

**Collex Pty Ltd**  
**Christine Hodgkiss**

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# **Clyde Waste Transfer Terminal**

## **Odour Audit II**



Document No. 746244\_TRP\_003579\_02  
8/4/05

The logo features a thick red horizontal line that ends in a downward-pointing arrowhead. To the right of the arrowhead, the word "VIPAC" is written in bold, black, uppercase letters.

**VIPAC**



## Clyde Waste Transfer Terminal Odour Audit II

<p><b>DOCUMENT NO:</b> 746244_TRP_003579_02</p> <p><b>PREPARED FOR:</b> Collex Pty Ltd Level 4, 65 Pirrama Road Pyrmont NSW 2009 Australia</p> <p><b>Contact:</b> Christine Hodgkiss ☎ (02) 8571 0211 Fax: (02) 8571 0210</p>	<p><b>LIBRARY CODE:</b> B 73</p> <p><b>PREPARED BY:</b> Vipac Engineers &amp; Scientists Ltd 6/524 Milton Road (PO Box 436) Toowong, QLD. 4066 Australia</p> <p>☎ +61 7 3870 0400 Fax : +61 7 3870 0106</p>
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**PREPARED BY:**



Jerome Rivory  
GM – Northern Region

Date: 8/4/05

**REVIEWED BY:**



Chris Lunney  
Reviewing Engineer

Date: 8/4/05

**RELEASED BY:**



Christina Dally Watkins  
QA Representative

Date: 8/4/05

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01	29/3/05	Revised Issue
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**KEYWORDS: Collex, Odour Audit II**

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## EXECUTIVE SUMMARY

Vipac Engineers & Scientists Ltd (VIPAC) has been commissioned by Collex to carry out the second odour audit.

The Clyde Waste Transfer Terminal (CWTT) was granted development consent with Conditions of Development Consent as referred to in Clause 4 of the CWTT (Special Provisions) Bill 2003. The Development Consent Conditions and the ensuing NSW EPA Environmental Protection Licence were granted for the terminal building. These Development Consent Conditions do not cover areas outside the building terminal.

The Odour Audit has been prepared in compliance with conditions 48 (f) of the Conditions of Consent for the CWTT and outlines procedures used and results for the odour audit carried out for the second three months of operation. The audit covers the CWTT building only, however in the case of possible odour emissions, it is difficult to differentiate between potential emissions from the building and from other sources, such as container stacks. Therefore the second audit methodology considers all possible sources of odour emissions. Odour emissions from areas outside the CWTT area will be highlighted as Observations rather than Non Conformances.

The largest non-conformance relates to ensuring that current operational practices reflect the requirements of odour minimisation. It is suggested that Collex review current operational practices and update Standard Operational Procedures (SOP's) to ensure that this occurs. A number of suggestions have been made on the audit document and within the Odour Audit Report.

Other non-conformances relate to noted fugitive odour emissions. A number of sources are involved and the audit provides some suggestions for improving the situation.

This report presents a summary of actions, however Collex should read the entire audit document and ensure that corrective actions are applied to issues raised. Non-conformances raised by this audit are additional to those raised in the first audit.

A number of observations have been made. These typically relate to operational issues that could be improved or improved and formalised with appropriate documentation.

It is apparent that the CWTT facility is still under going some teething issues within the second three months of operation. It is accepted that it will take some time for operational issues to be bedded down. The second odour audit has highlighted further issues that can be improved.



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## 1. INTRODUCTION

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The Odour Audit has been prepared in compliance with conditions 48 (f) of the Conditions of Consent for the CWTT and outlines procedures used and results for the odour audit carried out for the second three months of operation. The audit covers the CWTT building only, however in the case of possible odour emissions, it is difficult to differentiate between potential emissions from the building and from other sources, such as container stacks. Therefore the second audit methodology considers all possible sources of odour emissions. Odour emissions from areas outside the CWTT area will be highlighted as Observations rather than Non Conformances.

The second odour audit for the three months (December 2004, January and February 2005) was carried out in February 2005. An opportunity was given to Collex to act on non conformances raised in the first odour audit (VIPAC ref 746244\_TRP\_003576\_00) before this odour audit report was issued. Therefore the second February audit was almost a complete odour audit as outlined in the methodology document reflecting general principles of environmental auditing specific to odour impact (VIPAC ref 746244\_GCO\_003536\_00).

### 1.1 Conditions of consent

48. *The Odour Management Plan must address, but is not necessarily limited to, the following issues:*

- (f) *An odour audit program which provides for a comprehensive odour audit of the premises and nearby commercial and residential areas, by an independent, appropriately qualified and experienced person, to be conducted 3-monthly for the initial 24 months of receiving uncontainerised waste at the terminal, and 6-monthly thereafter, unless otherwise approved in writing by the Director-General.*

## 2. METHODOLOGY

A methodology document reflecting general principles of environmental auditing and specific odour was prepared (VIPAC ref 746244\_GCO\_003536\_00). This document is able to be fine tuned for further odour audits.

## 3. RESULTS

As a result of the first odour audit, Collex has responded with an action plan. This is presented in Appendix A. As the second odour audit occurred immediately after the first, there was no attempt to verify the progress of actions emanating from Non Conformances and Minor Non Conformances. For the purposes of the second odour audit, any outstanding Non Conformances and Minor Non Conformances will be downgraded to Observations, allowing VIPAC and Collex time to review their status at the next odour audit.

The completed odour audit document for the second three months of operation (December 2004, January and February 2005) is presented in Appendix B.



