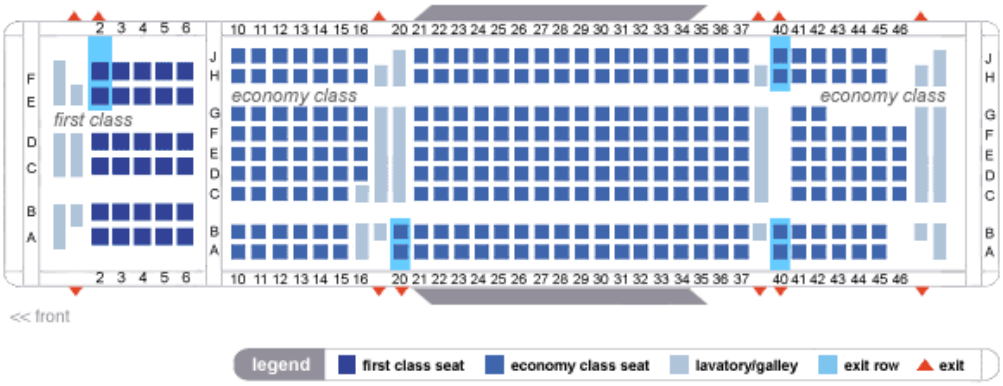
Information Article



Airline Humanitarian Assistance Team (HAT)

- A Methodology for Team Size Calculation -

Relevance: An airline should be capable of rapidly and competently deploying a fit for purpose Humanitarian Assistance Team *(**HAT**)* at time of major crisis - particularly as related to the catastrophic aircraft accident / aviation disaster type situation

The HAT should be capable of reasonably rapid geographical deployment to anywhere the airline flies to / over - and can be airline (including codeshare and alliance partners) provided; specialist (3rd party) commercial partner provided - or be a mix of the two

This information article presents one method of calculating the ideal size for an airline HAT - based on a mix of demographics, statistics, expert opinion, educated guesswork, precedent etc.

It has been assumed herein that the 'airline concerned' has the basic (internal) manpower & budget resources to implement same AND / OR the budget to 'buy-in' such a service from said specialist (3rd party), commercial provider

Note: To better understand the contents of this document (including acronyms used) it is strongly suggested that the 'interested' reader studies the ***separate*** information article found at the end of the below link - being a '***glossary***' defining the more specific / relevant terminology used herein. It can be found at:

https://aviationemergencyresponseplan.com/information/

When the above webpage opens, scroll down until you find the info article link entitled:

* Information Article - **Glossary of Terms** - Aircraft Operator - Emergency Response Plan

Click on it to access

(It is particularly important that the definitions of '***Victim***' and '***Family***, ***Relatives*** & ***Friends***' are understood)

Note - for fully detailed information regarding airline related HAT operations, see our (separate document) **CRPM** (Crisis Response Planning Manual) **Part 1 / Volume 3 - 'Humanitarian Assistance Operations'**. The latter can be found by clicking on the link below (***scroll down the displayed list until you find the above title*** [then click on it to open and read]):

https://www.aviationemergencyresponseplan.com/guideline-template/

Introduction

For planning purposes, the optimum 'manpower' target size of an airline HAT depends on many variables, all of which should be accounted for, as appropriate - e.g. (list is ***not*** exhaustive):

- Densest seating capacity of largest aircraft in airline's fleet (= potential max number of PAX ***victims***)
- Maximum crew size for the above aircraft (= potential max number of crew ***victims)***
- Size of airline (= potential '***manpower***' availability for crisis related duties [in general] - including HAT duties)
- Support from the very senior management team - particularly policy approval & budget
- Type of operation - scheduled; charter (incl. tour operator); budget; executive; cargo etc.
- Statistical PAX analysis of e.g. family groups carried versus single travellers carried etc.
- Statistical analysis of * HAT show / no show rate during real deployments and exercises
- Time of year (peak staff holiday times & Winter sickness rates etc. = low HAT turnout)
- ** Morale, dedication and commitment of HAT members (low morale = low HAT turnout)
- Duties the HAT are expected to perform, when, how and at which locations etc.
- HAT rotations e.g. replacing a complete, deployed HAT with a complete replacement team

* Note - 'average statistics' with regard to HAT ***volunteer 'show' rates*** are probably best obtained for each airline during exercises. ***As an example only***, one major passenger airline came up with a statistical HAT '***show rate***' figure of between ***60 and 70%*** after monitoring such data (during exercises) over a number of years

** Note - A ***volunteer*** HAT system typically works well. A ***compulsory*** HAT system typically does not

Important factors / scenarios etc. for airlines to also consider and decide from the outset include (list is not exhaustive):

HAT - Double (Duty) Shift System

'Should a deployed HAT be (planned to be) big enough (have enough members) to reliably and adequately be able to provide **24H *face to face*** support (e.g. via ***2 x 12 hour back to back*** shifts) to accident ***victims*** + any ***family***, ***relatives*** and ***friends*** (**FR**) of such victims (i.e. FR who had **NOT** been travelling on board the accident flight **BUT** who are in / at the ***same*** / ***nearby*** location to where the ***victim***s are [regardless of how they {**FR**} got there and when])?

