



Qenos

August 2019 EMT



Introduction

Qenos update since May ACNCG

- Qenos actions arising (nil)
- Community interface
- Regulatory Interface
- PSV trends
- ETP Odour Reduction
- Odour Audit
- 2019 Flare Review



SHE performance

- No license non-compliances
- Silo fire incident – Plastics, 28th July
- 5 flare noise complaints
- 2 Effluent Treatment Plant odour complaints
 - Effluent plant clean scheduled in August.
- Injury report
 - No reportable injuries at Altona
 - 2 incidents at Botany
 - Cut leg on bolt during cooling tower mtce. (Botany 6th June)
 - Crush injury to fingertip (Botany 4th July)
 - Altona contractors achieved 2 years injury free on July 5th



Community Interface

- Hobsons Bay Community Golf Day - 17th March
- Western Chances Scholarship - 27th March
- Monash Uni Materials Engineering Students visit - 1st April
- Hobsons Bay Artists Society 5"x7" Art Exhibition - 5th April
- Koorungal Golf Womens event - 16th April
- Ecolinc Student Visit to Qenos - 7th May
- Hobsons Bay Community Fund lunch - June 21st
- Attend Mt St Joseph's Girl's Collect Careers Day - 25th June



Regulator update

EPA

- Nothing to report

CWW

- Nothing to report

WORKSAFE

- Several visits in relation to Resins site restructuring.
- Improvement Notice to complete Olefins Fire Water system test.
- Improvement Notice for completion of roof over Resins PE Wax bin.



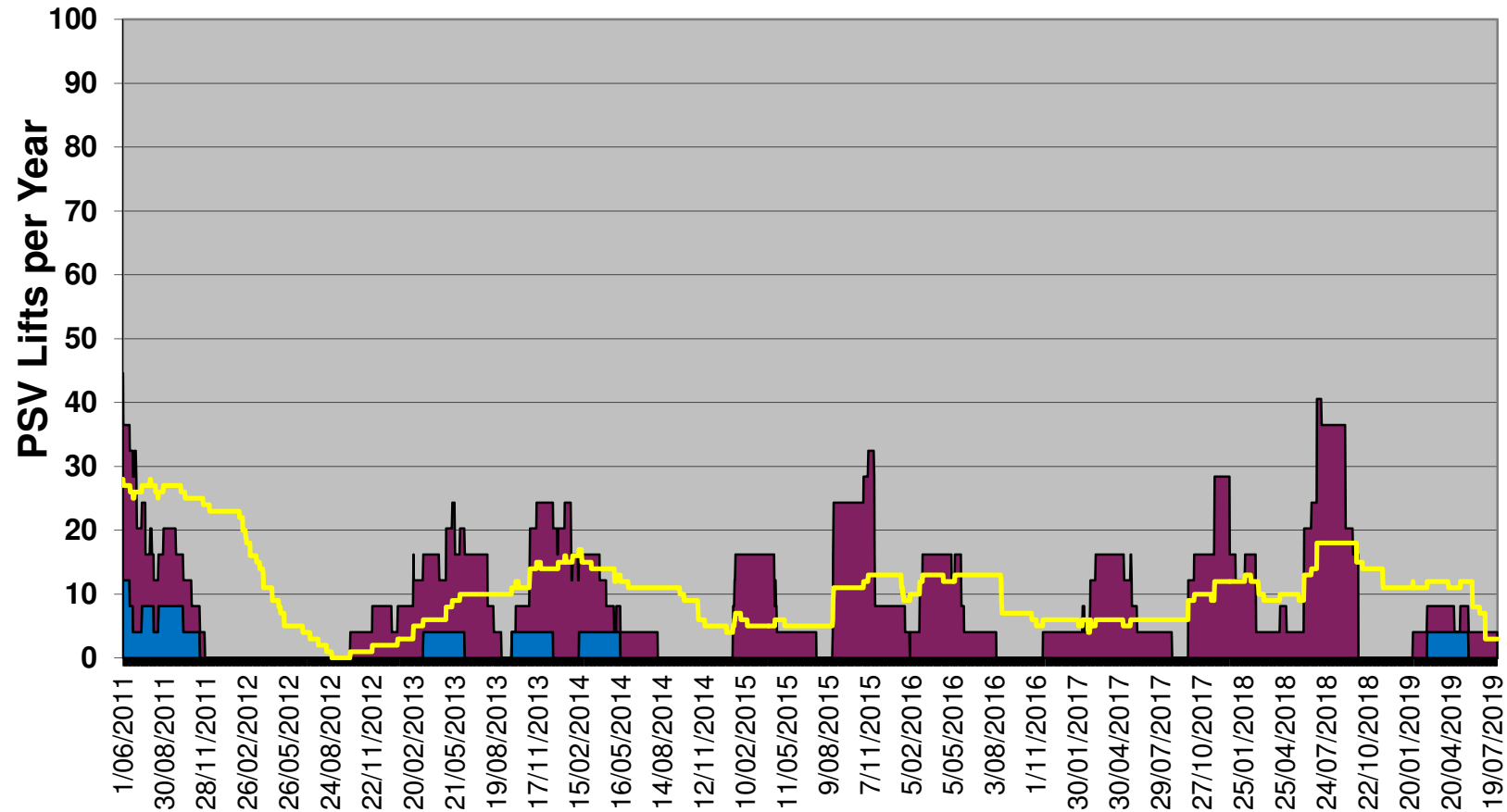
2019 YTD - 3
 2018 Total - 11
 2017 Total - 12
 2016 Total - 6
 2015 Total - 13