The most apparent non-conformance issue during this odour audit relates to the inconsistency between current operational requirements and operational requirements for the minimisation of odour. It is accepted that there are still some teething operational issues that require fine-tuning and consideration however there are other issues that should now be part of Standard Operation Practices (SOP's). Odour management (i.e. elimination thereof) should be one of the main operational constraints and SOP's should reflect that.

There appears to be some odour emissions from the operations. Fugitive odours appear able to escape from the building under certain wind conditions. Fugitive odours are also noticeable from containers (both full and empty) and lastly fugitive odours from around the weighbridge area are noticeable. Design or operational changes may be required to mitigate these. Some suggestions have been made as part of this audit.

The clock on the meteorological station is out by 30 minutes. While this in it self would warrant a minor non-conformance, given that the data is used to judge whether complaints are likely or unlikely would raise this issue to a non-conformance.

Given that there are a number of complaints, albeit mostly from the one complainant, it would appear reasonable to expect that a central Monitoring Data Management System is essential to collating the necessary operational information to allow adjustments to ensure that odour generation is minimised.

Communication between Manildra and Collex appear to have broken down. Dialogue is required to ensure that operational problems and corrective actions are implemented. It is highly recommended that Collex take the initiative and instigate the resumption of dialogue with Manildra management.

The discussions with Manildra have provided some useful feedback. The results of the interviews should be used to assist with any corrective actions.

The second odour audit has highlighted a number of further issues that can be improved. Table 3.1 presents a summary of actions, however Collex should read the entire audit document and ensure that corrective actions are applied to issues raised. Non-conformances raised by this audit are additional to those raised in the first audit.

**Table 3.1 – Corrective action summary**

Item Number	Action Type	Importance	Issue Description	Corrective action required
1	N/C	High	Standard Operating Practices (SOP's) need to consider the operational requirements for the minimisation of odour emissions.	Review SOP's in light of current operations. Formalise SOP's. Place documents on Hippo Station.
2	N/C	High	Fugitive odour has been detected in various locations. Some suggestions have been made on how to reduce these.	Design or operational changes may be required to mitigate those. SOP's may need to be reviewed to ensure that updated operational requirements are followed.
3	N/C	High	The time clock on the meteorological station is out by 30 minutes	Reset clock.
4	M/N/C	Medium	A register of change out of carbon filters does not exist.	Establish a register of carbon filter change out.



## 4. CONCLUSIONS

The largest non-conformance relates to ensuring that current operational practices reflect the requirements of odour minimisation. It is suggested that Collex review current operational practices and update Standard Operational Procedures (SOP's) to ensure that this occurs. A number of suggestions have been made on the audit document and within the Odour Audit Report.

Other non-conformances relate to noted fugitive odour emissions. A number of sources are involved and the audit provides some suggestions for improving the situation.

This report presents a summary of actions, however Collex should read the entire audit document and ensure that corrective actions are applied to issues raised. Non-conformances raised by this audit are additional to those raised in the first audit.

A number of observations have been made. These typically relate to operational issues that could be improved or improved and formalised with appropriate documentation.

It is apparent that the CWTT facility is still under going some teething issues. It is accepted that it will take some time for operational issues to be bedded down. The second odour audit has highlighted further issues that can be improved.



# APPENDIX A



## NSW Clyde Audit Action Plan

NSW Operations  
Measurement, Analysis and  
Improvement

This register is to be used for any audits undertaken for the Clyde Transfer Terminal.

Audit Detail: 3-Month Odour Audit

Date of Audit: 9-10 February 2005

Audit by: Jerome Rivory, Vipac

Item	Issue	Comments	Action taken	Date completed	Signed by Manager
1	Not all documents are formalised on Hippo Station	Documents identified in App A	Request upload of documents in standardised format to Hippo	1/3/05	
2	SOP in OMP not in operational plan	OEMP is the operational plan for the site, SOP not relevant to current operations with fans on all the time	Review OMP and remove SOP from plan until it becomes relevant	23/2/05	
3	Training could be improved	Noted	Update information in training plan	1/3/05	
4	No central Monitoring Data Management System	Information exists, but not in a central system	Transfer information to Monitor Pro	TBA	
5	Operations contingency program	OEMP is part of Hippo, as hard copy	Review this plan Request upload to Hippo & post on noticeboard	10/2/05 28/2/05	
6	No overall pollution complaints register	Register exists on site - hard copy of completed forms	None required	N/A	
7	No complaint number on pollution complaints form	Field exists on form but not completed	Number all complaints	1/3/05	
8	No weather record on pollution complaints form	Information is checked as part of response to complaint	Added weather field to form	1/3/05	



