TIER 1 QC ACTIVITY & PROCEDURES						
QC ACTIVITY	**PROCEDURES**	**PROCEDURES ADOPTED FOR 2007 NIR (2005 DATA)**	**ORGANISATION/ PERSON RESPONSIBLE FOR QUALITY CHECK**	**BRIEF DESCRIPTION OF CHECK APPLIED (INCLUDE DATE/PERSON & REFERENCE IF REQUIRED)**	**RESULTS OF CHECK (INCLUDE REFERENCE IF REQUIRED)**	**CORRECTIVE ACTIONS TAKEN**
DATA GATHERING, INPUT, AND HANDLING ACTIVITIES: QUALITY CHECKS						
Check for transcription errors in data input and reference.	Cross-check a sample of input data from each source category (either measurements or parameters used in calculations) for transcription errors.	1. Cross-check activity data from NIR worksheets with that in the CRF for transcription errors. 2. Check activity data (population) with model output sheets.	MfE-SP	S.Petrie (27/4/07): 1. Compared EF emissions in NIR table builder with CRF for dairy, non-dairy, sheep, deer for 1990 and 2005. 2. Compared population data for dairy, non-dairy, sheep and deer between model output sheets, NIR table builder and CRF for 1990 and 2005.	1. The same 2. Dairy, non-dairy and sheep all the same. Difference found for deer in 2005: NIR and CRF the same (1,686,529) but model spreadsheet has 1,722,363.	1. None 2. Followed up with SW – value should have been 1,722,363 (as in model spreadsheet). Fixed in CFR.
DATA DOCUMENTATION: QUALITY CHECKS						
Check that assumptions and criteria for the selection of activity data and emission factors are documented.	Check descriptions of activity data and emission factors and ensure these are properly recorded and archived.	1. Check activity data and emission factors are described in the NIR report and any changes from previous years are adequately documented.	MfE-CC and LB	See results from CRF and NIR checksheets (doc IDs: 275741 and 275543).	N/A	N/A
Check for transcription errors in data input and reference.	Confirm that bibliographical data references are properly cited in the internal documentation.	Check all references cited in the appropriate source sector chapter in the NIR report and make sure they are correctly referenced at the end of the chapter.	MfE-SP and KL	See results from CRF and NIR checksheets (doc IDs: 275741 and 275543).	N/A	N/A
Undertake review of internal documentation.	Check there is detailed internal documentation to support the estimates and enable duplication of the emission and uncertainty estimates.	Review internal documentation – ensure there is adequate documentation to support the emissions estimates and uncertainty analysis.	MfE-SP	AgResearch-HC and CdK: reviewed agriculture chapter to ensure enough detail in NIR to explain emissions calculations.	OK	None
	Check that inventory data, supporting data, and inventory records are archived and stored to facilitate detailed review.	1. Check to ensure copies of reports of sector reviews and methodologies are archived. 2. Check inventory data is archived in S1.	MfE-SP	S.Petrie (27/4/07): 1. All supporting references are in the Silent One documentation system or in Sonia's tambour. 2. Inventory spreadsheets and supporting data is archieved in Silent One (doc ID:273954).	OK	None
CALCULATING EMISSIONS AND CHECKING CALCULATIONS						
Check that emissions are calculated correctly.	Reproduce a representative sample of emissions calculations.	Using the figures in the NIR worksheets, calculate emissions manually and compare to emissions figure from the CRF Reporter.	N/A	N/A	N/A	N/A
	Selectively mimic complex model calculations with abbreviated calculations to judge relative accuracy.	Use Tier 1 approach to calculate a sub source of data (eg, CH_4 emissions from dairy cattle) to judge relative accuracy.	MfE-SP	S.Petrie (27/4/07): using IPCC default EF for oceania for dairy calculated dairy emissions for 2005.	T1 calculation was 350Gg compared with T2 calculation of 405 Gg. Relative accuracy OK.	None

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CALCULATING EMISSIONS AND CHECKING CALCULATIONS						
Check that parameter and emission units are correctly recorded and that appropriate conversion factors are used.	Check that units are properly labelled in calculation sheets.	Check the units are correctly labelled in the NIR worksheets.	MfE-SP	S.Petrie (27/4/07): check units used in consolidate page and ag data page on NIR ag builder.	all units OK	None
