UK National Aerospace NDT Board

C/o The British Institute of NDT Midsummer House, Riverside Way Bedford Road, Northampton, NN1 5NX, United Kingdom

Tel: +44(0)1604-438251

E-mail: tracy.grant@bindt.org



THE 65th MEETING OF THE UK NATIONAL AEROSPACE NDT BOARD

Meeting Date: Tuesday 11 December 2018

Time: 10.00am

Location: South West School, Cardiff

Minutes NANDTB/2018/M4

1. Confirmation of the agenda (and any other business)

Added to Agenda in real time.

2. Attendance & apologies for absence (Annex A)

Round table introduction for the benefit of Gary Reay.

Apologies from Phil Byram and Graham McLeod were noted.

3. Notes of the 64th meeting (distributed earlier)

a. Confirmation

The minutes were confirmed and will be uploaded to the website as confirmed minutes.

Action 28/2018 - TG to upload minutes from 64th meeting

b. Review of allocated actions

Ref	Actions brought forward	Remarks	
27/2017	AMENDED WG to agree criteria to manage OA's consisting of MC, RB, JB, NC, NLB and PJB, with MC being the lead on this WG	ONGOING – WG needs to meet even if by Webex, however commitment is needed, PJB suggested that there needs to be auditor input.	
44/2017	JB to draft an advisory covering this	CLOSED	
16/2018	MC will look at NANDTB_16 and draft some wording and will circulate via email to the Board to approve		
	арргоче	NANDTB_16	
19/2018	TG to upload minutes from 64 th meeting	CLOSED	
20/2018	KP to contact PRI regarding the next NANDTB audit	CLOSED	

21/2018	TG to remove John lley and amend GL's details and upload the new version of the document – NANDTB_06	CLOSED	
22/2018	A WG to look at NANDTB_12/OAQS 11 checklist has been formed to review both documents together – WG of KP, MC, GL and PJB.		
23/2018	TG to upload this document – NANDTB_17	CLOSED	
24/2018	WG of MC/PB/GMcC and AW has been put together to review NANDTB_19	ONGOING	
25/2018	TG to circulate the OAQS11 with the minutes for perusal	CLOSED	
26/2018	KP will write to Chris Stevenson, as the Chair of that WG to formalise that the Board has a seat	CLOSED	
27/2018	OA/IA to create a dashboard to look at excessive number of NCRs/repeat NCRs and top NCR's for a specific year - to look at every meeting	WG of Samantha Wright of AIT, Alan Parsons of BINDT and MC are looking at what to look at for monitoring the metrics for progress and trends. BINDT advised that Alicia Carroll can look at this and put this in to place to match the implementation of the new checklist from September. It was suggested that this go in NANDTB_12. Action 29/2018 – TG to circulate the document with the minutes for approval at the next meeting	

c. Other Matters

None

4. Membership

a. Review NANDTB_06

This document was amended in real time.

Gary Reay provided TG with a letter for nomination to the Board. GR was listed as the primary now that SW was leaving the Board, KP thanked SW for his assistance over the years.

DG stated that there was someone who wanted to attend the Board meetings instead of him and to replace him on the OA/IA Group. MC stated that that person needed to be elected before they could attend the NANDTB meeting.

It was noted that Nicole Banks was no longer with BINDT – KP stated that he would like to thank Nicole Banks for assisting the Board over the years.

PJB did ask if it was accepted that Alan Parsons could be the alternate to stand in should PJB not be able to attend. MC did state that as Alan's role is an auditor, did that cause a conflict? After discussion it was noted that Alan is no longer an auditor, he is now technical support and

at the moment he is mentoring Andy Kular. It was noted that since the last date that Alan conducted an audit, he should have a period of grace to wait before he can sit on the Board.

KP did state that if BINDT think that Alan meets the requirements of NANDTB_03 then it's their right to propose him, KP stated that he was okay for Alan to attend meetings in the absence of PJB. There were no objections to Alan joining the Board, however a cooling off period was agreed to be appropriate.

