#

1. 身體向前傾通常可以表達出稽核員對於對話內容的興趣及關心。

2. 身體向後傾則表達出對議題缺乏興趣及信心。

3. 經常的觸摸臉或鼻子可能表達出稽核員的焦慮及關切。

4. 輕敲手指頭或腳的動作，可能表達出缺乏耐心。

3.8 稽核員的責任與活動#

本節就稽核人員所應具有的獨立性、職責及活動，茲分節說明如下。

3.8.1 稽核員的職責包括以下各項：#

1. 應符合稽核作業的需求。

2. 應就稽核需求進行溝通及釐清，若被稽核人員不了解，應向其解釋。

3. 有效率的規劃並執行所指定之職務。

4. 隨時記錄稽核過程中的各項觀察。

5. 通報稽核的結果。

6. 核對被稽核單位對於稽核結果後續採行矯正措施之有效性。

7. 應妥善保存並保護與稽核相關的各項文件。

8. 提送必要的文件。

9. 謹慎處理被稽核單位內部資料。

10. 協助並支持主任稽核員。

3.8.2 主任稽核員的職責包括以下各項：#

1. 對各稽核階段負有完全的責任。

2. 主任稽核員除應具有管理的能力和經驗外，更具有就稽核或任何觀察的結果作出的最後判定的權力。

3. 參與稽核小組成員的遴選工作。

4. 準備查核計畫。

5. 擔任各稽核階段的代表，包括結束會議的報告、準備及提送正式報

告。

3.8.3 主任稽核員的行動包括以下各項：#

1. 立即向被稽核單位報告關鍵不符合的缺失（critical nonconformities）。

2. 報告任何在實施查核過程中所遭遇到的阻礙。

3. 應按時未延誤且清楚地、確定地提出稽核結果報告。

4. 安排行程、住宿、空側通行證、簽證。

5. 安排晤談時間。

6. 安排起始及結束會議。

7. 審閱相關文件以確定各項工作的妥適性。

3.8.4 查核員的行動包括以下各項：#

1. 應保持在稽核範圍內。

2. 應練習如何做出客觀性的判斷。

3. 於稽核管理系統中應蒐集並分析足夠的證據，以支持所做出的結論。

4. 稽核員的相關作為應謹守道德約束。

3.8.5 稽核員的獨立性包括以下各項：#

1. 不應存有任何偏見或預設立場以免影響稽核的公正性。

2. 涉及稽核活動的相關人員和組織，應該尊重並且支持稽核員的獨立性及和公正性。

3.9 稽核活動－初始及準備階段#

稽核過程中應包括下列主要工作項目，本節先就第1、2階段，即起始及準備階段之相關工作進行說明。

1. 初始階段（定義稽核範圍及目的）

2. 準備階段（包括稽核計畫、檢查表制定、稽核團隊的選擇等相關稽核規劃及準備工作）

3. 文件審閱（依稽核標準進行相關文件審查）

4. 實地查核及資料蒐集階段（稽核組織之管理系統是否健全）

5. 分析階段（含再行確認初步所發現的缺失）

6. 報告階段

7. 後續及結案階段

3.9.1 稽核起始階段，包括稽核目的或標的之確定，應知悉為何需要本次稽核及本次稽核所欲達成的工作。#

稽核類型及目的或標的，如圖表 3-3：

稽　核　類　型	目　　　　　的	說　　　　　明
內部查核　　　→	確認／改善	用以核對並確認被稽核單位是否符合文件品質管理系統，不符部份則進行改善。
外部稽核　　　→	由民航管理當局年度進行的適航稽核	旨在評估一個管理機體制是否具備符合法令規章要求的管理能力。

圖表 3-3 稽核類型及目的或標的

1. 稽核範圍（Audit Scope）：所謂稽核範圍，包括於確定區域內所欲進行稽核之項目，群組和活動。其範圍可以是一個完整的系統稽核其中並包括品質管理稽核，也可以限縮到一個或多個程序或組織內的特定部門。於決定稽核範圍時，必須同時考量稽核所需時間及各項資源需求，如執行稽核基工作所需之稽核員數量。

2. 稽核依據（Audit Criteria）：即標準、法規要求或稽核計畫中指定參考文件，如被稽核單位之政策或程序手冊，這些手冊應包含足以影響被稽核單位運作之所有政策及程序。

3.9.2 稽核準備階段之工作，包括稽核計畫、檢查表制定、稽核團隊的選擇等相關稽核規劃及準備工作。#

1. 稽核計畫：

    a. 稽核計畫文件中應包括：

        a). 被稽核單位之名稱及地址。

        b). 稽核目的、範圍及依據。

        c). 確認之稽核團隊成員。

        d). 稽核使用之語言。

        e). 稽核保密需求。

        f). 稽核時程需敘明欲進行稽核之部門或活動，包括日期、每日開始及結束的時間及指定稽核員的姓名，如圖表 3-4所示。

Time	Activities	Auditee	Area	Auditor
0900 | 1000	**Opening Meeting**	All Senior Management team	CEO Conference room	Lead Auditor and Audit team members
1000 | 1015	Morning Tea Break	All	CEO Conference room	Lead Auditor and Audit team members
1015 | 1230	Document Control Review	Document Control Manager Mr. Bookworm	Publication Department	Mr. Mark Dell
	Outsourcing Control Review	Purchasing Manager Mr. Buy It All	Central Purchasing Department	Mr. Tom Roger
1230 | 1330	Lunch	All	Cafeteria	Lead Auditor and Audit team members
1330 | 1500	Maintenance Crew training records Review	Training Manager Mr. Trainer	Engineering Training Center	Mr. Mark Dell Mr. Tom Roger
1500 | 1545	**Closing meeting**	All Senior Management team	CEO Conference room	Lead Auditor and Audit team members

圖表 3-4 稽核工程單位所採用之稽核時程表範例

g). 稽核報告預計發送的日期。

b. 準備稽核計畫時應考量：

　　a). 就稽核計畫內容應與被稽核單位達行協議。

　　b). 在稽核期間之任何計畫必須保持彈性，以便配合實需進行相關調整。

　　c). 將稽核範圍各項稽核工作指派給各稽核員。

　　d). 為稽核工作所準備的相關資料，包括對應工作文件的各式檢查表格。

2. 稽核檢查表（checklist）如圖表 3-5所示。

a. 製作稽核檢查表之目的

　　a). 於執行稽核工作時，檢查表可供作稽核員於執行查核工作時之指導方針。

　　b). 檢查表可確保稽核作業可以有系統和完整的方式進行，並妥適的蒐集相關證據。

　　c). 檢查表可以提供架構性和連續性的稽核作業，並可確保稽核範圍內的工作得以循序完成。

　　d). 檢查表可以提供一個共同的溝通架構及記錄查核資料表格以供

Check No	Description	YES	NO	Remarks
STA 1	Is there a plan/concept exist of the training- and recurrent training for the station-personnel?			
STA 2	Is the station personnel regularly scheduled for recurrent training?			
STA 3	Is there critical working-procedures & instructions available for the station personnel?			

圖表 3-5 檢查表範例

日後參考。

b. 檢查表之優點：檢查表的如果準備妥適並正確使用，可提供以下之優點：

    a). 確保正確的稽核方向。

    b). 係一種抽樣方式並可協助時間管理。

    c). 可協助記憶，即刻記錄現場觀察的結果。

c. 檢查表之缺點：但若事先未能妥善準備檢查表，則可能衍生下列缺點：

    a). 檢查表的聚焦範圍可能過於狹隘，至無法鑑別特定領域的問題。

    b). 未能妥善準備之檢查表，可能因為內容不妥適或重複導致減緩稽核工作之進行。

d. 檢查表之準備：檢查表內容可採詳盡或是簡要的方式加以準備，惟仍注意以下三個重點：

    a). 檢查表所列問題應易於了解。

    b). 依據IPO（input-process-output）流程模式設計檢查表相關問題，如圖表 3-6。

    c). 參考被稽核單位之文件列出相關問題。
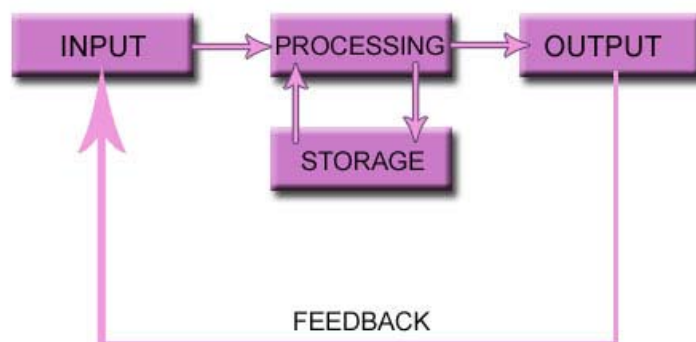
SOURCE: WWW.TEACH-ICT.COM

圖表 3-6 IPO（input-process-output）流程

e. 檢查表使用指導：下列細節，應酌情加以記錄：

　　　　　a). 晤談人員的名字及階級。

　　　　　b). 晤談人員陳述之總結意見。

　　　　　c). 文件的名稱及修訂狀態。

　　　　　d). 檢查樣本取樣範圍。

　　　　　e). 事件的時間和地點。

3. 起始會議：現地稽核開始前召開之起始會議，其過程雖然非常簡短，通常約需10-15分的時間，但可提供機會讓全部出席人釐清與稽核有關的問題或者條件，其會議議程應包括以下各項：

　　a. 人員介紹

　　b. 相關保密規定之敘明

　　c. 確認稽核範圍、目的及稽核依據

　　d. 確認人員的工時及可運用性

　　e. 再次審視稽核計畫及稽核議程

　　f. 解釋稽核的方法及缺失（nonconformities）如何提出

　　g. 核對導引人員的時間是否可以配合稽核作業進行

　　h. 核對任何有關的安全衛生之需求

　　i. 確定結束會議之時間、地點及與會人員

　　j. 鼓勵提問

3.10 稽核活動－文件審核階段#

文件審核係依稽核依據進行相關文件審查，屬稽核過程中第三項主要工作項目。任何一個稽核其必要的部分不僅是進行實際系統及程序的稽核而已，稽核員還必須在稽核工作展開前先對相關主控文件（control documents）進行審核，藉由主控文件之審核，稽核員才能決定接續之實際系統及程序的稽核應如何進行，並同時構思接續稽核時擬提問之相關問題。

1. 主控文件類型包括：

    a. 品質手冊

    b. 公司政策。

    c. 標準作業程序手冊。

    d. 得標契約書／用戶採購訂單。

    e. 生產計畫／時間表／工作通知單。

    f. 工作指導。

    g. 測試指導。

    h. 維護程序和指導。

    i. 查核檢查表。

    j. 檢查程序和指導。

2. 文件等級制度，如下圖所示，最上位之品質手冊應包含JAR-OPS 1（Joint Aviation Requirement for the operation of commercial air transport）及ISO 9001二套標準所有之安全及品質之需求。

3. 藉由文件的審核以了解以下各項內容：

    a. 特定標準中所列的全部要求是否均於相關文件中展現。

    b. 是否有適當的程序或其他文件處理方法，以確保所有的活動均被妥適的控制。
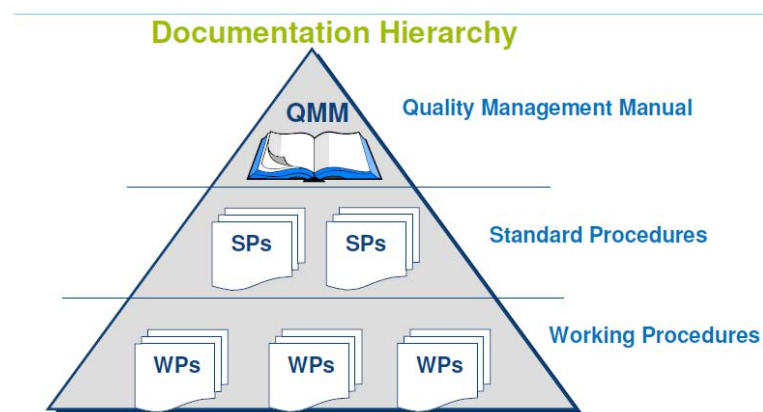
圖表 3-7 文件等級制度

c. 確定現存文件系統是否存有任何缺失。

4. 實施文件審核以符合以下要求：

a. 實現並符合稽核計畫中所規定的稽核依據。

b. 記錄所有文件的發現，供進一步分析以決定不符合之處。

c. 為稽核發現提供書面的證據。

d. 文件檢查表可用來作為一本稽核指南，可以確保所有要項均以涵括，減少稽核疏漏。

3.11 稽核活動－稽核工作之執行和證據收集#

稽核工作之執行指在實際現場的進行的全部活動,其成效端視稽核計畫的執行過程及預先準備檢查表的完成度,現場稽核係用以決定現場與文件系統的相符程度及其推動執行的有效程度。

於本階段稽核員應依據稽核時程並使用預先準備的檢查表進行現場查核,而主任稽核員在此階段之工作則是監督並確保稽核團隊中每位稽核員的均即時完成之分配之稽核目標。

1. 稽核證據（Audit evidence）：係指經由觀察工作區域條件、面談、檢查記錄、測試紀錄或文件所獲得的稽核發現，可用來作為提供事實基礎或作為實證的資料等稱之。

