Smart Programming: Automotive Renewal and the Michigan Permitting Process

A Study Prepared for the
Michigan Automotive Partnership and the
Michigan Economic Development Corporation

September 2003

Kim Hill, MPP
Economics and Business Group
Center for Automotive Research

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3025 Boardwalk, Suite 140
Ann Arbor, Michigan 48108
734.662.1287
866.374.6227
www.cargroup.org

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Kim Hill

Economics and Business Group

Center for Automotive Research

Executive Summary

The Center for Automotive Research (CAR) has, at the request of the Michigan Economic Development Corporation (MEDC), undertaken a study for the Michigan Automotive Partnership (MAP) of the time needed for the Michigan Department of Environmental Quality (MDEQ) to issue a major modification air quality permit and how it may affect future automotive investment in Michigan. This study focuses on the environmental permitting process as it applies to the new construction, or major expansion of large automotive assembly facilities in the State of Michigan. More specifically, the study examines the issues affecting the length of time involved for an automobile company to secure all necessary air quality permits prior to construction. The study's recommendations aim at improving the relationship between manufacturers, the State of Michigan, and other stakeholders, thus, protecting the substantial automotive investment in Michigan, and making it attractive for future investment.

In Michigan, due to federal regulations governing U.S. Environmental Protection Agency (EPA)-delegated states, all environmental permits must be approved by the MDEQ—and any appeals resolved—before a manufacturing firm can begin construction. The State's automotive firms report that permit approval times average 18-24 months, beginning with the submission of an application. MDEQ states that the process takes a shorter period of time—once a completed application is received. Either way, the process takes longer than is acceptable, given the highly competitive and fast-changing nature of the domestic automobile industry. Uncertainty over the exact timing of the state permitting process increases the risk on new investment, product launches, and state employment. During interviews with various stakeholders, it is apparent that there is a consensus other states are issuing permits much quicker. Process time in other states has emerged as an issue of great importance, as it directly impacts Michigan's ability to attract automotive investment.

As a result of this study, the authors find there are a number of actions that can be taken to shorten permit processing times, without any relaxation of current environmental regulations. Chief among these factors is Michigan gaining approval for a State Implementation Plan (SIP) from the EPA. An SIP would allow full control of the air quality permitting process to reside within the state—alleviating the time delays inherent in federal oversight of the present permitting program. Secondly, CAR strongly suggests efforts begin immediately to build a relationship of cooperation and trust among the automakers and the MDEQ. CAR finds that each party has a substantial difference of opinion of the other party's motives and role in the permitting process, and resolving these misunderstandings will significantly improve a lengthy and contentious process.

The Study

This study examines Michigan's air quality permitting process through the experiences of the two largest motor vehicle manufacturers in the world—Ford Motor Company and General Motors Corporation—in order to more fully understand the interrelationship of the manufacturing and permitting processes. The Center for Automotive Research (CAR), an independent research organization that focuses on trends in the world motor vehicle industry, has undertaken this study for the Michigan Automotive Partnership (MAP), funded by the Michigan Economic Development Corporation (MEDC).

From the outset, CAR's study was designed to include input from a diverse set of stakeholders to help understand the complex issues involved in the permit approval process. Concurrent with gathering the companies' perspectives, CAR researchers interviewed representatives from the Michigan Environmental Council (MEC), the Ecology Center of Ann Arbor (EC), the Michigan Department of Environmental Quality (MDEQ), and the U. S. Environmental Protection Agency (EPA) Region V. Through this combination of stakeholders, CAR hoped to determine where consensus existed regarding problems with the air quality permit approval process. The researchers also wanted to understand where these stakeholders' opinions differed as recommendations were being discussed to amend the process.

Based on data collected in interviews and CAR's independent research, specific issues are identified that are contributing to Michigan's lengthy air quality permitting process and recommendations made to shorten the process. This study does not advocate relaxation of the current regulations—it instead focuses on the length of time needed and the uncertainties inherent in the permit approval process.

Study Goals

This study has two primary goals. The first is to determine how to effect a reduction of the air quality permitting timeline in the State of Michigan by a minimum of six months, while leaving federal and state regulations intact. The second goal is to illustrate the economic impact of automotive manufacturing facilities, and identify which of these facilities are at risk unless they can be permitted in a timely fashion.

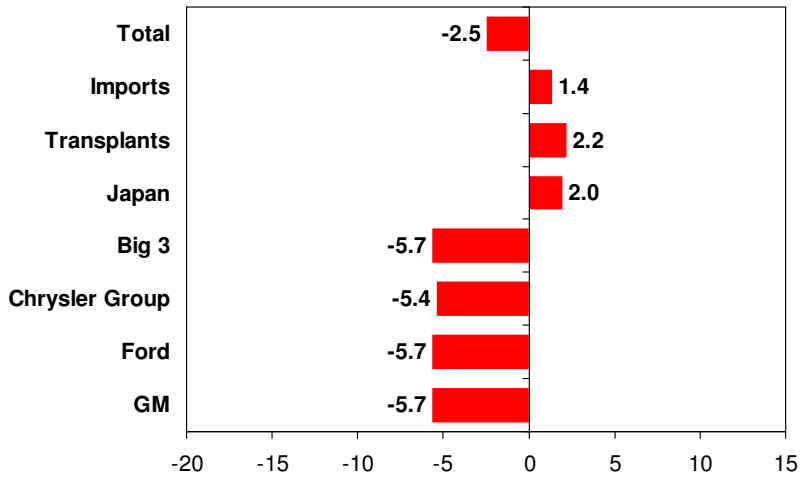
Introduction

Building a new vehicle assembly plant—or substantially expanding or renewing an existing plant—is a complex process. An assembly plant has a tremendous positive impact on the surrounding community in a number of ways, not only in terms of direct employment, but also through a regional economic multiplier effect. Conversely, the plant—without adequate planning and safeguards—could adversely impact areas such as regional transportation, the environment, and the general quality of life in the community. With these effects in mind, the decisions by the company to build, or the community to support, an automotive facility cannot, and should not, be made hastily. However, such decisions need to be made in a timely manner while a company's limited window of opportunity to bring a competitive product to market still exists. All else being equal, manufacturers will likely decide to place facility investments in states with the most predictable permitting process and one that most closely matches its own product development timeline.

The Michigan-based automobile industry is under intense competitive pressure, due primarily to the influx and popularity of automobiles built by foreign-based manufacturers. Initially, all foreign vehicles were imported to the United States from the country in which they were built. As the popularity of these vehicles rose, the foreign manufacturers built assembly operations in the United States (referred to as transplants). The transplant companies are now able to bring vehicles to the North American market much more quickly than when their assembly operations were based overseas. These factors have led to increased sales for the transplants, with a corresponding decrease in the domestic automakers' sales (see Figure 1), and an erosion of the domestic companies' market share—down by almost 13 percentage points since 1986 (see Figure 2).

Figure 1

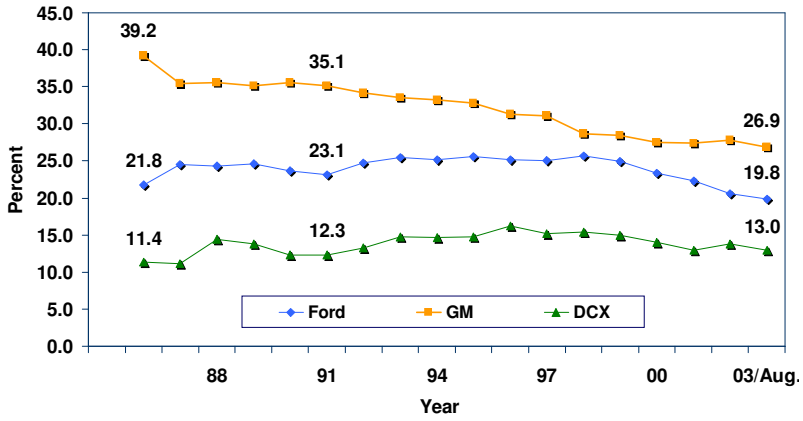
Percentage Change in U.S. Sales of Light Vehicles
1st 8 Months: 2003 vs. 2002



Source: Automotive News data

Figure 2

U.S. Market Share 1986 – 2003/August

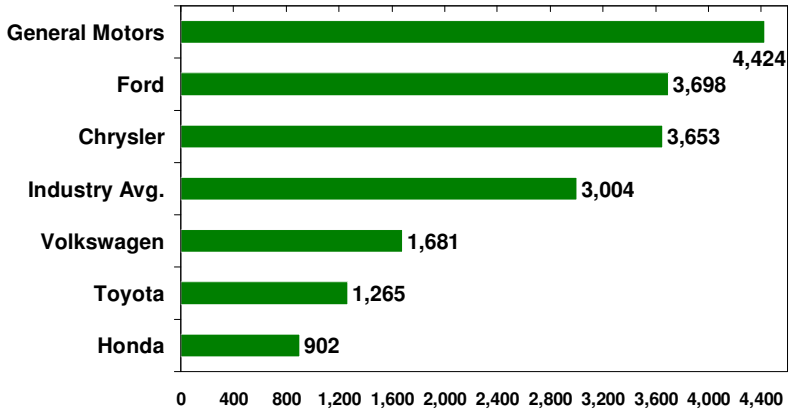


Source: CAR, Economics and Business Group

As a means of countering the popularity of the transplants' vehicles—and the concurrent drop in sales volume—the domestic automakers have turned to sales incentives to attract buyers. Unfortunately, as buyers became accustomed to incentives, most of the domestic automakers' competitors resorted to offering them (see Figure 3), forcing the domestic industry to offer ever-higher levels of incentives—substantially reducing their ability to generate profits.