PJB suggested providing Alan's current CV &job role prior to the next meeting for approval.

Action 30/2018 - TG to upload the amended NANDTB_06

Action 31/2018 – PJB will contact Alan Parsons for his current CV in preparation for the next meeting

It was also noted that NANDTB_03 needs to be looked at to amend the wording about who can join the Board as the next revision of 4179 dilutes this down. The wording in NANDTB_03 needs to be looked at.

Action 32/2018 - WG consisting of KP/RB to look at this for amendment

5. UK NANDTB Document Review

a. NANDTB_04 - to be reviewed

WG to look at subscription costs that need to be made.

Action 33/2018 - WG consisting of KP/RB to look at this for amendment

- b. NANDTB 12 under review with WG
- c. NANDTB 14 WG to review this document

Action 34/2018 – WG consisting of GMcC/MC to look at

d. NANDTB_16

See above action 16/2018

e. NANDTB_19

See above action 24/2018

f. NANDTB_22

Action 35/2018 – WG consisting of DG/RB and JB

g. OAQS 11

Karen Reader emailed and sent in some questions/queries about the OA/IA checklist. These were sent out to the Board, however KP is not sure that anybody has had sufficient time to look at and digest these.

It was suggested that this document be added on to the NANDTB_12 review group – **See above**Action 16/2018

6. Qualifying Agencies

a. Auditor Oversight, review matrix

Reviewed the matrix, however dates need to be populated.

TG will report the matrix dates at the next meeting.

Action 36/2018 – TG to speak to Tara about populating the dates for the matrix

7. Standard Review

a. EN4179

JD reported back that he had attended the AIA sub-committee in September, the harmonisation committee had met 3 days prior to this. There is an AIA matrix of proposed changes, however this had not been tabled. JB did state that there was an excel spreadsheet, however this could not be shared at this moment in time.

JB then tabled his presentation from Chris Stevenson that was tabled at the last ANDTBF meeting – questions/queries were answered during this.

CD asked about shearography and thermography and whether they would be classed as "other method".. JB stated that it is the intention for shearography and thermography to be taken out of the table and they won't specify minimum hours/experience they will just fall in to the other section.

It was noted that thermography is being removed when it is used by lots of primes. KP asked what the mechanism is if something is not agreed on. JB stated that this will be sent out for ballot and should to go WG15.

KP did state that as the Board is against this being taken out, he will speak to Chris Stevenson about this so when it comes back to the WG, he can ask about this being kept in.

JB went through the responses that were collated at the ANDTBF meeting.

Action 37/2018 – KP to speak to Chris Stevenson (WG15) about the Board wanting to keep thermography in the standard

b. Competency Based assessment - JD

JD stated that this was not discussed by the USA because the harmonisation team discussed it prior to the meeting and dismissed it on the grounds that it may jeopardise harmonisation.

KP suggested that it could perhaps be looked at with a much deeper/greater proposal the next time round.

A working group will be established in time for next review.

c. The removal of Thermography from the standard - CD

Safran would like these to remain in. JB did state that perhaps it would be a good idea to find out who is using these methods, perhaps the USA do not which is why they think it is not a common method, however if people in the EU/UK are using them a lot and wish them to remain then perhaps data can be collated about who uses them etc.

GMcC did state that Pt. 145 organisations are using thermography. It was also noted that shearography is also widely used, the CAA are heavily involved with it. NC stated that thermography should not fall in to the emerging methods category as within Pt. 145 thermography is very common. However, there are not a huge amount of RL3s in shearography in the UK – this again is not an emerging method within the UK.

MC did state that if the concept of the L3 basic is being removed then common methods do not need to be defined, they are just methods.

NC did state that they are dealing with someone at the moment who is very well established in shearography from academia but for him to become an RL3, he has to be under supervision and it is almost impossible.

