

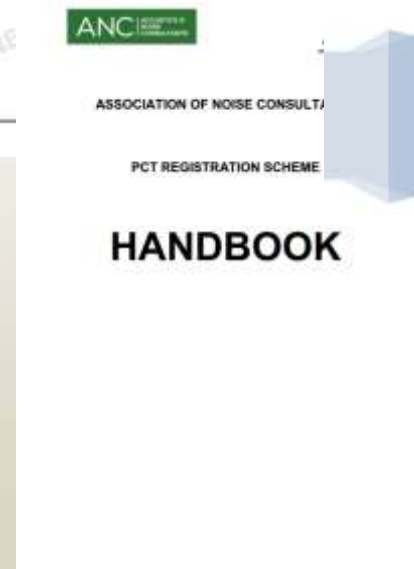
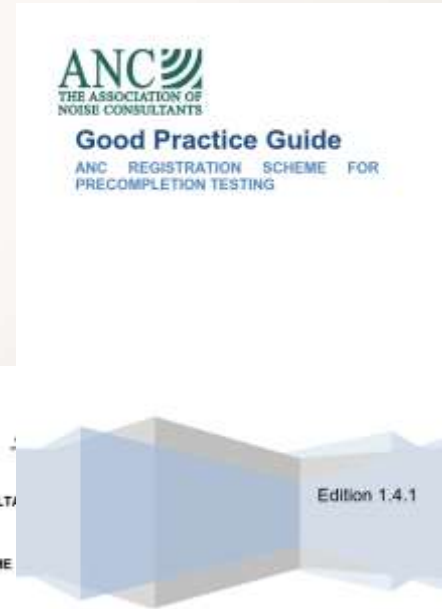
**ANC PCT Workshop**  
**18 October 2016**  
**Common audit problems**

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# Common audit ~~problems~~

## Common audit glitches?

# PCT Workshop 2016





**The Messenger  
Requests  
That He Please  
Not Be Shot**



# 1. ANC Task Number

## GPG - 8.1

The report must state:

*"This report is an ANC Registered Report with the unique registration number XXXXX."*

NB. XXXXX is a five digit reference and does not include the tester (XXX) three digit prefix.

## 2. 6dB compliance

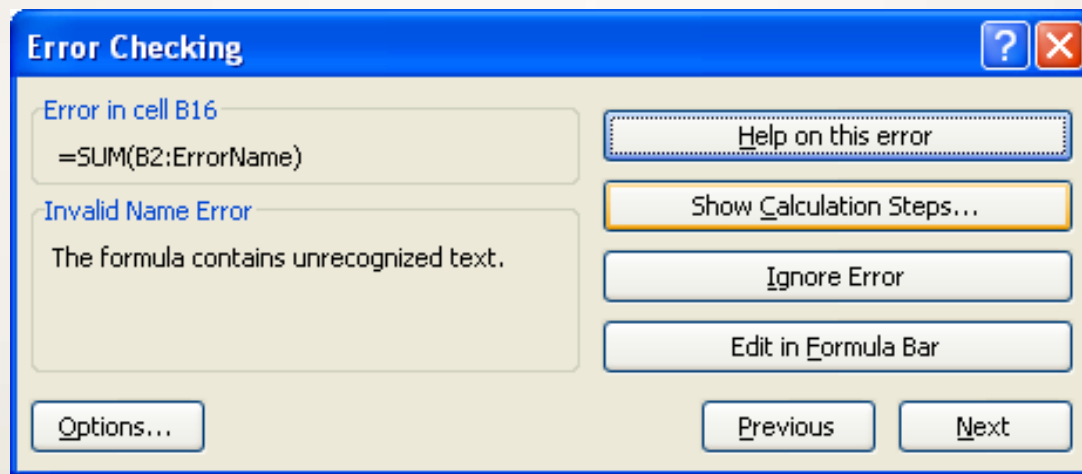
ADE – p2.4&p1.41 6(b)

140-4-p6.2

*For source room measurements, the difference between the average sound pressure levels in adjacent one-third-octave bands should be no more than 6dB.*

*p1.41 - 6(b) if the procedure could not be followed exactly then the exceptions should be described and reasons given;*

# 3. Calculation errors



46% of audits had a calculation error



## 4. Limit of Measurement

140-4-p6.6 & p9.j)

140-7 – p5.6 & p8.i)

## 4. Limit of Measurement

### 6.6 Correction for background noise

Measure background noise levels to ensure that the observations in the receiving room are not affected by extraneous sound such as noise from outside the test room, electrical noise in the receiving system, or electrical cross-talk between the source and the receiving systems.