HAT - Single Shift System

……**OR** can it be assumed (and thus planned for) that most of such victims and their FR will require rest / sleep etc. at the 'usual' times - thus permitting HAT members (assigned to them) to similarly rest / sleep? (This option considerably reduces the number of HAT members required compared with the 'double shift' system - and will thus be a vital pre-planning consideration / decision, particularly if the provision of such manpower might be problematic)?

HAT - Other Requirements

Outside of (***separate*** from / ***additional*** to) the HAT members required as per the last 2 paras above, we must also consider ***separate*** HAT ops (and thus ***additional*** HAT numbers) provided e.g. at / for:

- Manning the HAT support desk(s) 24H in the airline's HQ based Crisis Management Centre
- Meeting, greeting and assisting etc. (appropriate [pre-designated] persons) at airports, sea ports, rail stations etc. (worldwide basis if necessary)
- 'Escort'(for appropriate [pre-designated] persons) type duties (worldwide basis if necessary)
- Deploying in support of FR (i.e. to their homes / wherever [worldwide basis if necessary]) who do not take the accident airline's offer of travel to / near to accident location etc.

Typical HAT Duties include (list is not exhaustive):

- HAT Manager & deputy Manager(s) (Manager's post should be a ***full-time*** appointment)
- HAT (Team) Leaders
- Face to face humanitarian assistance for accident victims (including crew + ground victims)
- Face to face and / or remote humanitarian assistance for FR of all accident victims
- *** 'Peer Support' duties as appropriate
- **** Set-up, management, manning and operation of a Humanitarian (Family) Assistance Centre(s) (HAC / FAC) - at an appropriate location(s) - and as directed
- Set-up, management, manning and operation of any other reception centre(s) required
- Contribute to set-up and manning of a JFSOC in certain 'jurisdictions' e.g. USA and UAE
- 24H manning of HAT support desk(s) in airline HQ's Crisis Management Centre (CMC)
- Meet and Greet services - at airports, ports, rail and bus stations etc.
- Escort services
- Any other 'humanitarian assistance / welfare etc. related' duties - 'as directed' and as per actual circumstances 'on the day'

*** "**Peer Support**" (where so trained and available) - typically involves providing humanitarian assistance services (as and when required) to one's own (airline) staff - particularly to the crew and any other airline staff who might have been on board the accident flight. However, it can and is also used as a 'de-stressing / defusing' strategy amongst members of the HAT itself e.g. HAT member A providing de-stressing services (peer support) to HAT member B (and possibly vice versa) when so required / perceived to be required / requested / as directed by e.g. a HAT (team) leader

**** Given adequate manpower etc. resources, there is absolutely no reason (***in fact it is advantageous / desirable***) why the Humanitarian Assistance Centre cannot be set-up, managed, manned and operated entirely by the airline's ***own HAT*** and other deployed staff

It is perfectly reasonable / possible for the latter two groups to work with those being supported in the HAC - concurrent with conducting the actual operation of the facility itself (i.e. the two responsibilities are not mutually exclusive). If the HAC is located in a hotel(s) - which is the norm, its 'management' will be enhanced due to the additional availability / use of hotel facilities, staff etc.

Where lack of airline HAT manpower resources is a significant consideration, a 3rd party (***external*** / specialist), commercial provider (of HAT services) should be engaged to make up the shortfall - including some degree or other of HAC manning - but always under the strategic (and tactical / operational [i.e. on-site] where possible / feasible) command and control of the airline

No airline should ever permit itself to get into (or remain in) the situation where it does not have at least a core (internally sourced) HAT - even if that comprises e.g. just 5 to 10 persons. However, in such circumstances as the latter (just 5 to 10 persons etc.), suitable 3rd party (external / specialist) commercial provider services ***must*** be additionally engaged

Assumptions

A fictitious (scheduled) passenger airline has been used to provide some 'context' in this info article. It has been broadly based on a medium to large sized European (country) registered, headquartered & main based operator. This airline is an international carrier (including USA destinations) and operates a range of aircraft types varying from 100 seaters up to 550 seaters - over short, medium and long-haul networks

It (the airline) can be assumed to be well resourced and supported from an emergency response planning context (manpower, budget, facilities, top management approval & support etc.)