If however thermography/shearography are removed from the Standard as common methods, there is nothing to stop the NANDTB creating their own document and then pushing this through the ANDTBF.

MC stated that the aim of the L3 Basic aligning with 9712 and ASNT L3 basic is to ensure that candidates have an overall knowledge of all methods, at L2, to ensure the L3 was able to make sound technical decisions on inspection protocols. MC thought this was a positive thing for L3s, particularly RL3s. With a return to 'methods as used by a company', a company RL3 may be aware that his PT only company, is unable to inspect a component for a suspected flaw, but will lack sufficient knowledge of other methods to seek alternative inspection methods.

KP did state that this needs to also be treated like thermography/shearography and officially write to the new Chair of the Forum, the Forum may agree to then keep ANDTBF_10 in place.

If there are concerns then these can be sent to the harmonisation team, if there are concerns then these can be sent to the Forum and see where it goes.

Action 38/2018 – CD to create a response of why it is felt that thermography should remain in the standard, information to be collated from the OA/IA group

8. ANDTBF (JB)

JB confirmed the last meeting was 20 November in Dublin hosted by the Irish Aviation Authority. JB has been chair for two terms now, his term is over so Helmuth Hoeller from FACC was nominated and approved as the new Chair and Gero Wahle from the Swiss Board was nominated and approved as the new Vice Chair.

Singapore NANDTB

JB also reported that the Chair from the Singapore NANDTB attended and gave the Forum a presentation of how they are set up and operating and they were approved as a new member of the Forum so they are obligated to comply with ANDTBF documents that are published.

Changes to the EN – previously provided

Request for changes - previously provided

ANDTBF_08 document is hoped will be incorporated in to the standard rather than just remain a Forum document and JB has an action to lead a small sub-team to draft the appendix.

There was a discussion around the table of where everybody is in terms of the member Boards being audited so at the previous meeting prior to Dublin it was agreed that all Boards needed to go away and be independently audited by a L3 qualified auditor in conjunction with someone from the regulatory authority using the checklist. France and UK have gone for the NADCAP accreditation option as there are other Boards also going down the same route. Some Boards have conducted audits in connections with the Aviation Authorities with the L3, a lot of Boards are still working on this and some that have done nothing. JB did also state that there are Boards who do not comply, there are a number of Aerospace Boards who examine L3s and they allow the L3s to administer exams to L1s and L2s, that is how they control the exams. KP asked if the Forum members who have not self-audited properly, have they lost their votes? JB stated that they are supposed to, however as of yet they have not.

There is also a clarification document (against EN4179 & NAS 410), ANDTBF_09, the USA have disengaged from this, it was suggested that this document be withdrawn, however the Forum did not want to get rid of this process and still thought it was helpful to industry, this document is therefore to be rewritten along with a procedure for anybody who wishes to seek clarification on the Standard.

Next ANDTBF meeting to be hosted in Switzerland in June.

JB asked MC if she would like to state anything particular regarding the Singapore NANDTB, MC stated that Geoff Brett or Colin Thomas would attend to discuss. JB did state that the background however around this was that there were some UK OA's setting up satellite facilities overseas and particularly in Singapore, i.e. Testia. MC did state that the SWS do not have a satellite facility in Singapore. JB did state that is what had been agreed and it was asked how these were going to remain under the UK NANDTB. The parent companies in the UK who have BINDT OA approval and providing these satellite facilities were operating the same as the sister company, then these were extensions of the UK companies.

The Singapore Board however, have suggested that this is not quite right and that if you look on the OA approval list, the address is just registered in the UK, but there is no address in Singapore and in their eyes it doesn't look like the Singapore facility is approved, however MC is stating that this is not a satellite facility, it is just someone who is working in Singapore on a long term basis.