2. 稽核證據蒐集：在稽核期間,稽核證據之蒐集通常藉由面談、文件檢查、及觀察關鍵區域的活動和條件所獲得,稽核過程中如發現某項缺失極為重要,即使檢查表項目中並不包括他們,也必需進行相關調查工作。

3. 於稽核工作之執行和證據階段，其主要工作內容如下：

a. 被稽核單位應允許稽核工作之執行以便獲得稽核證據。

b. 稽核員通常依照稽核計畫及稽核檢查表來進行相關稽核作業。

c. 必須有效的運用溝通技巧。

d. 稽核面談應安排在一個安靜，方便和舒適的地區進行。

e. 稽核員執行稽核工作的方式（法）於本階段扮演極重要的角色。

4. 客觀證據

    a. 每個稽核發現必須包含足夠的證據，以作為後續進行不符合判定等相關論述的基礎，本項要求極為重要應予牢記。

    b. 必須隨身攜帶筆記本，作為日後稽核報告的資料來源，攜帶筆記本最簡便的方法就是使用檢查表。

5. 蒐集稽核證據：從被稽核單位獲得訊息並不容易，尤其是如果他們試圖隱瞞訊息，或者被稽核單位已接受管理階層指示對稽核員儘可能少說的情形之下，與被稽核單位進行會晤時，稽核員應該對人為因素的議題予以特別的注意。

6. 稽核小組俟需要可包括以下相關人員：

    a. 稽核員。

    b. 作業人員督導。

    c. 現場發言人。

    d. 現場員工。

    e. 參與稽核小組之觀察員。

    f. 翻譯。

7. 溝通技巧：稽核員能夠有效的與被稽核人員溝通是非常必要的，一位稽核員於進行各項稽核活動時應包括以下重點：

    a. 提問問題

    b. 傾聽答案

    c. 檢查證據

    d. 重點記載

    e. 依詢檢查表進行

    f. 研讀程序

    g. 核對標準

h. 時間掌握

8. 稽核問題提問方式：縱使稽核檢查表已提供稽核員相關基本問題以獲取所需之答案，然而稽核員仍須發展其他經證明之可從被稽核人員獲取更多資訊的問題，相關問題經問方式如下：

   a. 組織問題

   b. 鼓勵對話

   c. 提供正面回應

   d. 晤談邀請：為對談順利開始，可先詢問一些被稽核人員熟悉的事項。如：請你解釋你在本部門所擔任的工作。

   e. 試著讓晤談氣氛輕鬆愉快。

   f. 建立關係

9. 開放性及封閉式問題的使用

   a. 開放式問題，可以把握5W1H的原則，此類通常可讓被稽核人員可以就其所了解的內容無拘束的回答，如：

      a). 你接下來會工作為何（WHAT）？

      b). 這些文件由誰核准（WHO）？

      c). 這個計劃何時（或多久）重新檢視（When）？

      d). 這些配件不使用時，會存放於何處（Where）？

      e). 為何採取這種方式進行（Why）？

      f). 如何發送這些報告（How）？

   b. 封閉式問題：只要求被稽核人員以「是」或「否」答案答覆，如：

      a). 有對駐站人員進行相關訓練嗎？

      b). 相關部門有保存駐站人員的訓練紀錄嗎？

10. 傾聽技巧：

    a. 所有稽核晤談均由提問與傾聽所組合而成

    b. 傾聽是溝通的一部份，不過確也是大部分人最難以做到的部分

c. 一位好傾聽者不僅可由直接對話中獲得相關資訊，更可由其他對話或分析中，增加對談資訊或分析的準確度

d. 於晤談期間需要全神貫注並採用系統化的互動的對談方式`，如：詢問問題－＞停止交談－＞傾聽所有答案－＞要求澄清－＞記載筆記－＞詢問下一個問題

e. 透過保持目光接觸，並給予適當的點頭回饋，及「嗯哼」、「是的」，「我了解」等回答，通常可以表現出稽核員對於晤談內容的興趣，被稽核人員將會更樂於合作與溝通。

f. 稽核員不應受以下各項外在因素所干擾：

a). 選擇性的專注

b). 情緒的介入

c). 作出輕率的結論

d). 厭煩

e). 缺乏時間

11. 資訊確認：稽核員除以提問和傾聽回答的方式來蒐集所欲獲得之資訊外，有時還需要進一步的確認，不論被稽核人員現在是否正在就關鍵問題進行相關回答，稽核員的回覆都應該是：「請提出證明」。如以下對話內容：

稽核員：目前使用程序手冊之發布序號為何？

被稽核人員：第2版

稽核員：請拿手冊給我看。

另可使用以下各種方法以證實蒐集資料的真實性：

a. 檢查紀錄

b. 詢問其他人並比較所獲得之答案

c. 觀察進行中的相關活動

d. 親自參與活動過程

e. 進行活動演練或模擬

12. 稽核證據之取樣：必須牢記稽核是一種取樣過程，所以稽核員必須進行取樣工作，然而應該檢查或核對多少的文件資料，來支持稽核證據的妥適性呢？

答案是：除了黃金定律必須遵守之外，取樣檢查數目的多寡並沒有任何的定論，所謂的黃金定律即是：more than one is better unless there is only one（除非只有一個，否則多於一個總是比較好）。

13. 紀錄稽核證據：為證明稽核過程的客觀性，所有觀察到的稽核證據都應該被妥善的記載，一位無經驗的稽核員有時會不加以紀錄而倚賴他的記憶力，此舉不但不可靠且應極力避免。

3.12 稽核活動－稽核發現之分析#

本階段可循下列五個過程來進行：證據蒐集、證據分析、

3.12.1 證據蒐集#

證據係來自稽核員於稽核期間所蒐集到的資料,稽核員利用這些證據作為判定符合或不符合要求稽核依據的基礎,於證據蒐集過程,稽核員之目標係確認是否備妥足夠的事實證據,以進一步判定被稽核單位是否與要求的標準一致。

3.12.2 證據分析

1. 來自下列活動的事實的證據需要更進一步的分析：

a. 文件審核。

b. 人員晤談。

c. 條件、設施和設備之調查

d. 各項運作活動和過程之觀察

2. 不見得所有蒐集到的證據都是客觀的或是事實的,所以稽核員必須運用專業加以判斷。

3. 判定是否相符，對稽核員來說並非是那麼容易就可以明確決定的事情，尤其一個已經開始實施的規定；此時稽核員必須多方蒐集足夠的證據已證明相關規定已被操作者所落實實施，相關證據必須經過稽核員仔細的分析及確認，以便作出一個符合或不符合的有效結論。

4. 一旦完成稽核證據的分析，俟需要發出矯正措施要求（Corrective Action Request, CAR）或者是不符合報告（Non Conformity Report, NCR）。

3.12.3 提出不符合報告#

1. 對任何稽核員來說，如何撰寫一份不符合的說明也是一門必修的課程，通常所有的不符合的說明應包括下列各項：

   a. 規定或參考標準

   b. 不一致的種類

   c. 事實的證據（含資料，記錄等）

2. 一份好的不符合報告應包括下列重點：

   a. 明確指出與不符合處之規定或標準，例如：

      a). 如果不符合處係訂貨單上的購買數據不清楚的事實有關，則正確引用的條款應該是ISO 9001 7.4.2，而非僅是ISO 9001 7.4。

      b). 如果不符合處係經營人未明確定義其航務運作有關人員之安全職責，則正確引用的條款應該是IOSA標準手冊上第1.2.2節第viii項。

   b. 不一致的種類的參照來源應予提出，例如：訂單上缺乏一些明確採購資料

      P.O No. 7351－尺寸未敘述

      P.O No. 8651－容許範圍未敘述

   c. 指出事實的證據（含資料，記錄等）：例如：

並非全部的零件於點收時，均依規定進行檢查（違反規定第345, 356, 367條）。

3.12.4 不符合或稽核發現的分類#

不符合或稽核發現必須加以評定後進行分類，以評估其符合之程度，一些常用的分類方式如下：

1. 不一致或待觀察

2. 發現或待觀察（IOSA）

3. Level 1或Level 2

4. Category 1或Category 2

5. Major或Minor

3.12.5 結束會議#

稽核團隊應與被稽核單位之管理高層或相關負責人員召開結束會議，本會議之主要目的係：

1. 對管理高層報告稽核初步結果，以確保他們都能清楚了解稽核的相關結果。

2. 所有不一致和待觀察事項均必須於結束會議中提出。

3. 一個良好且專業的結束會議可對被稽核單位的管理階層留下一個持續且深遠的印象，而稽核的相關結果更可作為後續決策之參考。

4. 稽核員通常應感謝被稽核單位於稽核期間額外的協助與配合。

3.13 稽核活動－稽核報告及後續改善#

3.13.1 稽核報告#

1. 稽核團隊應準備稽核報告。

2. 稽核報告係一份精確且簡潔的查核紀錄。

3. 稽核報告通常應於結束會議中議定的時間，由主任稽核員與被稽核單位代表共同討論、簽署後完成並加以發布。

4. 稽核報告應能真實地反應稽核的內容。

5. 由主任稽核員簽署並註名日期。

6. 若可行，稽核核報告應包含以下內容：

   a. 稽核的目的及範圍。

   b. 稽核計畫的詳細內容。

   c. 雙方同意的不符合即發現項目之總結。

3.13.2 稽核完成：當以下工作完成後，稽核工作可視之為已完成：#

1. 稽核計畫所列之所有活動均已完成。

2. 稽核報告已被批准並以分發相關單位。

3. 所有的不符合已被有效的改正（於未確認改善措施是否有效、已經提出矯正行動的要求及所有矯正措施要求均已完成之前，稽核過程不能視之為已結束）

4. 當所有矯正措施要求已完成後，應正式通知被稽核單位本次稽核工作已全部結束。

3.13.3 矯正措施#

1. 於存在矯正措施要求（CAR）或不符合報告（NCR）的情況下，則被稽核單位一定要採取適當的行動，IOSA所採用之「矯正措施要求（CAR）」之表格如圖表 3-8所示。

2. 稽核員之職責係確認不符合事項。

3. 矯正措施則須於約定的時間內完成。

4. 被稽核單位應針對不相符項目或不相符之原因，負責決定矯正措施並加以施行，以供稽核員據以結束「矯正措施要求」之案件。

5. 如果矯正措施超過稽核約定時間，則必須等到有效的行動已被採用，整個稽核過程才能結案。

6. 後續應採取「迴圈式矯正措施之過程」進行缺失改善，其執行過程如

下：

a. 問題確認

b. 調查問題的根源

c. 發展一個消除問題根源的計畫

d. 計畫實施

e. 確認計畫的執行效力

Department/ Unit					
AUDIT TYPE			AUDIT DATE		
CAR REF NO		DATE RAISED			
RAISED BY		ISSUED TO			
FINDING DESCRIPTION			FINDING CATEGORY		
FINDING ACCEPTED BY			DATE		
ROOT CAUSE					
CORRECTIVE ACTION PLAN					
ACTION TAKEN BY			DATE		
PREVENTIVE ACTION PLAN					
ACTION TAKEN BY			DATE		
CORRECTIVE ACTION VERIFICATION BY				CAR CLOSED BY	
				DATE	

圖表 3-8「矯正措施要求（CAR）」之表格範例

3.13.4 後續確認#

    a. 被稽核單位於實施「矯正措施要求」之相關行動後應聯絡稽核小組。

    b. 採取行動的有效性必須加以確認，只有在符合稽核員的要求時，相
       關「矯正措施要求」才能辦理結案。

    c. 相關證明文件必須經由稽核員加以證實。

    d. 於某些情況下，證實工作可規劃排入後續稽核過程之中。

    e. 稽核員應正式通知被稽核單位已經結案的「矯正措施要求」。

3.14 IOSA 稽核計畫之介紹

IOSA 認證（IATA Operational Safety Audit），即國際航空運輸協會作業安全查

核認證，是國際航空運輸協會（IATA）制定的一項為國際所認可和接受的航空安全標準，用於評估航空公司的營運管理和管控系統。這項認證創建於 2003 年，以國際稽核標準為指導原則，所規劃設計出來的一套稽核標準和後續推動之執行模式。IATA 要求其會員必須在 2007 年底之前通過 IOSA 認證。此項認證的有效期為兩年，過期須重新進行稽核。據 IATA 指出，自創辦至今已進行超過 570 次稽核，共有 214 家航空公司完成 IOSA 註冊。通過進行稽核，對 350 家航空公司提出了改進方案並進行實施，也有效提高飛航安全；另一方面，降低了班號共用（Code-sharing）冗餘，以協助航空公司大幅削減成本。

4. 心得與建議

1. IATA於推動IOSA認證制度之初，主係採取了一些基本的措施，也因這些措施使得IOSA認證得以成功的推動及實施，這些措施可作為推動相關查核制度之參考，其措施包括：

    a. 製訂一套IOSA共同遵循的標準，內容包含有助於航空公司營運安全的各個面向（相關資料都記載載於IOSA的標準手冊中，其中包括ICAO附約中的所有相關的標準）。

    b. ICAO和主要的管理當局同時參與標準和規定的制定工作。

    c. IATA本身並不進行稽核，而是委託嚴格且符合規定標準的稽核組織（AOs）進行稽核。此外，從事IOSA稽核工作的任何稽核人員都必須符合嚴格的經驗和培訓標準。相關培養訓練由IATA認可的培訓組織（ETO）進行。

