



Meeting Notes



Noise Liaison Group Meeting No. 19

31 January 2013, 10:00 to 12:00

Venue: FRC Project Office, Rosyth

Attendees:

David Climie	FRC Employer's Delivery Team (EDT) (Chair)
Steven Brown	FRC Employer's Delivery Team (EDT)
David Condie	FRC Employer's Delivery Team (EDT)
Martin Butterfield	FRC Employer's Delivery Team (EDT)
Oliver Atack	FRC Employer's Delivery Team (EDT)
Rebecca Long	FRC Employer's Delivery Team (EDT)
Carolyn Clark	Scottish Natural Heritage (SNH)
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)
Neil Abraham	Forth Crossing Bridge Constructors (FCBC)
Martin Wilson	Forth Crossing Bridge Constructors (FCBC)
Micheal O'Connell	SRB Civil Engineering Ltd (SRB)

Apologies for Absence:

Andrew Mackay	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)
Mike Bland	Marine Scotland (MS)
Colin Megginson	Marine Scotland (MS)
Roland Tarrant	SRB Civil Engineering Ltd (SRB)

Item	Subject	Description	Action
1	Introductions and Apologies	EDT welcomed all parties to the meeting. Apologies were received from those parties listed above.	
2	Safety Procedures	EDT advised regarding safety and evacuation procedures.	
3	Minutes and Actions from Previous Meeting	The minutes of Meeting No. 18 held on 6 December 2012 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. 18</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 advised that letters had been sent to two residents of Buie Rigg in relation to noise complaints received on 7 November 2012 and that a copy of the letters had been emailed to CEC.	
		<u>Plans for Control of Noise and Vibration</u>	
	(iv)	SRB advised that they do not anticipate requiring to submit any further PCNVs.	
		<u>Monitoring</u>	
	(v)	SRB advised that they stopped downloading noise and vibration data at end of December 2012 and that the monitoring equipment would be removed from receptor locations on 31 January 2013.	
	(vi)	SRB requested confirmation from the EDT regarding what is required in terms of post construction noise monitoring. EDT advised that SRB should comply with the requirements set out in the recent letter from the Employer to the Contractor in relation to environmental monitoring. EDT also advised that SRB should set out their proposals for post construction monitoring and assessments and submit them to the EDT for review.	SRB
		<u>Community Engagement</u>	
	(vii)	<p>SRB advised that a noise complaint had been received from a resident of Buie Rigg in relation to works carried out on the M9 Spur on the night of 16 January 2013. SRB advised that the works involved the removal of existing roadmarkings from the carriageway using a thermal lance.</p> <p>SRB explained that they did not have sufficient time to advise local residents in advance of the proposed works on this occasion as they were required to be carried out at short notice in order to coincide with favourable weather conditions at the time.</p> <p>SRB confirmed that they would contact local residents in advance of carrying out any future night time works that have the potential to cause disturbance.</p>	SRB
		<u>Forward Programme</u>	
	(viii)	<p>SRB advised that the following works were programmed to be carried out in January/February 2013:</p> <ul style="list-style-type: none"> • Landscaping works • Fencing works • Pavement snagging works • Traffic signs and roadmarkings • Structures snagging works • Decommissioning of site compound 	
	(ix)	SRB advised that some snagging works would continue to be carried out following the official road opening on 1 February 2013. SRB also advised that the landscaping would continue into April 2013.	
	(x)	The EDT noted that SRB should be commended for their input to the Noise Liaison Group and for their overall commitment to noise and	