Whatever applies to this fictitious airline herein may also be regarded as being typically applicable ***in reality***, to a greater or lesser degree, to other (medium to large sized) ***scheduled*** passenger airlines worldwide (***** and, [to a ***lesser*** degree] many other passenger carrying airlines e.g. charter and lease operations). However, there will ***always*** be differences and it is for users of this article to adequately account for them, as required

***** For example, the assumption (based on actual [but limited] statistics) has been made herein that very approximately ***67%*** of passengers are single travellers - with the remaining ***33%*** comprising family groups (or equivalent) such family groups averaging about ***2.5 persons*** per group

This assumption will be ***incorrect at one extreme*** - e.g. for the '***all business class +***' executive type airline (admittedly there are not many of them around) - ***and at the other extreme*** e.g. for the predominately '***family holiday / package***' type airline - where family groups typically prevail significantly over single travellers

Ideal HAT Size - a Proposed Calculation Methodology

Starts next page:

Basic Calculation

- Take the maximum aircraft (passenger) seating configuration possible - as related to the specific aircraft type under consideration, when conducting normal airline operations
- Multiply the figure found above by an '***appropriate*** *(multiplying)* ***factor***' (AMF) - the result providing a reasonably useful estimate of the ***ideal HAT size required*** for that ***specific aircraft type*** when conducting ***normal ops***

'AMF' - Planning Assumption 1

AMF assumption 1 is based on a deployed (i.e. deployed to / as close as practicable to accident location) HAT working **SINGLE** shifts only (typically 12 to 14 hours per shift) during normal / near normal working hours for that location i.e. during a 24 hour period it is assumed that most of the HAT will take between 10 to 12 hours rest (off-duty) - corresponding to typical non- working hours / sleep periods. Weekends, public holidays etc. are discounted here for the purposes of simplicity

The ***appropriate*** (multiplying) ***factor*** to use in the above circumstances is '**2**'

e.g. a 100 seat aircraft would require a ***total*** HAT of around ***200*** (**2** x 100) persons (in round figures)

e.g. a 550 seat aircraft would require a ***total*** HAT of around ***1,100*** (**2** x 550) persons (in round figures)

Note - the above 'AMF' allows not just for HAT members deployed to / near to the accident location in support of accident ***victims*** - ***but also*** for other / additional HAT related duties e.g. at airline HQ and elsewhere, as required by actual circumstances 'on the day' (see page **3** for a reminder). AMFs also account for HAT services to an assumed 'standard (average)' number of crew (pilots and cabin crew' etc.) - as related to the aircraft seating configuration in question

'AMF' - Planning Assumption 2

As per assumption 1 above - but now assuming that 24 hour shift manning (via ***2*** x ***12*** hour **DOUBLE** shifts) applies to a deployed HAT

The ***appropriate*** (multiplying) ***factor*** to use in the above circumstances is '**3.33**'

e.g. a 300 seat aircraft would require a ***total*** HAT of around ***1,000*** (**3.33** x 300) persons
e.g. a 550 seat aircraft would require a ***total*** HAT of around ***1,850*** (**3.33** x 550) persons

Note - the '**AMF**' allows not just for HAT members deployed to / near to the accident location in support of accident ***victims*** - ***but also*** for other / ***additional*** HAT related duties e.g. at airline HQ and elsewhere, as required by actual circumstances 'on the day' (see page **3** for a reminder). AMFs also account for HAT services being provided to an assumed 'standard (average)' number of crew (pilots and cabin crew' etc.) - as related to the aircraft seating configuration in question

'AMF' - Planning Assumptions 1 and 2 above - How Derived

See Appendix A / Scenarios 1 and 2

Similar applies to Appendices B and C

'AMF' - Planning Assumption 3

As per assumption 2 on the previous page - but now assuming:

- 24 hour shift manning (***2*** x ***12*** hour shifts) by a deployed HAT..... **AND** (**+**)
- The great majority of the deployed HAT ***will*** be completely **ROTATED** at an appropriate interval(s)

To access the 'calculation' related to the above, see Appendix **D** page **20**

Appendices

Rationale (Methodology) behind Choices of 'Appropriate Multiplying Factor'

Note: The 'mathematics' (supporting the information provided in the following appendices) are not complex. It is for the reader to 'check them out' him / herself if he / she feels the need so to do. Otherwise, it is suggested that just understanding the concept (in general) along with the actual results / recommendations etc. are what matters most

If any reader has reason to think that the calculations / associated methodology are / is flawed, the author of this info article would be pleased to hear from him / her with a view to correcting any errors / misassumptions:

info@aviation-erp.com

Simplicity

What follows in the remainder of this info article has been considerably and deliberately * (see comment below) 'simplified' to facilitate 'better understanding' of the various concepts

* For example, the ***major*** part of any deployed airline HAT will typically be deployed / allocated to 'face to face' duties. Herein (in this info article) we have 'interpreted' this as being related to ***accident victims*** themselves. In reality, this part of a deployed HAT will (sooner or later) ***also*** (additionally and to a greater or lesser degree) need to provide their 'face to face' services to ***FR*** of said victims

The other (***minor*** in terms of numbers) part of the HAT will typically be deployed to all ***other*** HAT related duties, as required by actual circumstances 'on the day'

Herein (in this info article) we have 'interpreted' such latter duties as primarily ***not*** being face to face with accident victims and / or their FR. Again, in reality, there will almost certainly be some 'face to face' interaction required by this (minor) part of the HAT, particularly re providing their services to victim associated ***FR*** (e.g. 'meet and greet', escort, supporting them in their homes [if they decide not e.g. to take up any offer to transport them to / near to the accident location] etc.)