Figure 3

Average Automotive Incentives as of August 2003 (US$)



Source: AutoData, Inc

The domestic industry is responding to this increased competition by identifying areas where they can reduce time and costs in order to bring a new vehicle to market sooner. It is hoped that this will provide opportunities to re-capture market share—and profits—for the companies.

When the transplants site a new manufacturing facility, they have the flexibility to base their operations anywhere in the country, taking advantage of cheap land, non-unionized labor, and—some say—states where the regulatory permitting process is simpler. Contrast this with the established Michigan automobile industry, where many manufacturing plants have been in the same location for over 50 years, hourly workers are fully unionized, and the environmental

permitting process is quite lengthy and complex. The transplants currently enjoy a substantial cost and time advantage in developing and manufacturing a new product, thus forcing the traditional domestic industry to re-examine whether the above stated differences are adversely impacting its manufacturing and product development processes.

The Problem

In this competitive market, it would seem that the automobile companies and the communities in which they are based would benefit from timely issuance of a permit to operate a manufacturing facility. However, this is not the case in Michigan, where an assembly plant approval process for all permits can purportedly stretch beyond two years. Add to that the actual construction and ramp-up time to full production, and the timeline could easily become four years or more.

From a company perspective, the two-year permit approval scenario is untenable, in light of the highly competitive market in which the North American-based automakers operate. It is generally agreed within the automotive industry that an expeditious launch of new products is one of the most highly desirable competitive advantages in the automotive market today. Even the most innovative automotive products are now matched by competition in as little as 12 months. A delay of several months in launching a new vehicle could possibly eliminate the return on an investment costing hundreds of millions, if not billions, of dollars.

This potential delay, or elimination, of a return on investment from a new or modified plant in Michigan has made the state less attractive to manufacturers. Michigan has gained a reputation among automobile manufacturers as a difficult state in which to obtain timely approval of an air quality permit, while other states' approval processes are much more efficient. Alabama, for instance, publishes an environmental permit process diagram on its state government website, along with a document detailing expected elapsed time for each stage of the process.[1,2] Additionally, they strive to, wherever possible, align processes that can occur simultaneously—thus condensing the entire timeline. Michigan's website, on the other hand, is a maze of permitting information without a clear explanation of the expected time necessary to complete each phase—suggesting a complex, uncertain process. This is but one example that has fostered a belief by many in the manufacturing community that the state's permitting process is needlessly complicated, offers little solid information for company planners, and is adversarial in nature.

Product Development Process

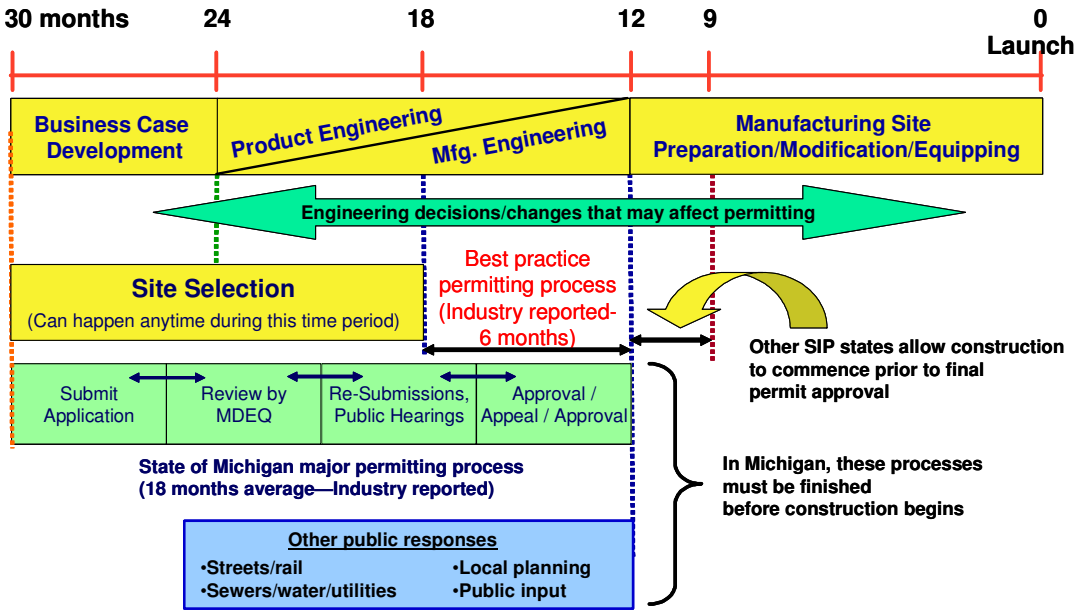
As can be seen in the diagram below (Figure 4), the time needed to conceive, create and deliver a new vehicle to market is approximately 30 months. This development process is an extremely complex one, comprising several inter-related steps.

[1] Economic Development Partnership of Alabama website, accessed 10/11/2002 http://www.edpa.org/frameset-businessclimate.htm

[2] Alabama Department of Environmental Mangement website, accessed 10/11/2002 http://www.adem.state.al.us/Permitting/PermittingInfo.htm

Figure 4

Product Development / Permitting Timeline



Source: CAR research

Based on discussions with two Michigan manufacturers, there are at least three main 'gates' that seem to be common to most manufacturers. They are—in project order—concept creation and business case development, product and manufacturing engineering, and assembly site preparation. While it is important—and obvious—that the development of a vehicle is far more complex than only three decision gates, this stylized description captures the essence of product development and enables easier correlation to the permitting process.

According to representatives of the two companies, the process starts approximately 30 months before vehicle launch, with the business case development. It is during this portion of the process that the new product is assigned a platform, which somewhat constrains the manufacturing site location decision. It is at the end of this business case development process that the program can be approved, delayed, or cancelled.

Once corporate approval is given, the project is assigned to a vehicle development team, and product and manufacturing engineering gets underway in earnest. During this stage, the team develops the specific parts, components and manufacturing processes for the vehicle. While the product engineering occurs both during the product planning and creation process, and continues after the site preparation phase begins, the bulk of the core engineering work is completed within a 12-month window. Even though this portion of the process has little effect on the location decision, the engineering decisions factor into total plant emissions.

Company representatives report that site development and preparation for a renewal of an existing facility take about 12 months to complete—longer for a new facility. Therefore, manufacturing site preparation must begin no later than 18 months after the vehicle development process begins. At least two manufacturers have indicated the fastest approval process experienced in other states is approximately six months, therefore, final site selection must be made a minimum of six months before site preparation begins, or, as much as 18 months before vehicle launch.

However, compare this to the current Michigan permitting process (which reportedly averages more than 18 months) and the dilemma is clear—there is not time in the product development schedule for such a lengthy process. Given the timeframes detailed above (and in Figure 4) for construction to begin on schedule, permit applications must be filed before the business case development is completed. Further, in Michigan, all permits must be issued, and any appeals resolved, before construction can begin. In other SIP states, where construction can begin with the issuance of final permits—before any appeals are resolved—the flexibility for automakers is greater, meaning they can potentially make their site decisions later in the process—less than 18 months before product launch.

It is also important to note that although the two companies interviewed for this study agreed that the 30-month stylized cycle was indicative of corporate goals, it may not reflect real-world performance. There are numerous examples of vehicle programs that were in development for well over 30 months, and relatively few that were developed in less. In fact, the time it takes a company to develop a vehicle has been a topic of great discussion within the industry for decades. There is often disagreement upon when the actual development begins, and thus when the clock 'starts ticking.' Also, differing levels of product change—a minor redo of an existing product, a major change to an existing product, or the development of an all new one certainly require different timelines. However, due to competitive pressures, the product development timeline is shrinking and each of these program investment scenarios require a permit certification effort of its own.

The *2000 Delphi X: Forecast and Analysis of the North American Automotive Industry*, addressed the issue of product development time. The survey respondents estimated that, as of 2000, a major change to an existing product took the Big Three (Ford, GM, Chrysler Group) 32 months to develop. Further, they estimated that it would take 28 months to do so by 2004, and only 24 by 2009. The panel's estimates for an entirely new vehicle were 38 months for 2000, 32 months for 2004 and 28 months for 2009.[3] The data given is for concept approval through vehicle launch, or similar to the product development and site preparation portion of the stylized process presented in Figure 4.

As valuable as the respondents estimates are, the trend suggested by the comparison with earlier Delphi Survey results may be even more impressive. The authors of the study note that the estimated current cycle time had decreased by 30 percent since the 1992 survey, and was expected to decrease by another 26 percent by 2009.

It is also interesting to note that several companies have hinted that current vehicle development programs are already less than 24 months. At the 2002 Management Briefing Seminars, Hiroyuki Yoshino, President and CEO, Honda Motor Company, stated that Honda had a current development time of 15 months.

Assembly Plant Flexibility

The increased rapidity of the product development process itself is an important aspect in the permitting of manufacturing facilities in the state. However, in their efforts to increase efficiency and allocate capacity, the manufacturers are working to move products more easily between facilities. What were once highly inflexible manufacturing facilities are rapidly becoming flexible.

[3] Cole, David E., Londal, Gerald F., Delphi X: Forecast and Analysis of the North American Automotive Industry for 2004 and 2009, Volume 1: Technology, The Office for the Study of Automotive Transportation, The University of Michigan, March 2000, pp.60-3.

U.S. automotive facilities have historically been designed to build one product—with at most one additional derivative of that product built within that facility. Once the vehicle ended its production run, the plant would shut down for several months, old equipment was removed, new equipment was installed, and a new vehicle could be built. Plants could often be shut down for up to a year during a changeover to a new product.