		vibration issues throughout the construction of the M9 Junction 1a project.	
4(b)	Principal Contract	<u>Actions from Previous Meeting No.18</u>	
	(i)	NLG confirmed that an updated NVMP was received from FCBC on 28 January 2013.	
	(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)	EDT advised that FCBC's underwater noise reports covering August 2012 and November – December 2012 were currently with SNH for review. EDT to collate NLG and EDT comments and issue to FCBC.	EDT
	(iv)	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
	(v)	EDT advised that a PCNV covering the sheet piling operation at Pier S6 had been approved.	
	(vi)	FCBC confirmed that an additional noise monitor at Linn Mill was not currently required.	
	(vii)	FCBC advised they had carried out extensive investigations into providing additional noise mitigation at the crane on the Gerhard barge. However, the effectiveness of the mitigation was limited by spatial constraints on the barge and crane compatibility issues (Also see item xvii below).	
	(viii)	FCBC advised that jet grouting operations had been closely monitored at the south tower in advance of jet grouting operations moving to the north tower (Also see item xvi below).	
	(ix)	EDT requested that FCBC investigate the programming of the jet grouting activity in order to ascertain whether there was any way to build in some planned respite in addition to scheduling quieter works sequences to take place at night.	FCBC
	(x)	NLG confirmed that they attended a site visit to the marine works on 15 January 2013. The main outcomes of the site visit were as follows: <ul style="list-style-type: none"> • NLG were able to witness replacement generator in operation • NLG were able to witness 'pump rattle' reduction measures in operation • FCBC to investigate the feasibility of installing an additional acoustic screen adjacent to jet grout drilling rig (see item xiv below). • Noise barriers to be placed on barge to further reduce compressor and generator noise (see item xiv below). • Rubber matting to be installed on jet grouting working platform 	
	(xi)	FCBC confirmed that one of the two properties located to the north of the Forth had been fitted with noise insulation (Also see item xxvi	

		below).	
	(xii)	FCBC confirmed that the correlation of data between observed seal behaviour and underwater noise recordings was on-going.	FCBC
		<u>Noise and Vibration Management Plan</u>	
	(xiii)	Refer to item 4(b)(i) above.	
		<u>Plans for Control of Noise and Vibration</u>	
	(xiv)	<p>FCBC advised that the following PCNV's had been submitted in the period:</p> <ul style="list-style-type: none"> • 00010 Rev 03 – North Works • 00027 Rev 02 – Piling in Building 973 of Marine Yard • 00011 Rev 04 – Land Based Piers • 00020 Rev 11 – Marine Works • 00008 Rev 03 – Network Structures South • 00021 Rev 04 – South Earthworks 	
	(xv)	<p>FCBC advised that the following PCNV revisions would be submitted to the Employer for review in due course:</p> <ul style="list-style-type: none"> • 00015 Mod 09 Whinny Hill Blasts • 00027 Rev 03 – Piling in Building 973 of Marine Yard • 00020 Rev 12 – Marine Works • 00021 Rev 04 – South Earthworks (Extension of work area) 	
	(xvi)	<p><u>Jet Grouting</u></p> <p>FCBC provided an update on jet grouting operations and advised that jet grouting at the south tower was now complete and that jet grouting was now being carried out at the north tower.</p> <p>FCBC provided an update the noise mitigation measures implemented for jet grouting works:</p> <ul style="list-style-type: none"> • Faulty compressor replaced resulting in an approximate 10dB(A) noise reduction. • Operatives instructed to ensure that all panels and doors remain closed where possible to reduce noise emanating from compressors/generators. • Specialised Tool Box Talks on noise given to all operatives. • Rubber matting to be installed on working platform. • Noise barriers to be placed on barge to further reduce compressor and generator noise. • Barge railings welded in placed to mitigate against 'pump rattle'. <p>FCBC advised that no exceedances had occurred and no complaints had been received to date in relation to jet grouting works at the north tower.</p> <p>FCBC advised that they had investigated the possibility of installing a screen adjacent to drilling rig used in the jet grouting process and had identified the following limitations:</p>	<p>FCBC</p> <p>FCBC</p>

