EMPLOYING "OFF PROPERTY PROJECTS" TO EARN EMISSION REDUCTION CREDITS AS A STRATEGY FOR HELPING TO PERMIT NEW INDUSTRIAL PROJECTS AND EXPANSIONS IN THE BATON ROUGE AREA

A CONCEPT FOR DISCUSSION

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BACKGROUND

The Baton Rouge area has made significant progress in improving local air quality over the past several decades. The area has recently celebrated the attainment of the federal 2008 8-hour ozone standard, bringing it into attainment for all National Ambient Air Quality Standards (NAAQS). This is the third federal ozone standard that the area has met in its efforts to achieve and maintain attainment of the ozone NAAQS. While we celebrate this accomplishment, it should be noted that our area has met the ozone standard with no margin. The federal 8-hour ozone standard is 75 parts per billion (ppb) and that is exactly the current annual design value (an indicator of ozone compliance level) for the Baton Rouge area. While we hope to continue the progress for lowering ozone levels, we are aware that a hot, dry summer this year could see the area easily fall back into nonattainment.

While we are working diligently to maintain attainment with the ozone standard, the Baton Rouge area is on the cusp of a major industrial renaissance due to the availability of long term contracts for cheap, natural gas for energy and feedstock for production of various products such as liquid fuels, ammonia, hydrogen, and other various chemicals. This new abundance of natural gas is the result of new extractive technologies of horizontal drilling and hydraulic fracturing of deep shale deposits.

The Greater Baton Rouge Industry Alliance has tabulated a remarkable $23.7 billion in announced or underway industrial projects in the Baton Rouge Metropolitan Statistical Area (MSA). A recent survey conducted by the Baton Rouge Area Chamber across the Baton Rouge area projects that 16,400 jobs will be created locally through 2015. While this is great news for the state and the Baton Rouge area for economic development and jobs opportunities, it does present some challenges for maintaining attainment for the national ozone air quality standard. There will be an increase in ozone-forming emissions directly from the new industrial activity as

well as ancillary emission increases associated with increased materials transportation (roadways, rail, air, and pipelines). There will also be a concomitant increase in mobile and area emissions associated with expected population growth.

The importance of maintaining attainment of the federal ozone standard in the Baton Rouge area cannot be overstated. Under federal Clean Air Act requirements, any new major source of emissions (new industrial developments or expansions) must undergo New Source Review (NSR). In attainment areas NSR consists of a process called Prevention of Significant Deterioration (PSD). New Source Review in nonattainment areas (NNSR) is a much more severe process. The principal requirements of NNSR are:

- Installation of Lowest Achievable Emission Rate (LAER) technology
- Provision for "offsets" representing emission reductions that must be made from other sources, and
- Demonstration of standard attainment through undertaking of an air quality analysis

The "offset" provision of NNSR requires that, for example, a new industry locating in an ozone nonattainment area that expects to emit 100 tons per year (tpy) of a pollutant (e.g. NOx) might have to find 110 tpy of reductions from another source to offset its emissions. The offset ratio (e.g. 1:1.1) is designed to ratchet down ozone-forming emissions over time. It is this provision that presents the potential for seriously constraining industrial development in the Baton Rouge area. The stark truth is that there is precious little in the way of available offsets to support permitting for new industries or expansions at existing industries.

While the limited availability of offsets is a concern for industrial development in the short run, it is a show stopper in the long-run. EPA is expected to propose a new, more-stringent ozone standard (expected to be between 60 to 70 ppb) at the end of this year. Current guidance from recently completed regional airshed modeling for the State of Louisiana undertaken by DEQ strongly suggests that the Baton Rouge area (among most other urban areas within the state) may fall into ozone nonattainment status with the new standard. As can be seen in figure 1, only a very few of the monitored sites around the state are expected to be able to comply with a new ozone standard of 65 ppb or below. The Baton Rouge area is projected to be nonattainment at a standard of 70 ppb based on modeled results for the LSU monitor. Thus, unless things change, the Baton Rouge area will be subject to NNSR and "offset" requirements for some time. The constraint presented for new industrial development by the scarcity of available offsets will only grow worse unless some innovative strategy is established to help meet offset requirements.

