NOV 2 9 2010

SIERRA CLUB
FOUNDED 1892

COASTAL BEND GROUP
SIERRA CLUB

P.O. BOX 3512
CORPUS CHRISTI, TX 78404

Sunset Commission
P.O. Box 13066
Austin, TX 78711-3066

November 26, 2010

RE Comments on TCEQ *Sunset Advisory Commission Staff Report*
Attention: Ken Levine, Executive Director of the Sunset Advisory Commission

Dear Director Levine:

As Conservation Chair of the Coastal Bend Sierra Club (CBSC), I e-mailed (July 16, 2010) to the Staff of the Sunset Advisory Commission a request that two recommendations—including one on statistical review of permitting procedures—be included in the Staff report to the Sunset Advisory Commission.

Perhaps because we did not submit supporting documentation, our recommendations were not included in the TCEQ *Sunset Advisory Commission Staff Report* which was issued November 18. Since TCEQ employs no credentialed statisticians, it is especially unfortunate that the Staff failed to address this glaring deficiency in the report.

The following comments and enclosures document the need for implementing a recommendation on statistical review which would improve TCEQ's permitting procedures in a significant, even critical, way by providing necessary statistical support for the Agency's scientists and engineers.

Below is CBSC's recommendation:

> A thorough statistical evaluation by independent, credentialed statisticians should become an integral part of all evaluation of TCEQ's regulations, permit applications, and summary reports involving collection, manipulation, analysis, or interpretation of data. (Note: Data includes assumed or hypothetical values used in mathematical modeling for permit applications as well as actual measured values.)

The necessity for such a recommendation evolved as our CBSC Executive Committee studied TCEQ regulations in 30 TAC Chapter 331 for in situ uranium mining which was occurring in several counties within our geographic area. (Our study's report is enclosed as Attachment 1.)

This report, entitled ***"EPA Meeting Comments RE Uranium: Corpus Christi Nov. 4, 2010"*** (see Attachment 1), clearly demonstrates the dire need for credentialed statistical consultation within TCEQ's Office of Permitting & Registration. Our report has now been forwarded by the EPA geologist who presided at that meeting to a group at EPA headquarters in the Office of Water which is examining actions being taken within EPA regional offices re aquifer exemption activities.

Additional enclosures (see Attachment 2) make it clear that for years at least one division within TCEQ's Office of Water has issued reports containing serious statistical errors to citizens in the Houston area. These reports contained erroneous estimates of some constituents in that area's drinking water which led residents to believe their water met safe drinking water standards when, in fact, there was a high likelihood that it did not. Finally, in 2009, the EPA intervened to stop this misleading and statistically unsound TCEQ practice.

In the area of air quality regulation, there has been wide media coverage of the on-going dispute between TCEQ and EPA over the issue of whether the Texas Flexible Air-Permitting Program is incompliant with the federal Clean Air Act. This is another situation which illustrates how TCEQ's practices violate sound statistical principles at the most basic level.

For example, early in their training, statisticians learn to "divide and conquer" when they examine a data set and use its information to obtain good estimates of parameters. TCEQ's "flex" permitting does the opposite: It lumps together the data from several sources which obscures the patterns in air emissions and makes it highly unlikely that accurate estimates are obtained.

If TCEQ had consulted independent statisticians prior to drafting their air-permit regulations for refineries, perhaps "flex" permitting would never have become one of this State's regulatory practices and Texas would have avoided an expensive legal battle with EPA.

Also in the area of air-quality regulation, there are on-going debates with EPA over how to obtain estimates for various emissions which will result if permits for proposed power plants are granted by TCEQ. Since these plants do not yet exist, mathematical modeling is used to derive these estimates. Judging which mathematical model would be appropriate in a given situation often requires a deep understanding of mathematical statistics as well as a thorough working knowledge of applied statistics.

The current dispute between TCEQ and EPA in the purposed White Stallion Energy Center case is a good illustration of this (see Attachment 3). Note that EPA's correspondence with TCEQ expresses EPA's concern that TCEQ has obtained no appropriate modeling protocol from the applicant for assessing ozone impacts if the proposed plant is approved. In particular, note that EPA states that the Scheffe Point Source Screening Tables must not be used in this case. To emphasis this point, EPA attached a 2006 letter from Dr. Richard D. Scheffe himself (the scientist who derived the Tables in 1988).

Anyone who reads EPA's letters in Attachment 3 will note that an understanding of the theoretical concepts which were used in deriving Scheffe's Tables and other models requires a rather sophisticated level of mathematical functioning in addition to a thorough grasp of both mathematical and applied statistics.