High Pressure Events > PSV Set Points 90 Day Trend

2 PSV Lift since last meeting
 -T301 during project work impacting cabling
 -C301 restart

Annualised trend
 90 day abnormal operation trend
 90 day normal operation trend

In period 2009 - 2014:
 Lowest rate 2 p.a
 Highest rate 23 p.a





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Odour Audit

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6/08/2019



Qenos Odour Audit 2019

Audit Team

Community: Chris Rider, Mark Furlan

Qenos: Nadine Maloney, Les Harman, Alan Findlay

Sites: Qenos Olefins

Date: 29 March 2019

Time: 09:30 - 11:00

Wind Speed: 11 knots

Wind Direction: North

Temperature: 17 C

Cloud Cover:

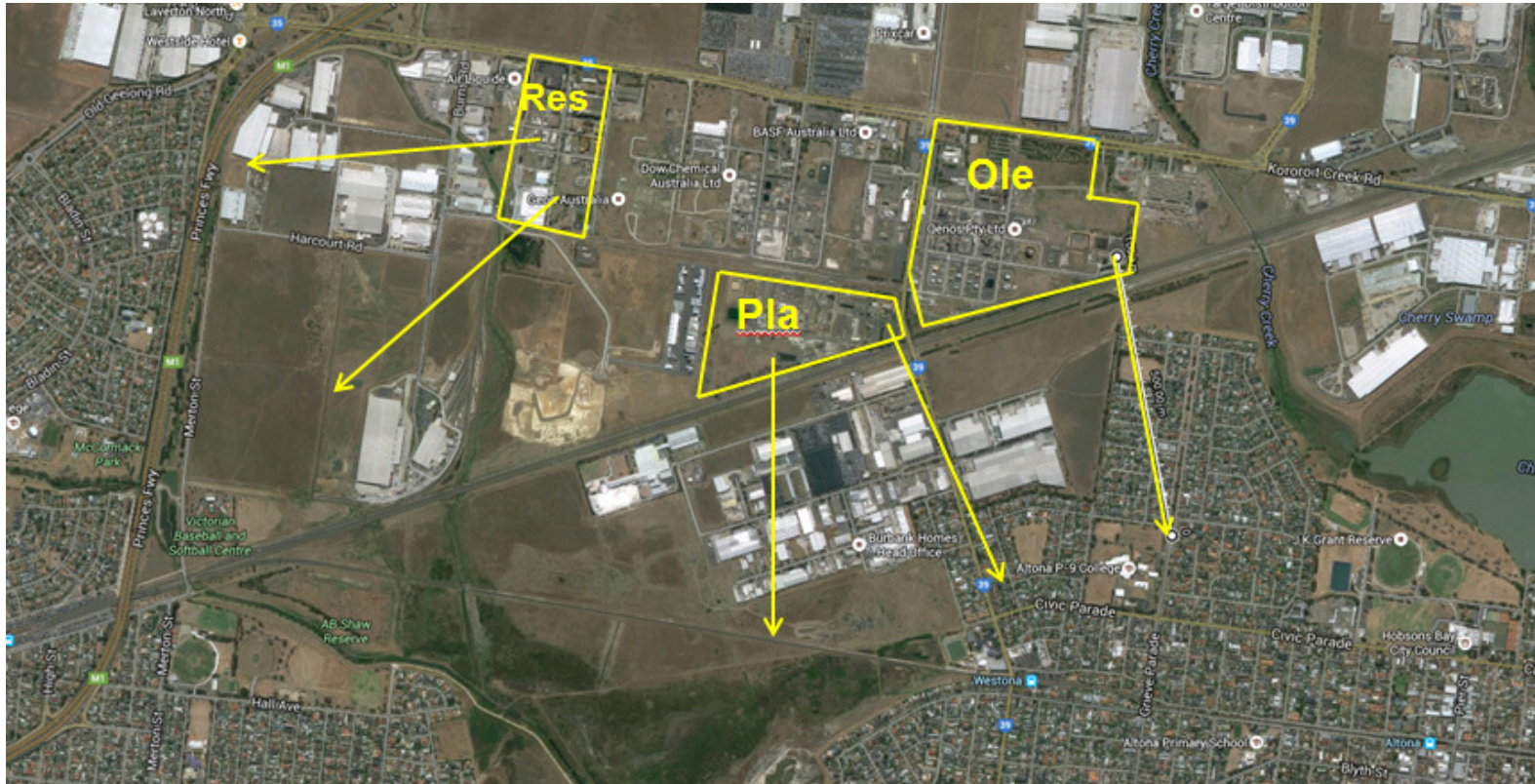
Overcast, Moderate winds



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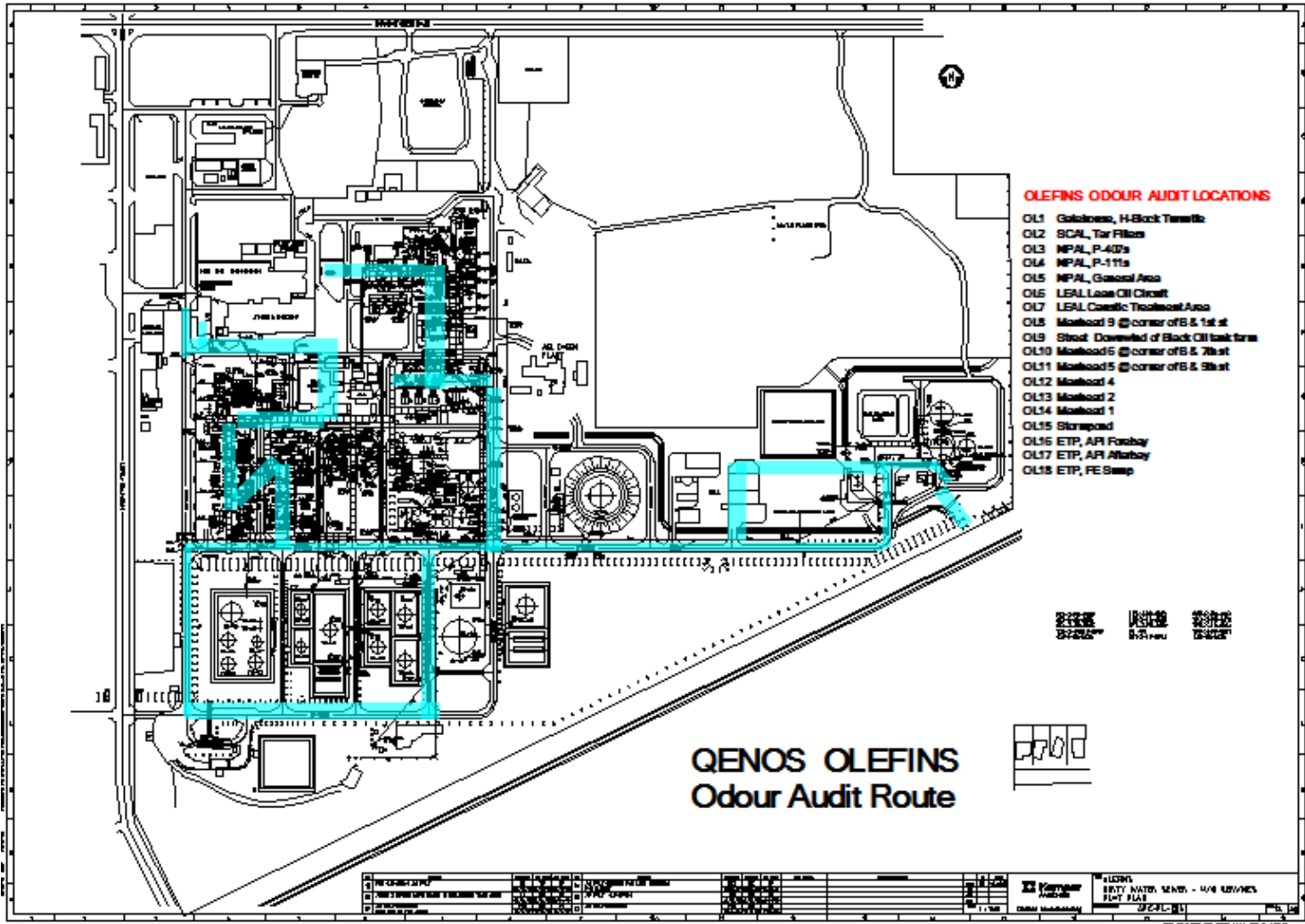
Qenos and residential areas



