



## Meeting Notes (Final)

### Noise Liaison Group Meeting No. 20

28 February 2013, 10:00 to 11:30

Venue: FRC Project Office, Rosyth



#### Attendees:

David Climie	FRC Employer's Delivery Team (EDT) (Chair)
Andrew Mackay	FRC Employer's Delivery Team (EDT)
David Condie	FRC Employer's Delivery Team (EDT)
Martin Butterfield	FRC Employer's Delivery Team (EDT)
Andy Butler	FRC Employer's Delivery Team (EDT)
Dermot Connolly	City of Edinburgh Council (CEC)
David Redden	Fife Council (FC)
Tracy Wyllie	Fife Council (FC)
Brian Carmichael	West Lothian Council (WLC)
Thomas Nilsson	Forth Crossing Bridge Constructors (FCBC)
Colin Goodsir	Forth Crossing Bridge Constructors (FCBC)
Neil Abraham	Forth Crossing Bridge Constructors (FCBC)
Martin Wilson	Forth Crossing Bridge Constructors (FCBC)

#### Apologies for Absence:

Steven Brown	FRC Employer's Delivery Team (EDT)
Richard Greer	FRC Employer's Delivery Team (EDT)
David Brewster	West Lothian Council (WLC)
Niall Corbet	Scottish Natural Heritage (SNH)
Carolyn Clark	Scottish Natural Heritage (SNH)
Mike Bland	Marine Scotland (MS)
Colin Megginson	Marine Scotland (MS)

Item	Subject	Description	Action
1	Introductions and Apologies	EDT welcomed all parties to the meeting. Apologies were received from those parties listed above. Andy Butler was introduced to all parties.	
2	Safety Procedures	EDT advised regarding safety and evacuation procedures.	
3	Minutes and Actions from Previous Meeting	The minutes of Meeting No. 19 held on 28 January 2013 were agreed.  Actions from the previous meeting are as noted in items 4(a) and 4(b) below.	
4(a)	M9 Junction 1A	<u>Actions from Previous Meeting No. 19</u>	
	(i)	EDT confirmed that they had received November noise monitoring data from SRB and that it had been uploaded to the project website in draft form. EDT advised that amended exceedance reports and/or noise charts were required from SRB to allow the monitoring report to be finalised.	SRB
	(ii)	SRB to forward CEEQUAL question in relation to noise and vibration monitoring to EDT for input.	SRB

	(iii)	EDT confirmed that SRB submitted their proposals for post construction monitoring to the Employer for review on 27 February 2013.	EDT
4(b)	Principal Contract	<u>Actions from Previous Meeting No.19</u>	
	(i)	EDT confirmed that FCBC's updated NVMP was currently being reviewed and that any comments would be returned in due course.	EDT
	(ii)	EDT advised that PCNV 21 had been received for review and had been returned to FCBC with comments. FCBC advised that they intend to revise PCNV0021 to include the forthcoming pavement works at Society Road.	FCBC
	(iii)	FCBC advised that they intended to respond to the NLG's comments that were received in relation to the underwater noise reports covering August 2012 and November – December 2012 by the end of the week.	FCBC
	(iv)	FCBC advised that an underwater noise report covering the jet grouting works at the North Tower would be submitted to the Employer for review by 8 March 2013.	FCBC
	(v)	EDT advised that the PCNV covering works at the Port of Rosyth had been received for review and had been returned to FCBC with comments. FCBC to address the Employer's comments and submit for approval.	FCBC
	(vi)	FCBC confirmed that the correlation of data between observed seal behaviour and underwater noise recordings was on-going and that the findings would be submitted to the Employer for review by 8 March 2013.	FCBC
	(vii)	FCBC advised that an investigation into the possibility of installing an improved barrier on the Neptune barge was currently ongoing.	FCBC
	(viii)	FCBC confirmed that rubber mats had been installed on the Pier S1 working platform and that acoustic barriers had been installed on the barge at Pier S1 in order to provide additional noise mitigation.	
		<u>Noise and Vibration Management Plan</u>	
	(ix)	Refer to item 4(b)(i) above.	
		<u>Plans for Control of Noise and Vibration</u>	
	(x)	FCBC advised that the following PCNV's had been submitted in the period: <ul style="list-style-type: none"> <li>• 00008 Rev 03 – Network Structures South</li> <li>• 00021 Rev 04 – South Earthworks</li> <li>• 00010 Rev 03 – North Works</li> <li>• 00020 Rev 11 – Marine Works</li> </ul>	
	(xi)	FCBC advised that the following PCNV revisions would be submitted to the Employer for review in due course: <ul style="list-style-type: none"> <li>• 00027 Rev 03 – Piling in Building 973 of Marine Yard</li> <li>• 00021 Rev 04 – South Earthworks (Extension of work area)</li> <li>• 00022 Rev 00 – Tower &amp; Pier Structural Works</li> <li>• 00011 Rev 06 – Foundation, Structural Concrete Works &amp; Marine Access Causeway</li> </ul>	

