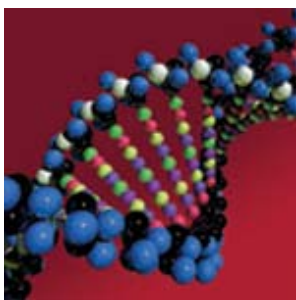


Ozone Impact Assessment of Expansion of the Norit Americas Marshall, Texas Facility



Presentation to the NETAC
Technical Committee

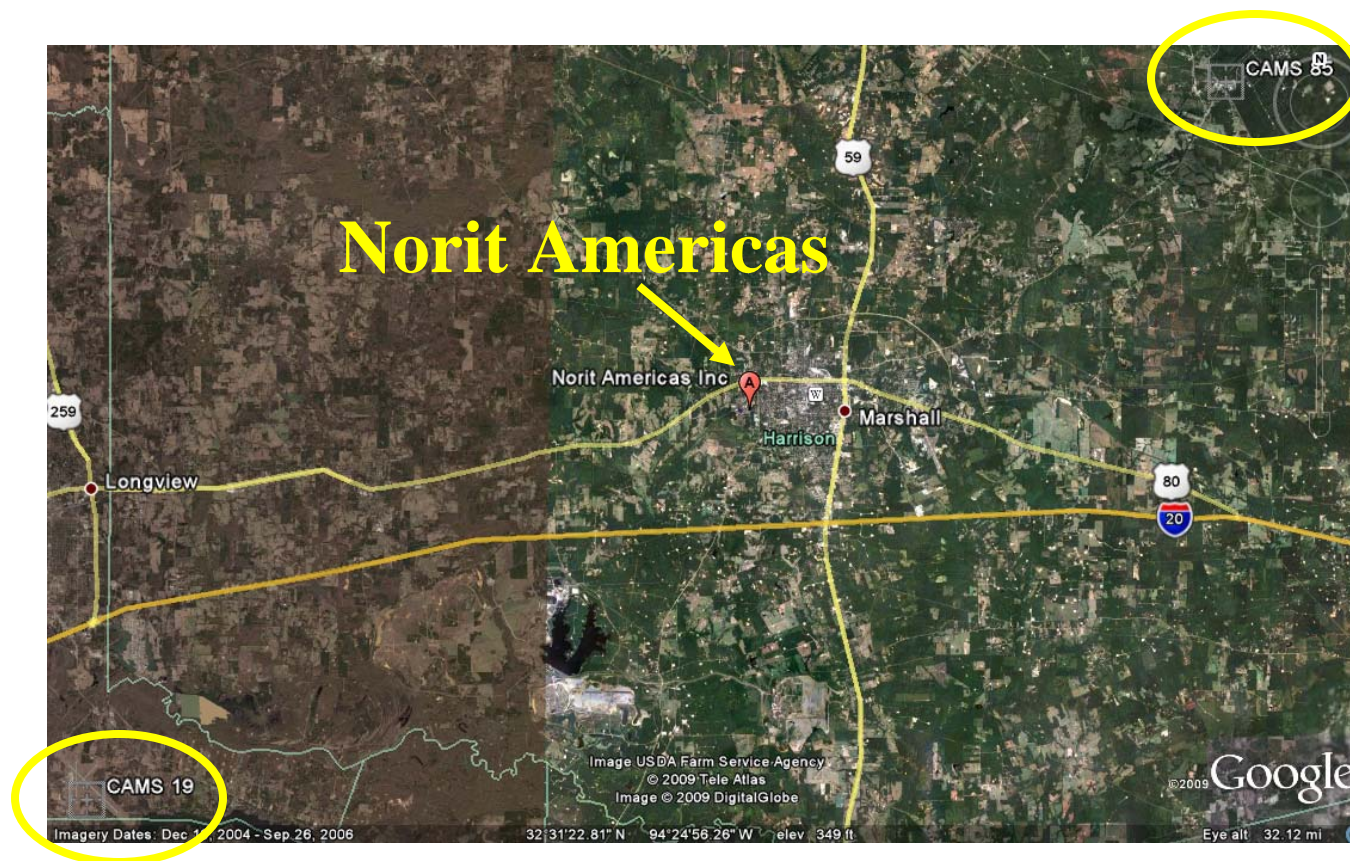
September 29, 2009
Sue Kemball-Cook and Greg Yarwood
ENVIRON

skemballcook@environcorp.com

ENVIRON



Norit Americas Facility



- Activated carbon manufacturing facility in Harrison County
- Norit Facility is undergoing expansion that is expected to increase its emissions of ozone precursors