2. 稽核活動之標準化，雖然稽核使用檢查表的項目是相同的，但不同的稽核員可能會有不同的稽核方式和想法，因此在同一檢查項目下亦可能會產生不同的稽核結果，而過大的差異不僅顯示出標準規範尚有改進的空間，也表示稽核員們對稽核目標的認知及執行方式有進一步訓練以取得共識之必要。

3. 稽核工作是為了取得「全面性」的稽核結果，因此稽核目標應考量全面性，

並將系統項目之評核收斂集中至重點；也應避免讓被稽核單位引導相關稽核活動，致使檢查表之檢查項目持續發散而失控，產生流於片面或雖深入但「見樹不見林」的結果；執行稽核程序的標準化將使評核活動較可能在預定時程內達成設定之目標。

4. 課程中穿插許多的情境演練，稽核員（Auditor）及被稽核人員（Auditee）角色不停的轉換，在討論的過程中，同一分組的稽核員（Auditor）及被稽核人員（Auditee）就預設情境分開討論，在實際演練前雙方也全然不清楚對方的想法問題及答案，常有跳脫預先討論內容並隨機的加入許多本身的經歷及實務上會面臨的情節，於演練時，就有學員扮演被稽核單位通常展現出的冷漠、防備及不合作的態度。而這種情境於任何類似稽核的場合中均無法避免，因此相關溝通及互動的技巧的學習及使用，在此便更形重要。

5. 內部查核係ICAO頒布之Doc. 9859 Safety Management Mamaul（本局據以制訂之安全管理手冊範本第2版），有關安全管理系統12項要項之一安全保證(Safety Assurance)中，即要求為了有效進行安全績效監控及評量（Safety Performance Monitoring and Measurement），各航空相關管理單位（航空站）必須建立內部查核制度，以確保航空站空側作業之安全，然而，依目前航空站的人力配置方式，除桃園航空站的規模就具可行之外，其餘各航空站於推動上確有其困難度，惟為符合ICAO的建議要求，內部查核方式建議可採以下列二種方式進行，第一是運用航空站現行之「空側作業自我督察檢核表」模式進行內部查核之工作，第二則可以由各航空站間派員交互進行內部查核，以收查核之實效。

5. 附件

Welcome to the
Aviation Internal Auditor Course

IATA Training & Development Institute
KNOWLEDGE · EXPERIENCE · NETWORKING · SKILLS · RESULTS
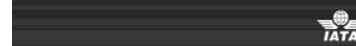
Aviation Internal Auditor
May 31st – June 04th , Montreal

↗ **Product Manager:**

Victoria Romero

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↗ **Training Manager:**

Ms. Natalia Horokhova

↗ **Course Facilitator(s):**

Ms. Vesna Petrak

IATA Training & Development Institute
The training "arm" of IATA

↗ **Vision**

To be the leading provider of global aviation training and development programmes, setting and maintaining industry standards worldwide

↗ **Mission**

Develop and deliver a wide range of progressive training solutions that promote leadership, commercial success and good governance in the aviation industry

---

Our Training Programmes

↗ Full service training & professional development organisation providing over 400 Classroom courses in these areas:

- ↗ Airlines
- ↗ Airports
- ↗ Civil Aviation
- ↗ Human Performance
- ↗ Security
- ↗ Cargo
- ↗ Travel & Tourism
- ↗ Aviation Distance Learning

Facts & Figures

↗ **28** Diploma programs
(21 Classroom & 7 Distance Learning)

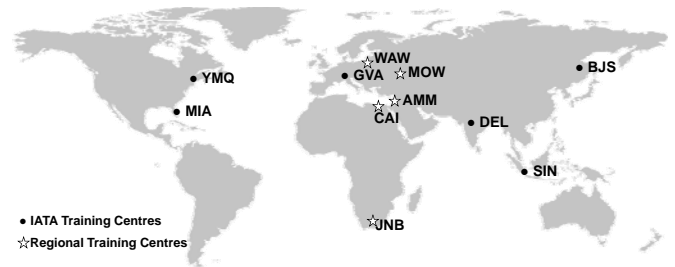↗ **50** Employees worldwide

↗ **160** Instructors & consultants

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8,422 classroom course participants trained in 2008

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● GVA ☆MOW
● YMQ
● BJS
● MIA
☆ ☆AMM
CAI
● DEL
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United Nations	UFTAA	
Worldbank	CHANGI Enjoy the experience	JEPPESEN
Civil Aviation Authority Poland	Eurocontrol	

Course Logistics

↗ Course Timetable / Breaks / Lunch

↗ Course Material & Blue Folder

↗ Diploma in Advanced Airport Operations

↗ Course Evaluation Form

↗ Class Picture

↗ Reconfirmation of Travel arrangements

Useful Information

Business Center – Internet, Printers, Photocopier	Smoking
Food courts & Restaurants	Public Telephones – local & long distance calls
Shopping & Banks & Currency Exchange	Ordering IATA Publications IATA Reception

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Final Examination

↗ **Pass　　　　70%**

↗**Distinction　　90%**

↗ **Graduation Ceremony**

↗ **Certificates & Letters of Attendance**

Airline Training Diplomas

↗ **Senior Diploma in Airline Management**

↗ **Diploma in Safety Management for Airlines**

↗ **Diploma in Airline Quality Management**

↗ **Diploma in Airline Operations**

Senior Diploma in Airline Management

↗ **Required courses:**

　　↗ Airline Business Foundations
　　↗ Airline Management Integration: Air Mercury
　　↗ Strategic Planning for Airline Industry Leaders
　　↗ Air Cargo Management
　　↗ Airline Commercial Challenges & Regulatory Issues

Complete 5 required courses within 3 years
http://www.iata.org/training/diploma_programme

Diploma in Safety Management for Airlines

↗ **Required courses:**

↗ Safety Management Systems for Airlines
↗ Advanced Safety Management Systems for Airlines
↗ Airline Ground Operations Safety Audit
↗ Train the Trainer CRM – Threat and Error Management

Complete 4 required courses within 3 years
http://www.iata.org/training/diploma_programme

Diploma in Airline Operations

↗ **Required courses:**

↗ Station Ground Handling Management
↗ Airline Emergency Planning and Response Management
↗ Quality Management in Airline Operations
↗ Flight Operations Management

Complete 4 required courses within 3 years
http://www.iata.org/training/diploma_programme

Diploma in Airline Quality Management

↗ **Required courses:**

↗ Quality Management in Airline Operations
↗ Advanced Quality Management in Airline Operations
↗ Airline Operations Document Systems & Quality
↗ Aviation Internal Auditor
↗ Advanced Aviation Internal Auditor

Complete 5 required courses within 3 years
http://www.iata.org/training/diploma_programme

**Thank you.
Enjoy your course!**

Aviation Organization, Regulatory Agencies and Management Systems

SESSION 2

IATA Training & Development Institute
KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS

Objective & Outline

Objective:

To introduce various Aviation Organization, Regulatory Agencies and Management Systems

- ↗ International Civil Aviation Organization
- ↗ Federal Aviation Administration (FAA)
- ↗ Joint Aviation Authorities (JAA)
- ↗ European Aviation Safety Agency (EASA)
- ↗ ISO 9000 Quality Management Systems (QMS)
- ↗ Quality Management System
- ↗ Safety Management System

International Civil Aviation Organizations

ICAO

- ↗ **Chicago Convention** first meeting

- ↗ **ICAO** regulations and standards regarding civil aviation

- ↗ ICAO became a specialized agency of the **United Nations**

The ICAO Mission

- ↗ Devoted to a safe and coordinated growth of international civil aviation

- ↗ Promote design and operation of civil aircraft, as well as development of airways, airports and air traffic control facilities

---

The ICAO Mission

- ↗ Reserve the right of member States to operate international air carriers

- ↗ Prevent discrimination between member states

- ↗ Promote air safety in international civil aviation.

National Procedure

- ↗ After a Standard is adopted it is put into effect by each ICAO Contracting States in its own territories

- ↗ As aviation technology continues to develop rapidly, the Standards are kept under constant review and are amended as necessary

The ICAO Major Aims

The establishment of International Standards,
Recommended Practices and Procedures:
- licensing of personnel
- rules of the air
- aeronautical meteorology
- aeronautical charts
- units of measurement

The ICAO Major Aims

- operation of aircraft
- nationality and registration marks
- airworthiness, aeronautical telecommunications
- air traffic services
- search and rescue
- aircraft accident investigation

The ICAO Major Aims

- aerodromes
- aeronautical information services
- aircraft noise and engine emissions
- security; and
- the safe transport of dangerous goods.

Aviation Regulatory Agencies

Federal Aviation Administration (FAA)
- Aviation industry is highly regulated in United States (US).
- This agency issues and enforces rules, regulations and minimum standards related to aviation in US.

Aviation Regulatory Agencies

Federal Aviation Regulations (FAR)
- Airworthiness codes of US issued by FAA
- Maintenance, flight operation and technical rules of civil aviation activities
- 50 separate titles.

Aviation Regulatory Agencies

Joint Aviation Authorities (JAA)
- JAA's work started in 1970 (formerly known as the Joint Airworthiness Authority
- Representing the Civil Aviation Regulatory Authorities of most European States

Aviation Regulatory Agencies

Joint Aviation Authorities (JAA)

↗ Development and implementation of common safety regulatory standards & procedures

↗ Achievement of high & consistent level of aviation safety amongst JAA members

Aviation Regulatory Agencies

Joint Aviation Regulations (JAR)

Development & adoption of Joint Aviation Requirements (JAR's) in the field of:

↗ Aircraft design & manufacture

↗ Aircraft operations & maintenance

↗ Licensing of aviation personnel

Aviation Regulatory Agencies

Joint Aviation Regulations (JAR)

↗ Implementation of JAR's and related procedures in a coordinated & uniform manner

↗ Transition from JAA to EASA (European Aviation Safety Agency)

↗ Harmonization between FAR's & JAR's

Aviation Regulatory Agencies

Joint Aviation Regulations (JAR)
JAR-OPS 1
the requirements which apply to the operation of airplanes for commercial air transportation

↗ Section 1 contains Requirements

↗ Section 2 contains Acceptable Means of Compliance (AMCs) and Interpretative & Explanatory Material (IEMs)

Aviation Regulatory Agencies

JAR-OPS 1

A. Applicability
B. General
C. Operator Certification and Supervision.
D. Operational Procedures
E. All Weather Operations
F. Performance
J. Mass and Balance

K. Instruments and Equipment
M. Airplane Maintenance
N. Flight Crew
O. Cabin Crew
P. Manuals, Logs and Records
Q. Flight Duty Times and Rest Requirements.
R. Transport of Dangerous Goods by air
S. Security

Aviation Regulatory Agencies

European Aviation Safety Agency (EASA)

↗ establish and maintain a high uniform level of aviation safety in Europe,

↗ ensure a high uniform level of environmental protection,

↗ promote cost efficiency in the regulatory process,

Aviation Regulatory Agencies

European Aviation Safety Agency (EASA)

↗ assist Member States in fulfilling their ICAO obligations

↗ promote Community views through co-operation with third countries and international organizations.

↗ transition from JAA to EASA
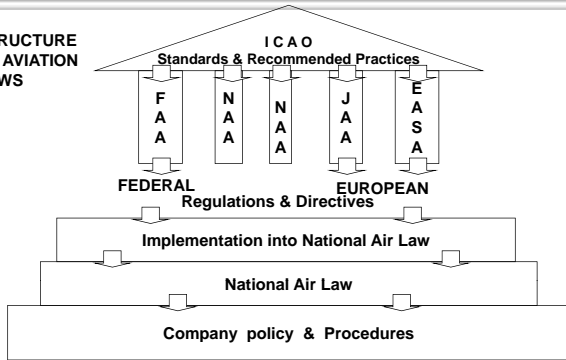

Aviation Regulatory Agencies

European Aviation Safety Agency (EASA)
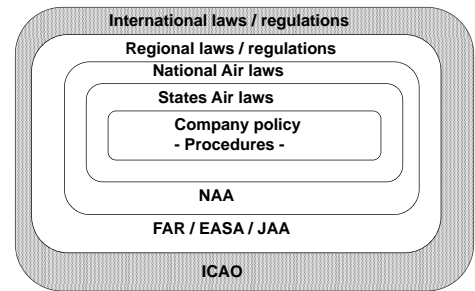
Regulatory Framework: Basic Regulation

↗ Regulation (EC) 1592/2002 of 15 July 2002

↗ Annex I : Essential Requirements for Airworthiness

STRUCTURE OF AVIATION LAWS

ICAO
Standards & Recommended Practices

FAA   NAA   NAA   JAA   EASA

FEDERAL   EUROPEAN
Regulations & Directives

Implementation into National Air Law

National Air Law

Company policy & Procedures

STRUCTURE OF AVIATION LAWS

International laws / regulations
Regional laws / regulations
National Air laws
States Air laws
Company policy
- Procedures -
NAA
FAR / EASA / JAA
ICAO

Management Systems

ISO 9000 Quality Management Systems(QMS) Standards

↗ The International Organization for Standardization (ISO) standards bodies with 100 member countries.

↗ It is established to promote the development of standardization and related activities worldwide.

Management Systems

ISO 9000 Quality Management Systems(QMS) Standards

↗ In 1987, ISO9000 was released and was updated in 1994 and again updated in 2000.

↗ ISO9000 provides standards on quality management that include quality assurance of a product or service and to enhance customer satisfaction.