The background noise level shall be at least 6 dB (and preferably more than 10 dB) below the level of signal and background noise combined. If the difference in levels is smaller than 6 dB, calculate correction to the signal level according to the following formula:

$$L = 10 \lg \left( 10^{L_{sb}/10} - 10^{L_b/10} \right) \text{ dB}$$

where

- $L$  is the adjusted signal level, in decibels;
- $L_{sb}$  is the level of signal and background noise combined, in decibels;
- $L_b$  is the background noise level, in decibels.

If the difference in levels is less than or equal to 6 dB in any of the frequency bands, use the correction 1,3 dB corresponding to a difference of 6 dB. In that case, indicate  $D_n$ ,  $D_{nT}$  or  $R'$  in the measurement report so that it is clear that the reported values are the limit of measurement [see j) of clause 9].

j) indications of results which are to be taken as limits of measurement. They shall be given as  $D_n$ ,  $D_{nT}$  or  $R' \geq \dots$  dB. This shall be applied if the relevant sound pressure level in any band is not measurable on account of background noise (acoustic or electrical, see 6.6);

## 4. NOT Limit of Measurement (*Background Corrected*):

*difference between receive and background*

$<10\text{dB}$

$>6\text{dB}$

**NO GRAPH NOTATION**

## 4. Limit of Measurement:

*difference between receive and background*

$\leq 6dB$

**NOTATION REQUIRED**

Frequency f Hz	$L'_{nT}$ (one-third octave) dB
50	
63	
80	
100	57.4
125	57.0
160	52.6
200	45.2
250	41.4
315	36.2
400	33.7
500	30.6
630	31.1
800	31.3
1 000	27.6
1 250	≤ 23.7
1 600	≤ 20.3
2 000	≤ 17.0
2 500	≤ 16.2
3 150	≤ 13.7
4 000	
5 000	

## 4. Limit of Measurement Examples



Frequency f [Hz]	D <sub>nT</sub> 1/3 octave [dB]
50	12.5
63	18.2
80	28.7
100	28.1
125	32.0
160	30.7
200	33.6
250	40.4
315	42.2
400	43.4
500	46.7
630	49.8
800	55.1
1000	57.4
1250	60.4
1600	60.9
2000	57.1
2500	58.2
3150	64.7
4000	72.5 <sup>†</sup>
5000	75.1 <sup>†</sup>

<sup>†</sup> At the limit of measurement

## 4. Limit of Measurement Examples



Frequency Hz	$D_{nT}$ dB
100	45.0
125	39.7
160	40.8
200	42.3
250	44.3
315	47.0
400	52.5
500	55.6
630	57.0
800	58.6
1k	58.2
1.25k	58.3
1.6k	58.1
2k	59.5
2.5k	55.4
3.15k	53.8

Limit of measurement,  $D_{nT} \geq 55.6$

Limit of measurement,  $D_{nT} \geq 58.6$

Limit of measurement,  $D_{nT} \geq 58.2$

Limit of measurement,  $D_{nT} \geq 58.3$

Limit of measurement,  $D_{nT} \geq 58.1$

Limit of measurement,  $D_{nT} \geq 59.5$

## 4. Limit of Measurement Examples



Frequency f Hz	$D_{nT}$ (1/3-octave) dB
50	
63	
80	
100	37.8
125	39.9
160	37.8
200	45.0
250	46.9
315	49.3
400	49.8
500	50.4
630	51.2
800	53.4
1000	56.8
1250	60.4
1600	60.4
2000	63.6
2500	≤ 69.1
3150	≥ 71.8
4000	
5000	