After almost 25 years of working to reduce ozone levels in the Baton Rouge area, practically all of the easy and relatively low-cost emission reduction measures have been exhausted. The

remaining ozone mitigation measures are going to be more difficult and more costly to implement. The purpose of this "concept paper" is to propose an innovative strategy for the Baton Rouge area that will (1) reduce ozone-forming emissions and help facilitate maintenance of the ozone standard, and (2) produce bankable emission reduction credits that can be used to meet offset requirements for permitting new facilities and expansions at existing facilities.

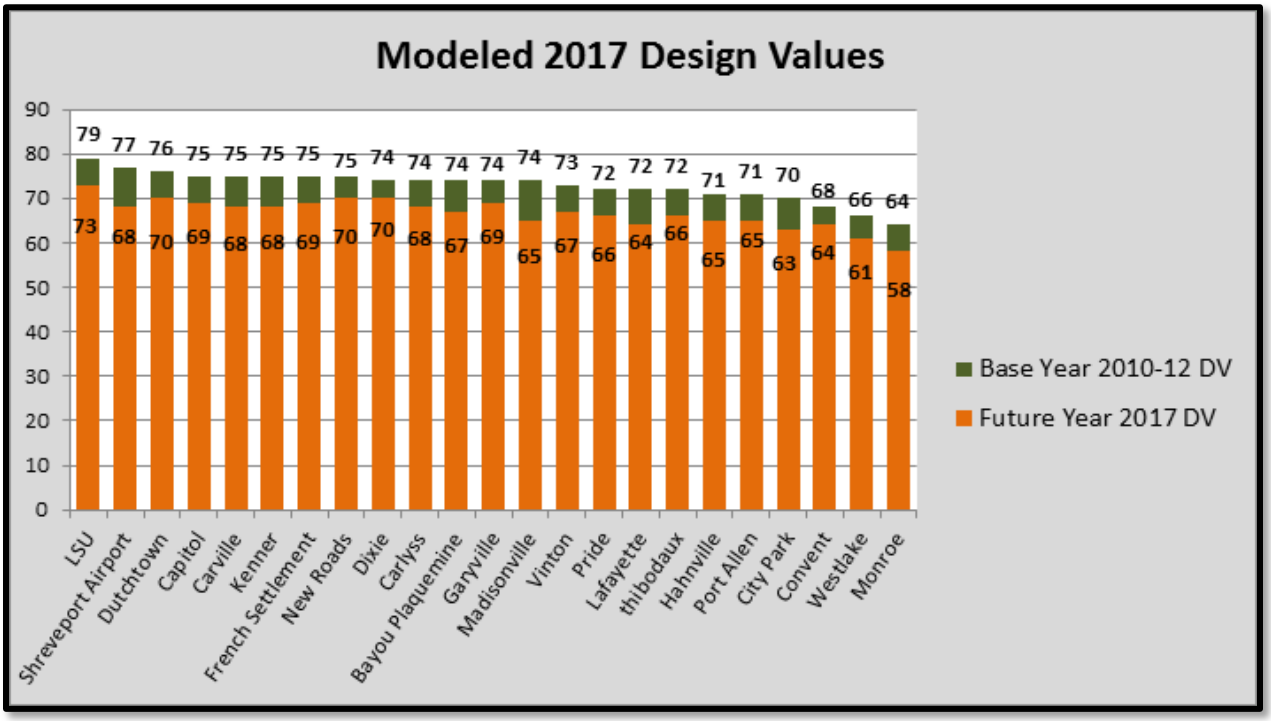

Figure 1. Modeled 2017 ozone design values for Louisiana monitoring sites.