Accordingly our recommended 'best' solution for realistically 'dealing' with what has been described in the 3 paras just above is to accept (and act on) the assumptions / calculations etc. contained herein and then 'get on with it with what you have on the day' - if implementation for the 'real thing' is ever required

The latter is the most sensible choice as the chances (statistical odds) of an airline HAT needing to deploy for the 'big one' are almost infinitesimally low (but not impossible of course, otherwise this info article would not have been written in the first place)

However, it might be prudent to consider ***additionally*** engaging the services of an appropriate (specialist) 3rd party provider of HAT services - just in case! (To retain the latter is relatively cheap - it only gets expensive if you need to use them for real and, of course, this risk should always be 'insured against' anyway)

Lastly, there is a statistical argument here for having no HAT at all! This is not recommended

Another option (for those who have the required resources and do not care too much about cost!!!) is to research / calculate and use numerically larger / bigger AMFs than those used herein. Again, this is not recommended

The 'professionally interested' reader should keep all of the above in mind, as what might appear to be the (our) occasional 'omission' and / or 'incomplete / incorrect explanation' will, on most occasions, have been made for the above (valid) purposes. It is then for such 'professionally interested' reader to identify same and account for it accordingly, if so required

However, if the 'reader' firmly believes (or even knows) that something is absolutely incorrect (after allowing for the deliberate 'simplification' etc. mentioned just above) - please do contact us (as per the email address on the previous page)

Appendix **A** - **SCENARIO 1**

100 PAX (i.e. 100 = ***max*** [PAX] seating configuration for largest aircraft in airline inventory)

Assumption**: 1 x* **SINGLE** ***HAT shift (duration around 12 to 14 hours) *required per 24H period*

Demographics / statistics / expert opinion / educated guesswork / precedent etc. - roughly suggest that **67** passengers (out of the 100) will be 'singletons' (i.e. travelling alone) and **33** will be comprised of family units (or similar) - averaging **2.5** persons (per each family unit). Consequently:

- ***One on one*** face to face HAT support for singletons will require **67** individual HAT members
- ***One on one*** face to face support for *each* family group (over and above the singletons) will require a further **13** HAT members (13 x 2.5 = 33 passengers)
- 67 + 33 = 100 passengers (i.e. a full aircraft)
- So we need 67 + 13 face to face HAT members = **80** HAT required in total ***so far***

A statistical (but nevertheless approximate) **35%** HAT 'no-show' rate (i.e. upon activation following alerting) subsequently equates to a ***planning*** requirement of **123** HAT members (as **65%** of 123 = **80**) - purely for the face to face victim support role (i.e. ***not yet*** considering ***additional*** HAT requirements)

If we now (for the sake of simplicity) 'round-up' the figure of 123 to 125, this gives us an ***appropriate (multiplying) factor*** of **1.25** (i.e. largest aircraft's maximum seating configuration [in this scenario 1 we are assuming this to be 100 seats] x [multiplied by] **1.25**)

Let's see if this appropriate (multiplying) factor (**AMF**) of **1.25** actually works:

100 (seats) x 1.25 (AMF) = 125

HAT statistical 'show-rate = 65%

Number of HAT members expected to 'show-up' = 125 x 65% = **81**

Number actually needed = 80

So far so good! (In fact, we now have 1 excess person [81 vs 80])

BUT we have ***not yet*** accounted for the aircraft's ***crew*** (assuming here 2 pilots & 4 cabin crew for a 100 seat aircraft) i.e. we now need to consider 6 additional singletons (80 + 6 = **86**) - thus we are still **5** ***HAT short*** so far, as per the calculation of **81** in the boxed info just above

Conclusion - an AMF of **1.25** will ***not quite*** be adequate (big enough) if we are to achieve what is required above (i.e. ***face to face*** support - ***initially*** for all passenger ***and*** crew victims) - and will **NOT WORK AT ALL** with regard to the ***additional*** HAT requirements, such as manning (airline HQ located) Crisis Management Centre (CMC) HAT management & support desks; providing airport and similar 'meet and greet' type services; escort services; deploying to FR homes etc.

Increasing the AMF to e.g. **1.33** provides a revised availability (again assuming a 35% HAT no-show rate) of **86** HAT now 'showing up' which now ***does*** cover the 'face to face' requirement ***including the crew*** - **BUT** still leaves us with no ***additional*** HAT capacity to man CMC HAT desks; provide 'meet and greet' services; deploy to FR homes etc.

