

STATUS REPORT ON ESTABLISHING
INTERCONNECTION STANDARDS:

A Preliminary Report by the Michigan Public Service Commission Staff
Regarding Its Consultations with Stakeholders

August 31, 2000

INTRODUCTION

By its order dated June 19, 2000 the Michigan Public Service Commission initiated a proceeding (Case No. U-12485) to establish standards for the interconnection of merchant plants with the transmission and distribution systems of electric utilities. As a part of this proceeding, the Commission directed its Staff to consult with electric utilities, owners and operators of merchant plants and proposed merchant plants in Michigan and other relevant stakeholders. The Commission further directed the Staff to file a status report on the results of its consultations by August 31, 2000, and a final report by October 2, 2000. This document is the Staff status report.

Immediately following this introduction, are summaries of the comments provided to Staff during the course of interviews conducted in July and August 2000. These interviews were with a total of twenty parties representing a broad cross section of the merchant plant industry including utilities, plant owners and developers, and other interested entities.

A variety of issues were raised during these consultations, but there were a few concerns which were mentioned more frequently than others. One of these is the issue of state/federal jurisdiction. Several commentators observed that the Federal Energy Regulatory Commission (FERC) has found that it has jurisdiction over interconnection standards. Each of the electric utility companies interviewed stated that they had or soon would be filing interconnection standards with the FERC. While some large projects seem to be progressing in the absence of a resolution of the jurisdictional issue, smaller projects may be hindered by a lack of certainty about the procedures applicable to them.

Among merchant plant owners and developers, a frequently stated concern related to the process of attaining an interconnection with a transmission provider. It was felt that the amount of time and the cost of required for the facilities studies and system impact studies used to analyze an interconnection request should not be open ended. It was felt that some limitation or known completion dated would help merchant plant owners plan their projects. Transmission providers emphasized the need to have information about a proposed project provided in a complete and timely manner to do a proper review.

It was generally recognized that relaying, metering and telemetering and related equipment must be installed to interconnect with a transmission or distribution system. There was also a general recognition that the requirements for smaller projects are different than for larger projects. The interviews conducted so far, however, did not reveal a general consensus on what those requirements should be.

SUMMARY OF STAKEHOLDER COMMENTS

Michigan Independent Power Producers Association (MIPPA)

MIPPA is an association which represents over 200 megawatts of instate generating capacity. A non-profit organization, MIPPA members include generation fueled by hydro, landfill gas, wood and solid waste fuels. MIPPA states that its purpose is to monitor, represent and advocate the needs and interests of non-utility electric generators in Michigan.

A key issue for MIPPA is the timeliness with which requests for interconnection are processed by the electric utility which owns or controls the transmission or distribution to which interconnection is required. MIPPA believes that a slow response to such a request is a deterrent to the completion of non-utility generation projects.

A second issue raised by MIPPA relates to the amount of additional facilities and equipment which may be required by the electric utility as a condition for interconnection. It was felt that, at times, additional facilities may be required which are not necessarily technically justified.

MIPPA also suggested that different interconnection standards should be applied to small projects than are applied to large projects. It was suggested that the interconnection standards which have already been developed for co-generation projects be used for smaller, non-utility generators.

Electric Power Supply Association (EPSA)

EPSA is a national trade association which represents power marketers and developers of power projects. EPSA has prepared both a model interconnection agreement, Congressional testimony, and a report entitled "A Bill of Rights for New Generation Interconnection."

As a national organization, EPSA has an overriding concern that the interconnection process be uniform, and has thus proposed that FERC be given the responsibility to develop interconnection policies.

The materials prepared by EPSA reveal two basic concerns: 1) that the review process required by some transmission owners takes too long, and 2) certain facility upgrades required by the transmission owners are not always necessary. Thus, the EPSA model agreement includes provisions whereby the parties agree to a schedule for the completion of certain milestones. Also, the model agreement states that interconnection facilities must reflect “Good Utility Practice” where that term is defined as not limited to “optimum practice” but includes “acceptable practices”, and standards promulgated by specified third party organizations.