The Singapore Board are stating that they will not accept training from an agency who is not accredited by the Singaporean NANDTB. The SWS School's client base in Singapore ie Rolls Royce and Safran, wouldn't be able to continue to use SWS and they would have to go to a different provider. DG suggested that they get approval, however MC did state that there is nothing over in Singapore, it is all returned back to the UK i.e. all training is provided under the UK Board approval scheme

JB did state that ANDTBF_08 does state that an organisation can approve the use of an OA in another country where it is under the control of that country's NANDTB. As a recognized member fo the ANDTBF Singapore have to comply with ANDTBF_08 and so JB does not see a problem with this. JB has sent a question to the Singapore NANDTB about Rolls Royce not being able to use personnel approved by SWS, however at the date of the meeting, had not received a response. NC did state that the Singapore

NANDTB are not recognised by EASA and as a result of this they have to be under control of a member state Board.

JB asked what the SWS are asking? MC stated that from their perspective they are an approved UK agency under the control of the UK NANDTB and therefore they should be able to operate for any of their clients under the UK Boards approval anywhere in the world, because everything is returned back to the UK to be audited. It shouldn't matter where in the world they are, as they are under the control of the UK Board. It was noted that the regulation does state this. Singapore come under the ANDTBF as do the Australian Board.

Geoff Brett attended the Board meeting and provided some background. Geoff stated that in 2015 he attended Singapore to support the Rolls Royce training effort and the idea was that the SWS would potentially create an OA/ATO in Singapore. This was done and it was the intention that they would seek BINDT accreditation for this. It was noted that in the first 2 years, SWS could see that it was not a viable operation and so they sat out the remaining period of the lease in the facility and when this came to the end, everything was packed up and returned back to the UK. The SWS then ended up with no operational facility within Singapore. Geoff then went and sat at a desk in the MTD office in Singapore and all he was doing was OA stuff under the control of SWS in and around Asia and Singapore.

Singapore then decided to get together their own Board, the intention with the Board is to emulate the Australian Board in that they seek approval/recognition from EASA. Australia are not 4179 and they run their Board in that the Australian Board do all the L3 exams and this is the intention for Singapore also. Also in Singapore they would like more control of the specific examinations and they want control of the practical examinations, they want to control it all. They are aiming to get a special case approval from EASA so that the L3 qualification doesn't have to come from the ANDTBF and only one single qualification is necessary. Geoff is a member of the Board as a co-opted member since it was established. The Singapore Board wanted to audit the SWS, however there is nothing to audit as it is all in the UK.

The Singapore Board need to be informed that the SWS of NDT sitting in Singapore is not an entity in its own right and this is just Geoff sitting there waiting to do work like in the UK.

It was also noted that now that Singapore have their own Board, should OA/IAs based in Singapore who have aligned themselves/approval under the UK Board, now have approval under the Singapore board instead?

KP suggested that the Forum remind the Singapore Board of the ANDTBF_08 document as they are part of the Forum.

Action 39/2018 - KP to contact the Singapore Board

9. Part 145 Orgs and SIG's – Input (GMc)

a. GMcC stated that he emailed about the use of visible dye. It is still within the regulations that a licensed engineer can still apply the visible dye process. In the 145 world it is up to the OEMs to define if red dye can be used, but often this is used on helicopters in remote parts of the world.

NC stated that it is within the privilege of the aircraft license holder that they can use red dye penetrant. Its application will be dependent upon data and each OEM can provide different instructions. You see it more within general aircraft, light aircraft and rotor craft maintenance. The CAA over the last 15 years have been trying to remove this privileged out of Pt 145 A30,

without success. This will be revisited in GR23. This will hopefully be removed from the license holder and it becomes under the control of NDT personnel.

After a discussion it was asked if the CAA could put a UK policy on this perhaps in to the course notes. The CAA continue to assess use of Red Dye and are looking to adopt specific policy within Cap 747, GR23.