However, the mass production, single product plant model has been undergoing a drastic change in recent years. The standard of the past has given way to a high-volume flexible-production model that has significant implications for Michigan's automotive endowment. As the number of vehicle nameplates continues to increase, and assembly plant capacity utilization becomes a focal point, companies are finding it necessary to build several vehicle types at any given facility.

Each of the traditional automotive companies in Michigan is striving to increase assembly plant flexibility. This new flexibility is measured on two axes. First, companies are working to increase flexibility within plants—affording them the ability to produce several different vehicles on the same assembly line in any given plant. Second, the companies are attempting to increase flexibility between plants—or the ability to shift products from one plant to another.[4]

The new GM Lansing Grand River Assembly plant is an example of the increased flexibility within an assembly plant. The plant began production in 2002 by producing the Cadillac CTS based on the Sigma rear-wheel drive platform. Recently, the plant began production of the Cadillac SRX Sport Wagon, and is aiming to begin production of the STS sedan—another Sigma-based vehicle—in 2004. The company will be able to adjust production volumes of the three vehicles, based on consumer acceptance and market conditions.[5]

Another example of the flexibility within a plant is Ford's new Heritage plant (at their venerable Rouge site) which will be capable of producing three platforms, and a total of nine models. The company believes that this flexibility will be crucial to its success in the coming decades.[6]

Closely tied to in-plant flexibility is the capability to move products between facilities. Ford's mid-size CD1-3 program is an example of how companies may use capacity constraints to balance output at their facilities. Ford will build at least five products based on the same platform at three North American plants: AutoAlliance, in Flat Rock began building the Mazda6 last year; the Hermosillo, Mexico plant will produce a Ford and Mercury sedan; and the Oakville, Ontario plant will produce a cross-over SUV. As a result, Ford will have the capability of shifting production of these products between the plants as market conditions warrant, with minimal re-tooling.

There is general agreement in the automobile industry that Honda is the leader in plant flexibility and, as such, has set a benchmark that several other companies would like to achieve.[7,8] Honda has stated that it has the ability to produce up to eight different vehicles in any assembly plant. In addition, Honda is capable of completing a full product changeover at their facilities without stopping the line. Except in rare instances, when retooling a plant Honda does not install new capital equipment; instead they re-program it. Such flexibility indicates that the 12-

[4] Chappell, Lindsay, "Manufacturing: Chrysler moves toward flexibility at a deliberate pace" Automotive News, Crains' Publications, August 4, 2003 (reprinted on website www.autonews.com)
[5] Product information taken from CSM Forecasts, and various industry sources
[6] Truett, Richard, "Manufacturing: Rouge reborn" Automotive News, Crains' Publications, August 4, 2003 (reprinted on website www.autonews.com)
[7] Management Briefing Seminars, Question and Answer segment, morning session, August 7, 2002
[8] Chappell, Lindsay, "Honda leads pack in plant flexibility" Automotive News, Crains' Publications, October 14, 2002 (reprinted on website www.autonews.com)

month site preparation time in the stylized product development process may be far shorter for Honda. Since several manufacturers have indicated they hold the Honda model as a target to strive for, it may be indicative of future industry time constraints.

SIDEBAR 1 – WHAT IS AT STAKE FOR MICHIGAN

The automotive companies located in Michigan are experiencing a major and necessary wave of product renewals at their strategic automotive manufacturing facilities in the next five years. Thirteen assembly plants, four engine plants, and three transmission plants are scheduled for potential product renewal by 2008. Each of these facilities, of course, must apply for the necessary air quality permits to allow building or renovation. Given the highly competitive nature of the industry, it is essential that these applications be a focal point for industry and permitting agencies' cooperation to allow the investments to continue. A comprehensive listing of expected assembly, engine and transmission product renewal for Michigan's strategic automotive plants and their recent employment levels are shown in Tables 1–3.

As Table 1 shows, 13 of Michigan's assembly plants will see new products in the coming two years. Ford will open its Dearborn Heritage plant in 2004 and GM will open its Delta Township plant in Eaton County in 2006. An additional 11 vehicle assembly facilities [Sterling Heights, Jefferson North and Warren (DaimlerChrysler), AutoAlliance, Michigan Truck, and Wayne (Ford), and Hamtramck, Lansing Grand River, Lake Orion Township, Flint and Pontiac (GM)] are expected to have new products by 2008. Michigan employment within these plants last year totaled 34,152 workers.

Table 1
Michigan Vehicle Assembly Plant Renewals

GM	Hamtramck	Major Re-freshening 7/05, 9/05	3,298
GM	Delta Township	New Saturn Q3-06, Buick Q1-07, Pontiac Q3-07	2,500
GM	Lansing GR	Introduce STS on Sigma 7/04	749
GM	Lake Orion	Intro G6 (Epsilon)	1,582
GM	Flint	Major GMT900 1/06	2,556
GM	Pontiac	Major GMT900 1/07	3,550
DCX	Sterling Heights	New platform 4/06	2,836
DCX	Jefferson North	New pform 8/04, Lux Jeep 7/05	2,970
DCX	Warren	New Dakota 8/04, New Ram 7/08	3,552
AAI	AutoAlliance	Wagon, hatchback, Mustang 10/04	1,481
Ford	Heritage	Introduce F-150 4/04	2,000
Ford	Wayne	Add Focus wagon	3,459
Ford	Michigan Truck	Major 2/07, LWB versions Q3-07	3,619
		Total Vehicle Assembly	***34,152***

As Table 2 shows, a number of Michigan powertrain facilities are due to receive new product as well. For example, the Global Engine Alliance L.L.C. will open an engine plant in Dundee in March 2005 employing about 400 workers. GM's Romulus engine plant is likely to receive major upgrades to its V8 engines in the first quarter of 2004, and will also likely begin production of the 4.8 liter V8 engine in early 2005. Ford's Romeo plant will probably add a new 4.6 liter V8 24-valve engine in 2004. Ford's Dearborn engine plant will begin producing the 2.0 liter I4 in January 2004. GM's Willow Run transmission plant is expected to see major product renewal in 2005. GM is also expected to begin production at Willow Run of a new 6-speed transmission co-developed with Ford by the fall of 2005. Ford will produce its version of the 6-speed at its Livonia and Van Dyke facilities, with job one expected shortly after the GM facility begins production. Total employment at Michigan powertrain plants scheduled for new product was 13,725 workers last year.

Table 2
Michigan Powertrain Plant Renewals

DCX	Dundee	Add new I4 engines, Q1-05	400
Ford	Dearborn	Add 2.0L 16V 1/04	1,287
Ford	Romeo	Add 4.6L 24V 2/04	1,669
Ford	Livonia	Add X22F Q1-06	2,504
Ford	Van Dyke	Add X22F after 2006	2,037
GM	Romulus	Major 5.3L/6.0L 2/04, 4.8L PC 3/05	2,165
GM	Willow Run	Add X22F Q4-05	3,663
		Total Powertrain	***13,725***

Finally, it is certainly true that almost all of Michigan's major automotive stamping facilities are receiving new work as well by 2008, although this product change may or may not require new air quality permitting.

SIDEBAR 1 – WHAT IS AT STAKE FOR MICHIGAN

A list of these major facilities is shown in Table 3 which shows a total employment figure of 18,914 workers.

Table 3
Michigan Stamping Facilities

Company	Facility	Employment
AAI	AutoAlliance	136
DCX	Sterling Heights	2,834
DCX	Warren	2,088
Ford	Dearborn	1,353
Ford	Wayne	289
Ford	Woodhaven	2,210
GM	Flint	2,310
GM	Grand Blanc	1,651
GM	Grand Rapids	2,247
GM	Lansing	1,658
GM	Pontiac	2,138
	Stamping Total	***18,914***

Total employment in Michigan vehicle and powertrain assembly, and stamping facilities subject to air quality permitting in the next five years, then, is no less than 66,791

Strategic Facility Jobs	
Vehicle Assembly	34,152
Powertrain	13,725
Stamping	18,914
Total	***66,791***

employees. Of course these export income jobs mean far more than their sum total in the Michigan economy. The Center for Automotive Research (CAR) and the Institute of Labor and Industrial Relations at the University of Michigan (ILIR) estimated a 5.5 job multiplier for Michigan powertrain facility employment in a 2002 study for the Michigan Economic Development Corporation (MEDC).[1] The powertrain employment multiplier represents a fair balance between what will likely be a somewhat higher vehicle assembly multiplier and a somewhat lower stamping facility multiplier. In other words, the 66,791 strategic facility jobs generate another 300,559 jobs in the Michigan economy for a total of 367,350 workers or over eight percent of state total employment. The impact on Michigan personal income is even greater than the eight percent figure for jobs due to the relatively high rates of pay received by workers in major auto facilities. And finally, the dependence of a number of Michigan minority populations on these jobs and the high earnings they represent is even greater, due to the high percentage of automotive manufacturing employees that belong to these groups.

The importance of automotive facilities in the Michigan economy can hardly be surprising to anyone. In fact, CAR and ILIR indicated in a 2001 study that vehicle manufacturing firms employed 260,400 workers in Michigan in 1998. Automotive supplier employment of all types was estimated at another 274,400 employees. These 534,800 jobs contributed another 383,800 spin-off jobs in the state's economy due to the spending of income by vehicle and supplier employees. A grand total of 918,600 jobs, then, were contributed by automotive manufacturing to the Michigan economy, or 19.3% of total state employment in 1998.[2]

[1] McAlinden, Sean P. and George A. Fulton, et. al, Economic Impact of the Elimination of the Michigan Motor Vehicle Powertrain Industry on the Michigan Economy, A Study prepared for the Michigan Economic Development Corporation, by the Institute of Labor and Industrial Relations, University of Michigan, and the Center for Automotive Research, Ann Arbor, April 2002.