- Yellow arrows shows 1 km (1000 m) from sites into surrounding areas
- Residential areas south east of Olefins highest potential odour impact
- March 2019 audit to focus on Olefins.

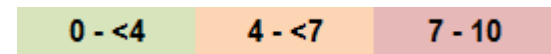


Olefins 2019 Odour Audit : Circuit



2019 Odour Audit results

Ole#	Observation Location	2019 PppBRAE VOC ppb	2019 Rating Person 1	2019 Rating Person 2	2019 Rating	2018 Rating	2017 Rating	2016	2015	2014	2013	2012	2011
OL1	Gatehouse, H-Block Turnstile	0	0.0	0.0	0.0	0.0	0.0						
OL2	SCAL, Tar Filters	0	2-3	3	3.0	1.0	4.5						
OL3	NPAL, P-407s	0-50	3-4	3-6	4.0	NA	2.0						
OL4	NPAL, P-111s/P107s	100	2.0	3.0	2.5	NA	4.0						
OL5	NPAL, General Area	0	1-3	1-3	2.0	NA	0.0						
OL6	LEAL Lean Oil Circuit	0	0.0	1.0	0.5	NA	6.5						
OL7	LEAL Caustic Treatment Area	300	1.0	1-5	2.0	NA	0.0						
OL11	Manhead 5 @ corner of B & 9th St	0-100	4-5	3	4	2.0	2.0	2.0	6.5	0.0			
OL12	Manhead 4	900	2-3	0-4	2.5	1.0	7.5	1.0	0.5	5.5	2.0	0	5.0
OL13	Manhead 2	0	0	1-3	1	1.5	3.5	5.0	3.5	3.0			
OL15	Stormpond	0	0	0	0.0	3.5	5.5		3.5	0	0	0.5	0.5
OL16	ETP, API Forebay	1000	2	2	2	4.0	3.0	8.0	4.5	6.0	1.5	1.0	7.5
OL17	ETP, API Afterbay	3000	4-5	4-5	4.5	4.5	6.0	9.0	5.0	2.5	1.5	1.5	7.5
OL18	ETP, FE Sump	3000	4-5	6	5.5	4.0	6.5	5.5	6.5	3.5	1.0	1.0	9.0
OL23	SCAL-2 South drier filters 731A	0	1-2	0-2	1.5	NA	2.0						
OL24	Boundary Sth of ETP	0	1	1	1	NA	7						
OL28	API Separator 2m south	600	1-2	1-2	1.5	2.5							
OL29	SCAL-2 south of E681 A/B	0	1	1	1.0	3.0							
OL32	ETP Manhead 1	0-50	1-2	1-2	1.5	NA							



Comments / Trends

- Odour levels generally low. Storm pond empty. Sewer contaminants at low levels.
- ETP consistently identified as main potential for odour sources at plant perimeters. (Trend)
- No offsites tanks or flare related odours detected.