- b. GMcC also wanted to state that in recent months he has seen several CVs where people are employed through employment agencies, stating they are 'qualified to EN4179' and he wanted to let people know that this may link in later with reinstatement of approvals. It is how employments agencies employ people as EN4179 people.
- c. KP also wanted to bring up the subject of GMcC having a vote as he represents the Pt 145 Orgs, GMcC was pleased with this idea and he stated that he thinks he should as he has had a lot of input in to the WGs over the years and any representative of a 145 organisation would do the same. DG also thought that OA/IA group should also have a vote. KP stated that this naturally cascades, however he did state that everybody around the table was now subject to the requirement that the Board has to be approved and as a voting member this must be paid for. It equates to £100 per year per voting member. It was also noted that the constitution would also need to be changed to allow this. KP suggested that for the March meeting the PT. 145 and OA/IA group should put something together to table to the Board for consideration on why they should have a vote. It was also noted that the PT. 145 representative should have an alternate and should have an organisation behind them supporting them.

NC did state that as an observer the OA/IA shouldn't have a vote because the Board has the oversight of the OA/IA. It was then the matter that BINDT have a conflict of interest because of auditing etc.

After a lengthy conversation, it was noted that this matter should perhaps be left for the moment. However as a result of this KP would still like both parties (pt145 & IA/OA) to put a case together.

Action 40/2018 – For the March meeting PT. 145 and OA/IA are to put a couple of paragraphs together as to why they believe they should have a vote and this will be reviewed a few months into 2019

10. Regulators Update – (BF/NC)

a. Brexit Update

NC reported that all that has changed since his last update is that the UK now have a draft UK Pt 145 regulation that has been written, it will become a statutory instrument to take effect. Effectively it is a carbon copy of the EASA regulation, but instead of EASA it references the UK and is going to be put in place post March 29th.

NC will distribute the link to this document – this will provide regulatory framework, so that UK Pt 145 will take effect.

The UK CAAs website is the primary source. Industry are putting in FAQs and these are put on to the website and someone maintains this to keep it up to date.

EASA have taken a stance in a no deal scenario that the UK will become a third country and so EASA have now opened the door for any organisation within the UK to apply now for a third country approval. There are approximately 200 applications with EASA for Pt 145/Pt 147

approvals. Within the UK you will have organistiaons with UK approval to work on G registered aircraft and they will have an EASA approval. NC has written to the Brexit team and he has stated as at previous meetings that GR23 recognises PCN Aero and this will continue for UK PLC. There will be some organisations within the UK who have a standalone EASA approval and it is a matter for EASA whether they will recognise that PCN Aero qualification.

As a Board there may be something to consider as whether or not Pt 145 organisations should be moving towards an EN4179.

The CAA website has a banner referring to a microsite regarding Brexit, if there is something the Board specifically wish to see on there that NDT personnel need to be notified about then the website can be updated.

NC also stated that the authority has taken a pragmatic approach by trying to support and make sure industry carries on and be as flexible as possible. The CAA have stated that they will continue to recognise EASA qualifications, EASA qualified personnel and they will continue to recognise this for 2 years in the event of a no deal. You will have some PCN Aero people qualified and they will be okay in the UK under the companies UK approval.

PJB stated that from a BINDT point of view there is an article going in to NDT News.

GL asked NC about PCN Aero as there didn't seem to be anything on the website, there are some words but it was suggested that a link is put in to the minutes.

KP asked what would happen if come March 29th at 11pm, if there is no recognition from EASA, what are the consequences? NC stated that for organisations in UK and Northern Ireland, they will still be recognised as the UK Board is accepted by the CAA, however for those organisations that will have a standalone third country approval, they will be treated according to the EASA user guides. According to the current user guides, a responsible level 3 qualified in accordance with PCN may not be acceptable within an organisation having an EASA third country approval. At the moment there is no relationship with the Latvian Board apart from a piece of paper. MC stated that there is a relationship with the Irish Board which should be explored further., NC stated that they have their own Board and MC stated that they do but essentially, they accept everything the UK Board does.

KP also suggested that Latvian relationship needs to be looked at.