Management Systems

ISO 9000 Quality Management Systems (QMS) Standards
Principles:
- Customer Focus
- Leadership
- Involvement of People
- Process Approach
- System Approach to Management
- Continual Improvement
- Factual Approach to Decision Making (internal audit function)
- Mutually Beneficial Supplier Relationship.

ISO 9000: 2000 QMS Family Standards

Four Primary Standards:
- ISO 9001   Quality Management System (QMS) (Requirements)
- ISO 9004   Quality Management System (Guidance fo Performance Improvement)
- ISO 9000   Quality Management System (Fundamentals and Vocabulary)
- ISO 19011   Guidelines for Auditing Management Systems

SCOPE OF ISO 9001 QMS STANDARD

ISO 9001 is not a product standard but a QMS standard.
The scope statement in ISO 9001 states:
a) consistently provide a product or service that meets customers and applicable regulatory requirements,

b) including processes for continual improvement of the system and the assurance of conformity to customers and applicable regulatory requirements.
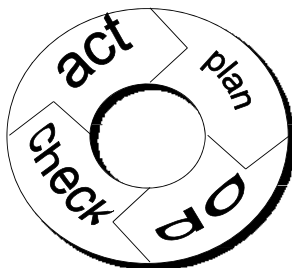

QUALITY MANAGEMENT SYSTEM(QMS)

- The objective of QMS activity is to proactively identify weakness in the management system, corporate documentation, operational processes, procedures, and employee training to support the continuous improvement programme.

QUALITY MANAGEMENT SYSTEM(QMS)
The Deming Cycle

Quality Management System Requirements

JAR - OPS 1.035, An operator shall establish:
- A Quality System and designate a quality manager to monitor compliance to ensure safe operational practices and airworthy aircraft.
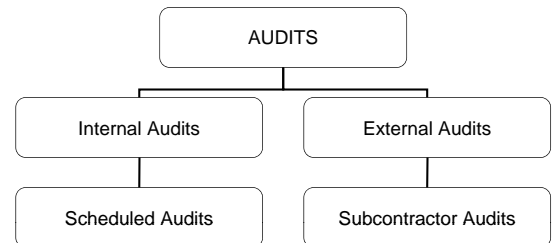- The Quality System must include a Quality Assurance program.

Quality Management System Requirements

The introduction of a Quality System must contain the following:
- ↗ Audit annual plan
- ↗ Audits
- ↗ Divergence reporting system
- ↗ Revision system
- ↗ Improvement system
- ↗ Administrative procedures

Quality System

```
                    ┌─────────────┐
                    │   AUDITS    │
                    └─────────────┘
              ┌───────────┴───────────┐
      ┌───────────────┐       ┌───────────────┐
      │ Internal Audits│       │ External Audits│
      └───────────────┘       └───────────────┘
              │                       │
      ┌───────────────┐       ┌──────────────────┐
      │ Scheduled Audits│      │Subcontractor Audits│
      └───────────────┘       └──────────────────┘
```

Quality System Requirements

- ↗ The Quality System should be structured according to the size and complexity of the operation to be monitored
- ↗ The quality system should include a feedback system to ensure that corrective actions are both identified and promptly addressed.
- ↗ The feedback system should also specify who is required to rectify non-compliance in each particular case.

Quality Assurance Programme

- ↗ All operations and maintenance are conducted in accordance with all applicable requirements, standards and operational procedures.
- ↗ Quality Assurance = Active risk management

- ↗ Feedback system to ensure that corrective actions are :
  - ↗ identified and
  - ↗ carried out in a timely manner

Safety Management Systems

- ↗ Safety Management is defined as the   systematic management of the **risks** associated with flight operations, related ground operations and aircraft engineering or maintenance activities to achieve high levels of **safety performance**.

Safety Management Systems (SMS)

- ↗ " Safety Management Systems" is an explicit element of the corporate management responsibility which sets out a company's safety policy and defines how it intends to manage safety as an integral part of its overall business.

Safety Management Systems

↗ SMS including Flight Operations, engineering & Maintenance, Ground Handling and all other departments whose activities contribute to the operator's safety performance will have their own processes and procedures under the umbrella of the corporate SMS.

Safety Management Systems (SMS)

SMS components are:
↗ Accountability
↗ Safety Policy
↗ Documentation
↗ Hazard Identification & Analysis
↗ Hazard Tracking

↗ Safety-Risk Profile
↗ Change Management
↗ Audit & Evaluation
↗ Safety Measurement
↗ Training & Promotion
↗ Emergency Response Plan

Session Summary

↗ ICAO is a dedicated aviation agency of the UN that is devoted to promote air safety in the international civil aviation.
↗ FAA uses FARs govern the total flight, maintenance and technical rules of civil aviation activities in United States and its territories.
↗ JAA uses JARs continue in the implementation of common safety regulatory standards &procedures amongst JAA members.
↗ EASA is committed to establish and maintain a high level of aviation safety in Europe.

Session Summary

↗ Structure of aviation laws diagrams highlight the hierarchy of aviation laws.
↗ ISO 9000 QMS provides standards on quality management that include quality assurance of a product or service.
↗ QMS objective is to proactively identify weaknesses in all the elements of an organization's management system
↗ SMS is the corporate management responsibility which sets out policies and procedures in managing safety of the operational activities.

Introduction to the

Internal Audit

Session 3

IATA Training & Development Institute
KNOWLEDGE · EXPERIENCE · NETWORKING · SKILLS · RESULTS
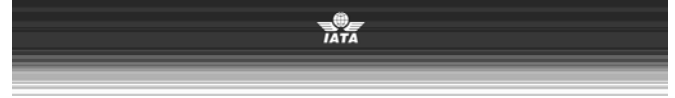
Objective & Outline

Objective:
To understand what is Internal Audit and the purpose or role it plays in an organization.
- ↗ Internal Audit definition
- ↗ Important of Audit
- ↗ Operational Management and Control
- ↗ Internal Control
- ↗ Types of Audit

Internal Audit

What is an internal audit?

↗ It is a process of systematically and objectively determining whether an organization's financial or operational goals are being met.

Internal Audit

An audit is a systematic and independent comparison of the way in which an operation is being conducted against the way in which the published operational procedures say it should be conducted.

Internal Audit

An audit must be a formal and planned function which has to be carried out by trained auditor and must adhere to auditing requirements.

Internal Audit

The senior management team is responsible and accountable to the organization's stakeholders for ensuring that all the organizational management and control systems, processes or procedures accomplish the organization's objectives and goals.

Why are Audits Important?

Management uses results of audits to make decisions about what aspects of the organization's operation need attention and to improve effectiveness throughout the organization.

Audits Important

↗ Audit has been recognized to be a valuable management tool for determining the effectiveness of an organization and it's performance.
↗ Civil Aviation regulations require internal audits to be carried out to ensure compliance with applicable regulatory requirements.

Audit Purpose

To determine the conformity or non-conformity of an organization's management and control systems with specified requirements or standards.

Internal Control Systems

↗ Planning
↗ Organizing
↗ Directing
↗ Controlling

↗ The first three functions produce the "building blocks"
↗ Controlling function provides assurance that the organization achieves its objectives.

Controlling function

A process that involves staff acting in a cost-effective and efficient manner to:
↗ Reduce the organization's exposures to loss or failures.
↗ Report all operating information accurately, reliably and timely.
↗ Conform to all organization's policies, plans, and specified requirements or standards.

Types of Audit

First Party Audit (Internal Audit)
↗ Audit carried out by the organization on their own systems.
Second Party Audit (External Audit)
↗ Audit carried out by the organization on their suppliers, contractors or service providers.
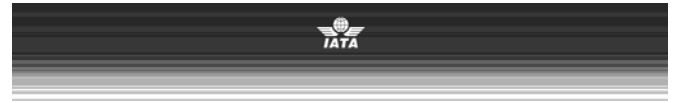**Third Party Audit (Certification Audit)**
↗ Audits performed by an independent body, usually for certification purposes.

Common Audit Terminology

Session 4

IATA Training & Development Institute
KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS

Objective & Outline

Objective:

To explain the common Audit Terminology used in audit

↗ Common Audit Terminology 1
↗ Common Audit Terminology 2
↗ Common Audit Terminology 3

Common Audit Terminology 1

↗ **Audit** : the structured and objective assessment used to determine the level of conformity against certain standards.
↗ **Auditor** :a person who has been authorized to perform audits.
↗ **Auditee** : the management unit of an organization which is to be audited.

Common Audit Terminology 1

↗ **Audit criteria** : a set of policies, procedures or requirements used as a reference (Documented reference).

↗ **Audit evidence** : Records, statements of fact or other information, which are relevant to the audit criteria.

Common Audit Terminology 1

↗ **Audit activities**: those activities and procedures through which information is obtained to verify the auditee's conformity to applicable regulations, standards and procedures.

↗ **Audit objectives** : The specific goal(s) of an audit. These often center on substantiating the existence of internal controls to minimize business risks

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Common Audit Terminology 1

↗ **Audit program**: A series of steps to complete an audit objective.
↗ **Audit sampling**: The application of audit procedures to less than 100 percent of the items within a population to obtain audit evidence about a particular characteristic of the population.
↗ **Audit team**: One or more auditors conducting an audit.

Common Audit Terminology 2

↗ **Audit scope**: The extent of the boundaries of the audit
↗ **Audit findings**: Results of the evaluation of the collected audit evidence against the audit criteria.
↗ **Audit conclusion**: Outcome of an audit provided by the audit team,after consideration of the audit objectives and all audit findings.

Common Audit Terminology 2

↗ **Audit report**: A report that outlines the audit process and provides a summary of the audit findings.
↗ **Audit Client**: Organization requesting an audit.
↗ **Audit plan**: Description of the activities and arrangements for an audit.
↗ **Authority:** The National Airworthiness Authority, or Aviation Regulator.

Common Audit Terminology 2

↗ **Competence**: Demonstrated personal attributes and demonstrated ability to apply knowledge and skill.
↗ **Compliance:** The fulfillment of a regulatory requirement.
↗ **Conformity or Conformance**: The fulfillment of a standard or a requirement.

Common Audit Terminology 3

↗ **Evidence**: The information an auditor gathers in the course performing an audit which includes written information such as records, contracts, invoices and other information.

↗ **Examine**: An audit procedure to examine something is to look at it critically.

Common Audit Terminology 3

↗ **Internal control**: The policies, procedures, practices and organizational structures designed to provide reasonable assurance that organization objectives will be achieved and that undesired events will be prevented or detected and corrected.

↗ **Product**: The end result of a procedure or process

Common Audit Terminology 3

↗ **Non compliance**: An event, process or system that does not meet regulatory requirements or standards.
↗ **Non conformity**: Non-fulfillment of a requirement or standard.
↗ **Population**: The entire set of data which a sample is selected The auditor draws conclusions from this data.

Common Audit Terminology 3

↗ **Quality System**: The organization structure, responsibilities, procedures, processes and resources for implementing quality management.

↗ **Requirement**: A need or expectation that is stated, generally implied or mandatory.

↗ **Review**: Activity undertaken to ensure the suitability, adequacy, means and effectiveness of the subject matter to achieve clearly established goals.

Audit Process & Program

Session 5

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KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS
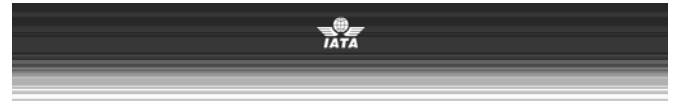
Objective & Outline

Objective:

To understand the processes involved in a typical Audit Program.

↗ Definition of the terms :- Process, Procedure and Program
↗ Typical Audit Program
↗ Elements necessary for a successful audit

Definition

Program
↗ A series of steps to be carried out or goals to be accomplished.

Process
↗ Is a series of events, stages, or phases that are taken over time and that have an identifiable result.
  ↗ It tells you "what happens" or
  ↗   "how it works".

Definition

Procedure
↗ Is a set of steps that a person performs to achieve specified outcomes, including decisions that need to be made.

↗ It tells you "how to do it".

Audit Program

A Typical Audit Program Consists of:

1. Authority for the Audit Program
2. Establishment of the Audit Program (PLAN)
3. Implementation of the Audit Program (DO)
4. Monitoring of the Audit Program (CHECK)
5. Improvement of the Audit Program (ACT)

Authority for the Audit Program

↗ Audit Program is always subject to the authorization or some form of "trigger" for the audit to take place.

↗ The organization's top management normally grants the authority for managing an audit program

Establish the Audit Program

↗ Upon authorization, the operator needs to properly establish and agree upon the scope and objectives of an audit.

↗ This is an important phase where if the operator has multiple sites of operation it has implications in a number of areas such as audit team selection, time allocation and final outcome of the audit.

Establish the Audit Program

↗ The audit program procedures, planning, scheduling, selection of audit teams, conducting audits, and the method of reporting to senior management must be established.

Implement Audit Program

↗ The audit activities are carried out as agreed upon by both the auditee and auditor.

↗ The implementation of an audit program should cover communications, scheduling activities, conducting audit activities and ensuring records are kept of all process when implementing the audit program.

Implement Audit Program

↗ **Practical techniques** and **"human factors"** of auditing are the two aspects that significantly affect the success of the audits.

Monitor Audit Program

↗ The audit should be monitored or checked to ensure that all relevant areas or elements are audited appropriately.