Expanding the Opportunities to Develop Emission Reduction Credits (ERCs) to "Off-Property" Projects

Historically, ERCs were typically earned by an industry through implementing projects that resulted in emission reductions at their facility. For example, an industry might close or put controls on an existing source. DEQ would have to certify the credits before allowing them to be banked or used for offsets, since the credits must meet Clean Air Act requirements that they be:

- Enforceable (i.e., authorized by an appropriate permitting mechanism)
- Permanent
- Quantifiable
- Real (i.e., must be actual, not potential emission reductions), and
- Surplus (i.e., not required by a regulation)

Alternatively, an industry might buy ERCs that have been banked by another industry.

The current problem with this rather limited field of play (industrial facilities) is that the emission reduction credits bank is now practically broke with few, if any credits, available to provide needed offsets.

In light of this constraint, it is proposed that a new program be implemented that facilitates the earning of industrial ERCs through underwriting or contributing to innovative, off-property projects that would relate to innovative ozone mitigation strategies such as:

- Alternative fuels
- Energy efficiency
- Episodic controls
- Urban heat island
- Transportation Management

These projects could be conducted with mobile sources, area sources, and other non-industrial sources. The use of such projects is not without precedent (e.g. "cash for clunkers" program; EPA guidance for "Using Locomotive and Truck Idling Emissions Reductions for New Source Review Offsets"; EPA March 14, 2000 response to San Diego Air Pollution Control District concerning PG&E's request to use mobile emission reduction credits (MERCs) to offset NOx emissions for a power plant project). DEQ suggests this could work in Louisiana with a modification of their rules to allow for mobile emission reduction credits.

Some examples of types of projects that could be conducted in the Baton Rouge area are:

1. Local industry funds truck stop electrification to earn NOx ERCs

2. Local industry funds conversion of marine vessels at Port Fourchon from diesel to LNG for NOx ERCs

3. Several local industries contribute to a Green Port Initiative at Port of Baton Rouge and take a proportion of emission reduction ERCs relative to their contribution

4. Local industry pays for conversions of school buses from diesel to CNG and gets ERCs for NOx emissions reductions

5. Local industry pays for conversions of tugboats from diesel to LNG and gets ERCs for NOx

6. Local industry contributes to match for local government grant for vehicle fleet conversions to CNG

7. Local industry contributes to public, commercial, or residential energy efficiency projects

8. Local industry funds refinishing of area roofs with high albedo materials ("cool roofs")

9. Local industry contributes to travel demand management solutions for the area

10. Local industry funds grants for replacement of old lawn care equipment with new low-emission equipment

These projects should, however, be conducted within the area of emissions influence for the area of interest.

One model of how such a strategy could be implemented in the Baton Rouge area is summarized below by principal features.

- DEQ continues to administer the ERC Bank for the area.
- DEQ develops, implements, and administers an "off property" projects clearing house.
- Organizations seeking funding for a particular project will submit a project proposal for DEQ to place on the list of projects in the clearinghouse. The proposals must meet DEQ application requirements and include a description of the project, reasonable estimates of cost and projected emissions reductions, and a desired time-line.
- DEQ reviews the project proposal and, if approved, places it on the clearinghouse list.
- The clearinghouse list will be provided on a DEQ website page that lists the projects along with summary information on type of project, estimated cost, projected emissions reductions, and desired time-line.
- Industries looking for offsets can shop the project list and contract the project sponsor to discuss the project further and make any commitments.
- Commitments for funding projects (or matches for projects) are communicated to DEQ.
- Upon project completion a report is prepared for DEQ and, if acceptable, appropriate ERCs are awarded to the participating industry.

An "off-property" ERC project strategy such as discussed above and implemented in the manner described in the above model offers substantial benefits for industries seeking ERCs, organizations seeking funding for their projects, and DEQ administration of such a program.

- Information of potential projects is centralized, organized, and easily accessed.
- The centralized clearinghouse program is more easily administered by DEQ.
- Industries seeking ERCs are presented with a diverse universe of potential projects from which to earn them.
- Organizations seeking support for their projects have a new avenue and better probability for receiving funding or funding match by being placed on the clearinghouse list.

This concept paper has been prepared to stimulate discussion on strategies to address a serious environmental regulatory constraint looming for industrial permitting and economic development in the Baton Rouge area.