# APPENDIX B

## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

GENERAL CATEGORY	REQUIREMENT	COMMENTS	COMPLIANCE *
<b>1. ODOUR MANAGEMENT PLAN</b>	1. Are the goals of the OMP well understood? Are there written site procedures?	The primary goal of the OMP is to develop procedures including an odour emission monitoring program to minimise potential and perceived odour impacts at sensitive receivers.  It is our opinion that Collex is not operating in a fashion that allows minimisation of odours. The problem is that operation procedures were derived during the planning phase of the development. The actual operation does not totally reflect the operations at the planning stage. Therefore there is a requirement for Collex to either A) operate in the manner that was intended during planning or B) ensure that current operations have less or equal impact that those considered during the planning phase. It is accepted that there have been and continue to be some commissioning issues which have required Collex to make operational changes, however the impact of odour generation should form part of all operational decisions.	N/C
	2. Are the responsibilities for the implementation of the OMP well understood? Is there a written record of training in Odour Management	The responsibilities for the implementation of the OMP are well understood. The Minor Non Conformance regarding training and raised in the first odour audit has been taken on board by Collex. This will be checked by VIPAC at the next audit.	O
	3. Are procedures and protocols aligned with OMP requirements?	It is accepted that the SOP contained within the OMP does not reflect current operating practices as the fan system is on continuously. However it is also apparent that current operating practices do not reflect those that had been envisaged during the impact assessment phase. It is recommended that an interim SOP be derived which embodies current operating practices. The SOP should be refined until odour impacts are equal or lower than those envisaged during the impact assessment phase.	N/C
	4. Do procedures for the management of waste at the premises aim to minimise the generation of odours?	The Minor Non Conformance regarding training and raised in the first odour audit has been taken on board by Collex. This will be checked by VIPAC at the next audit.	O
	5. Is there a protocol for the operation of the odour control mechanisms to minimise the risk of any adverse impacts?	Protocol PRO-NSW-219-014-2 is reference document and there is a daily checklist (FOR-NSW-219-007) which one operator fills out. The Site Manager keeps these records and copies were sighted. In view of recent odour audit results, it is recommended that Collex review all operating procedures to allow control of odour emissions.	N/C

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Date: 11/February/2005

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*\*Compliance*

C = Conforms/complies to Requirements

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

GENERAL CATEGORY	REQUIREMENT	COMMENTS	COMPLIANCE *
<b>1. ODOUR MANAGEMENT PLAN (CONT)</b>	6. Are there procedures for the maintenance and repair of the forced air extraction and odour filtration system, including the replacement of filters and odour adsorption material?	Odour testing currently carried out on a monthly basis to check odour emissions. The intention was that carbon filters would be replaced on an as required basis following odour testing. However there have been some mechanical issues associated with the carbon adsorption system and this has been the basis for replacement.  Dust filters are inspected daily. The Minor Non Conformance regarding filter replacement and raised in the first odour audit has been taken on board by Collex. The updated document FOR-NSW-219-007 was sighted.	C
	7. Is there a written record of training for personnel involved in items 4,5, 6 and 7?	The Minor Non Conformance regarding training and raised in the first odour audit has been taken on board by Collex. This will be checked by VIPAC at the next audit.	O
	8. Has there been an emission monitoring program designed to determine the odour generation rates from the waste in the terminal building, to establish the capture and removal efficiency of the forced air system and to determine appropriate equipment maintenance schedules?	VIPAC has developed an emission monitoring program to determine the odour generation rates from the waste in the terminal building, to establish the capture and removal efficiency of the forced air system and to determine appropriate equipment maintenance schedules. The reference document is the OMP (VIPAC ref 746244_TRP_002867_03). The waste generation rates have been verified as being below that predicted in the EIS and the capture and removal efficiencies have been verified as acceptable and are reported in VIPAC Ref 746244_003223_00 and 746244_003232_01. The determination of appropriate maintenance schedules has not been determined yet due to unexpected and ongoing problems with premature failure of the filter systems. Investigations are currently ongoing with relation to filter design and operation.	C
	9. Is there an operations contingency program that specifies actions in the event of equipment failure, industrial action or any other situation which prevents the containerisation of waste that has been in the building in excess of 18 hours?	There is a July 2004 waste management plan (Maunsell document). Section 4.3.5 contains the appropriate contingency plan. It is recommended that this document be placed on the Hippo Station documentation system. It may be necessary to update the document to reflect current operational practices. This document and its location will need to be checked by VIPAC at the next audit.	O
	10. Has there been a testing program designed to determine the appropriate maintenance schedules for replacement of odour adsorption material in the containers?	VIPAC has designed a testing program designed to determine the appropriate maintenance schedules for the replacement of odour adsorption material in the containers. The reference document is the OMP (VIPAC ref 746244_TRP_002867_03). The study is completed (refer to VIPAC report 746244_TRP_003480_00)	C

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

GENERAL CATEGORY	REQUIREMENT	COMMENTS	COMPLIANCE *
<b>1. ODOUR MANAGEMENT PLAN (CONT)</b>	11. Is there a procedure for the maintenance and repair of the odour adsorption and pressure relief vents (DG has removed pressure relief vent requirement) of waste containers?	A Container Maintenance procedure exists and document PRO-NSW-219-012-2 is the reference. Following the results of the study on replacement of odour adsorption material (refer to VIPAC report 746244_TRP_003480_00) for the containers, it may be an idea to update this procedure. Access database controls the container filter replacement program and Woodlawn administers this database. The Site Manager is responsible for the replacement of the filters.  The manifest from Woodlawn identifies physically damaged containers.	C
	12. Is there a community consultation program on odour? Are there meeting minutes? Has there been a community survey?	This was not reviewed at the time of the second odour audit. This will need to be audited at the next odour audit.	C
	13. Is the forced air extraction and odour system able to operate in a proper and efficient manner under continuous duty?	Yes, but there continues to be problems with carbon adsorption filter banks that have failed mechanically. Also the amount of dust is higher than estimated at the design stage. As a result some of the dust filters are overloaded. Collex is studying various proposals to address these issues. This will need to be reviewed at a later audit.	C
	14. Is the forced extraction and odour filtration system able to efficiently contain odours and dust within the building and that before discharging through to atmosphere fine particles and odours are removed efficiently?	Based on the latest audit and visual inspections at the time of the audit, there does not appear to be any dust issues associated with the site.  There appears to be some odour emanating from the building despite that the forced extraction and odour filtration system was operating at the time. It is possible that under some wind conditions the air is able to pass through the building via the vent openings along the edge of the building. It is suggested that Collex consider closing off two complete sides (one long and one short) to determine if this alleviates the problem.	N/C
	15. Is the forced air extraction and odour filtration operated whenever there is waste in the building? If not, produce records of non compliance, corrective actions and evidence of follow up.	This is condition of the current environmental license. There is documentary evidence that this is occurring.	C
	16. Have results of any odour performance testing been made available to the Community Consultative Committee, the EPA, the Director General and be made publicly available within 8 weeks of such testing	This was not reviewed at the time of the second odour audit. This will need to be audited at the next odour audit.	C