↗ It would be natural to start at the "input" of the organization and follow a "trail" through to the end.

↗ The ultimate goal of monitoring is to ensure that a thorough audit has been conducted.

Improve Audit Program

Auditing is not conducted as a reactive function.

↗ Auditing is done independently and objectively for quality assurance.

↗ Audits add value to decision making activity that can improve operation of an organization.

↗ Audits provide opportunities for continual improvement.

Session Summary

↗ Program is a series of steps carried out or goals to be accomplished.

↗ Process is a series of events or phases that have identifiable results.

↗ Procedures are a set of steps that need to be performed to achieve specified outcomes
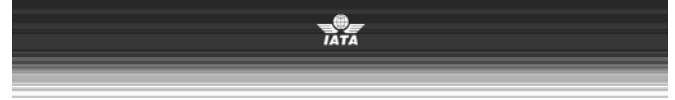
Session Summary

↗ Authority for an audit program is provided by the organization's top management.

↗ Audit Program needs to be established, implemented, monitored and improved for continuous improvement.

↗ Practical techniques and human factors of auditing are the key success factor of an audit.

Human Factors

Session 6

IATA Training & Development Institute
KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS

Objective & Outline

Objective:
To introduce the subject of Human Factors to Auditors for awareness purposes.

↗ Human Factors definitions
↗ Human Factors elements
↗ Human Error
↗ Human Error subjects
↗ Human Factors awareness for auditors

Human Factors Definitions

Human Factors is about people, their working and environments, about their relationship with equipment, procedures and their interrelationships.

Human Factors involves the overall performance of human beings within the aviation system.

Human Factors Definitions

It seeks to optimize people's performance through the systematic application of the human sciences, and with the objectives of safety and efficiency.

Human Factors Elements

Human Factors is the Scientific study of how a person interacts with:

1.Machines

2.People

3.Procedures

4.The Environment

Human Factors Elements

Human Factors are those elements that affect our Behavior and Performance, especially those that may cause us to make errors.

Human Error

People are key components of processes. They are involved in process design, operation, maintenance, etc.

No step in the process life cycle is without some human involvement. Based on human nature, human error is inborn and will arise in all parts of the process life cycle.
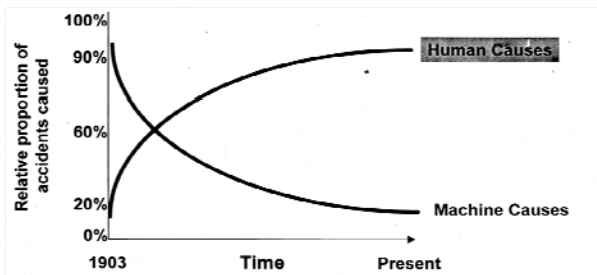

Human Error

Processes are generally not well-protected from human errors since many safeguards are focused on equipment failure.

Consequently, it is likely that human error will be an important contributor to Risk for most processes.

This is evidenced by the number of major accidents that have been attributed to this cause.

Machine v Human as Causes For Accidents

Human Error Estimations

It is estimated that today human error accounts for the majority of most industry accidents.

System	% Due to Human Errors
Airlines	70 – 80%
Air Traffic Control	90%
Ships	80%
Process Control	80%
Nuclear Power	70%
Road Transportation	85%

Why Do We Make Errors?

Point to note is that human performance is affected by:

↗ Social
↗ Emotional
↗ Cognitive
↗ Psychological Elements

Why Do We Make Errors?

Exceedance relating to human capabilities can result in consequences, such as:

↗ increased errors
↗ inability to attend to all of the tasks at hand
↗ poor judgment, etc.

Human Errors Subjects

The human being is the central part of any organization's system which is subjected to human performance capabilities and limitation.

Human Errors Subjects

The subject of human performance and limitations is relatively large but for aviation personnel the subject includes:

1. Human Capabilities
2. Physical Accessibility and Compatibility
3. The Senses
4. Information Processing
5. Perception
6. Judgment and Decision Making

Human Factors Awareness for Auditors

↗ Auditors should be alert to the possibility of intentional wrongdoing or errors

↗ Auditors should be alert to those conditions and activities where irregularities are most likely to occur.

Human Factors Awareness for Auditors

↗ Auditors should be able to identify inadequate controls and recommend improvements to promote compliance with acceptable procedures and practices.

↗ Human Factors awareness for auditors will provide the means to recognize existence of problems or potential problems for further investigation.

Session Summary

↗ Human Factors involves the overall performance of human beings within the aviation system.

↗ Human Factors is a scientific study on how a person interacts with machines, people, procedures and the environment.

↗ Human error is an important contributor to risk for most process.

Session Summary
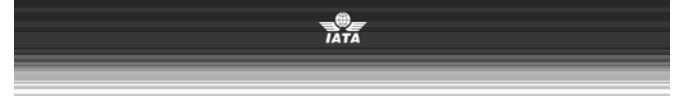
↗ 70 – 80% of aviation accidents are caused by human error.

↗ Human performance capabilities and limitation is the main focus of the human factors study.

↗ Auditors should have human factors awareness to recognize human error problems.

IATA

Auditors Training

Session 7

IATA Training & Development Institute
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IATA

Objective & Outline

Objective:

To describe the Auditors training requirements.

↗ Auditors training
↗ Auditors development
↗ Maintenance of competence for Auditor

IATA

Auditors training

↗ Auditor candidates shall undergo training to the extent necessary to ensure their competence in the skills required for carrying out audits, and for managing audits.

IATA

Auditors training

Training in the following areas should be regarded as particularly relevant:

↗ Knowledge and understanding of the standards or requirements against which audits are to be performed

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IATA

Auditors training

Training in the following areas should be regarded as particularly relevant:

↗ Assessment techniques on evaluating, examining, questioning, and reporting.
↗ Skills for managing an audit, such as planning, organizing, communicating and directing

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IATA

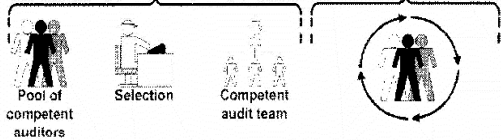## Auditors training

↗ Auditor competence should be demonstrated through written or oral examinations, or other acceptable means.
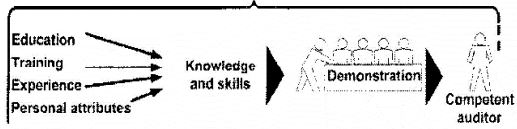
Maintenance of competence for auditors

Auditors should maintain their competence by:

↗ Ensuring that their knowledge of relevant quality system standards and requirements is current.

↗ Ensuring that their knowledge of auditing procedures and methods is current.

↗ Participating in recurrent training where necessary.

↗ Having their performance reviewed by an evaluation panel.

Session Summary

↗ Auditor shall undergo training to be competent in conducting audit.

↗ A structure auditor development program must be in place to train the auditor.

↗ Auditors should maintain their competence by participating in recurrent training.

Auditors Qualities

Session 8

IATA Training & Development Institute
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Objective & Outline

Objectives:
1. To highlight the desirable and undesirable qualities for auditors.
2. To introduce skills required by auditors.
   - ↗ Desirable qualities for auditors
   - ↗ Undesirable qualities for auditors
   - ↗ Auditor Communicating Skills
   - ↗ Auditor Questioning Skills
   - ↗ Auditor Listening Skills
   - ↗ Non-Verbal Communication

Desirable Qualities for Auditors

- ✓ Good communicator
- ✓ Trained
- ✓ Observant
- ✓ Professional
- ✓ Fair
- ✓ Tactful
- ✓ Open-minded
- ✓ Objective
- ✓ Versatile
- ✓ Logical
- ✓ Diplomatic
- ✓ Sensible
- ✓ Disciplined
- ✓ Considerate

Undesirable Qualities for Auditors

- ↗ Rude
- ↗ Aggressive
- ↗ Uninterested
- ↗ Acting Superior
- ↗ Unprepared
- ↗ Bad Timekeeper
- ↗ Hard-hitting
- ↗ Threatening
- ↗ Quick-tempered
- ↗ Offensive

Competence of Auditors

Personal attributes

↗ decisive	reaching timely conclusions based on logical reasoning and analysis
↗ perceptive	instinctively aware of and able to understand and adapt to situations
↗ tenacious	persistent, focused on achieving objectives
↗ diplomatic	tactful in dealing with people
↗ ethical	fair, truthful, sincere and honest

Competence of Auditors

Personal attributes

↗ open-minded	willing to consider alternative ideas or points of view
↗ observant	constantly and actively aware of physical surroundings and activities
↗ Versatile	able to adapt to different situations
↗ self-reliant	acts and functions independently while interacting effectively with others

Auditor Communicating Skills

↗ Think about the question before you ask it – you cannot 'rub out' or 'backspace' the question once you have asked it.

↗ Keep your questions simple.

↗ Do not start the audit with pre-conceived ideas or 'hidden agendas'.

↗ Speak clearly and slowly.

Auditor Communicating Skills

↗ Clarify any points of misunderstanding as soon as possible.

↗ Rephrase a question if the auditee does not understand the initial question.

↗ Don't jump to conclusions.

↗ Remember the 'Desirable Qualities' of an auditor.

Auditor Questioning Skills

↗ During auditing ,the auditor is there to gather information, not to give information.

↗ The auditee should be doing most of the talking during audit interview.

Auditor Questioning Skills

↗ The amount and type of information given by the auditee will often depend upon the types of question asked by auditor.

↗ Types of question that the auditor may use
Open Questions or Closed Questions

Auditor Listening Skills

↗ Having asked questions, the auditor needs to listen to the answers.

↗ Listening is part of communication, and is probably the hardest part for most people.

Auditor Listening Skills

↗ Listening takes a great deal of concentration and when the auditor has so many other things to do, it often receives less attention.

↗ One of the ways to help improve listening skills is to make the process interactive.

Auditor Listening Skills

Methods of interactive listening:
- ↗ Clarifying
- ↗ Confirming
- ↗ Checking
- ↗ Responding
- ↗ Acknowledging answers
- ↗ Summarizing

By doing the above the auditee feels more comfortable as being listened to and the auditor can be more involved in the interview plus able to concentrate better.

Non-Verbal Communication

- ↗ Body leaning forward generally shows interest and concern.

- ↗ Body leaning backward shows lack of confidence and interest.

- ↗ Frequent touching of face or nose could indicate anxiety or concern.

- ↗ Foot or finger tapping shows impatience.

Session Summary

- ↗ The auditor should exhibit the desirable qualities and avoid the undesirable qualities when conducting audit.

- ↗ The competence of an auditor requires some crucial personal attributes such as decisive, perceptive, diplomatic, and ethical and others.

- ↗ Communication skill an important for auditor.

Session Summary

- ↗ The auditor should apply the right questioning skills when conducting audit.

- ↗ Listening is a part of communication skill and auditor should use the interactive listening process.

- ↗ The auditor should have awareness of the non-verbal communication when conducting audit.

Auditor Responsibilities and Activities

Session 9

IATA Training & Development Institute
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Objective & Outline

Objective:

To describe Auditors responsibilities and activities.

↗ Auditors responsibilities

↗ Independence of the auditors

↗ Lead Auditor activities

↗ Auditors activities

Auditors responsibilities

Auditors are responsible for:

↗ Complying with the applicable audit requirements.

↗ Communicating and clarifying audit requirements.

↗ Planning and carrying out assigned responsibilities effectively and efficiently

---

Auditors responsibilities

Auditors are responsible for:

↗ Documenting all audit observations.

↗ Reporting the audit results.

↗ Verifying the effectiveness of corrective actions taken by auditee as a result of the audit.

Auditors responsibilities

Auditors are responsible for:

↗ Retaining and safeguarding documents pertaining to the audit:

  ↗ Submitting such documents as required.

  ↗ Treating privileged information with discretion.

  ↗ Cooperating and supporting the lead auditor.

Lead auditor responsibilities

↗ The lead auditor is ultimately responsible for all phases of the audit.

↗ The lead auditor should have management capabilities and experience and the authority to make final decisions regarding the conduct of the audit and any audit observations

Lead Auditor activities

The lead auditor should also:
- Report critical nonconformities to the auditee immediately.
- Report any major obstacles encountered in performing the audit.
- Report on the audit results clearly, conclusively and without undue delay.

Lead Auditor activities

The lead auditor should also:
- Arrange travel itinerary/accommodation/airside passes/visas
- Arrange interview times.
- Arrange for opening and closing meetings.
- Review documentation to determine their adequacy.

Lead auditor responsibilities

The lead auditor's responsibilities also cover:
- Participation in the selection of other audit team members.
- Preparation of the audit plan.
- Representing the audit team at all stages, including reporting at closing meeting and preparing and submitting the formal audit report.

Auditors activities

Auditors should:
- Remain within the audit scope.
- Exercise objectivity.
- Collect and analyze evidence that is relevant and sufficient to permit the drawing of conclusions regarding the audited management system.
- Act in an ethical manner at all times.

Independence of the auditors

- Auditors should be free from bias and influences which could affect audit objectivity.

- All persons and organizations involved with an audit, should respect and support the independence and integrity of the auditors.

Session Summary

- The auditor needs to be complying with audit requirements and carry out assigned responsibilities effectively and efficiently.

- The lead auditor is fully responsible for all phases of an audit and represent the audit team at all stages.