[2] McAlinden, Sean P. and George A. Fulton, et. al., Contribution of the Automotive Industry to the U.S. Economy in 1998: The Nation and Its Fifty States. A Study Prepared for the Alliance of Automobile Manufacturers, Inc. and the Association of International Automobile Manufacturers, Inc. by the Institute of Labor and Industrial Relations, University of Michigan, and the Center for Automotive Research, Ann Arbor, Winter 2001.

Regulatory Background

EPA Role in Michigan's Air Quality Permitting Process

The U.S. Environmental Protection Agency's (EPA) role in the State of Michigan's air quality permitting process is to oversee the state's permitting decisions, while the independent federal Environmental Appeals Board (EAB) resolves permit appeals. The EPA retains oversight of the Michigan air quality permitting program by delegating authority to the MDEQ to administer the Federal Prevention of Significant Deterioration (PSD) and New Source Review (NSR) programs. Permits issued by MDEQ are considered EPA-issued permits for purposes of federal law and are thus subject to review by the EAB. In a theoretical sense, the EPA oversees every decision made by MDEQ, but in a practical sense, it only becomes involved when a permit decision is complicated or contentious, or if it is specifically asked to intervene.

Usually, the EPA receives notification from concerned residents of the state asking for the EPA to examine the draft permit. If, upon closer examination, the EPA determines that its expertise is called for, it will review all of the material used in the permit application. In this part of the process, the EPA will work with the staff at MDEQ to ascertain that all data and information received from the applicant answers all concerns related to the permit. If, at the conclusion of this process, the EPA still has misgivings, the agency will submit comments on record during the public comment period administered by MDEQ. Submitting comments gives the EPA the right to offer additional input to the EAB if the permit is appealed. Without having made comments—in effect, signing off on the approval from the MDEQ—the agency would not be allowed to provide comments to the EAB in the case of an appeal.

Michigan is one of 12 remaining states—some of which have automotive investment—that continue to require EPA oversight. The other 38 states have an EPA-approved State Implementation Plan (SIP), which allows those states to have final authority to issue permits and resolve appeals with limited federal oversight.[9]

[9] Discussions with staff at U.S. Environmental Protection Agency, Region V, July 2003

SIDEBAR 2 – THE CLEAN AIR ACT

The State of Michigan's air quality permitting program is based on the federal Clean Air Act (CAA), first introduced in 1970. The 1990 CAA is the most recent version of that law. The 1990 amendments made major changes in the CAA. The text below, from the EPA website, *The Plain English Guide to the Clean Air Act,* details some of the provisions of the 1990 CAA that are relevant to this study of Michigan's permitting process.

Features of the 1990 Clean Air Act

The role of the federal government and the role of the states

Although the 1990 Clean Air Act is a federal law covering the entire country, the states do much of the work to carry out the Act. For example, a state air pollution agency holds a hearing on a permit application by a power or chemical plant or fines a company for violating air pollution limits.

Under this law, the EPA sets limits on how much of a pollutant can be in the air anywhere in the United States. This ensures that all Americans have the same basic health and environmental protections. The law allows individual states to have stronger pollution controls, but does not permit them to have weaker pollution controls than those set for the whole country. The United States government, through the EPA, assists the states by providing scientific research, expert studies, engineering designs and money to support clean air programs.

The law recognizes that it makes sense for states to take the lead in carrying out the Clean Air Act, because pollution control problems often require special understanding of local industries, geography, housing patterns, etc. States are required to develop state implementation plans (SIPs) that explain how each state will do its job under the Clean Air Act. A state implementation plan is a collection of the regulations a state will use to clean up polluted areas. The states must involve the public, through hearings and opportunities to comment, in the development of each state implementation plan. The EPA must approve each SIP, and if an SIP is not acceptable, the EPA can take over enforcing the Clean Air Act in that state.

Permits
One of the major breakthroughs in the 1990 Clean Air Act was a permit program for larger sources: a power plant, factory or anything that releases pollutants into the air. Under this program, permits are issued by states or, when a state fails to carry out the Clean Air Act satisfactorily, by the EPA. The permit includes information on which pollutants are being released, how much may be released, and what steps the source's owner or operator is taking to reduce pollution, including plans to monitor (measure) the pollution. The permit system is especially useful for businesses covered by more than one part of the law, since information about all of a source's air pollution is in one place. The permit system simplifies and clarifies businesses' obligations for cleaning up air pollution and, over time, can reduce paperwork. For instance, an electric power plant may be covered by the acid rain, hazardous air pollutant and non-attainment (smog) parts of the Clean Air Act; the detailed information required by all these separate sections will be in one place--on the permit. Businesses seeking permits have to pay permit fees much like car owners paying for car registrations. The money from the fees will help pay for state air pollution control activities.

Enforcement
The 1990 Clean Air Act gives important new enforcement powers to the EPA. It used to be very difficult for the EPA to penalize a company for violating the Clean Air Act. The EPA has to go to court for even minor violations. The 1990 law enables the EPA to fine violators, much like a police officer giving traffic tickets. Other parts of the 1990 law increase penalties for violating the Act and bring the Clean Air Act's enforcement powers in line with other environmental laws.

Public Participation
Public participation is a very important part of the 1990 Clean Air Act. Throughout the Act, the public is given opportunities to take part in determining how the law will be carried out. For instance, a resident can take part in hearings on the state and local plans for cleaning up air pollution. That resident can sue the government or a source's owner or operator to get action when the EPA or the state has not enforced the Act. [1]

While this represents a very brief explanation of the Clean Air Act, its interpretation by regulatory agencies is at the heart of the permitting issue in Michigan, and a full understanding of the intent of the act is central to solving Michigan's permitting problems.

[1] From the EPA website, *The Plain English Guide to the Clean Air Act*, accessed 9/21/03. http://www.epa.gov/oar/oaqps/peg_caa/pegcaain.html

Methodology for Obtaining Study Participants' Perspectives

In the three sections that follow, the automakers (General Motors Corporation and Ford Motor Company), the MDEQ, and the non-governmental organizations (NGOs) (The Ecology Center and Michigan Environmental Council) provide their perspectives on the air quality permitting process in the State of Michigan.

These perspectives were obtained through numerous separate interviews conducted by CAR staff. Each of the stakeholder groups were comprised of several participants, providing a range of perspectives within each of the groups. The results of these interviews were combined into three separate summaries representing the three stakeholders' points of view. According to CAR policy, each stakeholder group had the opportunity to review his/her respective summary and make additional comments. Once resubmitted to CAR, these documents were formatted and placed into the paper as received, with no further editing. The perspectives of the three stakeholders' groups follow.

The Automakers' Perspective

The text in this section represents the aggregate perspective of the automakers as reported to the authors.

Background

Michigan-based automakers have long identified the Michigan Department of Environmental Quality (MDEQ), Air Quality Division's (AQD) environmental permitting process as a major problem for building a new motor vehicle in Michigan. The automakers report that it averages 18 months or longer to obtain a major modification air quality permit (see Figure 5). They claim that the permitting process in Michigan is much more complicated and onerous than similar programs in other states. This creates a permit process that is inflexible and lengthy, and produces no further environmental protection from that gained by auto permits issued in other states.

Figure 5

Permit Approval Timing

Michigan

Facility Name	Permit Effective Date	Time to Obtain Permit Approval
GM Lansing Craft Center	5/17/2002	11 months
GM Lansing Grand River	1/30/2001	16 months
Ford Dearborn Truck	11/2/2001	18 months
GM Delta Township	8/29/2002	23 months
GM Flint Truck	4/29/1999	24 months

Other States

GM Shreveport, LA	3/24/2000	5 ½ months
GM Lordstown, OH	2/13/2003	5 ½ months
GM Oklahoma City, OK	12/30/1999	6 months
Ford Lorain, OH	N/A	6 months

Source: General Motors Corporation and Ford Motor Company

The Automakers' Issues with the Process

The automakers' primary issue with Michigan's permitting process is with the amount of time it takes to receive a Clean Air Act (CAA) New Source Review (NSR) permit in nonattainment air quality regions or a Prevention of Significant Deterioration (PSD) permit in an attainment air quality region. Another concern is the requirement of the federal CAA which prohibits construction on a major air source or major modification to an existing source until a NSR or PSD permit is issued and in effect. Automakers are also concerned with the loss of manufacturing flexibility because of the unnecessary number of special conditions in Michigan permits, with no discernable environmental benefit.

Industry representatives understand the complexity of the permitting process and have both internal and external expertise in the PSD and NSR permit process. The automakers operate facilities in 22 states and are well-versed in paint shop applications and permits. The

companies recognize their responsibility to work together with the AQD to limit emissions from their facilities. In turn, the automakers say they expect the AQD to issue permits in a timely fashion.

The automakers have identified a number of factors which, if resolved, could shorten the permit processing time. Issues the industry believes ultimately factor into the length of the process include:

1. The number of requests for detailed information from the AQD.
2. The inconsistency in the type of information requested for the same type of permitted source.
3. The number of unnecessary special permit conditions.
4. The mechanics and timeliness of the Conflict Resolution Process.
5. The inconsistent interpretation of EPA PSD/Best Available Control Technology (BACT) guidance.

The industry wants a more cooperative relationship, although they recognize the regulatory oversight responsibilities of the MDEQ.