Ozone Impact Assessment

- Norit requested that NETAC evaluate the potential ozone impacts of the expansion of the Marshall facility
- Use NETAC 2005 ozone model
- Add emissions from Norit expansion to 2005 ozone model base case emission inventory
- Run ozone model with new Norit emissions
- Compare Norit run ozone with base case ozone to isolate impacts due to Norit expansion



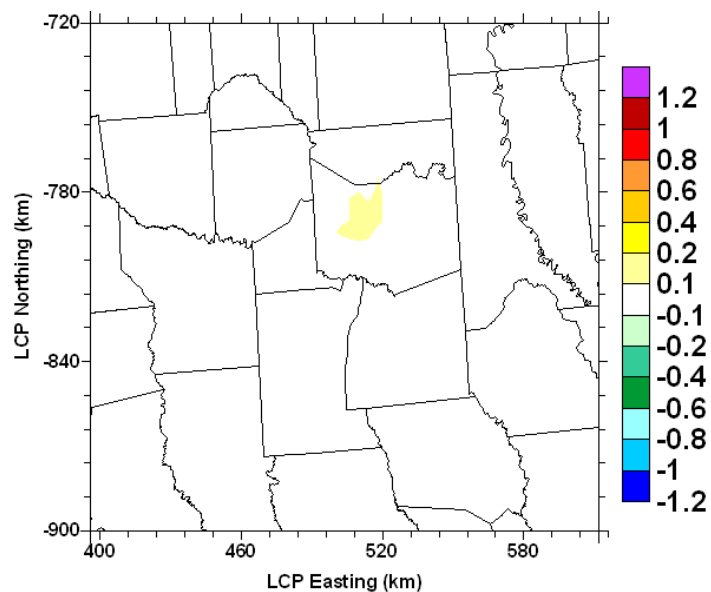
Norit Americas Emissions

Pollutant	Norit Americas Emissions (tons/day)		
	Original NETAC model 2005 Emission Inventory	Additional Emissions from Proposed Expansion of Facility	Total Norit Emissions after Expansion of Facility
NO _x	1.42	0.74	2.16
VOC	0.11	0.15	0.26
CO	1.92	0.70	2.63

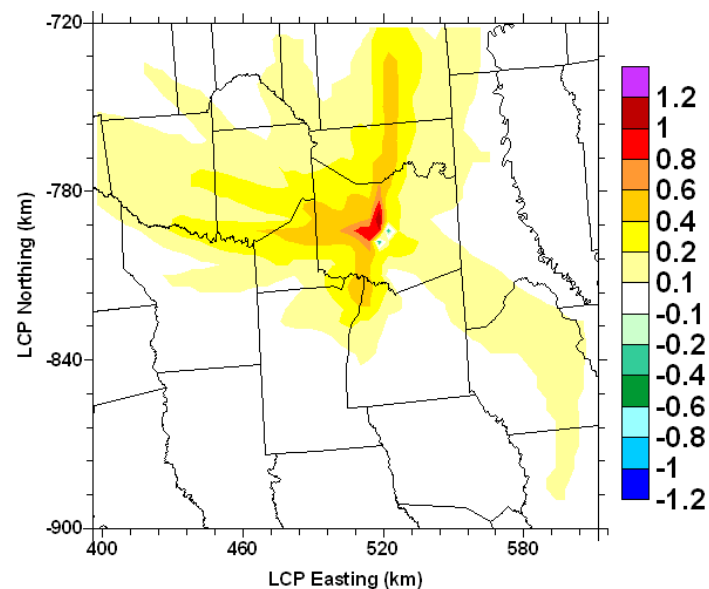
- Norit supplied NO_x, VOC and CO emissions, stack parameters (height, diameter, etc.), and source type for each new source
- Emissions increases represent a conservative scenario based on maximum permitted emissions
- Norit NO_x emissions from expansion (0.74 tpd) relatively small compared to major sources in inventory (NO_x from gas compressors in 5-county area ~40 tons/day)



Ozone Differences Between Norit Case and Base Case Over May-June 2005 Ozone Episode



Episode Average Difference in the Daily Max 8-Hour O₃ (ppb)
computed for cells where O₃ > 0 ppb
ETCOG 2005_04km_run18.a0.norit - run18
run18.a0.norit: NORIT