Given the reality that many judgments made at TCEQ require this level of expertise, it is profoundly unfortunate that TCEQ *employs no statisticians at any degree level* (see Attachment 4) to supply this sorely needed support for their scientists, engineers, or other technical staff.

However, it is fortunate that there are many highly qualified, independent statistical consultants available who could provide this critical support. If the Sunset Review Commission would agree to include CBSC's recommendation on statistical reviews within TCEQ, its adoption and enactment would benefit not only TCEQ's staff, but would better protect the air and water resources of all Texas citizens.

Having spent more than two decades of my professional career (see CV in Attachment 1) teaching college mathematics and statistics, and having also done statistical consulting, I can say with confidence that no credentialed, independent statisticians who value their reputations would have approved the statistical manipulations allowed by TCEQ which I have just cited in this letter.

Members of the Coastal Bend Sierra Club appeal to the Sunset Review Commission to find a strategy which will translate into a policy that will provide strong statistical support for TCEQ's technical decision makers.

Yours sincerely,

Venice Scheurich

Venice Scheurich, Conservation Chair
P.O. Box 10101
Corpus Christ, TX 78460

AUSTIN COMMENTS RE TCEQ SUNSET COMMISSION HEARING, DECEMBER 15, 2010

My name is Venice Scheurich. I am from the Coastal Bend region where my husband and I live and have property in counties which contain parts of the South Texas uranium deposits and the Eagle Ford Shale as well as oil refineries and power plants.

My professional career was spent working with mathematics and statistics. For more than two decades I taught these subjects in college, and I also did some statistical consulting.

About four years ago, I joined groups of concerned citizens throughout the Coastal Bend and began studying the TCEQ regulations which govern some of the industrial activities in our area. During this time, it became increasingly clear that some of these regulations and their applications were badly deficient because of erroneous or missing statistical practices.

I was astonished to discover that TCEQ—the second largest environmental regulatory agency in the world—employs NO credentialed statisticians, and that TCEQ's technical decision-makers do not routinely consult statisticians.

Since mathematical statistics is an essential tool for scientists and engineers, its absence at the Agency is profoundly unfortunate because it has many negative consequences. For example, lack of proper estimation methodology has predictably led to EPA intervention in assessing Texas air and water quality. And more federal involvement will very likely follow unless this deficiency is remedied.

Several thoroughly documented examples of these negative consequences were sent to your Sunset Staff in November, and I'll leave this information with you today.

The documentation in the packet which I will leave with Senators Hegar and Hinojosa reveals that many of the technical decisions made by TCEQ scientists require a thorough grasp of mathematical and applied statistics as well as a sophisticated level of mathematical functioning.

<u>Please note</u>: These comments should not be interpreted as criticism of TCEQ's scientific staff.

<u>Rather, my point is this</u>: Just as it is unreasonable to expect mathematicians and statisticians alone to make decisions on matters grounded in science or engineering, it is equally unreasonable to expect scientists and engineers alone to make decisions on matters grounded in mathematical statistics.

Concerned citizens of the Coastal Bend appeal to you, our policy makers, to find a strategy which will translate into a policy that will provide necessary statistical support for TCEQ technical decision-makers. They need and deserve no less.

Thank you.

Venice Scheurich

Venice Scheurich

SIERRA CLUB
FOUNDED 1892

COASTAL BEND GROUP
SIERRA CLUB

P.O. BOX 3512
CORPUS CHRISTI, TX 78404

Sunset Commission
P.O. Box 13066
Austin, TX 78711-3066

November 26, 2010

RE Comments on TCEQ *Sunset Advisory Commission Staff Report*
Attention: Ken Levine, Executive Director of the Sunset Advisory Commission

Dear Director Levine:

As Conservation Chair of the Coastal Bend Sierra Club (CBSC), I e-mailed (July 16, 2010) to the Staff of the Sunset Advisory Commission a request that two recommendations—including one on statistical review of permitting procedures—be included in the Staff report to the Sunset Advisory Commission.

Perhaps because we did not submit supporting documentation, our recommendations were not included in the TCEQ *Sunset Advisory Commission Staff Report* which was issued November 18. Since TCEQ employs no credentialed statisticians, it is especially unfortunate that the Staff failed to address this glaring deficiency in the report.

The following comments and enclosures document the need for implementing a recommendation on statistical review which would improve TCEQ's permitting procedures in a significant, even critical, way by providing necessary statistical support for the Agency's scientists and engineers.