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

GENERAL CATEGORY	REQUIREMENT	COMMENTS	COMPLIANCE *
<b>1. ODOUR MANAGEMENT PLAN (CONT)</b>	17. Are all odour monitoring and management plans available to the public on request? Have there been any requests? If so, who?	Yes but there have not been any requests.	C
	18. Is any containerised waste exposed to the atmosphere at site, except via a pressure release mechanism (DG has removed pressure release requirement) and odour filtration system? If not, produce records of non compliance, corrective actions and evidence of follow up.	No	C
	19. Has the design of the pressure release mechanism (DG has removed this requirement) and odour filtration system on the waste containers been approved by the Director General?	This audit action is complete and is no longer required to be answered, unless design changes are contemplated or effected on the design of the pressure release mechanism and filtration system on the waste containers.	C
	20. Is any containerised waste re-exposed to the atmosphere at site except via the pressure release mechanism and odour filtration system? If yes, produce records of non compliance, corrective actions and evidence of follow up.	No	C
	21. Do the design parameters for the discharge points meet the requirements of condition 84?	This audit action is complete and is no longer required to be answered, unless design changes are contemplated or effected on the discharge points.	C
	22. Have the measured discharges exceeded 1740 OU/m3 in testing regime? If yes, produce records of non compliance, corrective actions and evidence of follow up.	Stack testing carried out to date indicates that odour and particulates are removed efficiently and that the measured discharges have remained below 1740 OU/m3 (VIPAC ref 746244_TRP_003232_01).	C
	23. Have two odour impact assessments (ventilation system operating and ventilation system not operating) been submitted to the Director General and Auburn Council within 30 days of the completion of testing?	At this stage only one odour impact assessment has been carried out, for the ventilation system operating (VIPAC ref 746244_TRP_003329_00). Work is ongoing for the ventilation system not operating. Collex informed us that the VIPAC document was issued within 30 days of receiving the VIPAC report.	C
	24. Is there a meteorological station at site? Does it provide the required meteorological parameters as listed in condition 91?	Yes – this was confirmed by Eric Le Provost (Collex) and checked by a physical inspection of the weather station – It is noted that there is a 30 minute time variation. This requires immediate attention.	N/C

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

GENERAL CATEGORY	REQUIREMENT	COMMENTS	COMPLIANCE *
<b>1. ODOUR MANAGEMENT PLAN (CONT)</b>	25. Is there a Monitoring Data Management System? Does it contain the following information? Automatic weather data, odour emission rate data, estimate of wast surface area on tipping floor, upset conditions records, complaints register, weighbridge information and compactor information.	The information is available but it is not collated within a central Monitoring Data Management System. This item is under review by Collex. VIPAC have been informed that Collex is considering using the Monitor Pro system to collate the information but a target completion date has not been disclosed. This will be one of the subjects reviewed during the next audit.	N/C
	26. Is the Standard Operating Procedure (SOP) contained on page 11 of the OMP applied? Are operators aware of this SOP? Are there training records?	It is accepted that the SOP on page 11 of the OMP does not reflect current operating practices as the fan system is on continuously. However it is also apparent that current operating practices do not reflect those that had been envisaged during the impact assessment phase. It is recommended that an interim SOP be derived which embodies current operating practices. The SOP should be refined until odour impacts are equal or lower than those envisaged during the impact assessment phase. It is not acceptable to not have a SOP.	N/C
	27. What maintenance schedule is being used on the extraction system? Is there documentary evidence of maintenance occurring?	Yes there is a maintenance schedule for the extraction system. This is a daily activity and the Daily Terminal Building Filter Checklist (document FOR-NSW-219-007 is the reference).	C
	28. What replacement schedule is being used for the carbon filters on the extraction system? Is there documentary evidence of this?	The replacement schedule for the carbon filters on the extraction system is still under investigation. However there has been a change already made as mechanical failure was noticed on some of the carbon filters. Currently, there would be no changes in the filters unless Collex staff notice any mechanical failure of the carbon filters, in which case these are replaced on an as required basis. There was no register of the change out of carbon filters, it is recommended that a register be established and maintained on the Hippo Station system.	M/N/C
	29. What replacement schedule is being used for the carbon filters on the containers? Is there documentary evidence of this?	Collex uses an Access database and currently filters are being changed out every 6 weeks. This is currently under review, but the Access database was presented.	C