(xii)	<p>FCBC advised that PCNV 11 was currently being revised to cover the construction of a temporary access causeway to Pier S5 and also potentially to Pier S4. EDT enquired about the proposed working hours for the construction and use of the causeway. FCBC advised that the causeway would mainly be used during normal working hours with the exception of some concrete pours. EDT advised that the construction and use of the causeway should be treated as a land based operation rather than a marine operation with regard to working hours as it is not affected by tides or marine plant. FCBC to provide an update on proposed working hours at the next NLG meeting.</p>	FCBC
(xiii)	<p>FCBC advised that PCNV 20 Rev 12 had been submitted to the Employer for review and advised that the PCNV covered all marine foundation works until the end of September 2013. FCBC also advised that a second PCNV covering marine structures (PCNV 22) would be submitted shortly and would be effective from May/June 2013. FCBC presented the proposed programme for the construction of the tower foundation and marine pier foundations.</p>	
	<p><u>Monitoring</u></p>	
(xiv)	<p>FCBC advised that there had been some construction noise related exceedences at Butlaw Fisheries, Tigh-Na-Grian, Linn Mill and Springfield in February 2013.</p> <p>FCBC advised that 2 night-time exceedences of the maximum noise level threshold recorded at the Tigh-Na-Grain monitor were attributed to the repositioning of jet grouting working platform at the North Tower.</p> <p>FCBC advised that 2 evening exceedences and 9 night-time exceedences of the maximum noise level threshold recorded at the Butlaw Fisheries monitor were attributed to the caisson excavation works at Pier S1.</p> <p>FCBC advised that 2 day time exceedences of the maximum noise level threshold recorded at the Linn Mill monitor were attributed to plant movements.</p> <p>FCBC advised that 1 day time exceedence of the maximum noise level threshold recorded at the Springfield monitor was attributed to plant movements in the vicinity of the noise meter.</p>	
(xv)	<p>CEC queried why repositioning of the working platform for the jet grouting works at the north tower had been carried out at night. FCBC advised that as jet grouting was a 24 hour activity and moving the platform was a vital part of the activity that could not always be restricted to normal working hours. FCBC agreed that where practicable, repositioning of the barge would be undertaken during the day. The NLG requested that FCBC inform relevant local authority night noise team if working platforms are to be repositioned outwith normal working hours in future.</p>	FCBC
(xvi)	<p>CEC noted that a number of exceedences of the maximum noise level threshold had been attributed to the caisson excavation works at Pier S1 and queried whether the exceedences were unavoidable or whether the exceedences could be caused by operator error. FCBC to investigate trends to ascertain whether operator error could be a contributory factor.</p>	FCBC
(xvii)	<p>FCBC provided an update on the attended monitoring that had been carried out at the Pier S1 caisson excavation works.</p>	

		<p>FCBC advised that the attended monitoring carried out during the caisson excavation works had identified the following potential sources of maximum noise level exceedances:</p> <ul style="list-style-type: none"> <li>• Excavated rocks falling into (empty) split barge.</li> <li>• Movement of crane causing shift in centre of gravity of jack up barge, which results in spud leg “clanging” against securing collar.</li> <li>• Noise from full extension and / or closure of excavator bucket.</li> <li>• Excavated rocks falling onto caisson or jack up barge.</li> </ul> <p>FCBC advised that such exceedances were difficult, if not impossible to eradicate and mitigate against. FCBC also advised that no complaints had been received in relation to the exceedances recorded.</p> <p>FCBC presented a graph comparing the difference in noise levels generated by the crane located on the Gerhard barge and the crane located on the Neptune barge. FCBC advised that the engine noise from the crane on the Neptune was approximately 2dB(A) lower than that from the crane on the Gerhard. FCBC also advised that the highest levels of engine noise emanate from the back of the crane and that acoustic screens would be fitted to the barge to as mitigation.</p>	FCBC
		<u>Community Engagement</u>	
	(xviii)	<p>FCBC advised that two complaints had been received in relation to noise and vibration in February 2013 as follows:</p> <ul style="list-style-type: none"> <li>• Complaint 1: Night noise from north of estuary</li> <li>• Complaint 2: Night noise from south of estuary</li> </ul>	
	(ix)	<p><u>Complaint 1 – Night noise from north of estuary</u></p> <p>FCBC advised that a complaint had been received from a resident of North Queensferry on 11/02/13 relating to night-time noise from works taking place in the northern side of the estuary. FCBC advised that the complaint referred to a “humming” noise from the works offshore accompanied at times by a “beeping” noise similar to that heard by reversing lorries or buses.</p> <p>FCBC advised that the following investigations were carried out following the complaint:</p> <ul style="list-style-type: none"> <li>• Results from permanent monitor showed: <ul style="list-style-type: none"> <li>- No LAFmax exceedances</li> <li>- LAeq marginally above threshold for 3 of 9 hours</li> </ul> </li> <li>• North Tower jet grouting only FCBC works in vicinity of the north shore during period in question &amp; were positioned at closest proximity to the north shore for the whole jet grouting process</li> <li>• Source of beeping noise not attributable to any plant associated with jet grouting activities</li> <li>• Attended Monitoring conducted at north shore.</li> </ul> <p>Having investigated the complaint, FCBC advised that they were able to draw the following conclusions:</p> <ul style="list-style-type: none"> <li>• Source of the beeping unidentified, however, attended monitoring results and the nature of works being undertaken at</li> </ul>	