The Industry Wants a Faster, More Efficient Permitting Process

In today's global climate, a race to the market with a new product is essential in maintaining or improving market share for the auto companies. Permit delays can jeopardize new product launches. The automakers' chief concern with Michigan's permitting process is the inability of the AQD to process permit applications in a timely manner, especially given the repetitive scope and nature of the paint shop information submitted to AQD in prior permit applications.

The automakers do not have complete information concerning the manufacture of the new product and expected output of the assembly plant until the business plan, site selection, product design, and the scope of the manufacturing operation have all been finalized. This process may continue while the initial permit application is being reviewed by the agency. In other states, this essentially complete permit application is processed while the companies update the application with additional requested information.

Product decisions may encompass the first six to twelve months of the manufacturing portion of the product development cycle. If the entire manufacturing and launch periods last 30 months, and the final 12 months of the period are needed for plant construction, this allows, at best, 12 months for the permit application to be approved—if the automaker is to remain on schedule. Other than the State of Michigan, all of the other states that permit automakers' facilities issue permits on a 12-month or less time schedule; in fact, most states now issue NSR and PSD permits in a 6-month timeframe. Despite having the most auto plants in the nation, and presumably the most permit experience, Michigan is the slowest permit authority and issues the most inflexible permits in the country.

The automakers are in a quandary because they believe the only way to adhere to the AQD-extended timeline and still bring their product to market on time is to submit an application as early as possible, even though design criteria for the product and site plans have not been totally determined. They then submit revised information to the AQD. However, the automakers say that AQD has not been receptive to this approach, instead telling the automakers that the agency is reluctant to consider the permit without a "technically complete" application. The automakers counter that the AQD needs to adjust its permit application review process and decrease the amount of time it takes to process an application. In fact, the companies say all

other states and provinces cooperate with them and allow them to submit an initial application, and then add additional data as soon as it is available. The automakers indicate this approach is only a problem in Michigan and is compounded due to the longer AQD processing time.

Amount of Information Required

According to the automakers, they have built many manufacturing facilities across the United States since the modern era of environmental regulation began in the early 1970s. During that time, the automakers point to the continuous improvements in the processes and technologies for reducing emissions. These efforts have demonstrated the commitment by the auto companies to manufacturing and environmental sustainability.

The automakers also maintain that their personnel understand the many details associated with assembly plant construction, and that they can comply with the myriad regulations that define the plants' operations. In fact, a typical automobile assembly plant in Michigan is subject to over 850 environmental requirements.[10] As a result, gaining a permit to install should be fairly straightforward, and it is—except in Michigan. States with only one, or a few, auto plants are able to promptly issue flexible permits that conform to federal CAA requirements, and so too should the state with the most auto plants in the nation. Again, it should be noted that other states are accomplishing the same goal of protecting human health and the environment while maintaining the manufacturing base that is vital to the economy. Other states permit auto facilities in a much quicker timeframe while accomplishing the same goals of the AQD; these states require identical process technology, material use and environmental abatement controls, yet issue permits in a much more efficient timeframe.

The automakers believe they are required to submit much more information in Michigan than in any other state where they build assembly facilities. In fact, they say the process of submitting information in Michigan can last months, with many subsequent requests for new information, and/or questions pertaining to previously submitted information. The automakers state that there are numerous instances where basic engineering assumptions common to all auto industry permit applications are called into question even though these very assumptions have been reviewed and approved by AQD in previous permit applications. The paint, coating and abatement technologies used in automakers' assembly plants are essentially the same because of the limited number of companies that produce automobile paint shop and abatement equipment. Because the common automobile paint shop and abatement technology does not deviate much on a short-term basis, recent NSR and PSD permit decisions (set by permitting authorities) normally are presumed to be valid determinations for pending applications.

The automakers contend that Michigan's iterative process of questions, answers, and more questions is time-consuming and severely impacts the product development cycle. AQD requests for elementary engineering explanations and technical information to corroborate fundamental engineering theories are possible explanations for some of the time delay inherent in the AQD permitting process. A more thorough understanding of the auto manufacturing process, commensurate with the number of auto plants in the state, could help alleviate the voluminous information requests and time delays in Michigan. One auto company pointed out that after receiving a permit for a facility in Michigan it submitted another virtually identical permit application for a similar facility (e.g. identical process and abatement equipment). Thus the permits were submitted "back to back", in essence within six months of each other. However, AQD requested answers to 103 questions (in addition to what was requested for the first

[10] *Environmental Regulatory Profile,* prepared for the American Automobile Manufacturing Association by Horizon Environmental Corporation, Detroit, Michigan, 1998

application) after the second application was received by them, extending the permit process by months.

Permitting Discrepancies within Michigan and Between Michigan and Other States

The Clean Air Act (CAA) requires the federal government to impose base level environmental regulations on the states. Congress provided that states should be the primary implementers of the federal CAA if federal regulations and guidance are followed. The auto industry has assembly plants in 22 states and Michigan stands alone in issuing untimely, complicated and inflexible air permits. The automakers state that by far, the most glaring example is in the determination of Best Available Control Technology (BACT). Through the BACT analysis, a determination is made as to which technology should be installed that can best reduce emissions from the proposed facility. A BACT analysis must be performed by the automakers with each new permit application and the findings are reported to the MDEQ. From this analysis, an economically feasible technology is proposed for the facility. Emission control technology does not change on a frequent basis, and yet the Michigan AQD will require voluminous information from auto companies to reprove feasible technology less than nine months after AQD has determined BACT for a similar auto plant.

Another example of the overly complicated permit process in Michigan is AQD proposing to transfer technology from a single company in an industry unrelated to auto manufacturing. Once an auto company demonstrates why this technology is not feasible in an auto plant, AQD should proceed in issuing a permit based on technology that actually is feasible for an automobile assembly paint shop.

Michigan's Status: Delegated State or State Implementation Plan?

Per the CAA, states are either authorized to administer their own Prevention of Significant Deterioration (PSD) program, or are delegated to administer the federal PSD program. Michigan is a delegated state—one of only 12 in the United States. Inherent in the delegated status is EPA oversight of the permitting and enforcement programs within the state. Any permit issued by a delegated PSD state, like Michigan, can be appealed to the federal Environmental Appeals Board (EAB) within 30 days of issuance. Anyone in the state who has submitted a comment during the public comment period (and has standing) may appeal to the EAB, just for the cost of sending a letter—referred to by the automakers as a "37-cent appeal." If someone in the state appeals the MDEQ permit within 30 days, construction on the new facility cannot begin. If an appeal goes to the EAB, there is little predictability when the EAB will issue its decision. The inherent risk of delay with the EAB appeal process mandated in a PSD-delegated state like Michigan is completely unacceptable in today's competitive automotive market

The automakers—and the MDEQ—want the state to implement and enforce its own PSD program by having a State Implementation Plan (SIP) approved by the EPA. According to the automotive makers, the advantages of a PSD SIP-approved program are that permits would become effective immediately upon issuance, and construction can commence; construction need not stop during an appeal; and the state has more permitting discretion. The automakers contend that an SIP would enable a clearly defined, and predictable, permit and appeal process. Ohio's decision to move from a PSD-delegated state to an SIP-approved one is cited by the automakers as a state streamlining its permit process and becoming much more competitive in attracting and retaining auto assembly plants. The automakers want Michigan to become a

PSD SIP-approved state and suggest that a PSD SIP-approval stakeholder process be initiated by MDEQ.

Culture and Cooperation

Several other major issues were listed by the automakers concerning the culture and the management style within the MDEQ. The automakers believe AQD and DEQ management should take a more active role in the permit process, including participation in overseeing major permits. The automakers also noted a lack of AQD management support to the automakers during the permitting process. They suggest that clearly defined objectives and roles for AQD in issuing PSD permits to major air sources do not exist.

The automakers are concerned there is a lack of MDEQ direction to AQD staff when it comes to making permit decisions and in defining permit requirements—one possible explanation for inconsistent permit requirements between previous or concurrent permit applications. The automakers suggest that with automobile manufacturing being the most important driver of the state's economy, it is in the state's vital interest to sustain the presence (if not the growth) of the Michigan auto industry, consistent with CAA requirements

In Michigan, the automakers believe that the AQD's permit process is inconsistent and the working relationship often contentious. The automakers state there have been meetings between AQD and the automakers' upper management aimed at addressing fundamental differences between the parties, but the spirit of congeniality and cooperation quickly dissipates at the staff level. Ohio is cited as a prime example where industry and the state work together to ensure permit flexibility and compliance with CAA requirements. Finally, the automakers believe improved cooperation from the entire AQD would help the interaction between the parties during the permitting process.

Additional Issues

The automakers also listed other issues of concern regarding the AQD's permitting process that may contribute to the adversarial relationship and the length of the permitting process. These issues are the AQD's lack of understanding of the automobile industry, confidentiality concerns, and the MDEQ's Conflict Resolution Process.

The automakers believe if the AQD knew more about the industry, AQD staff would better understand the time constraints inherent in bringing new cars and trucks to market. The companies suggest that AQD staff responsible for permitting automotive facilities regularly receive briefings on automotive issues as one way to further their knowledge of one sector of the regulated community.

The automakers must plan for almost two and one-half years before bringing a new vehicle to market. Design and production changes are made throughout this product development cycle, and it is not possible to provide all the exact information the AQD would like early in the permitting process. In addition, the new vehicle to be built at the permitted facility is a competitive product that automakers do not want revealed prematurely, especially to competitors.

If the automakers have concerns with information requests, technical issues, or policy issues, they must petition the staff engineer's supervisor at AQD. If they are still not satisfied, the automakers are referred even higher up the management chain within the department. This, however, only adds significantly to the time for permit approval. The automakers would like the

permitting staff person to be conferring with management at the MDEQ, not only after the automaker appeals the process to management, but during the permitting process, as well.