Trying again, an increased AMF of **1.5** provides **97** 'on-duty' HAT i.e. an additional **11** (97 minus 86) for the ***additional*** duties referred to above

Whilst this number (11) is extremely tight (i.e. re what these '11' persons are meant to accomplish in reality) - it ***can*** serve as a ***planning*** indicator of an ***ABSOLUTE minimum*** AMF to use for a ***100 seat*** aircraft - particularly where providing adequate manpower resources (airline sourced i.e. assuming no use of any external 3rd party HAT support) for the HAT would be ***significantly*** problematic

Similarly, using an AMF of **1.75** would provide **114** 'on-duty' HAT i.e. **28** (114 minus 86) for the ***additional*** duties. Whilst this number would still be tight, it might serve as a ***planning*** indicator of an ***ADVISED minimum*** AMF to use for a 100 seat aircraft

An AMF of **2.0** provides availability of **130** HAT staff i.e. leaving **44** (130 minus 86) HAT staff for the ***extra*** duties previously referred to above

This figure (44) is probably * just about right and thus **2.0** is the ***RECOMMENDED*** AMF to use when deployed, ***SINGLE*** HAT shifts ***ARE*** planned for - and where airline ***manpower constraints*** (re the proposed size of the HAT) ***are a significantly adverse consideration***

* ***Rationale*** is as follows (example situation below has been ***much*** simplified for purposes of clarity):

- We are assuming that the associated aircraft accident occurred ***at or very near to the home base airport of the airline involved*** - ***close to which is also located the accident airline's HQ*** and the ***vast majority of its manpower resources*** - including those being HAT related

- **4** (four) of the ***44*** HAT members available (as per bottom boxed info on previous page) will be required for rotating 24H (2 x 12 hour) ops shifts (HAT management & support roles) - at the accident airline's ***HQ located*** **C**risis **M**anagement **C**entre (CMC)
- Concerning deployed HAT member assignments re associated ***FR*** of Accident Victims (i.e. ***not*** for accident ***victims*** themselves, as this has already been accounted for on pages 9 and 10):
    - As an 'almost' worst case planning scenario, assume that all such associated FR (except those of the crew) do ***not*** live anywhere near 'locally' to the general area of the accident location itself - and that the quickest, 'most convenient' method of getting them there (if they so wish) is to '***fly them in***' to the nearest, suitable airport - which is what the accident airline decides to do (using its own [100 seater] aircraft)
    - To keep things simple (at the expense of a degree of reality), further assume that the accident airline initiates a ***policy*** which places a ratio limit of * 1 (FR) person per each associated singleton passenger (67 such passengers on board) and / or associated passenger group (13 such groups on board). As 67 + 13 = 80 - this ** number (80) is thus the maximum number of FR passengers that the accident airline will '***fly-in***'

      * Note 1: The above '***policy***' is not as unrealistic as it might at first seem as e.g. suitable accommodation for such FR at their potential destination might be in extremely short supply (possibly even non-existent - in which case the offer to 'fly them in' would not have been made in the first place). Furthermore, other factors might have also needed consideration e.g. the local security situation; harsh climate / geographic considerations; availability of required resources etc.

      ** Note 2: The reader may be wondering why only an 80 person FR 'fly-in' policy might have been stipulated when, in fact, the carrying aircraft could seat 100. One reason is that there would typically be a certain number of HAT on board (say **10**) to 'offer care, information and other services' to the travelling **FR**, during the journey. Other airline staff (e.g. aircraft engineer[s]; airline finance and legal reps etc.) might also need to have been on board. Of course (and in reality) as many FR as there are ***available*** seats, would have been invited to travel

- Accounting for all of the above, we now have **30** HAT members remaining (**44** – [minus] **14**) ***to take on all other HAT requirements except*** for direct (face to face) humanitarian assistance services for accident victims (and, eventually, their [victim associated] FR too when e.g. they get to the Humanitarian Assistance Centre (HAC) / wherever [after flying in] etc.)

  4 + 10 = 14

  Of course, when such 'victim associated' FR ***do*** arrive in situ, the 10 HAT members who had been 'looking after' them become available to boost the 30 HAT (mentioned above) up to 40

The reader is reminded again that 24H (e.g. 2 x 12 hour) HAT shifts are **not** used in this '**scenario 1**' - except for a small number of the other (not dealing directly with ***victims, FR*** etc.) HAT members e.g. those manning the CMC HAT desk at airline HQ

Appendix **A** - **SCENARIO 2**

100 PAX (i.e. 100 = ***max*** [PAX] seating configuration for largest aircraft in airline inventory)

Assumption: 2 (**DOUBLE**) ***HAT shifts*** (duration 12 hours per shift) *required per 24H period*

Using same ***methodology*** as Appendix A / Scenario 1 above

An AMF of **3.33** gives availability for duty of ***216*** HAT

100 x 3.33 = 333

333 x 65% = 216

This permits double shifts (2 x * 86 [= ***172***] HAT required) for direct support of victims etc. - with the remainder of ***44*** (216 minus 172) being used for the 'other' requirements (as described in Scenario 1)

3.33 is thus the ***recommended*** AMF to use when ***2*** (double) ***HAT shifts per 24H period*** **ARE** planned for - and where airline manpower constraints (re the proposed size of the HAT) are a significantly adverse consideration