Session Summary
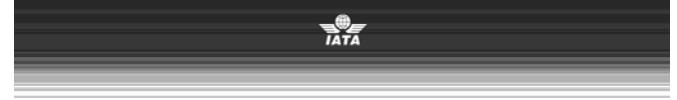
↗ The lead auditor is responsible to produce audit report.

↗ The auditor should act in an ethical manner at all time.

↗ Independence of the auditors is an important audit standard for the meeting the objective of an audit.

Audit Activity
(Initiation & Preparation)

Session 10

IATA Training & Development Institute
KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS

Objective & Outline

Objective:
To explain the audit activities of the Initiation and Preparation phase.
To describe the elements of an Audit plan.
- ↗ Key Auditing Activities
- ↗ Audit Plan
- ↗ Audit Criteria
- ↗ Audit Agenda
- ↗ Audit Checklist
- ↗ Opening Meeting

Key Auditing Activities

1. **Initiation** (define audit scope & objectives)

2. **Preparation** (Audit planning and preparation including the audit plan, checklist development and audit team selection).

3. **Documentation Review** (Review relevant documented system for adequacy with respect to audit criteria).

Key Auditing Activities

4. **Audit Performance and Evidence Gathering** (auditing the management system)

5. **Analysis** (findings reconfirming)

6. **Reporting** (reporting the results of the audit)

7. **Follow-up and close out** (Conducting audit follow-up and close out of findings)

Initiation of the Audit

- ↗ The phase of defining the audit purpose or objectives, audit scope, audit criteria and selection of audit team members.

Audit Objectives

Why the audit is required and what is to be achieved by the audit.
For example:
Internal Audit → Assurance/Improvement
To verify the auditee is in conformance with the documented quality system.

Audit Objectives

Why the audit is required and what is to be achieved by the audit.
For example:
External Audit → Annual Airworthiness Audit by
Department of Civil Aviation.

To evaluate the capability of the management system
to ensure compliance with regulatory requirements.

Audit Scope

↗ Scope establishes the perimeter of the areas to be audited and identifies the items, groups and activities to be examined.

↗ The scope of an audit could be a complete systems audit covering the quality system in it's entirety, or could be limited to one or more procedure or specific department of an organization.

Audit Scope

↗ Scope also defines the audit duration and audit resource requirements, such as the number of auditors required for the audit.

Audit Criteria

↗ Reference documents (such as the auditee's policies or procedures manual) are to be defined in the audit plan.

↗ These manuals shall contain all the relevant policies and procedures that affects the auditee operations.

Audit Preparation

↗ Prepare Audit Plan
↗ Assign work to audit team
↗ Prepare relevant checklists

Audit Plan

↗ The documented audit plan should include the following:

↗ Auditee name and address
↗ Audit objectives, scope and criteria
↗ Identification of audit team members.

Audit Plan

- ⌐ The language of the audit.
- ⌐ Audit Confidentiality requirements.
- ⌐ Audit Agenda specifying departments or activities to be audited including date, start and end time of auditing plus names of assigned auditors.
- ⌐ Audit report distribution and the expected date of issue.

Preparation of the Audit Plan

- ⌐ Prepare an audit plan, a basis for agreement, for submission to the auditee
- ⌐ Any planning must be kept flexible thus permitting changes during the audit itself
- ⌐ Assign activity work to the audit team members
- ⌐ Prepare for the auditing work documents: including checklists, check sheets, forms, and related working documents.

Audit Agenda (Example: Audit of Engineering Department)

Time	Activities	Auditee	Area	Auditor
0900 -1000	**Opening Meeting**	All Senior Management team	CEO Conference room	Lead Auditor and Audit team members
1000-1015	Morning Tea Break	All	CEO Conference room	Lead Auditor and Audit team members
1015 - 1230	Document Control Review	Document Control Manager Mr. Bookworm	Publication Department	Mr. Mark Dell
	Outsourcing Control Review	Purchasing Manager Mr. Buy It All	Central Purchasing Department	Mr. Tom Roger
1230 -1330	Lunch	All	Cafeteria	Lead Auditor and Audit team members
1330-1500	Maintenance Crew training records Review	Training Manager Mr. Trainer	Engineering Training Center	Mr. Mark Dell Mr. Tom Roger
1500-1545	**Closing meeting**	All Senior Management team	CEO Conference room	Lead Auditor and Audit team members

Audit Checklists

Purpose of Checklists
- ⌐ A checklist acts as a guide to the auditor performing the audit.
- ⌐ Checklists help to ensure that an audit is conducted in a systematic and comprehensive manner and that adequate evidence is obtained.

Audit Checklists

Purpose of Checklists
- ⌐ Checklists can provide structure and continuity to an audit and can ensure that the audit scope is being followed.
- ⌐ Checklists can provide a means of communication and a place to record data for use for future reference

Audit Checklists

Advantages of checklists
Checklists if developed for a specific audit and used correctly:
- ⌐ Ensure a consistent audit approach

- ⌐ Act as a sampling plan and time manager

- ⌐ Serve as a memory aid

Audit Checklists

Disadvantages of checklists

When checklists are not available, or poorly prepared:

↗ The focus of the checklist may be too narrow in scope to identify specific problem areas.

↗ Poorly prepared checklist can slow down an audit due to duplication or repetition

Preparing a Checklist

Checklists can be prepared in detail or brief. The important consideration that needs to be taken for preparing a checklist:

↗ List questions that can be easily understood.
↗ Make questions follow the flow of input-process-output.
↗ List questions with referenced to auditee's documentation.

Example of a Checklist (Station Operations)

Check No	Description	YES	NO	Remarks
STA 1	Is there a plan/concept exist of the training- and recurrent training for the station-personnel?			
STA 2	Is the station personnel regularly scheduled for recurrent training?			
STA 3	Is there critical working-procedures & instructions available for the station personnel?			

Checklist usage guidance

The following details, as appropriate should be recorded:

↗ Name and position of person interviewed
↗ Summary of statement made by person interviewed
↗ Identity and revision status of documents
↗ Range of sample examined
↗ Time and place of an event.

The Opening Meeting

↗ This meeting at the beginning of the on-site audit is relatively brief but provides the opportunity for all attendees to clarify any problems or conditions relating to the audit.

Elements of Opening meeting

↗ Introductions
↗ Statement of Confidentiality
↗ Confirm scope, objectives and Audit standard
↗ Confirm working hours and availability of personnel
↗ Review Audit Plan and Audit Agenda

Elements of Opening meeting

↗ Explain method of auditing and raising of nonconformities
↗ Check availability of guides
↗ Check any Health and Safety requirements
↗ Confirm time, place and attendees for closing meeting
↗ Invite questions.

Session Summary

↗ 7 key auditing activities need to be carried out during an audit.
↗ Initiation and Preparation is where audit plan and audit checklist is prepared.

Session Summary

The audit plan should have the relevant information of the audit to be carried out, such a:
↗ auditee name
↗ address
↗ audit objectives
↗ Scope
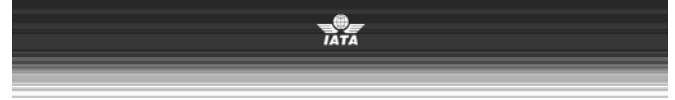↗ criteria
↗ agenda
↗ and others.

Session Summary

↗ Audit agenda will specify activities of an audit.

↗ Audit checklist provides a structure for a systematic manner to conduct an audit.

↗ The opening meeting is the first activity to start an on-site audit and it should be kept brief.

Documentation Review

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Objective & Outline

Objective:

To explain the audit technique used during Documentation Review phase.

↗ Review Control Documents
↗ Documentation Hierarchy
↗ Documentation Review
↗ Working Documents

Key Auditing Activities

1. **Initiation** (define audit scope & objectives)
2. **Preparation** (Audit planning and preparation including audit plan and checklist development).
3. **Documentation Review** (Review relevant documented system for adequacy with respect to audit criteria)
4. **Audit Performance and Evidence Gathering** (auditing the management system)
5. **Analysis** (findings reconfirming)
6. **Reporting** (reporting the results of the audit)
7. **Follow-up and close out** (Conducting audit follow-up and close out of findings)

Review Control Documents

↗ An essential part of any audit is not only to audit the actual systems, processes and procedures but also to ensure that the auditor reviews the relevant documentation before the audit is performed.

↗ Only by reviewing the documentation can the auditor decide how to progress with the audit and develop the questions he/she needs to ask during the audit.

Review Control Documents

Examples of controlled documents:
1. Quality Manuals
2. Company policies.
3. Standard operating procedures manuals.
4. Accepted contracts/customer purchase orders.
5. Production plans/schedules/work orders.
6. Work instructions.
7. Test instructions.
8. Maintenance procedures and instructions.
9. Inspections checklists
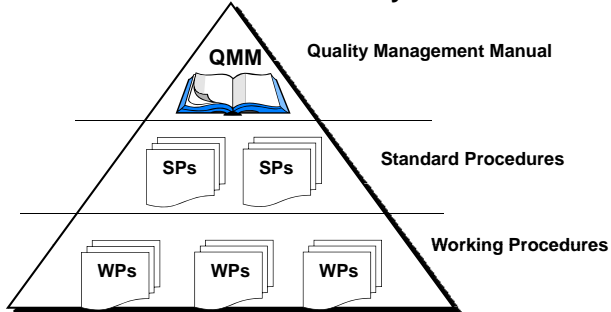10. Inspections procedures and instructions.

Documentation Hierarchy

The quality manual is written to cover all safety and quality requirements according to the following standards:

a) JAR-OPS 1
b) ISO 9001

Documentation Hierarchy

QMM — Quality Management Manual

SPs — Standard Procedures

WPs — Working Procedures

Documentation Review

Review of Documentation is to assess whether:
- ↗ all required elements of the specified standard are addressed adequately
- ↗ there are adequate procedures or other documented measures to ensure that activities are properly controlled
- ↗ there are any deficiencies present in the documentation system.

Documentation Review

Review of Documentation is carried out to:
- ↗ Ensure that audit is performed to conform as stated in the Audit Criteria of the audit plan.
- ↗ Record all documentation findings for further analysis to determine nonconformity.
- ↗ Provide the factual evidence for audit findings
- ↗ A documentation checklist should be used as a guide to ensure all important areas are covered.
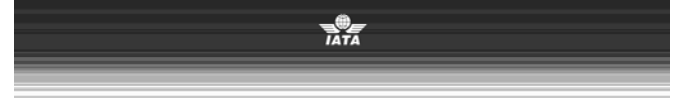
Session Summary

- ↗ Documentation review in an important activity of an audit as it can help the auditor to ask the relevant questions during audit.
- ↗ Documentation hierarchy shows the different level of control document in an organization.
- ↗ The result of review of documentation, provides the factual evidence for audit findings.

Audit Performance & Evidence Gathering

Session 12

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Objective & Outline

Objective:

To explain the audit activities of the Audit Performance and Evidence Gathering phase.

↗ Audit Performance and Gathering of Audit Evidence
↗ Audit Party – Auditor or Auditee
↗ Audit Evidence
↗ Verifying Information
↗ Sampling of Audit Evidence
↗ Objective Evidence

Key Auditing Activities

1. **Initiation** (define audit scope & objectives)
2. **Preparation** (Audit planning and preparation including audit plan and checklist development).
3. **Documentation Review** (Review relevant documented system for adequacy with respect to audit criteria)
4. **Audit Performance and Evidence Gathering** (auditing the management system)
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7. **Follow-up and close out** (Conducting audit follow-up and close out of findings)

Audit Performance Overview

↗ "Audit Performance" relates to all the activities that take place during the actual on-site audit.
↗ The effectiveness of the process is dependent upon the how well the audit plan is executed and the completeness of prepared checklists.
↗ The on-site part of the audit is to determine the degree of compliance with the documented system and the effectiveness of its implementation.

Audit Performance Overview

↗ The auditor should proceed with the audit in accordance with the audit agenda, using the prepared checklists.

↗ It is the responsibility of the lead auditor to supervise the activities of the audit team members to ensure the audit objectives are achieved.

Audit Evidence

Audit evidence is information that provides a factual basis or factual evidence for audit findings which can be obtained through observing work area conditions, interviews, examining records such as letters, contracts testimonial or testing documents.

Audit Evidence Gathering

- ⤢ During audits, audit evidence is generally collected or gathered through interviews, examination of documents and observation of activities and conditions in the areas of concern.
- ⤢ Clues suggesting deficiencies are noted if they seem significant, even if checklists do not cover them, and investigated.

Audit Performance & Gathering of Audit Evidence

This phase includes the following:
- ⤢ Audit performance allows so as to obtain audit evidence
- ⤢ The Auditor is normally guided by the audit plan and the audit checklist.
- ⤢ Effective communication skills must be used

Audit Performance & Gathering of Audit Evidence

This phase includes the following:
- ⤢ A quiet,convenient and comfortable area for the audit interview to take place
- ⤢ The manner in which the auditor conducts his/herself during this audit phase is very important.

Objective Evidence

- ⤢ It is important to remember that the audit findings must contain sufficient evidence to support any statements made that relates to any non conformity areas.
- ⤢ Notes must be taken. These are used as part of   Audit Report. The most convenient method of note taking, is the checklist method.

Gathering or Collecting Audit Evidence

It is not easy to obtain information from people, especially if they are hiding information or they have been instructed by their own management to say as little as possible to an auditor.