		<ul style="list-style-type: none"> • Spatial constraints on working platform limit size of any screen. • Size of screen limited by safety issues. • Any screening in close proximity to drilling rig vent will dramatically reduce air intake and consequently rig performance. • Difficult to place screens of adequate size and thickness, close enough to 3 vents to significantly reduce noise emissions. • No guarantee of reduction in dominant source. <p>CEC asked what the duration of the jet grouting works was likely to be at the north tower. FCBC advised that jet grouting at the north tower was programmed to be complete by late February 2013.</p> <p>FCBC advised that they had not yet been able to carry out attended monitoring at the north tower while jet grouting was being carried out due to poor weather conditions. FCBC advised that attended monitoring would be carried out when the weather improved.</p> <p>FCBC to arrange NLG site visit to the marine works through the weekly marine conference call.</p>	<p>FCBC</p> <p>FCBC</p>
	(xvii)	<p><u>Caisson Excavation</u></p> <p>FCBC advised that post jet grouting excavation would consist of both standard excavation and airlifting excavation. FCBC explained that they had investigated submersible dredge pumping as alternative to excavation however this was found to be impractical.</p> <p>FCBC summarised the benefits of the airlifting excavation process as follows:</p> <ul style="list-style-type: none"> • Involves quieter plant than standard excavation (as only one crane and a compressor are required). • Less strenuous crane movements meaning likely reduction in crane engine noise. • Angle through which crane is rotated is significantly smaller, therefore duration for which the crane engine emissions are directed towards the receptors is smaller. • Potential to possibly be controlled more easily. <p>EDT enquired whether the airlifting excavation process would be carried out at night. FCBC confirmed that it would and explained that airlifting was quieter than standard excavation techniques.</p> <p>FCBC advised that they were in the process of procuring an additional crane that would be stationed on the Neptune barge to be used for caisson excavation works.</p> <p>FCBC advised that investigations into possible additional noise mitigation to the crane on the Gerhard Barge have been extensive, however the effectiveness of mitigation is limited by, spatial constraints on the barge and crane compatibility issues.</p> <p>FCBC advised that their construction team are currently conducting a feasibility study to investigate the possibility of installing an improved barrier on the Neptune barge and that the outcome of the study would</p>	<p>FCBC</p>

		be made available in approximately two weeks.	
		<u>Monitoring</u>	
	(xviii)	<p>FCBC advised that there had been some construction noise related exceedences at Tigh-Na-Grain, Linn Mill and Butlaw Fisheries in December 2012 and January 2013.</p> <p>FCBC advised that 4 night-time exceedences of the maximum noise level threshold at Tigh-Na-Grain were attributed to excavation works at the north tower caisson and the placement of Pier N1 cofferdam.</p> <p>FCBC advised that 3 day time exceedences and 1 night-time exceedence were reported at Linn Mill and were attributed to plant movements at Echline. The night-time exceedence was attributed to day works starting 1 minute early.</p> <p>FCBC advised that 13 day time exceedences were recorded at Butlaw Fisheries and were attributed to works at S6. FCBC advised that 2 night-time exceedences had occurred which were attributed to rocks hitting the split barge at the Pier S1 caisson.</p>	
	(xix)	<p>FCBC provided an update on the vibration monitoring carried out during the construction of the temporary earth bund as follows:</p> <ul style="list-style-type: none"> • Daily vibration monitoring carried out for all activities. • Vibratory roller was not used. • Required compaction achieved through utilisation of dead weight roller and tracked excavator. • No alteration in 'Tell-Tales'. <p>FCBC provided an update on the vibration monitoring carried out during the piling works at Pier S6 as follows:</p> <ul style="list-style-type: none"> • Daily vibration monitoring carried out for piling works. • Live attended monitoring for all piling within 15m of bunker. • Z-piles inserted using vibro-hammer for East, West & North sides of cofferdam. • U-piles inserted using vibro-hammer for south side until thresholds approached. • U-piles inserted using 'push-pull' rig thereafter for south side. • No alteration in 'Tell-Tales'. 	
	(xx)	<p>FCBC provided an update on underwater noise monitoring carried in the Forth Estuary during the following activities:</p> <ul style="list-style-type: none"> • Caisson excavation at south tower • Drilling for jet grouting at south tower • Jet grouting at south tower • Rock picking at central tower <p>FCBC presented graphs which indicated that the recorded noise levels for the above activities were within the relevant underwater noise level thresholds.</p>	
	(xxi)	<p>EDT queried whether underwater noise monitoring would be carried out during the jet grouting and excavation works at the north tower. FCBC confirmed that underwater noise monitoring would be carried out.</p>	FCBC
	(xxii)	<p>EDT reiterated the importance of FCBC submitting monthly noise and vibration monitoring reports to the Employer for review in a timely</p>	