Note: Compared to the ***single*** shift HAT scenario, nothing has significantly changed here ***except*** for the overall size of the deployed HAT, due the double shift requirement

* See last para of page 9 for where the '86' came from

Appendix A. - Notes to Scenarios 1 and 2 above:

Where an '***absolute minimum*** AMF' (and possibly an '***advised minimum*** AMF' also) cannot be met (for whatever reason) - the airline concerned ***will*** be forced to look at other options ('doing nothing' not being one of them!). This typically involves the use of one or both of:

- Increasing the victim (and / or victim family group - as applicable) to HAT ***ratio*** above 1:1 e.g. 2 victims etc. to 1 HAT, 3 victims etc. to 1 HAT etc. Ratio increase above 3:1 is ***not*** advisable
- Engaging the services of an appropriate 3rd party (external), commercial organisation (which provides HAT type services) such as AVIEM, Blake, Crisis Advisors, FEI, Kenyon etc.

SUMMARY for 100 Seater Aircraft

Single HAT Shift - Use ***recommended*** AMF of **2.0**

Double HAT Shift - Use ***recommended*** AMF of **3.33**

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Appendix **B** - SCENARIO 1

Assume **300** PAX

Aircraft - Max Seating Configuration = 300 - ***SINGLE*** *Shift Deployed HAT*

- HAT AMF = **2.0**
- 2 x 300 = 600
- 'Show' rate for HAT is 65% (of 600) = **390**
- Singleton PAX (statistically [but very approximately]) = 67% of 300 = 201
- Family Groups (& similar) at 2.5 persons per group = 40 groups (99 persons in total)
- Singleton Crew = 12
- 201 + 40 + 12 = 253
- 390 minus 253 = **137**

In plain language, a HAT comprising around ***600*** persons is required (for planning purposes) in total

During actual HAT alerting and activation, it is estimated that ***390*** HAT will be available (turn up) for crisis related duties - ***253*** of them for face to face support (initially to victims) and a further ***137*** for other HAT related duties

The above number (**137**) is * just about right and thus **2.0** is the ***recommended*** AMF to use when deployed (***single***) HAT shifts are planned for - and where airline manpower constraints are a significantly adverse consideration

* Rationale is similar to that documented in Appendix A - Scenario 1

Appendix **B** - SCENARIO 2

Assume **300** PAX

Aircraft - Max Seating Configuration = 300 - **DOUBLE** *Shift Deployed HAT*

- HAT AMF is **3.33**
- 3.33 x 300 = 999
- 'Show' rate for HAT is 65% (of 999) = **649**
- Singleton PAX = 67% of 300 = 201
- Family Groups (& similar) at 2.5 persons per group = 40 groups (99 persons in total)
- Singleton Crew = 12
- 201 + 40 + 12 = 253
- 253 x 2 = 506 (for 2 x 12 hour shifts)
- 649 minus 506 = **143**

In plain language a HAT comprising around ***999*** persons is required (for planning purposes) in total

During HAT alerting & activation it is estimated that ***649*** HAT will be available (turn up) for crisis related duties - ***506*** of them for face to face support (initially to victims) and a further ***143*** for other HAT related duties

The above number (**143**) is * just about right and thus **3.33** is the ***recommended*** AMF to use when deployed (***double***) HAT shifts are planned for per 24H period - and where airline manpower constraints are a significantly adverse consideration

* Rationale is similar to that documented in Appendix A - Scenario 2

SUMMARY for 300 Seater Aircraft

Single HAT Shift - Use ***recommended*** AMF of **2.0**

Double HAT Shift - Use ***recommended*** AMF of **3.33**

Important: The appendix A notes on 'scenarios' (page 12) similarly apply to this appendix B

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Appendix **C** - **SCENARIO 1**

Assume **550** PAX

Let's now see how our previous HAT AMFs work out for an aircraft with 550 seating (max configuration) plus 25 crew members:

Aircraft - Max Configuration of 550 seats - **SINGLE** *Face to Face Shift is assumed for Deployed HAT*

- HAT AMF = **2.0**
- 2 x 550 = 1100
- 'Show' rate for HAT is 65% of 1100 = **715**
- Singleton PAX (statistically but very approximately) = 67% of 550 = 368
- Family Groups (& similar) at 2.5 persons per group = 73 (182 persons in total)
- Singleton Crew = 25
- 368 + 73 + 25 = 466

- 715 minus 466 = **249**

In plain language, a HAT comprising around ***1100*** persons is required (for planning purposes) in total

During actual HAT alerting and activation, it is estimated that ***715*** HAT will be available (turn up) for crisis related duties - ***466*** of them for face to face support (initially to victims) and a further ***249*** for other HAT related duties

The above number (***249***) is * just about right and thus **2.0** is the ***recommended*** AMF to use when deployed (***single***) HAT shifts are planned for - and where airline manpower constraints are a significantly adverse consideration