Gathering or Collecting Audit Evidence

The auditor should pay particular attention to issues of human errors when carrying out the interview with auditee

Audit Party

An audit group may includes:
- ↗ The Auditor
- ↗ The operator guide
- ↗ Management spokesperson from that area
- ↗ Staff from that area
- ↗ Observers accompanying the audit group
- ↗ Interpreters

Communication Skills

It is essential that the auditor is able to communicate effectively with the auditee.

The activities that an auditor has to perform during an audit:
- ↗ Asking questions
- ↗ Listening to answers
- ↗ Checking evidence
- ↗ Taking notes
- ↗ Following a checklist
- ↗ Reading the procedure
- ↗ Checking the standard
- ↗ Keeping track of time

Audit Questioning Approaches

The audit checklist normally can provide basic questions to which the auditor seeks answers.

Auditors need to develop other well proven questioning approaches in order for the auditee to provide more information.

- ↗ Organize Questions
- ↗ Encourage Dialogue
- ↗ Provide Positive Response

Questioning Approaches

- ↗ Invitation to Talk
  To get the auditee to begin to talk, try asking for a description of something familiar:-

- ↗ *"Can you please explain to me what do you do in this department "?*

- ↗ Put the auditee at ease.

- ↗ Establish a rapport

Questioning Approaches

Open Questions (5 W & 1 H)

Questions can be focused by using these six simple words:
- ↗ "What do you do next?"
- ↗ 'Who approves these documents?"
- ↗ "When (or how often) is this plan reviewed?"
- ↗ "Where are these items stored when not in use?"
- ↗ "Why is it done that way?"
- ↗ "How are these reports distributed?"

This type normally allows the auditee to talk openly about the subject in question.

Questioning Approaches

Closed Question.

Only either *"Yes"* or *"No"* answer is required from the auditee.

" Is there training being conducted for station personnel?" (Auditor)

 "Yes" (Auditee)

"*Does your department keep any station training records?"* (Auditor)

"Yes" (Auditee)

Listening Skills

⤴ All audit interviews comprise of a combination of questioning and listening

⤴ Listening is part of communication, and is probably the hardest part of most people

⤴ A good listener increases the accuracy of reception not only in direct terms but also in relative or analytical terms.

Listening skills

Good listening requires full concentration and it is advisable to follow a systematic pattern which is interactive :

⤴ Ask the question

⤴ Stop talking

⤴ Listen to all of the answer

⤴ Seek clarification

⤴ Take notes

⤴ Ask another question.

Listening Skills

⤴ Effective listening involves more than using the sense of hearing.

⤴ By maintaining eye to eye contact, giving the occasional feedback nod such as, "Uh-huh", 'Yes, I see" and by generally appearing interested, the auditor can encourage the auditee to co-operate and communicate.

Listening Skills

The auditor should not be distracted from listening by outside influences such as:

⤴ Selective attention

⤴ Emotional Involvement

⤴ Jumping to Hasty Conclusions

⤴ Boredom

⤴ Lack of Time

Verifying Information

By questioning and listening to answers,the auditor is gathering information that needs to be verified as being factual or true.

Whenever an auditee makes a statement on a vital point, the auditor's response should be "Please show me".

For example:

Auditor - "What is the current issue number of your
            Procedure Manual?"

Auditee - " Issue number 2"

Auditor – "Please show me the manual".

Verifying Information

Verification can be made by various means including:

⤴ Checking the records

⤴ Asking someone else and comparing answers

⤴ Observing the activity being carried out

⤴ Undertaking part of the activity yourself

⤴ Simulating the activity

Sampling of Audit Evidence

How many to check or verify, be it document, records or any form of audit evidence.

Answer : There is no fixed numbers that state how many should be checked except the "Golden Rule" more than one is better unless there is only one.

Remember that an audit is a sampling process and the auditor needs to take a sample.

Recording Audit Evidence

↗ All audit evidence which was seen should be well recorded to provide as an "Objective Evidence" of the audit.

↗ An inexperienced auditor sometimes relies on his memory. This method is unreliable and should be avoided.

Session Summary

↗ Audit Performance relates to all activities that   take place during the actual on-site audit.
↗ Audit evidence gathering, is normally done through interviews, examination of documents and observations of activities.
↗ Audit evidence provides factual evidence for audit findings.

Session Summary

↗ The audit party may have many numbers of people when conducting the audit.
↗ The auditor must apply the appropriate communication skills when gathering evidence during an audit.
↗ The relevant questioning approaches must be applied in order to get the relevant answer from the auditee.

Session Summary

↗ Interactive listening skills should be used during the audit.
↗ Rule for sampling of audit evidence, is to collect as much evidence as possible.
↗ Audit evidence should be well recorded.

Analysis of Findings

Session 13

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Objective & Outline

Objective:

To explain the audit activities of the Analysis of Findings phase.

- ↗ Evidence Gathering
- ↗ Analysis of Gathered Evidence
- ↗ Raising Nonconformity Report
- ↗ Classification of Nonconformity or Findings
- ↗ Closing Meeting

Key Auditing Activities

1. **Initiation** (define audit scope & objectives)
2. **Preparation** (Audit planning and preparation including audit plan and checklist development).
3. **Documentation Review** (Review relevant documented system for adequacy with respect to audit criteria).
4. **Audit Performance and Evidence Gathering** (auditing the management system)
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Evidence Gathering

Evidence is derived from all information that Auditors are able to obtain during an Audit, and provides the basis for the Auditor to determine **conformity or nonconformity** with required standards.

The goal of the Auditor is the **secure sufficient *factual* evidence** to determine the whether the Auditee has conformed with the required standards or not.

Evidence Gathering

Factual evidence from the following activities requires further analysis:

- ↗ reviewing documentation;
- ↗ interviewing personnel;
- ↗ surveying conditions, facilities and equipment;
- ↗ observing the conduct of operational activities and processes.

Analysis of the Gathered Evidence

- ↗ Auditors must exercise **professional judgment** when analyzing or evaluating the gathered evidence because not all evidence is objective or factual.

- ↗ Gauging conformity is not always a clear (i.e. black or white) decision for the Auditor, particularly in terms of a specification being implemented.

Analysis of the Gathered Evidence

↗ The Auditor must uncover sufficient evidence from multiple sources to confirm that a specification has been implemented by an Operator.

↗ A valid conclusion of conformity or nonconformity requires evidence that has been carefully *verified* and *analyzed* by the Auditor.

↗ Upon completion of the analysis of the audit evidence then only Corrective Action Request (CAR) or Non Conformity Report (NCR) is being raised if required.

Raising Nonconformity Report

Writing a good nonconformity statement is an essential skill for any auditor.

Generally all nonconformity statements shall include the following:

1. The requirements or standards reference
2. The nature of nonconformity
3. Factual evidence (documents,records,etc)

Raising Nonconformity

Important aspects of good nonconformity reports:
1. Precise requirements or standard against which the nonconformity is raised.

↗ E.g. If the nonconformity relates to the fact that purchasing data is not clear on purchase orders, the precise clause to be quoted would be ISO 9001 7.4.2, and not just ISO 9001 7.4.

↗ E.g. If the nonconformity relates to the fact that the operator did not define the responsibilities of it's Flight Operations Flight Safety functions, the precise ISARP to be quoted would be FLT 1.2.2 item viii of the IOSA Standard Manual (ISM).

Raising Nonconformity

2. A reference against which the nature of nonconformity is being raised.

↗ E.g. Some purchase orders do not contain adequate purchasing data.
↗ P.O. number 7531 - Dimension not stated.
↗ P.O. number 8651 – Tolerance not stated.

Raising Nonconformity

3. **Indicating the factual evidence :**

There is evidence that not all parts are being checked upon arrival as required. **Refer Part No: 345, 356, 367**

Classification of Nonconformity or Findings

Nonconformity or Findings need to be judged and categorized to assess the degree of compliance or conformity.

Some common Findings classification:
↗ Nonconformity or Observation
↗ Findings or Observations (IOSA)
↗ Level 1 or Level 2
↗ Category 1 or Category 2
↗ Major or Minor

Closing Meeting

- ↗ The audit team should hold an exit or closing meeting with the auditee's senior management and those responsible for the functions concerned.

- ↗ The main purpose of this meeting is to present the audit results to the senior management in such a manner so as to ensure that they clearly understand the results of the audit.

Closing Meeting

- ↗ A Good and professional closing meeting can leave a lasting impression on the auditee's management team with regards to the benefits of an audit as a   decision making tool.
- ↗ All nonconformities and observations are presented.
- ↗ The Auditor normally thanked the auditee for the cooperation extended during the audit.

Session Summary

- ↗ The Auditor should secure sufficient factual evidence to determine whether auditee has conformed with the required standards.

- ↗ Audit evidence gathering requires further analysis to derive a valid conclusion.

Session Summary

When raising a nonconformity, there is a requirement that the following 3 elements are present:
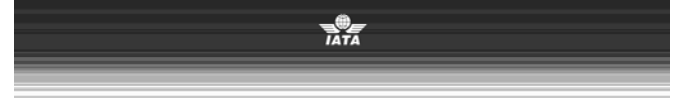- ↗ the standard, the nature of nonconformity and the factual evidence.

- ↗ Classifications of audit findings help to indicate the degree of conformity.

- ↗ Closing meeting is carried out to present audit results to the senior management.

Audit Reporting & Follow-up

Session 14

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Objective & Outline

Objective:

To explain the audit activities of the Reporting Audit Results phase.

To explain the audit activities of the follow-up and close out phase.

- ↗ Reporting Audit Results
- ↗ Audit Report Content
- ↗ Audit Complete
- ↗ Corrective action
- ↗ Corrective Action Request (CAR) Form
- ↗ Closed-loop corrective action process
- ↗ Guidelines to take corrective action
- ↗ Follow-up verification

Key Auditing Activities

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Reporting Audit Results

- ↗ The audit team prepares the audit report.

- ↗ The report is an accurate, precise and concise record of the audit.

- ↗ The audit report is normally issued within the agreed arrangements (closing meeting) where it should be completed, discussed and signed by the lead auditor and the auditee management representative.

Audit Report Content

- ↗ The audit report should truly reflect the content of the audit
- ↗ It is dated and signed by the lead auditor
- ↗ It contains the following items, as applicable:
  - ↗ The scope and objectives of the audit
  - ↗ Details of the audit plan
  - ↗ Summary of agreed non conformities or findings

Audit Completed

An audit is considered "complete" when:

- ↗ The activities stipulated within the audit plan have been completed;
- ↗ The audit report has been approved and distributed;
- ↗ All non conformities have been effectively corrected (as the audit is not considered "completed" until verification of the effectiveness of the action taken, when corrective action has been requested, and all CARs are closed).
- ↗ The Auditee must be notified that the audit is officially close when all Corrective Action Request have been closed.

Corrective action

- If there is a corrective action request (CAR) or a Non Conformity Report (NCR), appropriate actions must be taken by the auditee

- The auditor is responsible for identifying the nonconformity.

- Corrective actions need be taken within an agreed time frame

Corrective action

- The auditee is responsible for determining and initiating corrective action needed to correct a nonconformity or to correct the cause of a nonconformity and to have the CAR to be close out by the auditor.

- If actions are outside the audit time frame, the audit stays open until effective action has been taken.

CORRECTIVE ACTION REQUEST (CAR) FORM

Department/ Unit			
AUDIT TYPE		AUDIT DATE	
CAR REF NO		DATE RAISED	
RAISED BY		ISSUED TO	
FINDING DESCRIPTION		FINDING CATEGORY	
FINDING ACCEPTED BY		DATE	
ROOT CAUSE			
CORRECTIVE ACTION PLAN			
ACTION TAKEN BY		DATE	
PREVENTIVE ACTION PLAN			
ACTION TAKEN BY		DATE	
CORRECTIVE ACTION VERIFICATION BY		CAR CLOSED BY	
		DATE	

Closed-loop corrective action process

- Identify the problem

- Investigate the root cause of the problem

- Develop a plan which eliminates the cause

- Implement the plan

- Verify the effectiveness of the plan in eliminating the cause.

Follow-up verification

- The auditee must contact the audit team when action has been taken on the CAR

- The effectiveness of the action taken must be verified and if it completed satisfactorily then the close out of the CAR can only be done by the auditor.

Follow-up verification

- Proof of documentation must be verified by Auditor

- This verification can be part of the planning of a subsequent audit in some case.

- The auditor once close out the CAR should provide notification of closure to the auditee.

Session Summary

Audit Report should be raised by the Lead Auditor and it should reflect the true content of the audit.

Correctives action request form must be raised when nonconformity is identified during the audit.

Session Summary

The auditee is responsible to take the appropriate action in correcting the nonconformity.

Auditor should verify the corrective action taken by the auditee and upon satisfies with the action taken the CAR must be close.
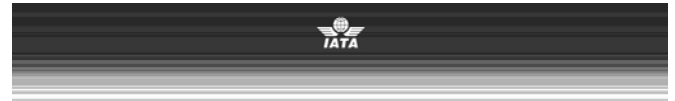
Auditor should send notification of the CAR closure to the auditee.

IATA Operations Safety Audit (IOSA) Awareness and Audit Program

Session 15

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Objective & Outline

Objectives: To introduce the IATA Operational Safety Audit concept and methodology.

- Introduce the concept of IOSA.
- Operational Management and Control System
- Goals of IOSA.
- Benefits of IOSA
- Airline Audit Model
- IOSA Audit Sharing
- Brief history of IOSA.