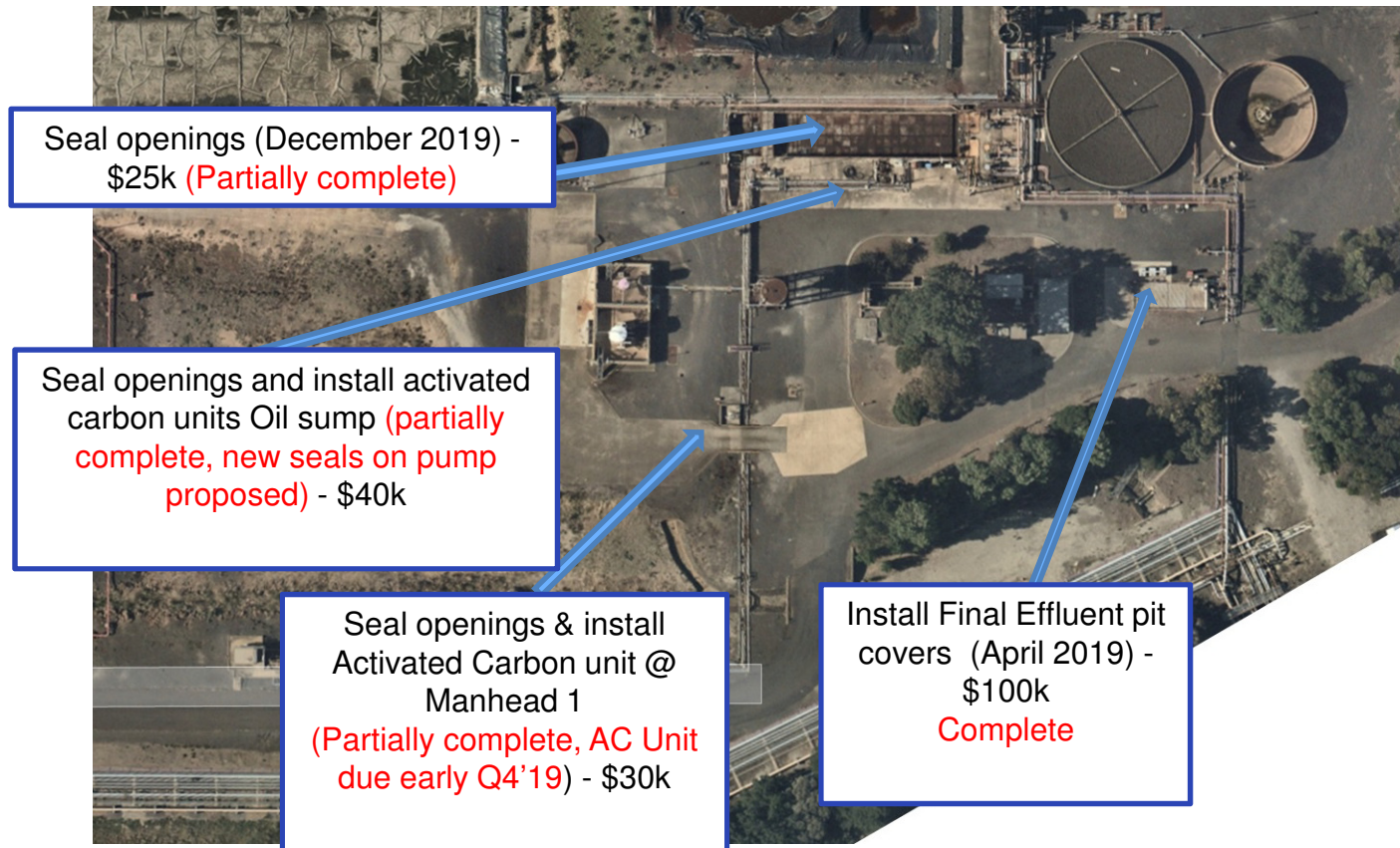
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ETP Odour Reduction

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6/08/2019



Update on Plans for ETP Odour Reduction:



Final Effluent Sump Cover

The first phase of the project is complete with the replacement cover in place.



Before



After



Other works underway include:

- Planning underway to clean the Fore Bay, Scraper Bay and complete repairs to the Slotted Skimmers in 3Q2019
- Continued work to seal openings
- Installation of 2 way twin Activated Carbon canister unit Man-head 1 scheduled for completion Q419
- Project to be raised to improve reliability of pump seals in ETP area.
- Draft project for high volume Activated Carbon filter on After-bay to be prepared by end 2019.