Action 41/2018 - KP will contact the Irish Board

11. OA/IA Group (MC)

Telephone conference on 22/11, all hanging on for Brexit. After the meeting in the summer it was noted that people prefer meetings after confirmed minutes.

a. AIT have requested clarification on 8.4 in 4179 the document states -

REINSTATEMENT OF CERTIFICATION

Certifications that have been suspended may be reinstated up to the original certification date when the cause for the suspension has been corrected and the correction verified by the employer or the individual's proficiency is verified by the Responsible Level 3 or Examiner. Certifications that have expired or been revoked may only be reinstated by specific and practical examination equivalent to initial certification. Current NANDTB certificates may be utilized for new employment provided that the new employer administers specific and practical

examinations that are representative of their processes and product per 7.1.3 and 7.1.4. When somebody changes from a company to another company and the exam content is exactly the same, does the L3 of the new company have to administer a new practical and new specific exams? According to the document it states that you should. It was asked if this was an RL3 call or is it to adhere to the standard.

KP stated that if the signature on the bottom of the certification approval (post qualification) is different, then you have to sit a separate exam. JB did state however the RL3 can accept previous experience/previous training, it does not state anywhere about previous qualification. But for a **specific/practical these should always be carried out in a change of employment**. KP did state that if you do not administer these exams, you are not adhering to the Standard.

b. Witnessing of overseas agencies -

The UK Board is very lucky that there are positive audits, this however is not being done overseas. MC wanted to raise the question of the Boards control over overseas agencies by BINDT, the process is not the same and UK agencies state that this is not fair.

RB stated that the oversight is looking at the auditor and consistency and when he does an oversight he is watching the person auditing, not what they are auditing.

GL did state that when an oversight is carried out, it is witnessing the auditor and their adherence to the checklist. It does not matter where it is being carried out.

c. OA/IA

DG has suggested that he would like to step down from the OA/IA, MC has consulted the TOR and they are due for an election at the OA/IA. The TOR are a PCN document, they could do with being look at/reviewed and CMC needs to ratify any changes to the TOR.

MC's suggestion is to split the Chair/Vice Chair of OA/IA so that they are not selected at the same time for continuity purposes, it will be every other year rather than every year. MC's proposal is to extend the Chair position for a year, elect for DG (vice chair position) and then in a years' time for the Chair position.

The UK Board supports the action for Vice Chair to be elected this year with the Chair to be elected next year (but recognise this is entirely under the control of the IA/OA group)

12. Funding for the PRI AC7114/11 audit of the UK NANDTB (KP)

KP notified that Board that on Wednesday 12, KP, TG, AW and Tara Ashton will be carrying out the preaudit, prior to the audit which is to be carried out on 31 January 2019.

The letter that was tabled earlier on in the year, this will be distributed to the voting members in January. This will be an annual charge going forward of £100 per year per voting member.

13. Any other business

a. BINDT - Andy Kular

BINDT would like to get one of their auditors to do OA/IA audits. KP did state that he has sent round an email stating that there is no process for approving auditors and if the Board are going to do so, then a process should be devised.

Some agreed criteria was put together in real time :-

*PCN Level 3 certificate (1 minimum, current or ASNT Certification)

*Lead auditor training/certification

*Knowledge of 4179 certification (GMcC has an exam which will be revised by the audit oversight group)

*Prior 4179 certification (L3)

Audit oversight (1st/2nd)

Note: points marked with * are exempt if someone is a NADCAP Auditor

Action 42/2018 – KP to notify Tara Ashton of what is required in order that BINDT can then get Andy Kular signed off