		manner. FCBC confirmed that they would continue to focus on this aspect of their reporting.	
		<u>Community Engagement</u>	
	(xxiii)	<p>FCBC advised that there have been three complaints in January relating to noise and vibration:</p> <ul style="list-style-type: none"> • Complaints 1 and 2: North tower caisson backfill • Complaint 3: Placement of Pier N1 cofferdam 	
	(xxiv)	<p><u>Complaint 1 and 2 – North Tower Caisson backfill</u></p> <p>FCBC advised that complaints had been received on 09/01/13 and 11/01/13 relating to night-time noise from north tower caisson backfilling operation. Residents complained of banging and crane engine noise.</p> <p>FCBC explained that results from permanent monitor showed the maximum noise level threshold was exceeded on the following occasions:</p> <ul style="list-style-type: none"> • 2 on 09/01/13 (LAFmax=73.2dB) • 5 on 09/01/13 (LAFmax=74.1dB) <p>FCBC advised that their initial response was to halt north tower backfill operations on night commencing 09/01/13. North tower backfill operations were then limited to day time and evening periods only from 11/01/13 onwards.</p>	
	(xxv)	<p><u>Complaint 3 – Placement of Pier N1 Cofferdam</u></p> <p>FCBC advised that a complaint was received on 14/01/13 relating to night-time noise from 'one-off' placement of N1 cofferdam. Residents complained of banging noises after 10:00pm and enquired as to why such works were required to be carried out at night.</p> <p>FCBC advised that the activity was programmed to be complete during normal working hours. However, a combination of the activity taking longer to complete than had been envisaged, coupled with the necessity of it being conducted during specific tidal conditions, meant this was not possible.</p> <p>FCBC advised that seven exceedances of the maximum noise level threshold occurred due to high winds and strong currents causing the cofferdam to bash against the barge at times, and the emergency fixing of part of the crane apparatus.</p> <p>FCBC advised that they responded to the complaint as follows:</p> <ul style="list-style-type: none"> • These were essential 'one-off' works, required in order to place cofferdam at Pier N1. • Placement of the N1 cofferdam was one major continuous lifting operation which required a certain weather & sea state window for the entire operation. • Window for placing was limited to 3 hours and required daylight for the Forth Port pilots during high water. • Following placement of the cofferdam there were a host of critical operations that needed to be carried out immediately to secure the cofferdam and make it safe. 	
	(xxvi)	FCBC provided an update on the installation of noise insulation at	

		properties to the north of the Forth. FCBC explained that noise insulation had been installed at one property on 18 December 2012 and that installation at the second property is scheduled for early February 2013.	
	(xxvii)	EDT advised that that no noise and vibration issues were raised the Forth Replacement Crossing community meeting held on 30 January 2013.	
		<u>Forward Programme</u>	
	(xxviii)	FCBC provided an overview of their forward programme and indicated that marine operations continued to be their main priority.	
5	Next Meeting	The next meeting (No. 20) will be held on 28 February 2013, 10am at the Ferrytoll site office.	
6	Any Other Business	EDT advised that City of Edinburgh Council would be installing a new pedestrian crossing of the B924 in Queensferry during February 2013.	