* Rationale is similar to that documented in Appendix A - Scenario 1

Appendix **C** - **SCENARIO 2**

Assume **550** PAX

Aircraft - Max Seating Configuration = 550 - **DOUBLE** *Shift Deployed HAT*

- HAT AMF is **3.33**
- 3.33 x 550 = 1831
- 'Show' rate for HAT is 65% (of 1831) = **1190**
- Singleton PAX = 67% of 550 = 368
- Family Groups (& similar) at 2.5 persons per group = 73 groups (182 persons in total)
- Singleton Crew = 25
- 368 + 73 + 25 = 466
- 466 x 2 = 932 (for 2 x 12 hour shifts)

- 1190 minus 932 = **258**

In plain language a HAT comprising around ***1831*** persons is required (for planning purposes) in total

During HAT alerting & activation it is estimated that ***1190*** HAT will be available (turn up) for crisis related duties - ***932*** of them for face to face support initially to victims and a further ***258*** for other HAT related duties

The above number (***258***) is * just about right and thus **3.33** is the ***recommended*** AMF to use when deployed (***double***) HAT shifts per 24H are planned for - and where airline manpower constraints are a significantly adverse consideration

* Rationale is similar to that documented in Appendix A - Scenario 1

SUMMARY for 550 Seater Aircraft

Single HAT Shift - Use ***recommended*** AMF of **2.0**

Double HAT Shift - Use ***recommended*** AMF of **3.33**

Important: The appendix A notes on 'scenarios' (page 12) similarly apply to this appendix C

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Appendix D - **Further Notes**

Where an airline considers itself to be sufficiently well resourced and capable (almost predominately in terms of manpower, transportation and budget) to consider * **periodically changing** (rotating) **a complete / entire deployed** (face to face element) **HAT** - then the manpower planning assumptions used on pages 6 - 18 above will require some adjustment if such rotation is to take place

(* As might be the case in longer term HAT deployments - e.g. more than 2 to 3 weeks [some real ones in the past have lasted considerably longer than this!])

For example and referring to e.g. a ***300 seater aircraft*** and use of ***double*** (2 x 12 hour) ***face to face shifts*** whilst deployed (see page 15), a total ***planned*** team of approximately **1777** HAT would need to be established from the start, if ***'rotation'*** is required (compared with **999** for the 'no rotation' situation). For those interested, the calculation is as follows:

Aircraft - **300** seats - **DOUBLE** *Shift Deployed HAT* **+** (plus) *a **Rotation** also now factored in for* '**Face to Face**' (initially for **victims**) *type HAT services only*

To start with, work out the figures ***exactly*** as done on page 15 to come up with a required HAT size (after the 35% no-show factor has been applied) of **649** (i.e. 65% of 999 = 649)

Now simply add a further ** **506** (number of ***additional*** HAT required for face to face victim support ***if*** a complete rotation of this particular element of the team is required) i.e. 649 + 506 = 1155

Working backwards.....1155 is 65% of 'x'

Therefore 'x' = 1155 x 100/65 i.e. 'x' = **1777**

** Where did the 506 come from? Well, (looking again at page 15) we had worked on (by following the x 3.33 formula [i.e. 3.33 x 300 = 999]) a HAT ***show*** number of 649 (i.e. 65% of 999) persons

Of the latter, 143 would have been ***initially*** employed / deployed on HAT duties ***not*** involving direct contact with victims - leaving 506 HAT members (directly involved with victims) operating 2 x 12 hour shifts between them

When considering the size of the team for the ***second complete*** (deployed) rotation we ***discount*** the 143 persons mentioned above, on the *** assumption that they do ***not*** need to rotate, in their 'non-direct victim contact' duties

Hence we get 1155 (649 + 506) HAT volunteers required to show up (in one role or another). As the 1155 are 65% of 'x' - the latter ('x') must equal **1777**

*** If they ***do*** need to rotate - the above calculations will require appropriate adjustment

Using the same scenario & methodology as per above - but now based on ***SINGLE*** shifts (see page 14), the final figure would now be 989 (compared with ***600*** for the non-rotation case)

Important: The appendix A notes on 'scenarios' (page 12) similarly apply to this appendix D