In conclusion, the automakers believe that there are major problems with the Michigan AQD permitting process that hinder new auto assembly plants and major modifications to existing plants. The permitting process takes too long and results in restrictive permits that limit manufacturing flexibility. Other state agencies issue timely, flexible permits that comply with the Clean Air Act and are protective of the environment. They have identified numerous areas where they believe the process can be improved, such as more MDEQ oversight of the AQD permit process, and the State of Michigan obtaining PSD SIP approval.

Non-Governmental Organizations and the Air Quality Permitting Process

The text in this section represents the aggregate perspective of the non-governmental organizations (NGOs) as reported to the authors.

Introduction

Non-governmental organizations, such as the Ecology Center (EC) and the Michigan Environmental Council (MEC), are involved in Michigan's environmental permitting process as advocates for the general public during a few key stages of the process. The EC's website describes the organization's mission: "The Ecology Center is a membership-based, nonprofit environmental organization based in Ann Arbor, Michigan. Founded by community activists after the country's first Earth Day in 1970, the Center is now a regional leader in the struggle for clean air, safe water, healthy communities, and environmental justice."[11]

On its website, the MEC describes its mission: "The Michigan Environmental Council provides a collective voice for the environment at the local, state and federal levels. Working with member groups and their collective membership of nearly 200,000 residents, MEC is addressing the primary assaults on Michigan's environment; promoting alternatives to urban blight and suburban sprawl; advocating for a sustainable environment and economy; protecting Michigan's water legacy; promoting cleaner energy; and working to diminish environmental impacts on children's health."[12] The MEC's apprehension concerning the permitting process is summarized by a further statement on its website, "Michigan was once the country's leader in both environmental protection and citizen participation in decision-making, but now lags far behind other states. Too many decisions affecting public health and the environment are now made behind closed doors to benefit special interests rather than the public".[13]

The MEC and the EC typically become involved in the air permitting process when the permit application is made public. During this stage of the process, they perform an independent analysis of the data submitted by the applicant to determine compliance with Michigan and EPA permitting standards. In this role, their automotive manufacturing emissions experts scrutinize the application for omissions of data and assumptions that are not realistically representative of a fully functioning auto plant.

During the public noticing period, the NGOs and the public submit their comments (including analysis and models), along with any questions and recommendations. This public comment period is required by Michigan regulations and under EPA New Source Review (NSR) rules. In addition EPA Region V may provide comment (and in fact has, on many Michigan permits). MDEQ is required to issue a response to comments and communicate the basis for the final permit decision.

Once the public comment period has concluded, the NGOs examine the permit issued by the MDEQ to verify that their concerns have been addressed and that the permit complies with the Michigan regulations and the Clean Air Act (CAA). If they are not satisfied with the final permit, the NGOs have the opportunity to file an appeal of the permit on the grounds that the permit does not comply with Michigan and EPA NSR regulations. In their role in the process, the NGOs act as guardians to assure appropriate interpretation of the statutes of the CAA.

The NGOs are not as intimately involved in every stage of the permit application. The NGOs' main concern is assuring that regulatory agencies have sufficient resources, isolation from

[11] Ecology Center website, accessed 9/12/03. http://www.ecocenter.org/about.shtml
[12] MEC website, accessed 9/11/03. http://www.mecprotects.org/About.html
[13] Ibid.

political pressures and independence to administer NSR programs. Other issues with the permitting process focus on incomplete information supplied by the automakers, the MDEQ's inadequate information-sharing mechanism, the level of staffing and resource allocation at the MDEQ, and the CAA interpretation discrepancies that exist between states and regions of the country.

Incomplete Information from Automakers

It is the experience of the NGOs that the automakers are slow to supply complete information pertaining to the proposed facility when the application is initially submitted. Often, the data missing from the application is crucial to the determination of expected emissions from the facility, and neither the NGOs nor the MDEQ can rely on estimates for the missing data. For example, the NGOs assert the proposed GM facility in Delta Township had many changes to the application after it was first submitted. This necessitated running the model which estimates emissions multiple times, thus prolonging the process over many months. The NGOs believe that once all data is submitted, the permit process can move along fairly rapidly.

The NGOs maintain that there is a core set of data that can be submitted early in the process that will provide a clear—if still incomplete—picture of the proposed manufacturing facility. This core data should allow the permitting process to move forward, while still providing the automakers time and flexibility to modify the application. For example, they suggest, the automakers should be able to estimate a "worst case" scenario of emissions based on maximum production at the facility, and if the eventual production estimates change downward, it would not necessitate a substantial modification of the permit or the need to run a new emissions model. They contend the automakers have enough experience to make these assumptions, thus avoiding the delays caused by upward revisions of emission estimates—which leads to a reanalysis of the application.

NGOs believe that significant responsibility for any permit delays lies with the automakers' slow response to MDEQ requests for information, constant changes to plant design, and a general hostility towards regulation by the auto companies, all of which needlessly lengthen permit negotiations with the state. Additional resources for MDEQ to handle these permits would help reduce permit turn-around time.

MDEQ and Information Sharing

The NGOs strongly suggest that information regarding submitted permit applications be made available to them early in the permitting process. The NGOs insist, that in order for them to provide independent oversight of all permits issued, they need to be involved in the review process as early as possible.

During the last decade, the NGOs had a great deal of difficulty obtaining adequate and timely information from the MDEQ. This has led to a relationship of mistrust. The NGOs are concerned that an entrenched bureaucracy exists within MDEQ that is averse to sharing information with anyone outside the agency, with the possible exception of the permit applicant. The NGOs want the MDEQ administration to affirm its intent to conduct an open and transparent permitting process. The NGOs also believe that shorter permitting times are possible—and the probability of appeal lower—if they are allowed access to the process sooner.

Staff Numbers and Experience are Key Issues

The NGOs insist that the number of staff at the MDEQ is an important issue that impacts the length of the permitting process. They believe that the MDEQ has inadequate staff numbers to efficiently process all of the applications the agency receives. They do, however, believe MDEQ staff has sufficient knowledge and experience in processing applications for automotive facilities. The NGOs also note that any needed additional MDEQ staff must be funded by revenue from additional permit fees, not from the under-funded general fund budget.

Discrepancies among States and Between Regions of the Country

The NGOs believe there are inter-state and regional discrepancies that the EPA should rectify to make the permitting process consistent across the country. Primarily, they assert that Michigan is one of a handful of states complying with the CAA in terms of permitting auto facilities. As a result of this lax level of compliance with the CAA, several other states can claim a shorter permitting process time. In addition, the NGOs believe that Michigan is one of the only states with enough experience to regulate the automakers. Other states may have more staff, but they are lacking the basic knowledge of the automotive industry to scrutinize permit applications intelligently. The NGOs maintain that EPA oversight is needed in some of these states to ensure compliance with the CAA and also to provide a balance among the states.

Three-Year BACT Standard?

In the last couple of years, the automakers have introduced the idea of standardizing Best Available Control Technology (BACT) determination for a prescribed period of time before a new BACT determination is made, so they have a target of certainty in their calculation of emissions reductions. However, the NGOs feel that the current NSR system provides an appropriate balance of certainty and opportunity to integrate the best current technology into new and rebuilt plants. NSR regulations are designed to be technology forcing, but have clear guidelines for when technologies are considered viable. Any system to replace or amend this process should preserve these key aspects. Additionally, the NGOs insist the MDEQ should be the party which makes the regulatory decisions. It should be politically isolated from economic development concerns so that it can make decisions in an independent fashion.

MDEQ perspective

From the MDEQ website, the following language was obtained outlining the MDEQ and the Air Quality Division (AQD) missions.

MDEQ

The Department of Environmental Quality is a regulatory agency. Its purpose is environmental protection, which is facilitated through the use of the permitting function. Permits are issued for various reasons by a number of different divisions within DEQ.

Air Quality Division

Business and community activities as well as daily activities of individuals impact Michigan's air resource. DEQ staff work to ensure Michigan's air remains clean. The Department of Environmental Quality regulates sources of air pollutants to minimize adverse impact on human health, the environment, and society. Our goals are to meet and maintain federal and state air quality standards using the best available technology and cost-effective controls; limit emissions of hazardous and toxic pollutants; and keep the public informed about air quality conditions. Department staff work to identify and reduce existing outdoor air pollution problems and to prevent significant deterioration of the air resource. This includes air emission control programs; air monitoring; control strategy planning; partnerships to promote voluntary reductions; issuance of permits; and inspection of air emission sources.[14]

MDEQ and the Permitting Process

The text in this section represents the perspective of the MDEQ, as reported to the authors.

The Michigan Department of Environmental Quality (MDEQ) does not dispute the basic premise of the study that Michigan's major modification air permitting process is lengthy and may adversely impact Michigan's ability to attract automotive investment in an increasingly competitive market. In fact, MDEQ acknowledges that the permitting process may take longer in Michigan than in other states. However, MDEQ views the issue in a broader context, where process time is just one factor. The MDEQ is aware of its responsibility to administer the PSD program as delegated by the EPA, along with state-specific requirements for odors and toxics emissions. MDEQ is also cognizant of its requirement to allow a transparent permitting process on behalf of all residents of the state. Therefore, the agency states that it concentrates on doing the job it is entrusted and responsible for, performs it in a timely manner, and with the least amount of resources.[15]

[14] From MDEQ website, accessed 9/17/03. http://www.michigan.gov/deq/0,1607,7-135-3310-17349--,00.html

[15] New Source Review Permitting Issues for Auto Assembly Facilities, In Response to the Center for Automotive Research (CAR), Preliminary Conclusions: Automotive Renewal and the Permitting Process. MDEQ, AQD, August, 2003.