Examples of Seal opening closures:



Gaps around handwheel penetrations sealed





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Olefins Flaring Incident Analysis Summary (July 2018 – June 2019)

*EMT Update
August, 2019*



Olefins Annual Flaring review

- Has operated since 2009.
 - Continues to provide valuable information
- Follow up review for the past 12 months
 - Summary of unplanned and planned causes and opportunities to reduce
- Improvement Activities



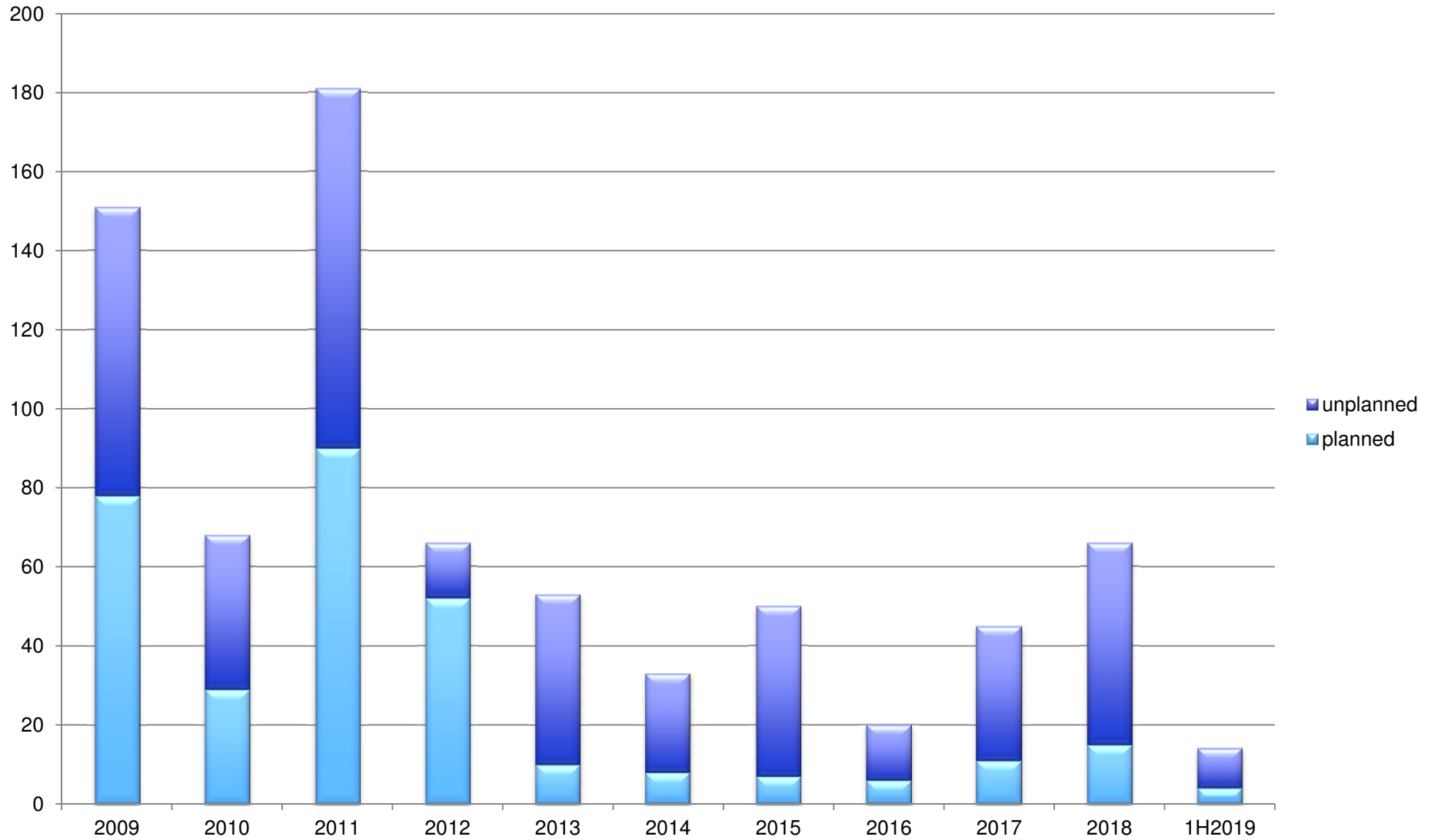
July 2018 – June 2019 Summary

- 1H 2019 much steadier after disappointing period with increased flaring in 2017 and 2018
- Flaring monitoring is well embedded within the Olefins Operations Group
 - Process Alarms and Manufacturing Alert system to minimise flaring above 5tph