- IOSA Audit scope.
- Describe who conducts IOSA Audits.
- IOSA Audit standards.
- IOSA Operational Observation/Assessment
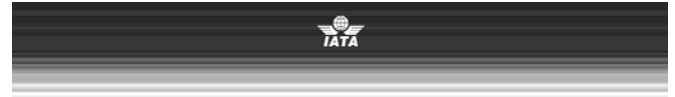- IOSA Documentation Review.
- IOSA Registry.

IOSA (IATA OPERATIONAL SAFETY AUDIT)

- I   IATA
- O   Operational
- S   Safety
- A   Audit

IATA MISSION

"To represent, lead, and serve the airline industry"

223 IATA Member Airlines

IOSA Concept

The IATA Operational Safety Audit (IOSA) program is an Internationally recognized and accepted evaluation system for assessing effectiveness of **Operational management** and **Control systems** of an Operator (Airline).

Operational Management and Control Systems

- an organizational structure, including assignment of accountability for operational compliance and safety at the highest levels of corporate management, and clearly defined lines of authority and responsibility throughout the organization;

- a process for periodic review of the management system to evaluate its continued effectiveness and verify that requirements are being applied throughout the organization to ensure effective operations;

Operational Management and Control Systems

- an interaction of policies, processes and procedures across the organization, all designed to ensure positive control of the operation, including outsourced functions;

- a policy that reflects management's commitment to safety and quality as the highest operational priority;

- a programme that ensures confidentiality of safety reporting, including the organization's non punitive response to the reporting of human error;

Operational Management and Control Systems

↗ communication processes that permit a free flow of information throughout the organization;

↗ a system for managing and controlling documentation and records;

↗ a system that ensures availability of adequate resources, facilities and information necessary to support the operation;

Operational Management and Control Systems

↗ defined methods for monitoring, measuring and analyzing the operation, and for implementing action and follow-up as necessary to correct and prevent recurrence of deficiencies;

↗ Surveillance program for monitoring threats and errors in normal operations.

IOSA Goals

↗ To provide a standardised audit programme based on internationally recognized standards
↗ To ensure a structured system for the sharing of audits
↗ To reduce the number of audits in the industry
↗ To improve operational safety –
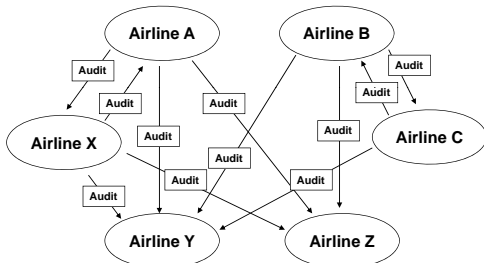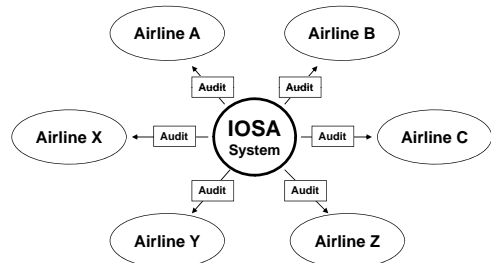Set a new benchmark in aviation safety

IOSA Benefits

↗ Standardized global Safety program

↗ Improved operational safety

↗ Improved internal efficiency

↗ Reduced numbers of audits

↗ Fulfilled Code share Audit requirements

Typical Airlines Audit Model
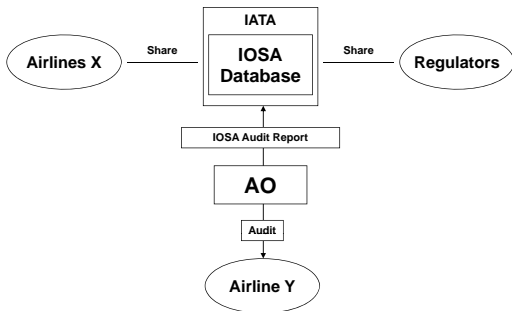### No Audit Sharing – Multiple Audits per Airline

Audit Sharing – One Audit per Airline

Audit Sharing

```
              ┌─────────────┐
              │    IATA     │
  Share       │ ┌─────────┐ │    Share
Airlines X────┤ │  IOSA   │ ├────Regulators
              │ │ Database│ │
              │ └─────────┘ │
              └──────┬──────┘
                     │
              ┌──────────────┐
              │ IOSA Audit Report │
              └──────┬───────┘
                   ┌───┐
                   │ AO│
                   └─┬─┘
                  ┌─────┐
                  │Audit│
                  └──┬──┘
               ┌──────────┐
               │ Airline Y │
               └──────────┘
```

History of IOSA

↗ IOSA launched by IATA in July 2003
↗ Initial Take-up of IOSA was slow by airlines due to delay in FAA/US DoT approval
↗ Only 11 Airlines undertook IOSA audits between July 2003 to July 2004
↗ FAA / DoT formal approval
↗ FAA / US DoT formal approval received
2 July 2004 – recognizing IOSA as an acceptable US Carrier Code Share Audit Program

History of IOSA

↗ Airlines started signing IOSA Audit Agreements and undertaking their first IOSA audits in order to receive IATA discounts
↗ IATA Incentives / Discounts
↗ Airlines who sign an Audit Agreement with an AO to have their first IOSA audit delivered, will not have to pay a USD 15,000 IOSA registration fee to IATA
↗ IOSA Standards Manual and IOSA Program Manual are available from IATA website free of charge.

IOSA Operational Standards

↗ Audit standards only; not regulations

↗ Establish benchmark for acceptable levels of aviation safety and operations today

↗ A well managed airline will meet IOSA Standards.

IOSA Audit scope

Organization & Management System

1. Flight Operations
2. Operational Control/Flight dispatch
3. Engineering & Maintenance
4. Cabin Operations
5. Ground Handling
6. Cargo Operations
7. Operational Security

Who can Conduct the IOSA Audits?

↗ Only an Audit Organization (AO) accredited by IATA is permitted to conduct IOSA audits

↗ AO audit teams comprise only of approved IOSA Auditors

↗ Must meet qualification and training standards

Audits Standards

IOSA Standards And Recommended Practices (ISARP)

ISARPs comprise of:
- All ICAO and ATA Standards
- Selected items from JAR-OPS / FARs
- Additional requirements from Alliance audit program

The "Safety Bar" is set to acceptable levels that exist today.

Audits Organizations

8 Audit Organizations (AO's) Accredited

Asia Pacific
1. Aviation Compliance Solutions Pty Ltd, Australia(ACS)

Europe
2. Wake QA Ltd, United Kingdom
3. Aviation Quality Services (AQS), Germany
4. Quali-audit, France

Audits Organizations

United States

5. Partners & Resources for Operational Safety, Denver
6. Simat Helliesen & Eicher Inc (SH&E), New York
7. Morten Beyer & Agnew Inc (MBA), Florida
8. GHS Aviation Group, Virginia

All AOs offer a global service.   Airlines are free to choose.

IOSA Audit Standards

ISARP Checklists (IOSA Standards and Recommended Practices)

- ISARPS are the basis of the audit

- The IOS Standards Manual (ISM) is the source reference for ISARPS

- The ISM is currently available FREE OF CHARGE from IATA and can be downloaded from

  http://www.iata.org/ps/certification/iosa/index.htm

ISARP Checklists as per ISM (June 2004)

IOSA DISCIPLINES	NUMBER OF ISARP
Corporate Organization & Management	79
Flight Operation	271
Aircraft Engineering & Maintenance	100
Aircraft Ground Handling	52
Cabin Operations	62
Operational Control / Flight Dispatch	86
Cargo Operations	51
Operational Security	46

IOSA Audit Standards

- STANDARDS are contained in Part One of   the ISM and always contain the word "shall" (e.g. The Operator shall ensure…..) in order to denote an IOSA requirement.

- The Operator must conform with all these standards to attain IOSA registration.

IOSA Audit Standards

↗ RECOMMENDED PRACTICES are contained in Part One of the ISM and always contain the word "should" (eg. The Operator should have …) and are considered under IOSA as operationally desirable or highly recommended.

↗ Conformity is optional by the Operator.

IOSA Audit Standards

GUIDANCE MATERIAL (GM) contained in Part Two of the IOSA Standard Manual (ISM) is designed to promote a uniformed interpretation of the ISARPS.

IOSA (IATA OPERATIONAL SAFETY AUDIT)

ISARP – Checklist Example

FLT 3.5.1 The Operator shall ensure that training facilities, devices and course materials shall reasonably reflect the configuration of the fleet(s) for which the respective training is being conducted (GM).

Documented ☐Yes ☐No ☐N/A	Implemented ☐Yes ☐No ☐N/A	Conformity ☐Yes ☐No ☐N/A
Auditor Comments:		

IOSA Operational Observation /Assessments

Operational Discipline	Activities and Processes	
Flight Operations	• Line flight cockpit operations • Simulator session	
Operational Control Flight Dispatch	• Flight Planning • Flight Monitoring	
Engineering and Maintenance	• AD/ASB process • Maintenance activities • Maintenance processes	
Cabin Operations	• Line flight cabin operations	
Ground Handling	• Weight and balance calculation • Ground handling activities	
Cargo Operations	• Aircraft loading and unloading	
Operational Security	• Baggage reconciliation • Pre-board / hold room screening • Aircraft access control • Preflight crew security briefing	

IOSA Documentation Review Requirements

↗ During an Audit, the degree to which IOSA standards are **documented** and **implemented** by the Operator becomes the basis for overall conformity or nonconformity with ISARPs.

↗ Therefore, it is critical that Auditors fully understand the meaning and intent of these terms.

IOSA Documentation Review Requirements

Documented
To determine conformity with ISARPs as **documented**:
↗ An Auditor must be able to find the applicable IOSA specifications published in a controlled document, such as a manual, handbook or other similar publication, that comprises content that sanctioned by the Operator.

↗ A controlled document must also have an associated process for revision and distribution that ensures appropriate operational personnel always have access to the current version of the document.

IOSA Documentation Review Requirements

Implemented

↗ To determine conformity with ISARPs as implemented, an Auditor must be able to determine that applicable IOSA specifications have been established by the Operator using either of the following means:

↗ as an active and integral part of the Operator's organization or operations, or

↗ as a contracted or outsourced operational function.

IOSA Registry

↗ The IATA Operational Safety Audit (IOSA) is the benchmark for global safety management in airlines.

↗ All IATA Members will need to have successfully undergone the IOSA audit in order to achieve or maintain IATA Membership.

↗ This demonstrates the commitment of IATA's Members to safety and makes IATA membership a mark of quality.

↗ IOSA Registry is a list of all current IOSA Operators

↗ Registration term for IOSA is 24 months

Session Summary

↗ IOSA is an internationally recognized and accepted audit program.

↗ One of the important goals of the IOSA is to improve operational safety and to set a new benchmark in aviation safety.

↗ The IOSA allows airlines to do the audit sharing easily and thus reduce numbers of audits that airlines have to conduct.

Session Summary

↗ IOSA is an Audit standards only and it is not regulated.

↗ The IOSA ISARPs is the basis of the audit and ISM is where ISRPs is complied.

↗ The Audit Organizations are accredited by IATA to conduct IOSA audit.

↗ The IOSA registry shows the list of all current IOSA operators.

Overall Summary

Session 16

IATA Training & Development Institute
KNOWLEDGE • EXPERIENCE • NETWORKING • SKILLS • RESULTS

Objective & Outline

Objective:

To provide an overall summary of the Aviation Internal Auditor Course.

↗ Summary of Good Practices in Managing Audit.
↗ Summary of what Auditors must 'Do" in Audit.
↗ Overall summary of the Aviation Internal Auditor Course.

Summary of Good Practices in Managing Audit

As with all professions, an auditor's auditing technique improves with practice and auditors should be encouraged to develop their own style and manner.

Some good personal attributes that an auditor should build on:

↗Ethical   fair, truthful, honest and sincere
↗Decisive   reaching timely conclusions and firmness
↗Perceptive   instinctively aware of and able to understand and can easily adapt to changing situations
↗Diplomatic   tactful in dealing with people.

Summary of What Auditors must "Do" in Audit

↗ Interview the person doing the job
↗ Make frequent reference to your checklist
↗ Make notes as you go
↗ Be calm, courteous and in firm control at all times
↗ Seek facts, not inference
↗ Select your sample carefully
↗ Inform the auditee of a nonconformity promptly
↗ Be fair and honest and if you are wrong, admit it.

Overall Summary of the Aviation Internal Auditor Course

↗ A factual approach to decision-making is one of the quality management principles. Managers need objective information to make decisions relative to planning, allocation of resources and to introduce process improvement.

Overall Summary of the Aviation Internal Auditor Course

↗ Audits can provide the necessary factual information. Good audit reports from competent Auditors will show what improvement initiatives have been successful and can be benchmarked in others areas. They will also show what processes are not effective, where breakdowns occur and if there are risks of potential problems.

Overall Summary of the Aviation Internal Auditor Course

↗ Audits help top management to know how well business systems are doing in fulfilling the organization's set goals.

Overall Summary of the Aviation Internal Auditor Course

↗ IOSA is a common airline safety audit standard and have been developed using the collective experience and best practices of airlines, ICAO, and Regulatory Authorities from around the world.

↗ IOSA is now recognized around the world as the benchmark aviation safety audit program.