The Permit Process

According to the MDEQ, the permitting process is divided into three phases, with the first phase being the technically complete application, the second phase the public noticing process, and the third stage the delegation/appeal process. Figure 6, below, details in outline form the various components that make up the three phases. It is important to note that this is not a comprehensive list of the steps within each of the processes; rather it is an overview of the most important issues with respect to the auto industry.

Figure 6

Major Factors in New Source Review Permit Issuance for the Auto Industry

Phase One: Technically Complete Application

a. Best Available Control Technology (BACT) determinations
b. Amending the application
c. Toxics Information
d. Odor Information
e. Modeling demonstration

Phase Two: Public Noticing Process

a. Citizen input
    i. Nuisance (odor) issues
    ii. BACT issues
    iii. Toxics concerns
    iv. Environmental Justice issues
b. United States Environmental Protection Agency (USEPA) input – generally BACT determination concerns
c. Additional Information and Permit Modification
    i. Company objections to providing additional information or review
    ii. Staff time reviewing and analyzing additional information and review
    iii. Company objections to permit condition changes

Phase Three: Delegation/Appeal Process

a. The delegated PSD program dictates the appeals process (most states do not have this obligation).
b. Michigan will be pursing the implementation of its own PSD program to redefine the appeals process.

Source: Michigan Department of Environmental Quality-Air Quality Division

Phase One—Technically Complete Application

MDEQ contends that permit process time—as measured from the time when a technically complete application is submitted—directly correlates to the level of completeness of the initial permit application. According to MDEQ, The Air Pollution Control Rules (R 336.1206) of the state require final action to approve or deny a permit within 60 days when no public notice requirement is involved or 120 days when public notice is required. These times are measured from the receipt of a technically complete application. A "technically complete application" means the MDEQ is in receipt of all information required to process the permit.

MDEQ's experience is that the automobile companies are reluctant to disclose full information early in the process, thus handicapping the applicant, the AQD, and any interested parties in the prompt processing of a permit. The automobile companies agree that they do not submit complete information—due to confidentiality concerns—but, believe the process can still move forward. The AQD has agreed to move the process forward, however the costs (monetary, timing, public relations, and trust) associated with such action has been great for all parties directly and indirectly involved.

Phase Two—Public Noticing Stage

Historically, according to MDEQ, the second phase of the process was more predictable, with a specific amount of time defined in which to receive public comments and then render a decision. As a result of the automakers' request to move the process forward from stage one (based on less than complete information and review), what was previously a stage devoted primarily to public comments, now is complicated and prolonged because unresolved issues left over from phase one are still being addressed in phase two.

During this phase, after receipt and review of public comments, the MDEQ decision-maker will issue, modify or deny the permit.

Phase Three—Delegation/Appeal Stage

According to the MDEQ, increased scrutiny in phase two has led to heightened public interest, which in turn has led to phase three recently becoming an issue. After a decision is made on a permit, any individual or organization who participated in the public participation process may appeal the MDEQ decision. The petition for appeal must demonstrate why a review of the permit decision is needed.

Stage three is primarily controlled by the administrative law judges of the USEPA, Environmental Appeals Board (EAB), as they are the arbiters—for a delegated state—of any appeals resulting from an unsatisfactory resolution of the public noticing stage. The EAB is the final independent decision-maker concerning appeals of decisions made by delegated state programs, and the timeliness of its decision is minimally affected by input from the state. States with an approved PSD program included in their EPA-approved State Implementation Plan (SIP) do not involve the EAB in dispute resolution. Rather that authority is spelled out by the state in its SIP and resides fully within the state. MDEQ contends that the procedure for developing and obtaining approval of a PSD program within an SIP is a complicated process, usually lasting a minimum of three years.

Primary Issues

MDEQ's position is that the process is lengthy primarily due to four root causes:

1. *The automobile companies do not supply sufficient information with the permit application to allow MDEQ to process and approve an air quality permit in a timely manner.*

   According to the MDEQ, in the past a great deal of time was spent on producing a technically complete application during the first phase of the application process. However, the automobile companies have had difficulties submitting the level of detail requested by MDEQ this early in the process. (The automakers say this is due primarily to product unknowns and confidentiality concerns in the early period of company planning and product development) Responding to industry concerns, the MDEQ has developed draft permits based upon the information the automaker has provided. As a result of comments focusing on the inadequacy of the review, MDEQ had to make its requests for additional detailed information now during the second phase of the permitting process. While not actually decreasing the amount of information needed to approve a permit, this just shifts the additional information requests and review components further along the timeline so that a portion of the process now occurs during the public noticing stage. However, moving into the public noticing stage naturally brings with it increased public scrutiny of the permitting process. MDEQ has found that the time then needed to resolve the issue is greater. MDEQ suggests that the probability for appeal is higher if the additional information requests and review process is moved into the public noticing stage. In other words, MDEQ contends that if the permit contains all relevant data, and differences between staff of MDEQ and the automakers are resolved before the public noticing stage, the permit is much more likely to be approved without appeal and in a much more timely fashion.

2. *There are major unresolved philosophical differences between MDEQ and the automakers that contribute substantially to the process time.*

   The MDEQ mentions frequently that there are "major unresolved philosophical issues" regarding the processing of a permit.[16] MDEQ states that its role in the permitting process is to provide "independent technical engineering review"[17] to ensure the application meets state and federal requirements. Their role is not, as the agency maintains, to do what the industry wants, which is to "process the application as received and champion the application through the permit issuance process."[18] For instance, when determining Best Available Control Technology (BACT), MDEQ claims the automakers want the agency to approve the BACT standard as researched and submitted by the applicant, whereas the agency—as part of its delegated responsibility— must follow the "top-down" BACT review which seeks to continuously raise the BACT standard, an often contentious process. MDEQ claims that this fundamental disagreement concerning the role of each party is the most time-consuming issue of the permit process, as it is continually argued and negotiated during each permit application review process.

[16] ibid.
[17] ibid.
[18] ibid.

3. *MDEQ has very little impact on the length of the appeal process.*

   The appeal process as spelled out for delegated states allows any individual who participated in the public participation process to file an appeal of the permit decision, if that person feels his/her concerns have not been satisfactorily addressed. The process of requesting an appeal is to mail a letter to the EAB, stating the person's concerns. The EAB then determines if the appeal is valid, and if so, it issues a stay on the permit—effectively preventing the plant construction—until it has ruled on the permit decision. How long until the EAB issues its decision is unknown and the state has little (if any) influence over it. Both the state and industry agree that the EAB appeal process severely impacts the timely issuance of permits and should be changed.

4. *Many of the other automotive states and Regions of the EPA have not interpreted the statutes of the Clean Air Act as stringently as Michigan.*

   MDEQ's perception is that some other states are not "performing adequate and sufficient New Source Review (NSR) demonstrations as required by the regulations and as enforced by the United States Environmental Protection Agency Region V."[19] The MDEQ argues that other states' inadequate NSR demonstrations contribute to a short permitting time in those other states, not the existence of a superior permitting administration process. And, they further state, having attempted some of these "short cuts" used by other states, they have experienced disastrous ramifications on the time required to issue a permit (e.g., GM Delta and Craft Centre permitting processes).[20]

Other Issues

MDEQ maintains there are a handful of other issues that adversely impact the permit process time. For instance—as mandated by the federal government to all states—construction is not allowed to commence throughout the entire application process until all PSD permits are approved. MDEQ currently has no control over the stay of construction. The automakers have stated that this could be different if the State of Michigan were no longer a delegated state. A State Implementation Plan (SIP) could be written to allow for limited construction to proceed while a company is in the permit application process. MDEQ disagrees; however, an approvable PSD program may be developed allowing construction to commence once a permit is issued. EPA guidance is quite clear on the issue of beginning construction. The EPA's interpretation of the statutory language in the Clean Air Act prohibits beginning construction, with the exception of site clearing, prior to the issuance of a permit.

Another issue, pre-application notification of the MDEQ regarding potential future manufacturing plans, has been raised by both MDEQ and the automakers as an area that needs to be improved. MDEQ points out that it has attempted to make inroads on this issue through industry workgroups and meetings, pre-application meetings, and confidentiality agreements, all resulting in minimal impact on the overall permitting process timeline.

Lastly, MDEQ, while admitting that resources are always an issue, especially in the present economic climate of lower state budgets, believes that there are more important issues on which to focus. The agency states that it will always assign sufficient staff to process an application in a timely manner.

[19] ibid.
[20] ibid.

In sum, the MDEQ stresses its perception that there is not a level playing field across the United States regarding the NSR permitting process, which in turn casts an unfavorable shadow on Michigan's process. As it is difficult for the State of Michigan to change other states' behavior by itself, efforts should instead focus on what actions Michigan can take to improve the perception of its permitting process.

Due to the philosophical differences mentioned frequently by MDEQ, it is imperative that both parties come together and resolve these differences. MDEQ would like the process to be less adversarial and instead focus on the common goal of permitting the facility in a reasonable time. Additionally, MDEQ suggests the automakers provide more information earlier in the process, and also take strides to reach out as soon as possible to all potentially affected stakeholders in the broad community to help alleviate concerns that could hinder the formal application process. Overall, the MDEQ believes that unless the two parties agree "as to what the process requires and what must be done to meet those requirements, there will always be avoidable delays in the permitting process in Michigan."[21]

[21] ibid.

