

## Houston-Galveston-Brazoria (HGB) Eight-Hour Ozone Nonattainment Area Stationary Source Control Strategy Planning Draft Initial Concept List

*The following is a draft list of initial control strategy concepts for the HGB eight-hour ozone attainment demonstration. These concepts are only presented for further consideration as potential control strategies to help the HGB area attain the eight-hour ozone NAAQS. Further research and evaluation of concepts is necessary to determine ozone reduction benefit as well as technical and economic feasibility. Concepts are not listed in any particular order of priority, effectiveness, or feasibility.*

Concept Description	Pollutant
<b>HGB 8-County Region Controls</b>	
Additional nitrogen oxides (NO <sub>x</sub> ) reductions through Chapter 117 and the Chapter 101 Mass Emission Cap & Trade (MECT) Program by revising emission specifications, revoking exemptions, expanding applicability, and resetting baseline activity years.	NO <sub>x</sub>
Expand the definition of highly reactive volatile organic compounds (HRVOC) in §115.10 to include additional volatile organic compound (VOC) species under the requirements of Chapter 115 HRVOC rules and Chapter 101 Highly Reactive Volatile Organic Compound Emissions Cap and Trade (HECT) Program.	VOC
In lieu of expanding the definition of HRVOC, create separate rules to address other VOC emissions from vents, flares, and cooling towers.	VOC
Reduce HECT cap for Harris County in §101.394(a)(1).	VOC
Revoke exemptions from site-wide caps in HRVOC rules for 7-surrounding counties and reduce HECT program cap in §101.394(a)(2).	VOC
Revise general VOC fugitive rules in Chapter 115 Subchapter D, Division 3 and apply more stringent leak detection and repair (LDAR) requirements from HRVOC rules.	VOC
Require sources to develop and implement flare minimization plans.	VOC & NO <sub>x</sub>
Require monitoring of steam/air assist rates on assisted flares to help ensure proper operation and prevent decreased efficiency from improper operation such as over-steaming.	VOC
General VOC monitoring rules with enhanced monitoring for flares, cooling towers, process vents, and pressure relief valves (PRVs).	VOC
Additional VOC controls for wastewater systems.	VOC
Additional VOC controls for upstream oil/gas VOC emissions.	VOC

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Energy efficiency measures associated or in conjunction with MECT revisions.	NO <sub>x</sub>
Eliminate certain storage tank exemptions in Chapter 115 rules.	VOC
Storage tank design improvements such as hanging roof in lieu of roof supported by legs.	VOC
Increase control efficiency requirements in Chapter 115 rules such as vent gas control, loading, and storage.	VOC
Implement Best Management Practices via agreed orders or other mechanisms.	NO <sub>x</sub> and VOC
Controls for portable engines such as portable generators and other engines considered non-stationary due to temporary service.	NO <sub>x</sub>
Controls to reduce VOC emissions from lightering on barges and marine vessels.	VOC
VOC controls for salt dome storage facilities for brine handling/degassing and fugitive LDAR.	VOC
Refinery coker VOC emission controls.	VOC
Transport Controls (Outside HGB)	
NO <sub>x</sub> controls on major sources for selected source categories within 200 kilometer (km) range that impact the HGB area.	NO <sub>x</sub>
NO <sub>x</sub> controls on minor sources for selected source categories within 200 km range that impact the HGB area.	NO <sub>x</sub>
HRVOC controls for flares, vents, cooling towers, and fugitives at sources within 100 km range that impact the HGB area using the current list of HRVOCs (ethylene/propylene) or additional VOCs.	VOC
Extend new upstream oil/gas flash emission, degassing, storage tank rules to sources within 100 km range that impact the HGB area.	VOC

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Concept Description	Pollutant
NO <sub>x</sub> controls on engines within 200 km range that impact the HGB area.	NO <sub>x</sub>
NO <sub>x</sub> controls on power plants within 200 km range that impact the HGB area.	NO <sub>x</sub>
VOC and NO <sub>x</sub> controls on paper mills within 100 or 200 km range that impact the HGB area.	VOC & NO <sub>x</sub>
General VOC enhanced monitoring rules for flares, cooling towers, process vents, and PRVs at sources within 100 km range that impact the HGB area.	VOC
Other Potential Measures/Concepts	
Engine registration program for stationary and/or portable engines to help ensure better enforcement of applicable requirements, improve rule effectiveness, and proper accounting of engines in EI.	NO <sub>x</sub>