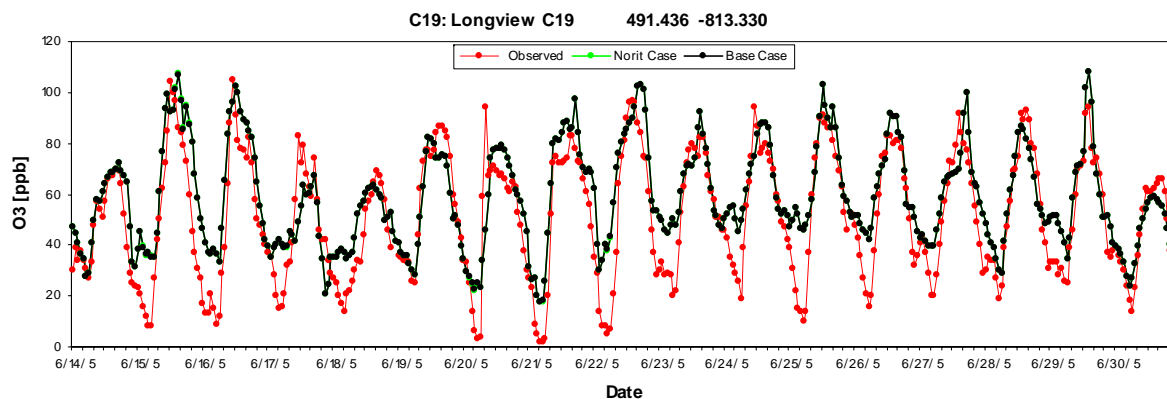
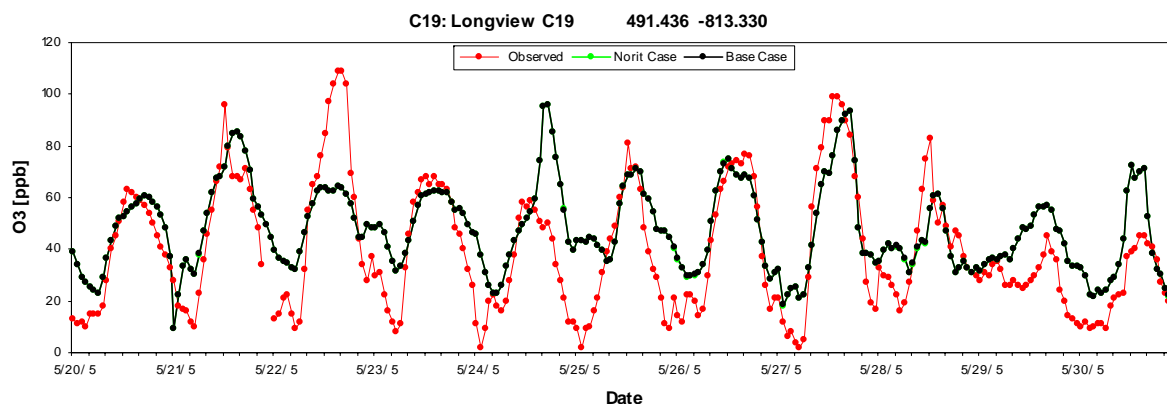


Episode Maximum Difference in the Daily Max 8-Hour O₃ (ppb)
computed for cells where O₃ > 0 ppb
ETCOG 2005_04km_run18.a0.norit - run18
run18.a0.norit: NORIT

- Assess impacts away from the CAMS monitors
- Average increase in 8-hour ozone < 0.2 ppb
- Maximum increase in 8-hour ozone < 1.2 ppb



Longview CAMS 19 1-Hour Ozone Time Series



- Difference between base case (Black) and case with emission from Norit expansion (Green) barely distinguishable-effects of expansion are small
- Similar results for Tyler and Karnack monitors



Ozone impacts at the CAMS Monitors

Monitor	Base Case Design Value	Norit Case Design Value	RRF
Longview (CAMS 19)	82	82	1.0004
Tyler (CAMS 82)	76	76	1.0009
Karnack (CAMS 85)	80	80	1.0003

- Table shows 2005 design values for Northeast Texas CAMS ozone monitors
- Design value is the annual fourth-highest daily maximum 8-hour ozone concentration averaged over three years
- Used EPA MATS software to project design value for Norit Case
- Emissions from Norit expansion increase Northeast Texas ozone very slightly, but do not change the design value



Summary

- No changes to the design values of the three Northeast Texas CAMS monitors are predicted as a result of the expansion of Norit Americas Marshall Facility
- 8-hour ozone impacts of the expansion are predicted to be on the order of 1 ppb or less
- Impacts calculated here represent an upper bound because emissions increases represent a conservative scenario based on maximum possible emissions