 - Maximise product recovery to fuel gas to minimise flaring
 - Noise monitoring to reduce community impact which includes alarming to prompt steam adjustments where practical
- Communication to community when flaring is to occur can help prevent community alarm to flaring
- Known higher rate flaring times targeted for daylight hours
- Challenge is to continue period of improved performance

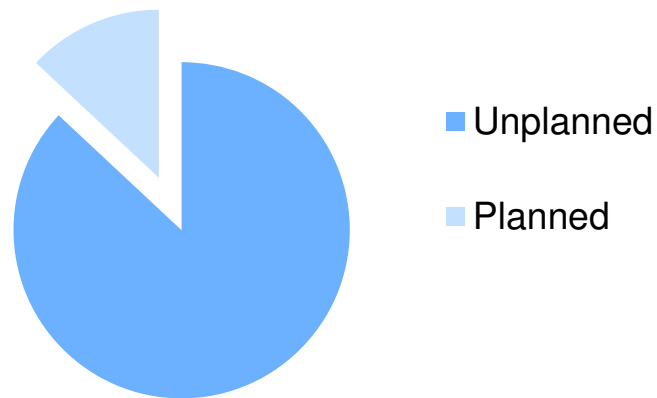


Flaring Rates increased in 2018, 1H2019 significantly improved.

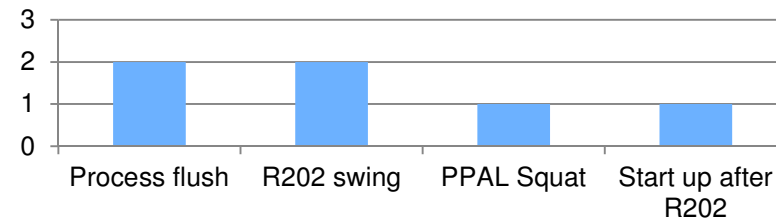
Graph below shows # events > 5t/hr over recent years



Flaring from Unplanned events was higher than Planned events in past 12 months



Planned Flare Events (2H2018 & 1H2019) # events



- 46 events – 6 planned and 40 unplanned
- 12 of these 46 events lasted more than 2 hours