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

<b>2. SITE BOUNDARY ODOUR SURVEY</b>  Sniff surveys to be taken at different times of the day at a variety of locations.  Fill out new sheets for each sniff survey.  Describe the odour using the FIDOL approach  F – Frequency I – Intensity D – Duration O – Offensiveness L – Location	1. What time is it?	10 <sup>th</sup> February 2005, 1510. It is noted that the system clock on the weather system is out by about 30 minutes. This is critical for the consistent estimation of the meteorological conditions for the purposes of odour complaint assessment.	N/C
	2. What are the current meteorological conditions? (wind speed, direction, cloud cover etc)	Temperature 20C, wind 12 kph, 165.5 deg (SSE), cloud cover 1 Okta	O
	3. Is odour detectable at the boundary? Mark up on attached diagram.	Refer to attached sketch	
	4. Is odour detectable at the container stacks? Mark up on attached diagram.	Refer to attached sketch	
	5. Is odour detectable at the building boundary? Mark up on attached diagram.	Refer to attached sketch	
	6. For each detected location do following six (6) steps:-	<div style="border: 1px solid black; padding: 20px; width: fit-content; margin: auto;">                     See results over.                 </div>	
	7. Describe the likely main source:- Is it a) fugitive, b) stack, c) containers, d) slug packers, e) waste truck, f) other source on site or g) other source off site?		
	8. Describe the frequency of the odour: - Is it (C) Constant or (I) Intermittent?		
	9. Describe odour intensity (strength) at the location. Firstly rank between A) and B). If B is chosen than rank between 1 to 5 for odour intensity where 5 is highest and represents a Very Strong odour)		
	10. Describe the duration of the odour impact:- Is it (C) Continuous, (N) Night time, (M) Morning,		
	11. Describe odour offensiveness at the location. Rank between 1 to 5 for odour offensiveness where 5 is the highest and represents a Extremely Annoying odour		
	12. Describe the location of the impact:- Collex site, commercial or residential		

Comments      Odour Intensity – A) Just detectable and B) Detectable and Recognizable. Intensity rankings are 1) Very Weak, 2) Weak, 3) Slightly Strong, 4) Strong and 5) Very Strong  
 Odour Offensiveness – 1) Not Annoying, 2) Slightly Annoying, 3) Annoying, 4) Very Annoying and 5) Extremely Annoying (normally associated with physical symptoms)

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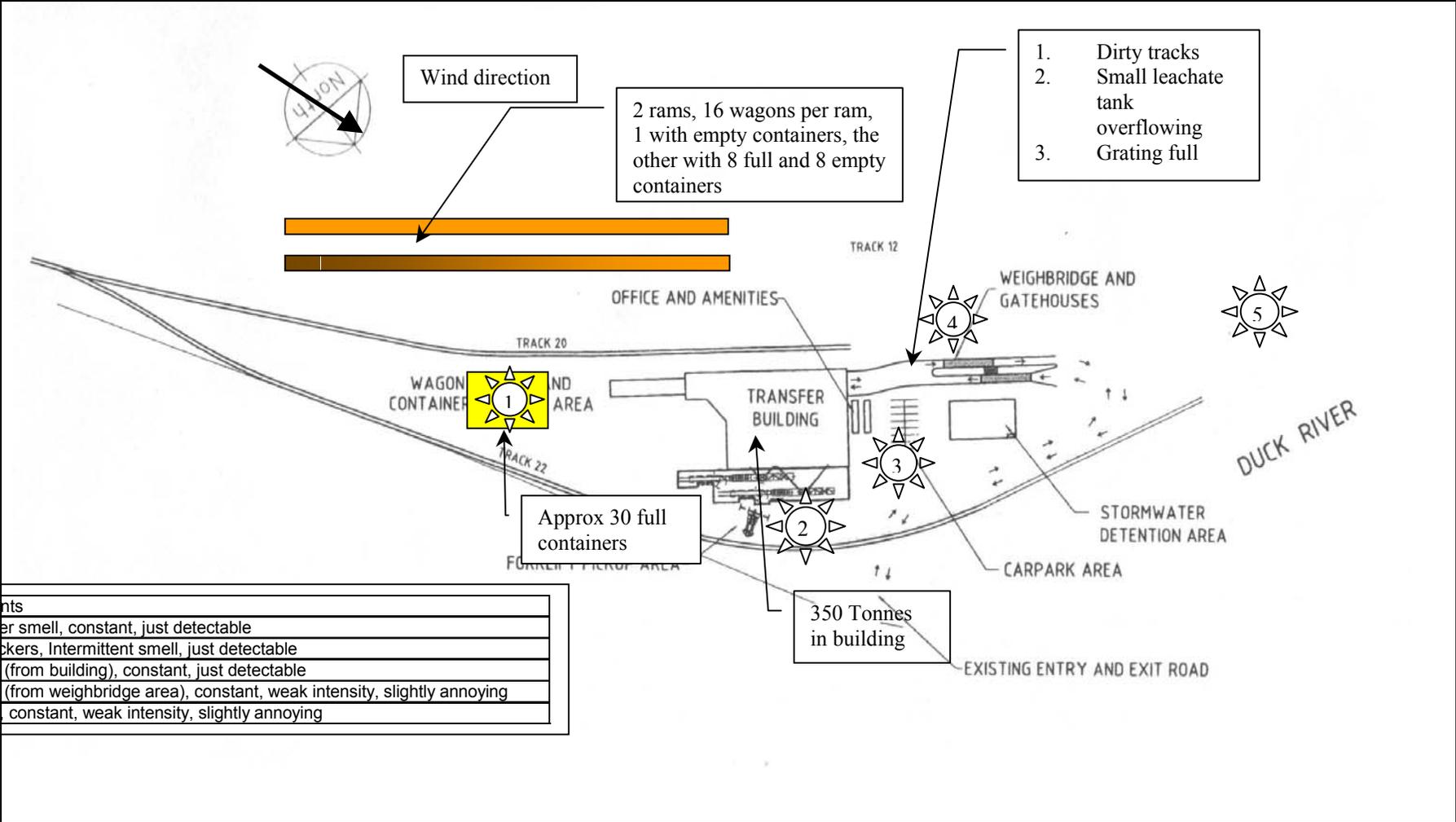
O = Observation

# ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

## 2. SITE BOUNDARY ODOUR SURVEY

Sniff surveys to be taken at different times of the day at a variety of locations.

