TCEQ MINOR NSR PRE-CONTRUCTION PERMITS

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BACKGROUND:

AIR PERMITTING PROGRAM

IN 1971, THE TEXAS LEGISLATURE AMENDED THE TEXAS CLEAN AIR ACT (TCAA) BY ADDING SECTION 3.27, REQUIRING THAT A PRE-CONSTRUCTION PERMIT BE GRANTED FOR ANY NEW OR MODIFIED FACILITY THAT MAY EMIT AIR CONTAMINANTS. THE EFFECTIVE DATE OF THIS LEGISLATIVE CHANGE WAS SEPTEMBER 1, 1971, WHICH BECAME KNOWN AS THE "GRANDFATHER" DATE IN TEXAS. FACILITIES CONSTRUCTED BEFORE THIS DATE ARE KNOWN "GRANDFATHERED" FACILITIES; FOR FACILITIES CONSTRUCTED AFTER THIS DATE, TCEQ AUTHORIZATION IS REQUIRED.

The TCAA was subsequently codified as Chapter 382 of the Texas Health and Safety Code (THSC). Pursuant to this authority, the TCEQ adopted Chapter 116, which prescribes the permitting requirements. This is called the state New Source Review (NSR) program.

According to Rule 116.111, a completed form PI-1 General Application must submitted to be granted a permit. This form demonstrates that emissions from the proposed facility will meet the following criteria:

- **A.** The proposed emissions impact must be protective of public health and welfare, including a demonstration of compliance with all TCEQ rules and regulations. For facilities located within 3,000 feet of schools, special attention must be given to emissions impacts on the schools.
- **B.** The proposed facility must have provisions for measuring the emissions of significant air contaminants as determined by the Executive Director.
- **C.** The facility must use best available control technology (BACT) for the control of air contaminants.
- **D.** The proposed facility must comply with any applicable New Source Performance Standards (NSPS) promulgated under 40 CFR 60 of the Federal Clean Air Act (FCAA).
- **E.** The proposed facility must comply with any applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 61 of the FCAA.

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F. The proposed facility must comply with any applicable Maximum Achievable Control Technology (MACT) promulgated under 40 CFR 63 of the FCAA.

G. The proposed facility must achieve the performance specified in the permit application.

H. The proposed facility must comply with any applicable federal Nonattainment NSR requirements.

I. The proposed facility must comply with any applicable federal Prevention of Significant Deterioration (PSD) NSR requirements.

J. Computerized air dispersion modeling may be required by the Executive Director to determine air quality impacts for the proposed new or modified facility.

K. The proposed facility must comply with any applicable case-by-case MACT standard triggered by Section 112(g) of 40 CFR 63.

L. If subject to Chapter 101, Subchapter H, Division 3, (relating to the Mass Cap and Trade Program) the proposed facility must obtain allowances to operate.

M. After being declared administratively complete, the applicant must comply with the requirements of Chapter 116, Subchapter B, Division 3, relating to the public notice and comment procedures.

OUR SERVICES AND APPROACH:

HOW SAGE NAVIGATES THE TCEQ AIR PERMITTING PROCESS

TCEQ air permitting is a complex and protracted process. By following a step-by-step approach, as outlined below, Sage helps prepare complete permit applications that meet TCEQ requirements.

STEP 1 **Emissions Impact Analysis** The most technically challenging of the above demonstrations are (A) emissions impact and (C) BACT. Both are actually interrelated. To demonstrate compliance with (A) above, Sage applies the initial BACT proposal and calculates the emission rates. We use these proposed emission rates in computer dispersion modeling and compare the results to the National Ambient Quality Standards (NAAQS) for the six criteria pollutants.

For non-criteria pollutants (air toxics), Sage compares dispersion modeling results to the TCEQ Effects Screening Levels (ESLs). If both these levels are met, then no additional control may be necessary. If any of the NAAQS or ESLs are exceeded, we use our modeling expertise and process knowledge to determine the most cost-effective alternative to reduce off-property impacts. This may be accomplished by stack parameter changes, process changes, fuel alternative changes, or additional control options.

STEP 2 **BACT Analysis** The TCEQ requires a three-tier BACT analysis. This analysis is sequential, beginning with a Tier I review. If the Tier I analysis is determined inappropriate due to unique stream or process characteristics, then a Tier II analysis is done. If the Tier II review finds that there are no appropriate technology transfer options for the proposed facility, then a Tier III analysis is triggered.

- **Tier I** – Sage assists in comparing the proposed BACT with the emission reduction performance levels accepted by the TCEQ as BACT in recent NSR permit reviews for the same process or industry. A Tier I BACT evaluation is relatively straightforward in that the technical practicability and economic reasonableness of a particular control option may have already been demonstrated in prior reviews for the same industry.
- **Tier II** – If BACT requirements have not already been established for a particular process or industry or if there are compelling technical arguments differentiating the

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client's proposal and others in the same industry, then the BACT evaluation proceeds to Tier II. A Tier II BACT evaluation involves comparing the client's BACT proposal to the emission reduction performance levels that TCEQ has approved for similar emission streams but in a different industry type. This option can get technically complex, as such cross-industry stream comparisons may involve detailed technical practicability issues.

- **Tier III** – Sage recommends that a Tier III BACT analysis be avoided, if possible, due to cost and time considerations. However, there are times when the TCEQ becomes entrenched on a BACT position that is not feasible for the proposed project. Generally, the issue in a Tier III BACT analysis is economic reasonableness—most control options are technically possible, but not all are economically reasonable.

The Tier III analysis involves a quantitative cost analysis to determine the cost-effectiveness (annualized dollars per ton of pollutant reduced). Sage develops the cost analysis and works with the client to develop a detailed capital cost estimate (i.e., equipment costs, direct installation costs, site prep) and annual operating cost estimate (i.e., direct and indirect costs). We recommend using the US EPA Air Quality Planning and Standards Air Pollution Control Costs Manual for guidance related to capital and operating costs.

The outcome of a Tier III BACT analysis hinges on the issue of what is a reasonable cost. This is where Sage adds significant benefit in supporting the client's position. We use our historical knowledge of previous TCEQ determinations of "reasonable" and "unreasonable" cost for control options as benchmarks for TCEQ decisions. We use these precedents to ensure that the TCEQ is consistent in these case-by-case determinations.

STEP 3 **Draft Permit Preparation** The final stage of the TCEQ permit review is preparing the draft permit. During this stage, we negotiate special provisions. Sage has extensive experience in negotiating permit special provisions, which is vital in developing a fair and reasonable permit.

SUMMARY:

WORKING WITH THE TCEQ TO SECURE PERMITS

Sage uses our knowledge of TCEQ staff and procedures to anticipate TCEQ questions, provide instant feedback on questions, and move permit applications through the TCEQ queue. We help clients avoid protracted permit reviews by preparing complete permit applications, developing convincing BACT justifications, and working with the TCEQ permit writers to avoid unnecessary delays in permit application review times.