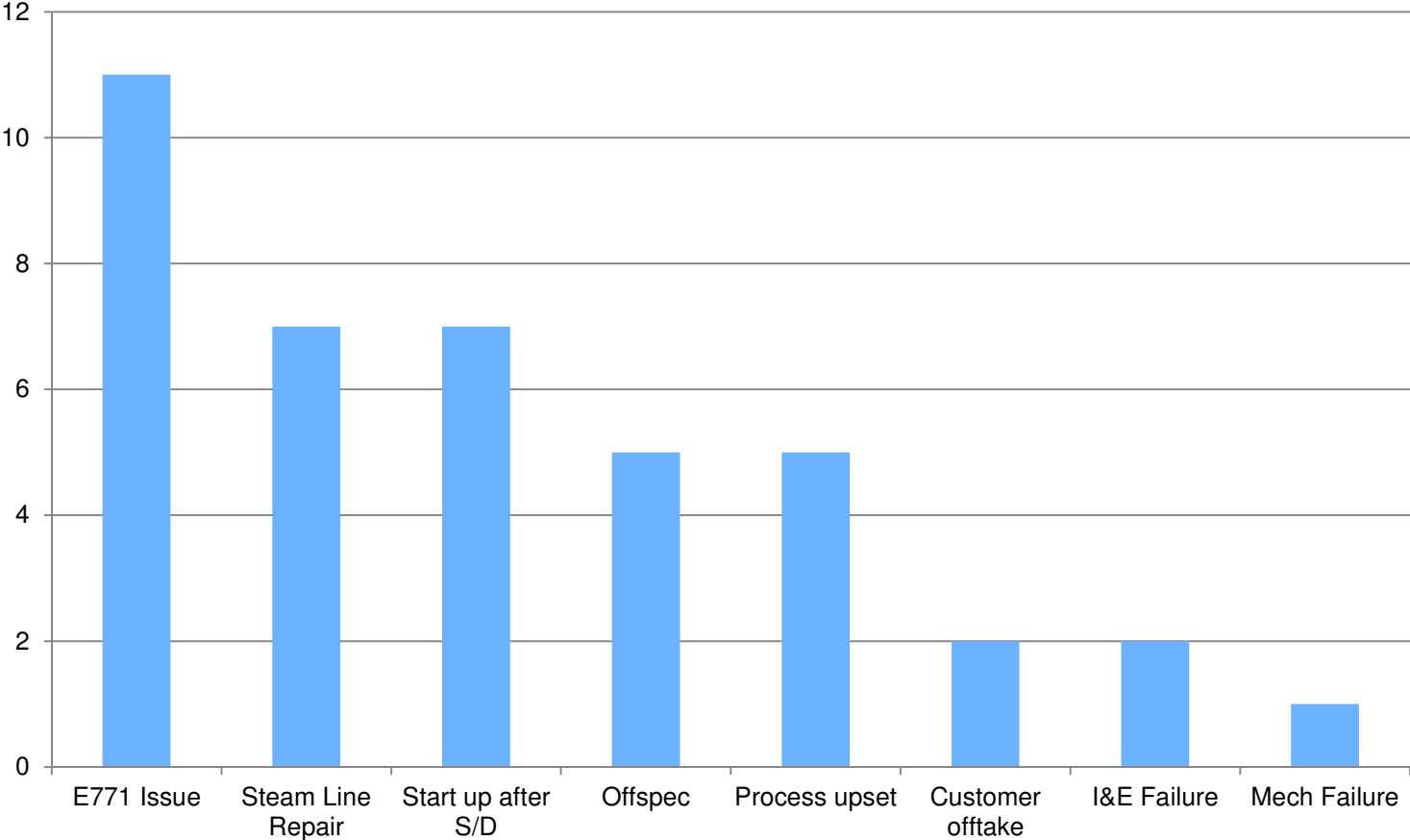
Flaring from planned activities was minimal in last 12 months

- Observations
 - There were no major planned outages in the period
 - 3 of 6 flaring events from planned activities associated with catalyst replacement in R202. This catalyst replacement increases plant reliability.
 - No consistent issues - demonstrating focus on rectifying known planned flaring causes
 - Reflects conscious effort by the shift group to keep flaring rate below 5tph where possible
- Plant start-ups and shutdowns
 - Flaring is an integral part of the process
 - For the planned shutdown & start-ups, procedures have been amended to reduce the flaring during a start-up or shutdown
 - Target daytime flaring on planned start-ups and shutdowns where practical
 - No major planned plant shutdowns over next 12 months
 - Challenge is to prevent the unplanned events



The total number of unplanned events was 40 in last 12 months. Two largest contributors have been rectified

Unplanned Flare Events (2H2018 & 1H2019) # events



Opportunities continue to be explored to reduce unplanned flaring activities

- Observations
 - The highest cause of unplanned flaring was associated with unplanned mech issues that have since been rectified (E771flow has been rerouted, steam leak requiring a shutdown has been repaired)
 - A significant reduction in flaring due to product quality compared to past years
 - A number of plant upsets caused increased unplanned flaring. The cause of these included process issues, instrument/electrical and mechanical issues
 - Issues worked on a case by case basis with incidents raised and investigations completed and corrective actions identified
- Opportunities
 - Maintain reliable operation to avoid major events
 - Catalyst replacement program to increase plant reliability and reduce unplanned flaring from quality or process upset incidents
 - External power disruptions incidents remain at 0 with Cogen operating well.



A number of improvements to flare operation are underway to minimise community impact

- Scheduling of peak flaring activity to avoid night time period. (After 10 pm)
 - For planned flaring
 - Recovery from unplanned flare events
- Flare smoke suppression control system reviewed
 - Retuned steam addition rate which has reduced flare noise
 - Evaluating a replacement flare emissivity camera
- Reviewing flare noise alarm points
 - Quicker response to potential community impact from noise