≤ Indicates  $L_{SB} - L_B \leq 10$  dB

≥ Indicates limit of measurement:  
 $6\text{dB} \leq L_{SB} - L_B \leq 10$  dB

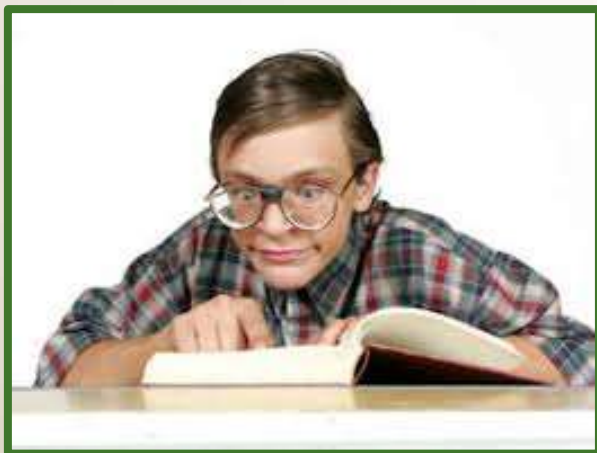
## 4. Limit of Measurement Examples





# 5. Expression of Units

ADE, 140, GPG



$$D_{nT}$$

$$L'_{nT}$$

$$D_{nT,w}$$

$$L'_{nT,w}$$

$$D_{nT,w} + C_{tr}$$

6. **ADvANCE** Page  
Handbook p3.18

*Notice to Building Control Officers*

## Pre/Post-Completion Test Report Insert

3.18 The following text shall be incorporated, on its own page, within all pre-completion test reports.



### Notice to Building Control Officer

#### Certification of Test Results.

ANC operates an online, secure, paperless certification system for sound insulation tests.

The online verification (certification) system means that Building Control Bodies will need to follow the steps below to verify the results quoted in the relevant test report:

1. Go to the ANC secure server at [www.theanc.co.uk](http://www.theanc.co.uk)
2. Navigate to the **ADvANCE** page which links to the ANC site available for use by BCOs.
3. Enter the following in the spaces provided:

Task Number: XXXXX

Task Password: XXXXXX

4. Select role "Building Control Officer" and press "Login"
5. You will then see a summary list of results of all the Tests undertaken to date for this project (Task) as held on the secure primary server and you can print this table for your records.

*6. Notice to  
Building Control  
Officers*

# 7. Equipment Notation

ADE, 140-4 p4&9(i)/140-7 p4&8(h),  
Handbook Part 4, GPG Part 4 & 8.2 (i)

*Requirements*

*Information to be reported*

7. Equipment Notation  
*Information to be reported:*

*Description*

*Manufacturer and model*

*Serial number*

*Last calibration date*

*Calibration certificate number*

*SLM with mic and pre-amp listed separately*

# 8. Annex B exceptions

ADE Annex B Page 71 onwards &  
p1.41 6(b), GPG 8 (j)

*A statement that the test procedures in Annex B have been followed. If the procedure could not be followed exactly then the exceptions should be described and reasons given;*

## 8. Annex B exceptions

*The most common omissions:*

*Room volumes  $< 25\text{m}^3$*

*Carpeted floor (test on board\*)*

*\* Except with Type 1 floor, but this would be reported*

# 9. Test methodology

ADE Annex B

140-4 p6&9(i)

140-7 p5&8(h)

GPG Part 5, 6 & 8.2 (i)

*Description must include:*



## 9. Test methodology

Description must include:

*Number of source/tapper locations*

*Number of measurement positions*

*Sampling method and averaging time*

*Description of background sources*

*RT measurement description*

*Correlate with 'what was done'*

*Ref. GPG paragraph 8.6.3*

# 10. On the ANC Register

## GPG 8.2 (l)

8.2 The report must include the following information:

*(l) A statement that the organisation writing the report and carrying out the test was on the ANC register of organisations at the time of testing*

# 11. Description of background measurement

## GPG p5.8

*The standards do not describe the methodology required for background noise measurement. As the purpose of background noise measurements is to evaluate the effect of extraneous noise sources on the receiving room measurement, it follows that the procedure should be the same as for the receiving room measurement*



# Questions?