Conclusions

The timely launch of a new product is one of the most competitive factors in the North American auto industry. Every process and component of the launch is being intensely scrutinized by the automakers to identify areas for time reduction. Any factor that substantially prolongs the process of designing, building, or delivering a new product to the market can have disastrous economic effects on an automobile company. If a manufacturer is delayed in bringing new vehicles to the market, it is also delayed in generating revenues and thus recovering the invested costs of capital improvements and product design. This delay not only affects the company, but it also affects the company's employees, their families, and the communities in which they live. Finally, it will impact the entire state economy—Michigan possesses the highest economic multiplier of any state for auto employment and is the most auto-dependent state for employment income and taxes.

In Michigan, due to federal regulations governing EPA-delegated states, all environmental permits must be approved by the MDEQ—and any appeals resolved—before a manufacturing firm can begin construction. The State's automotive firms report that permit approval times average 18-24 months, beginning from the submission of an application. MDEQ states that the process takes a shorter period of time—once a "technically complete" application is received. Either way, the process takes longer than is acceptable, given the highly competitive and fast-changing nature of the domestic automobile industry.

From a public policy perspective, CAR believes that the costs (to the state and the automakers) of a lengthy permitting process are extremely high, with no evidence that additional benefits are garnered. Additionally, the benefits to the environment provided by the state's stringent adherence to the Clean Air Act can continue to be realized through a shorter permitting process.

There is a sense of willingness on the part of both the automakers and MDEQ to work together to resolve philosophical issues and create a process that is less adversarial, while focusing on a common goal of permitting facilities in a reasonable amount of time. There are a number of actions that can be taken to achieve that goal:

- Chief among these actions is Michigan gaining approval of a State Implementation Plan (SIP) from the EPA. An SIP would allow full control of the air quality permitting process to reside within the state—alleviating the time delays inherent in federal oversight of the present permitting program.
- Secondly, efforts must begin immediately to build a relationship of cooperation and trust among the automakers and the MDEQ. Each party has a substantial difference of opinion of the other party's motives and role in the permitting process, and resolving these misunderstandings will significantly improve a lengthy and contentious process.

Most parties interviewed for this study mentioned examples of other states' interpretation of the Clean Air Act and discrepancies in their adherence to its statutes as a driving reason for Michigan's comparably lengthy permitting process. While it is easy to point fingers elsewhere, it is extremely difficult for the State of Michigan to change other states' behavior. Primarily, the state must focus on what actions it can take to improve its own permitting process.

In sum, given the contribution of the automotive industry to the Michigan economy, and the employment generated by the industry, it behooves the state to provide preferential status to permitting automobile manufacturing facilities. The auto industry and the regulatory and public sectors must work together in an open process to accomplish their mutual goals of permitting a world-class facility, equipped with state-of-the-art pollution abatement technology, in the shortest possible time.

Recommendations

Given the highly competitive nature of the domestic automobile industry, it is imperative that Michigan's air quality permitting process be reduced by a minimum of six months. Without this minimum time reduction, the automakers may be forced to locate future investment elsewhere. A series of recommendations are presented here that, if enacted, will accomplish that goal—without sacrificing the regulatory intent of the Clean Air Act. These recommendations come about through an iterative process of presenting draft findings and recommendations to the study participants, then combining their input, CAR's perspective, along with input from the Michigan Automotive Partnership and the Michigan Economic Development Corporation.

- **Proceed toward Michigan becoming an SIP-approved state**

  Michigan's attainment of SIP status would have a great impact on reducing the state's air quality permit processing time. SIP-approved status for Michigan would allow the state to write its own plan for approving, enforcing, and appealing air quality permits. This would add certainty to the permit application phase by detailing exactly what the state will require before a permit is approved, and also give the state control over the length of time needed in the case of an appeal.

  It is strongly suggested that representatives from all the parties involved in this study be allowed to participate in drafting the SIP. There is a level of apprehension among the study participants concerning what a final version of an SIP would look like, with the automakers and NGOs reluctant to let the state have sole responsibility for crafting the document.

  Gaining SIP-approved status is a lengthy process, and therefore should be undertaken at the earliest opportunity. However, the state should investigate whether there are SIP practices it can adopt prior to SIP approval.

- **Allow for construction to proceed while permit is being appealed**

  While not reducing the length of processing time per se, allowing construction to begin before the final permit is issued will grant some measure of flexibility to the automakers' schedules. However, there is disagreement among the study participants as to how much construction should be allowed. Currently, according to federal statutes, no construction is allowed in Michigan before issuance of final permits. With SIP-status, plant construction could commence as soon as a permit is issued—even if it is appealed. The history of major automotive permits in the state suggests that all problems with an application are eventually resolved; therefore, allowing construction during the appeal phase does not seem to present a risk to the state or the automakers.

- **Offer a scalable fee schedule for major permits**

  In order to address the concerns that the MDEQ is under-funded and cannot adequately staff its air quality permit approval team, it is strongly recommended that a scalable fee schedule be created to assess fees to applicants for major modification permits, commensurate with the complexity of the proposed facility. The scalable fees would allow MDEQ to place more people on the team assessing the application. Due to the complexity of the automotive major modification permits filed with the state, the permit fee could help offset the funding of a permanent group of automotive facility experts

within the MDEQ, whose primary responsibility would be assessing automotive-related permits. Not only would dedicated staff create a level of familiarity among the MDEQ and the automakers, it would alleviate—if not eliminate entirely—the concern that there is a deficit of automotive knowledge within the agency.

- **Present briefings to alert MDEQ of automobile industry activities**

  During the course of this study, it became evident that the MDEQ did not have knowledge of two automakers' proposed plans for major modifications of facilities within the state—even though these plans had been announced publicly months prior. However, no application for permit had yet been filed with the MDEQ. Regularly scheduled briefings on the auto industry would help the MDEQ stay aware of the broad dynamics of the industry and anticipate future actions by the state's automakers. These briefings should be presented by organizations with intimate knowledge of the automobile industry, such as the Michigan Economic Development Corporation (MEDC) or CAR.

- **Create a mechanism to allow automobile companies to disclose product plans without compromising sensitive information**

  Differing from the previous recommendation, which advocated for a broad overview of the automotive industry, this recommendation focuses on the plans of individual companies.

  It is essential that the MDEQ and the automakers develop a system that will allow an automaker to discuss detailed, confidential information with the MDEQ before a formal application is submitted. The MDEQ rightly pointed out during this study that the automakers' initial applications are lacking sufficient details to be processed without requests by the MDEQ for substantial amounts of additional information. The automakers counter that, due to the length of time the MDEQ needs to process a permit, they cannot reveal all of the details because of concerns their competitors will become aware of their plans. The two parties must arrange a system where they can confidentially discuss project specifics—prior to submission of a formal application—so the automakers can submit an application with enough required information for the MDEQ to move forward on the approval process. Caution is urged, however, that the MDEQ safeguard against the perception that permit approval is taking place out of the public's eye, before an application is made public.

- **Assign an internal project executive at MDEQ to shepherd environmental permit application through the process**

  A project executive assigned to each major modification application would make available to the applicant a single point of contact within the MDEQ who could coordinate the processing of the application. If at all possible, this project executive should be made responsible for ensuring that the permit application meet approval within a competitive time period.

- **The MDEQ administration must affirm its intent to conduct an open and transparent permitting process**

  MDEQ must provide external stakeholders open access to the permitting process in order to gain their support for the final permit and reduce the likelihood of an appeal. The NGOs have expressed concern that the MDEQ's permit approval process caters to industry to the detriment of solid environmental protection. They believe that a transparent approval process, which allows access to MDEQ's methodologies and analyses, prior to the public noticing period, will reduce the contentious atmosphere often present during the public comments phase and also drastically reduce the probability of appeal.

- **Facilitate a dialogue between the highest level directors/staff at MDEQ and executives/staff at the automakers**

  Currently, an adversarial relationship exists between the Michigan automakers and the MDEQ, compounding the time needed to process an application. While the permit approval process must inherently require two perspectives regarding the permit application, at some point the parties must be able to reach an agreement. However, the philosophical differences that exist between the automakers and the MDEQ carry over from one permit to the next, and the same argument about roles and responsibilities is revisited during each new permit application. It is strongly advised that the leaders of the MDEQ and the automobile companies strive to overcome these fundamental differences by first recognizing, and then endorsing, the important role each plays in providing a high quality of life for the people of Michigan. This can result only from meetings between the highest level representatives of the automobile companies, the MDEQ, and the state government.

- **Press for consistency among the states and EPA regions**

  The participants in this study were unanimous in their opinions that the Michigan permit approval process is different than in other states. However, there was not complete agreement about the ramifications of those differences. The authors have some doubt that the sole difference for the comparably longer process in Michigan is a direct result of lax application of CAA regulations in other states. Caution must be taken to ensure that the state not focus solely on advocating stricter adherence to the CAA in other states as the solution to a consistent permitting process.

  There are many factors that can and should be addressed within the state before pointing the finger at other states, as shown in the previous recommendations. That being said, there is a strong indication that other states are taking advantage of their SIP status or inconsistent EPA oversight to streamline the permitting process.

  - We suggest the state advocate for—and participate in—a thorough examination by the EPA of the other states' permitting processes to closely examine the question of consistent interpretation of the laws.
  - Further, it is highly recommended that the state benchmark the permitting processes in other states that have a substantial automotive presence, to gain a complete understanding of their permitting operations and adopt some of the best permitting practices in Michigan.

- Given the impact of the automotive industry on the state's economy and quality of life, and the number of facilities at risk in the state in the next five years, it is recommended that a "best practices" study be undertaken without delay.

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