Fill out new sheets for each sniff survey.



- 1. Dirty tracks
- 2. Small leachate tank overflowing
- 3. Grating full

Point #	Comments
1	Container smell, constant, just detectable
2	Slug packers, Intermittent smell, just detectable
3	Fugitive (from building), constant, just detectable
4	Fugitive (from weighbridge area), constant, weak intensity, slightly annoying
5	Fugitive constant, weak intensity, slightly annoying

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

<b>2. SITE BOUNDARY ODOUR SURVEY</b>  Sniff surveys to be taken at different times of the day at a variety of locations.  Fill out new sheets for each sniff survey.  Describe the odour using the FIDOL approach  F – Frequency I – Intensity D – Duration O – Offensiveness L – Location	13. What time is it?	11 <sup>th</sup> February 2005, 1600. It is noted that the system clock on the weather system is out by about 30 minutes. This is critical for the consistent estimation of the meteorological conditions for the purposes of odour complaint assessment	N/C
	14. What are the current meteorological conditions? (wind speed, direction, cloud cover etc)	Temperature 24C, wind 20 kph, 92 deg (SSE), solar radiation 491 W/m2, cloud cover 1 Okta	O
	15. Is odour detectable at the boundary? Mark up on attached diagram.		
	16. Is odour detectable at the container stacks? Mark up on attached diagram.	<div style="border: 1px solid black; padding: 20px; width: fit-content; margin: 0 auto;">                     See results over.                 </div>	
	17. Is odour detectable at the building boundary? Mark up on attached diagram.		
	18. For each detected location do following six (6) steps:-		
	19. Describe the likely main source:- Is it a) fugitive, b) stack, c) containers, d) slug packers, e) waste truck, f) other source on site or g) other source off site?		
	20. Describe the frequency of the odour: - Is it (C) Constant or (I) Intermittent?		
	21. Describe odour intensity (strength) at the location. Firstly rank between A) and B). If B is chosen than rank between 1 to 5 for odour intensity where 5 is highest and represents a Very Strong odour)		
	22. Describe the duration of the odour impact:- Is it (C) Continuous, (N) Night time, (M) Morning,		
23. Describe odour offensiveness at the location. Rank between 1 to 5 for odour offensiveness where 5 is the highest and represents a Extremely Annoying odour			
24. Describe the location of the impact:- Collex site, commercial or residential			

Comments      Odour Intensity – A) Just detectable and B) Detectable and Recognisable. Intensity rankings are 1) Very Weak, 2) Weak, 3) Slightly Strong, 4) Strong and 5) Very Strong  
 Odour Offensiveness – 1) Not Annoying, 2) Slightly Annoying, 3) Annoying, 4) Very Annoying and 5) Extremely Annoying (normally associated with physical symptoms)

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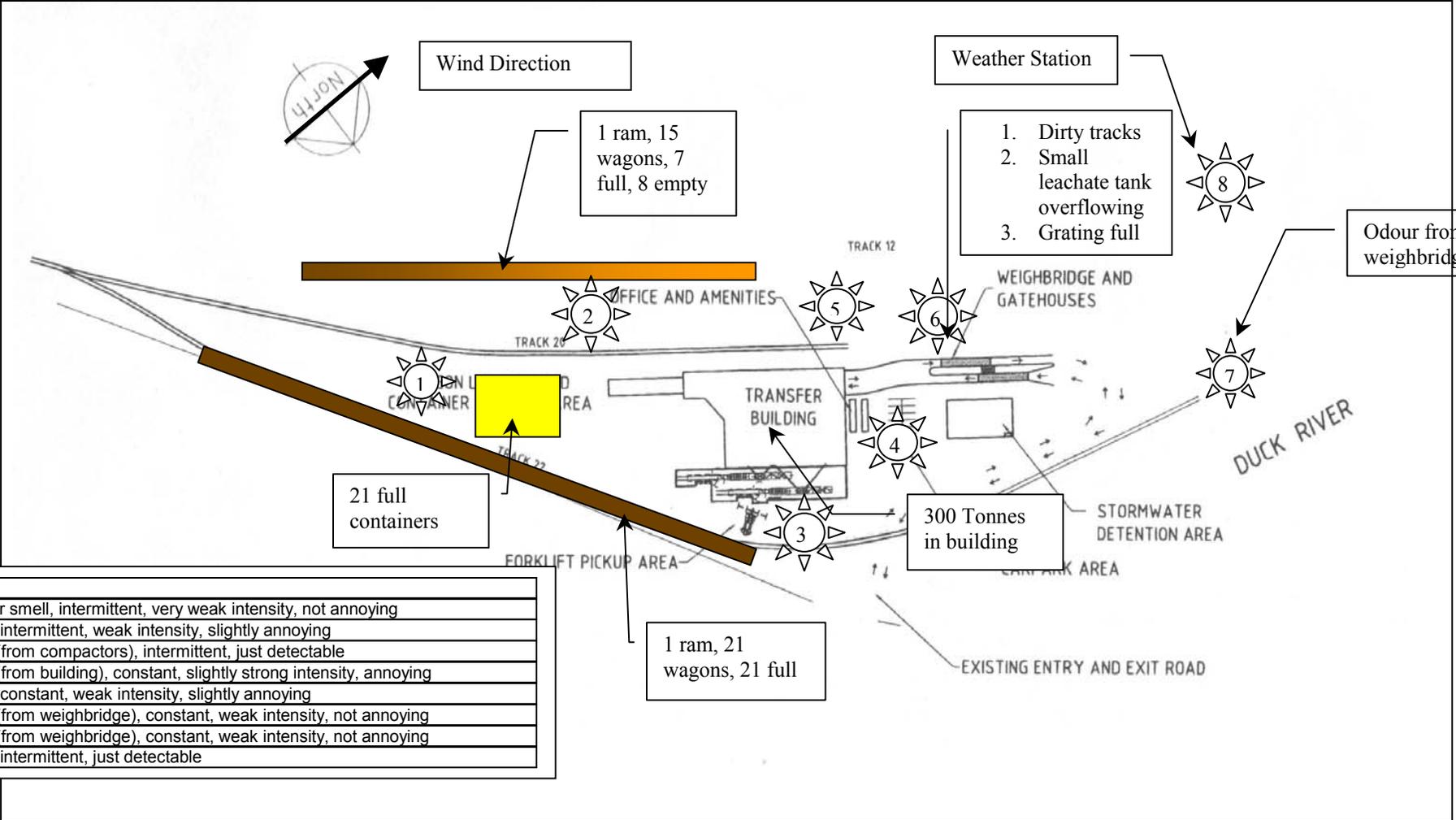
O = Observation

# ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

## 2. SITE BOUNDARY ODOUR SURVEY

Sniff surveys to be taken at different times of the day at a variety of locations.

Fill out new sheets for each sniff survey.



Point #	Comme
1	Container smell, intermittent, very weak intensity, not annoying
2	Fugitive, intermittent, weak intensity, slightly annoying
3	Fugitive (from compactors), intermittent, just detectable
4	Fugitive (from building), constant, slightly strong intensity, annoying
5	Fugitive, constant, weak intensity, slightly annoying
6	Fugitive (from weighbridge), constant, weak intensity, not annoying
7	Fugitive (from weighbridge), constant, weak intensity, not annoying
8	Fugitive, intermittent, just detectable

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

<p>3. REVIEW OF COMPLAINTS REGISTER</p> <p>Dec 04 to Feb 05</p>	1. Is there a central location for the complaints register?	Yes - The Pollution Complaints Register is located in the Site Manager's office. It is noted that the "Pollution Complaints Form" is not contained within the Hippo Station system. The register is a hard copy folder and contains completed pollution Complaints Forms.	C
	2. Who ensures that the complaints are registered and followed up?	The Site Manager. There is evidence that the Site Manager has registered all received complaints however it would appear that the dialogue between Manildra (the only complainant) and Collex has broken down. None of the received complaints have been followed up.	N/C
	3. Have there been any complaints?	<p>Yes Four odour complaints were received between 1<sup>st</sup> January 2005 and 10<sup>th</sup> February 2005 (date of odour audit). All complaints were from Manildra Sugar and are typically received by Collex some time after the alleged time of the complaint. There have been no complaints which have originated from EPA.. It is noted that Manildra Sugar was not notified of any Collex action.</p> <p>It is highly recommended that Collex takes the initiative and instigate the resumption of dialogue with Manildra management.</p>	N/C
	4. What actions have been taken?	<p>Collex Site Manager and Manildra Site Manager do not appear to have been able to have meaningful dialogues. It is recommended that Collex take the initiatives to resolve these complaints.</p> <p>Collex staff determines what weather conditions existed at the time of the complaint but this information is now recorded in the complaints register there should be a conclusion as to the possibility or otherwise of the complaint. This and other information should be recorded such that corrective measures can be instigated.</p> <p>Other specific actions undertaken include:-</p> <ul style="list-style-type: none"> <li>• Site Manager responds to complaints by walking around the site to try and determine possible causes.</li> <li>• Increased use of neutraliser around the compactor pit area.</li> <li>• Review of cleaning practices.</li> <li>• Use of neutralisers on stored containers.</li> </ul>	N/C

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

<p>4. DISCUSSIONS WITH COMPLAINANT</p> <p>Carl Ross from Manildra and other staff</p>	1. How frequently do you detect nuisance odour?	2 to 3 times per week	
	2. What time of the day do you detect nuisance odours?	Perhaps more in the morning. Activities associated with the odour include:- when the loader is moving containers around, when some trucks arrive (the comment was made that some trucks smell a lot worse than other), when loads are being discharged into the building. Jack thought that Saturdays was worse than other days. Josh thought that dumping activities within the CWTT was the biggest impact.	
	3. Do you know which direction the odour comes from?	In the evening time, smell can come from train, at other times from the building. The smell appears stronger on the eastern end of the Collex operation.	
	4. How would you describe the odour?	Garbage smell	
	5. How long does the odour last when you detect it?	Typically for 1 to 1.5 hours	
	6. Do you know what causes the odour? If it is Collex – do you know if there are any activities that coincide with detectable odour?	Definitely Collex, but apart from comments in point 2, the interviewees did not seem to think that there was a set pattern.	
	7. Other comments	<p>Manildra staff is concerned with the impact of the odour on food quality and on personnel. Manildra have instituted a rating system of 1 to 5 (very similar to that used for the odour audit). It is generally recognised that ratings are 1 to 2 (which on a standard odour scale would relate to Not Annoying and Slightly Annoying). Carl Ross is concerned that the current vehicles per day is roughly 100 but that it will grow to 200 vehicles per day.</p> <p>Manildra operates 5am to 6pm Monday to Friday. In summer they also operate 4am to noon every Saturday. In winter they operate for 1 in 3 Saturdays.</p> <p>There was little odour coming from the Manildra operations, only minor (scale 1) fermentation was noticeable.</p> <p>There was no odour coming from Collex operations at the time of the site visit at Manildra.</p>	