	Check that units are correctly carried through from beginning to end of calculations.	Check correct units are used in calculations.	MfE-SP	S.Petrie (27/4/07): sub sample checked (dairy-enteric fermentation).	correct SI units used consistently	None
	Check that conversion factors are correct.	Check that the correct conversion factors have been used to calculate the emissions in the NIR worksheets – particularly conversion from tonnes to Gg and from C to CH_4.	MfE-SP	S.Petrie (27/4/07): sub sample checked (dairy-enteric fermentation).	conversion of units correct (t to Gg)	None
Check the integrity of database and/or spreadsheet files.	Ensure that data fields are properly labelled and have the correct design specifications.	1. Check labels on NIR worksheets are consistent with previous year's NIR. 2. Ensure the addition or deletion of data lines are adequately explained.	MfE-SP	S.Petrie (27/4/07): check redesigned spreadsheets have consistent headings.	headings (years, category headings) are consistent	None
	Ensure that adequate documentation of database and model structure and operation are archived.	Ensure adequate documentation of spreadsheet structure and how the emissions are calculated.	MfE-SP	S.Petrie (27/4/07): check spreadsheets well laid out and easy to follow and documentation on how estimates are arrived at is archived.	spreadsheet easy to follow and calculation explanations in doc: 143440	None
Check for consistency in data between source categories.	Identify parameters (eg, activity data, constants) that are common to multiple source categories and confirm that there is consistency in the values used for these parameters in the emissions calculations.	Check for consistency in livestock number dataset.	MfE-SP	S.Petrie (27/4/07): visual check of time series of population for 4 main livestock categories.	OK	None
Check that the movement of inventory data among processing steps is correct.	Check that emissions data are correctly aggregated from lower reporting levels to higher reporting levels when preparing summaries.	1. Manually sum CH_4 emissions from dairy cattle and non dairy cattle sources for enteric fermentation and compare with values in cattle node in CRF Reporter.	MfE-SP	S.Petrie (27/4/07): sum dairy cattle and non-dairy cattle EF emissions and compare with summary node in CRF.	result of 660.27 Gg for both – OK	None
	Check that qualifications, assumptions and expert judgements are recorded. Check that calculated uncertainties are complete and calculated correctly.	Check there is a documentation record of assumptions and expert judgements for uncertainty estimates.	MfE-SP	S.Petrie (27/4/07): check 1S has ag uncertainty docs archived.	files archived	None
Check methodological and data changes resulting in recalculations.	Check for temporal consistency in time-series input data for each source category.	Visual check of overall ag emissions in CRF Reporter.	MfE-SP	S.Petrie (27/4/07): visual check of ag emissions consistency over time-series.	visual check OK	None
	Check for consistency in the algorithm/ method used for calculations throughout the time-series.	Confirm the method used for estimating CH_4 from enteric fermentation is consistent throughout the time-series.	MfE-SP	S.Petrie (27/4/07): check model spreadsheet uses consistent method for all years.	consistent method used	None
	Check that known data gaps that result in incomplete source category emissions estimates are documented.	CRF – completeness check.	MfE-SP	S.Petrie (27/4/07): run CRF Reporter.	all complete for agriculture	None
Compare estimates to previous estimates.	For each source category, current inventory estimates should be compared to previous estimates. If there are significant changes or departures from expected trends, recheck estimates and explain any difference.	Check 2004 value in CRF Reporter – if figures in black are consistent with previous estimates; if in blue ensure recalculation has been explained.	MfE-SP	S.Petrie (27/4/07): check for recalculations in CRF Reporter.	revised activity data for 2004 (explanation included)	None