		<p>the time reinforce belief that FCBC works were not responsible.</p> <ul style="list-style-type: none"> <li>• All measured activities associated with jet grouting within LAeq and LAFmax thresholds.</li> <li>• Cumulative impact of abnormally high background level (resulting from FRB traffic, adverse weather, bird noise etc.) with noise from jet grouting works can cause occasional exceedances of LAeq threshold.</li> <li>• Activities associated with jet grouting can generate occasional 'creeks and clangs' which are extremely difficult to fully eradicate and largely appear to be within LAFmax thresholds.</li> </ul> <p>WLC asked what the source of the reported "humming" noise was likely to be. FCBC advised that the source of the noise was likely to be from the Robyn S.</p>	
	(xx)	<p><u>Complaint 2 – Night noise from south of estuary</u></p> <p>FCBC advised that a complaint had been received from a resident of Queensferry on 18/02/13 relating to night-time noise from works taking place in the southern side of the estuary. FCBC advised that the complaint referred to " a loud generator type noise" which ceased at approximately 01:30am on 18/02/13. The noise then restarted at 23:30pm on 18/02/13.</p> <p>FCBC advised that the following investigation were carried out following the complaint:</p> <ul style="list-style-type: none"> <li>• Permanent monitor at Clufflat Brae showed: <ul style="list-style-type: none"> <li>- No LAFmax exceedances.</li> <li>- No LAeq exceedances.</li> </ul> </li> <li>• S1 caisson excavation only FCBC works in the vicinity of the south shore during the period in question.</li> <li>• S1 caisson excavations: <ul style="list-style-type: none"> <li>- commenced at 23:35 and continued throughout the night on night time period commencing 17/02/13.</li> <li>- commenced at 22:00 and were completed around 00:30 on night time period commencing 18/02/13.</li> </ul> </li> <li>• Attended monitoring conducted at south shore during night time period commencing 18/02/13.</li> <li>• Attended monitoring undertaken outside complainants property 22:00 and 22:30 on 18/02/2013.</li> <li>• Only partial line of sight to works at S1 (could see crane in operation).</li> <li>• Low level "hum" from the S1 caisson works was audible, with occasional low level clangs.</li> <li>• Traffic noise from the existing bridge also audible, with maintenance works fully visible from the monitoring location.</li> </ul> <p>Having investigating the complaint, FCBC advised that they were able to draw the following conclusions:</p> <ul style="list-style-type: none"> <li>• Timings associated with complaint source noise are inconsistent</li> </ul>	

		<p>with timings associated with only FCBC works to be conducted in the vicinity of south shore during the periods in question (S1 caisson excavation).</p> <ul style="list-style-type: none"> <li>• Attended monitoring results, supplemented by permanent monitor results illustrate that noise levels resulting from S1 caisson excavation, were within both LAeq and LAFmax thresholds, at nearest sensitive receptors.</li> </ul> <p>FCBC advised that a report on the above had been passed to the resident and that the resident had been advised that further night time monitoring would be carried out should the problem persist.</p> <p>FCBC to include location plan along with the details of complaints at future NLG meetings.</p>	FCBC
	(xxi)	FCBC provided an update on the installation of noise insulation at properties to the north of the Forth. FCBC advised that the second of the two properties had been fitted with a glazing solution in mid-February.	
		<u>Forward Programme</u>	
	(xxii)	FCBC provided an overview of their forward programme and indicated that marine operations continued to be their main priority. Foundation works will continue throughout the summer with work on the towers commencing during period also. The anticipated sequence for commencement of tower works is the central tower first, then the north tower, then the south tower. The NLG noted that this would allow works methods to be implemented and refined on the tower furthest from any residential buildings.	
5	Next Meeting	The next meeting (No. 21) will be held on 4 April 2013, 10am at the Ferrytoll site office.	
6	Any Other Business	EDT advised that the final blast at Whinny Hill was programmed to take place at 22:00HRS on 1 March 2013.	