14. Date and location of the next meeting

26 February – BAE Systems, Salmesbury

5 June - IMECHE Argyll Ruane, Sheffield

17 September – Airbus, Brougton

10 December - SWS, Cardiff

Actions allocated and carried over from meeting 65th Meeting

16/2018	AMENDED WG to agree criteria to manage OA's consisting of MC, RB, JB, NC, NLB and PJB, with MC being the lead on this WG MC will look at NANDTB_16 and draft some wording	ONGOING – WG needs to meet even if by Webex, however commitment is needed, PJB suggested that there needs to be auditor input.
22/2018	and will circulate via email to the Board to approve	ACTION 01/2019 – TG TO UPLOAD NANDTB_16
	A WG to look at NANDTB_12/OAQS 11 checklist has been formed to review both documents together – WG of KP, MC, GL and PJB.	ONGOING – it was noted that this document will need more time than was anticipated – it will be looked at before the day of the next meeting.
	WG of MC/PB/GMcC and AW has been put together to review NANDTB_19	ONGOING
	OA/IA to create a dashboard to look at excessive number of NCRs/repeat NCRs and top NCR's for a specific year - to look at every meeting	
29/2018	TG to circulate the document with the minutes for approval at the next meeting	Nothing to circulate until September
30/2018	TG to upload the amended NANDTB_06	To be uploaded after January meeting
31/2018	PJB will contact Alan Parsons for his current CV in preparation for the next meeting	CLOSED
32/2018	WG consisting of KP/RB to look at this for amendment – NANDTB_03	ONGOING -JB replaces RB
33/2018	WG consisting of KP/RB to look at this for amendment – NANDTB_04	ONGOING -JB replaces RB
34/2018	WG consisting of GMcC/MC to look at – NANDTB_14	CLOSED – no changes review no later than January 2021
35/2018	WG consisting of DG/RB and JB – NANDTB_22	CLOSED
36/2018	TG to speak to Tara about populating the dates for the matrix	CLOSED
37/2018	KP to speak to Chris Stevenson about the Board wanting to keep thermography in the standard	NEW ACTION 02/2019 – watch how standard develops
		ACTION 03/2019 – NC to capture ST and TT D1 rating
38/2018	CD to create a response of why it is felt that thermography should remain in the standard, information to be collated from the OA/IA group	ONGOING
39/2018	KP to contact the Singapore Board	

40/2018	For the March meeting PT. 145 and OA/IA are to put couple of paragraphs together as to why they believe they should have a vote and this will be reviewed few months into 2019	e
41/2018	KP will contact the Irish Board regarding merging Boards	CLOSED
42/2018	KP to notify Tara Ashton of what is required in order that BINDT can then get Andy Kular signed off	CLOSED

Annex A – attendance and apologies for absence at the 11 December 2018 NANDTB meeting no. 65

Name (member unless stated otherwise)	Representing	In attendance	Apologies for absence
Alun Williams	Airbus UK	1	
Ben Forshaw (Observer)	CAA replacing TB		
Chris Durrant	Safran Landing Systems Ltd	1	
Clive Worrall	British Airways	1	
Dave Griffin (Co-opted)	Vice Chair representing BINDT OA/IA Group	1	
Gary Reay	Leonardo Helicopters	1	
Guy Lawton	MoD	1	
Graham Mcleod	Honeywell		1
Graham McCully (Co-opted)	Pt. 145 Orgs and SIG members	1	
Jes Dugard	MoD	1	
John Brand	Safran Landing Systems Ltd (Pt 145)	1	
Jon Biddulph	Rolls Royce	1	
Kevin Pickup (Chair)	BAE Systems	1	
Michelle Clapham (Coopted)	Chair representing BINDT OA/IA Group	1	
(Robert) Neal Cuddy (Observer)	CAA replacing TB	1	
Patrick Boulton (Voting member)	BINDT	1	
Paul Harris	British Airways	1	
Phil Byram	BAE Systems		1
Ralph Duff	Bombardier	1	
Rob Bright	Flybe	1	
Steven Arrowsmith (Observer)	MAA	1	
Stuart Wroot	Leonardo Helicopters	1	
Tracy Grant (Secretary)	BINDT	1	
	Totals	20	2