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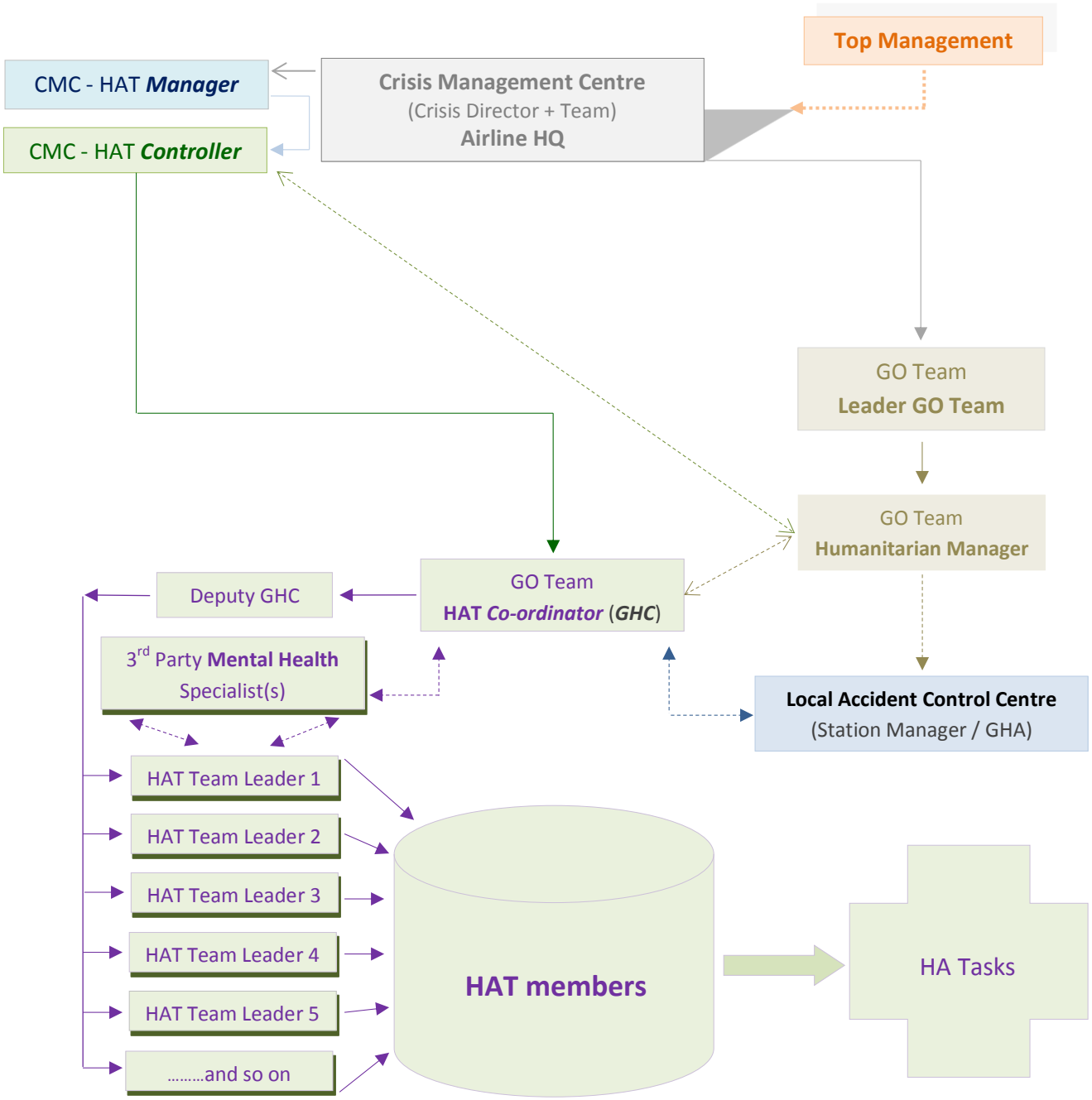
Appendix E1

ABCX Airways - **Humanitarian Assistance Team** (HAT) - **Command & Control** - Simple Schematic



CMC = Crisis Management Centre; HA = Humanitarian Assistance; HAT = HA Team; GHC = GO Team / HAT Co-ordinator

Note - for simplicity, the above diagram does not show any engaged 3rd party (commercial / external) HA support specialists. In reality, many airlines engage such support e.g. from Aviem; Blake; Crisis-Advisors: FEI; Kenyon etc. Such 3rd parties typically deploy independently to the accident site i.e. they do not usually deploy directly with the airline GO Team (whereas engaged 3rd party mental health specialists typically do)

Appendix E2

Catastrophic Aircraft Accident-**Humanitarian Assistance Team** (HAT) - **Typical Assignments**

Crisis Director or Leader GO Team

HAT Manager (+ HAT Controller + HAT Co-ordinator)

Airline Contracted Third Party HA Support (if any)

HA Team Leaders

HAT Members

Alerting & Activation

Deploy to: (i.e. as **part** of a GO Team on most [*but not all*] occasions)

- Uninjured Crew Reception Centres (Airport Airside and / or [typically off-airport] Landside)
- Uninjured Passenger Reception Centres (Airport Airside and / or [typically off-airport] Landside)
- Family, Relatives & Friends Reception Centre (Landside - usually at or very near to the airport)
- Re-uniting Centres (one on-airport and the other off-airport [latter possibly part of the HAC])
- Humanitarian Assistance Centre (Land / Groundside - usually off-airport but typically close by)
- Hospital(s)
- Mortuary / Mortuaries
- Homes / residences of Victims and associated Families, Relatives and Friends
- Peer Support - i.e. in support of each other, other airline colleagues & external responders
- Anywhere else as required (e.g. JFSOC or equivalent [if set up]; airport 'meet & greet'; escort etc.)