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

5. IDENTIFICATION OF ANY AREAS OF THE OPERATION THAT HAVE THE POTENTIAL TO CREATE AN ENVIRONMENTAL IMPACT IN TERMS OF ODOUR	1. Inspect fans. Are they all working? What pressure drop is showing on dial?	This part of the audit was not performed. This will need to be done at the next audit.	
	2. Inspect dust filters. Is there excessive dust build up? Are the filters intact?	This part of the audit was not performed. This will need to be done at the next audit.	
	3. Inspect carbon filters. Are the filters correctly assembled? Is there any degradation?	This part of the audit was not performed. This will need to be done at the next audit.	
	4. Check number of stacked containers. Ensure that there are not too many full containers on the site.	10 <sup>th</sup> February 2005, 1510 pm, there were 38 full containers on the site. 11 <sup>th</sup> February 2005, 1600 pm, there were 49 full containers on the site.  The EIS assumed that no full containers would remain on the site within a 24 hour period (ie. all full containers would be shipped to Woodlawn every day).	0
	5. Check full container stacks and containers. Are the seals working? Are carbon filters in place?	A number of containers were inspected. Seals appear to be working fine. There were carbon filters in all containers checked. Some odour was noted to be emanating from some of the carbon filters on containers. Some of the filters appeared to be soaked (possibly leachate), if that is the case then they would have no remaining useful life. It is understood that there have been some issues with the compacters loading the containers up to and including the carbon filter and that this is causing some loading problems. It is suggested that inspections be carried out on a regular basis and that odour emanating from vents be checked for. If odour is detected and the filter appears to be not performing, then it should be replaced. A Standard Operating Procedure for such an activity should be put in place. Given the large number of full containers on the premises, we are of the opinion that this requires immediate attention.	0
	6. Are empty containers clean? Is there any odour detectable?	The empty containers are reasonably clean but there appears to be some leachate in some of the containers. We were informed that Collex were investigating the use of an absorptive material to use on empty containers to soak up any remaining leachate. In general, the faces of empty containers were not clean enough. We are informed that cleaning of the containers is Woodlawn's responsibility and that steps were being taken to improve the cleaning. This will need to be checked next audit.  Some faint odour is detectable from clean containers and the current situation can be improved upon.	0

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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

<p>6. ASSESS EFFECTIVENESS OF IMPLEMENTED ACTIONS IN PREVENTING DISCHARGE OF ODOUR BEYOND BOUNDARY AND IDENTIFY POTENTIAL RISKS OF NON-COMPLIANCE</p>	<p>1. Are there any identified odour issues resulting from operational factors? Identify those that remain un-actioned? Identify those that were rectified? How where these rectified?</p>	<p>Current identified odour issues resulting from operational factors are:-</p> <ul style="list-style-type: none"> <li>• Small tank located next to weighbridge is a source of odour. This tank is there because of a contaminated storm water problem; it is too small and overflows onto the ground. Design and operational issues need to be reviewed.</li> <li>• The grating next to the weighbridge is full of waste. This is not meant to be occurring.</li> <li>• Dirty tracks coming out of the building. This is not meant to be occurring.</li> <li>• It is our understanding that the building floor was meant to be totally clear of waste once per day and thoroughly cleaned. This does not appear to be occurring.</li> <li>• The building should not be used to store waste. This was not the intent of the operation protocols during the EIS.</li> <li>• The waste should not be accumulating on the waste transfer building. Compaction should occur constantly with the intent of reducing waste of the floor at all times.</li> <li>• There is odour being stripped out of the building. On the days of the audit, the wind was essentially parallel to the long axis of the building. It appears that the wind is able to enter and exit via the ventilation slots at the bottom of the building. It may be necessary to close those ventilation slots.</li> </ul> <p>It is our opinion that Collex is not operating in a fashion that allows minimisation of odours. It is recommended that Collex instigate Standing Operation Procedures which A) reflect current process practices and B) have the prime focus of reducing odour emissions. The SOP should be refined until odour impacts are equal or lower than those envisaged during the impact assessment phase.</p>	<p>N/C</p>
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## ODOUR AUDIT CHECKLIST – COLLEX WASTE TRANSFER TERMINAL

	<p>2. Are there any identified odour issues resulting from design factors? Identify those that remain un-actioned? Identify those that were rectified? How where these rectified?</p>	<p>Yes, but there continues to be problems with carbon adsorption filter banks that have failed mechanically. Also the amount of dust is higher than estimated at the design stage. As a result some of the dust filters are overloaded. Collex is studying various proposals to address these issues. This will need to be reviewed at a later audit.</p> <p>There does to be some odour emanating from the building despite that the forced extraction and odour filtration system was operating at the time. It is possible that under some wind conditions the air is able to pass through the building via the vent openings along the edge of the building. It is suggested that Collex consider closing off two complete sides (one long and one short) to determine if this alleviates the problem.</p>	<p>N/C</p>
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