

Technology Development

In the area of technology development the New Technology Research and Development (NTRD) grant fund plays an over-arching role. The fund is administered by the Texas Environmental Research Consortium that has contracted that function to the Houston Advanced Research Center.

At the Texas Mobile Summit a list of technology topics of interest was identified. This document addresses the top five topics and the issues associated with them. Also identified are options for each issue, recommendations, and who would take action on each item.

Topic: New Technology Research and Development Grant Fund

Issues: Can the scope of the NTRD be expanded beyond mobile sources?

Expediting verification of new technologies.

We need testing that crosses all engine/use applications.

Options and Recommendations:

The NTRD should form partnerships with EPA and manufacturers.

Explore the use of Portable Monitoring Systems to fast track testing of new technologies.

Establish other screening methods and/or procedures to expedite promising technologies and weed out the others from the testing process.

Ensure testing crosses all or multiple engine/use applications.

Implement an Action Plan:

NTRD – Implement the recommendations.

Topic: SmartWay Smart Technology

Issues: How do you take emission credit in the SIP for this technology?

What are the technology options?

Options and Recommendations:

Target Texas-based fleets (e.g., HEB)

Examine the use of this technology by ports (land and sea); provide incentives for use.

Texas should also work with Department of Energy, the other partner in SmartWay.

Verify if the SmartWay calculator is appropriate for Texas.

Put together a matrix that matches technologies to applications.

Implement an Action Plan:

TCEQ -- Promote/do outreach through TERP for these technologies.

Area MPOs -- Also do outreach for these technologies.

TBD – Form a statewide committee to monitor/coordinate these activities.

TBD – Identify a champion who will take ownership of this program.

Topic: Deep NOx Reductions for Non-road (marine & railroad)

Issues: These reductions are costly.

There is a lack of verification for technologies in this area.

A urea infrastructure is problematic.

Options and Recommendations:

Explore new technologies including hybrid systems.

Do vendor outreach in this area.

Fund research in this area.

Identify and guarantee a market.

Form appropriate partnerships.

Implement an Action Plan:

NTRD – Implement the recommendations.

Topic: Problems with Retrofits

Issues: Lack of retrofits and availability of rebuilds.

What is the population of engines needing retrofits?

Not enough retrofit options available.

Need more vendor support in this area.

Options and Recommendations:

Need better inventories.

Identify technology options for different engine and user types.

Generate vendor support.

Implement an Action Plan:

NTRD – Provide better inventories

EPA/TCEQ/NTRD – Assist with outreach to vendors by providing flow charts that list steps for the ETV process and NTRD process.

NTRD – RFP for step documentation in the form of easy to understand brochures or equally effective publications or other means.

Topic: Bundling Technologies for SIPs

Issues: What are the options for combining multiple technologies?

What are the technologies that can be bundled?

Options and Recommendations:

Identify the best technology combination options.

Include engine rebuild kits in the options.

Implement an Action Plan:

NTRD – Put together a matrix of viable options that do not need verification.

Put together a matrix of possible combinations of options that will need verification.

Other Topics:

The following is a list of other topics suggested that can be evaluated at a future date.

- Diesel I/M – heavy duty and light duty

- Additives
- Extended verification technology – RR locomotive switch engines
- R & D to address technology gaps
- Model Reactivity