Below is CBSC's recommendation:

> A thorough statistical evaluation by independent, credentialed statisticians should become an integral part of all evaluation of TCEQ's regulations, permit applications, and summary reports involving collection, manipulation, analysis, or interpretation of data. (Note: Data includes assumed or hypothetical values used in mathematical modeling for permit applications as well as actual measured values.)

The necessity for such a recommendation evolved as our CBSC Executive Committee studied TCEQ regulations in 30 TAC Chapter 331 for in situ uranium mining which was occurring in several counties within our geographic area. (Our study's report is enclosed as Attachment 1.)

This report, entitled ***"EPA Meeting Comments RE Uranium: Corpus Christi Nov. 4, 2010"*** (see Attachment 1), clearly demonstrates the dire need for credentialed statistical consultation within TCEQ's Office of Permitting & Registration. Our report has now been forwarded by the EPA geologist who presided at that meeting to a group at EPA headquarters in the Office of Water which is examining actions being taken within EPA regional offices re aquifer exemption activities.

Additional enclosures (see Attachment 2) make it clear that for years at least one division within TCEQ's Office of Water has issued reports containing serious statistical errors to citizens in the Houston area. These reports contained erroneous estimates of some constituents in that area's drinking water which led residents to believe their water met safe drinking water standards when, in fact, there was a high likelihood that it did not. Finally, in 2009, the EPA intervened to stop this misleading and statistically unsound TCEQ practice.

In the area of air quality regulation, there has been wide media coverage of the on-going dispute between TCEQ and EPA over the issue of whether the Texas Flexible Air-Permitting Program is incompliant with the federal Clean Air Act. This is another situation which illustrates how TCEQ's practices violate sound statistical principles at the most basic level.

For example, early in their training, statisticians learn to "divide and conquer" when they examine a data set and use its information to obtain good estimates of parameters. TCEQ's "flex" permitting does the opposite: It lumps together the data from several sources which obscures the patterns in air emissions and makes it highly unlikely that accurate estimates are obtained.

If TCEQ had consulted independent statisticians prior to drafting their air-permit regulations for refineries, perhaps "flex" permitting would never have become one of this State's regulatory practices and Texas would have avoided an expensive legal battle with EPA.

Also in the area of air-quality regulation, there are on-going debates with EPA over how to obtain estimates for various emissions which will result if permits for proposed power plants are granted by TCEQ. Since these plants do not yet exist, mathematical modeling is used to derive these estimates. Judging which mathematical model would be appropriate in a given situation often requires a deep understanding of mathematical statistics as well as a thorough working knowledge of applied statistics.

The current dispute between TCEQ and EPA in the purposed White Stallion Energy Center case is a good illustration of this (see Attachment 3). Note that EPA's correspondence with TCEQ expresses EPA's concern that TCEQ has obtained no appropriate modeling protocol from the applicant for assessing ozone impacts if the proposed plant is approved. In particular, note that EPA states that the Scheffe Point Source Screening Tables must not be used in this case. To emphasize this point, EPA attached a 2006 letter from Dr. Richard D. Scheffe himself (the scientist who derived the Tables in 1988).

Anyone who reads EPA's letters in Attachment 3 will note that an understanding of the theoretical concepts which were used in deriving Scheffe's Tables and other models requires a rather sophisticated level of mathematical functioning in addition to a thorough grasp of both mathematical and applied statistics.

Given the reality that many judgments made at TCEQ require this level of expertise, it is profoundly unfortunate that TCEQ *employs no statisticians at any degree level* (see Attachment 4) to supply this sorely needed support for their scientists, engineers, or other technical staff.

However, it is fortunate that there are many highly qualified, independent statistical consultants available who could provide this critical support. If the Sunset Review Commission would agree to include CBSC's recommendation on statistical reviews within TCEQ, its adoption and enactment would benefit not only TCEQ's staff, but would better protect the air and water resources of all Texas citizens.

Having spent more than two decades of my professional career (see CV in Attachment 1) teaching college mathematics and statistics, and having also done statistical consulting, I can say with confidence that no credentialed, independent statisticians who value their reputations would have approved the statistical manipulations allowed by TCEQ which I have just cited in this letter.

Members of the Coastal Bend Sierra Club appeal to the Sunset Review Commission to find a strategy which will translate into a policy that will provide strong statistical support for TCEQ's technical decision makers.

Yours sincerely,

Venice Scheurich

Venice Scheurich, Conservation Chair