Tenaska Incorporated

Tenaska Incorporated is a power development company and energy marketer with headquarters in Omaha, Nebraska. It has about 5,400 megawatts of generating facilities under construction, in financing, or in operation. It also has 6,000 megawatts of projects in the pre-financing stage of development. In Michigan, Tenaska is involved in the development of a project to be located in the city of Wyandotte. This facility is planned to be a natural gas fueled combined cycle plant of some hundreds of megawatts. Tenaska is currently seeking an interconnection agreement with the Detroit Edison Company.

In an interview with Staff, a representative of Tenaska discussed three main issues related to interconnection standards.

The first issue is related to the basic definition of interconnection service. Tenaska would prefer that interconnection service be considered a service separate and distinct from transmission service. Tenaska believes that interconnection service should not be bundled with transmission service. Rather, a facility should be allowed to interconnect with a transmission provider without being required to receive network transmission service. This would allow the generator to sell the output of the facility to a marketer who, in turn, would acquire the transmission service.

The second issue pertains to the construction of those facilities which need to be installed to interconnect the merchant plant to the transmission system. While Tenaska recognizes that there may be a need to build a substation, or some additional lines to bring about the interconnection, there is a concern that the installation will not be performed in a sufficiently timely manner to suit the business needs of the generator. As solutions to this perceived problem, three options were offered. One is to allow the generator to build the facilities itself, another would be to make the transmission provider be subject to liquidated damages, and a third option would be to have a third party install the required equipment.

Finally, Tenaska discussed an issue which it refers to as “comparability.” By this, Tenaska means that merchant plants and generators affiliated with the transmission provider should be governed by the same set of operating rules.

In addition, Tenaska also suggested an existing interconnection standard as a model for Michigan to use. This is the “ERCOT Standard Interconnection Agreement” which was approved by the Public Utility Commission of Texas . (“Order Approving the Standard

Generation Interconnection Agreement”, Public Utility Commission of Texas, Docket No. 22052, March 23, 2000)

Unicom Energy

Unicom Energy, Inc. is a subsidiary of Unicom Corporation, the parent of Commonwealth Edison Company.

Unicom’s interest in the interconnection issue is oriented toward the development of small and locally located customer generation, also referred to as distributed generation. As an interconnection standard for distributed generation, Unicom suggested using rules recently adopted by the Public Utility Commission of Texas. (C.f. Public Utility Commission of Texas, “Substantive Rules Applicable to Electric Service”, Rule 25.211: “Interconnection of Distributed Generation”, and Rule 25.212 “Technical Requirements for Interconnection and Parallel Operation of On-site Distributed Generation”)

The Texas rules governing the interconnection of distributed generation were adopted in 1999, but are undergoing further refinement in 2000. Under these rules no more than 10 megawatts of capacity can be interconnected at any one time at a voltage of 60 kilovolts or less. Other provisions of these rules include both procedural and technical requirements for interconnection. The procedural provisions include such matters as obligation to serve, disconnection, pre-interconnection studies and application processing. The technical provisions describe operating and hardware requirements needed to ensure safety and to prevent undesirable effects on the host utility’s system.

Primary Power Management and Development

Headquartered in Ithaca, Michigan, Primary Power Management and Development, Inc. develops and owns generating facilities in Michigan, New York, and California. In Michigan, Primary Power has an interest in facilities in Grayling, Hillman, and Genessee Township near Flint.

Important issues for Primary Power are the cost of and amount of time required for system impact and facilities studies.

Detroit Edison

The Detroit Edison Company is the electric utility which serves the southeastern and Thumb regions of Michigan. Detroit Edison is the principal subsidiary of DTE Energy Company.

Edison recognizes that interconnection procedures and requirements may vary depending on the size of the facility being interconnected, though safety is always an important concern. However, equipment for relaying, metering and telemetering can be less sophisticated for smaller projects.

For larger projects, pre-interconnection studies are to be required, and Edison would prefer performing these studies itself. It is recognized that the cost and the amount of time needed for these studies is a concern for developers. Edison suggested that the procedures submitted to the Federal Regulatory Commission by American Electric Power, as modified by the FERC could be a basis for dealing with this issue. (C.f. "Order Accepting for Filing, As Modified, Revisions to Open Access Tariff", Federal Energy Regulatory Commission, Docket No. ER00-2413-000, June 28, 2000)

Edison also indicated that it would probably accept the concept that interconnection and transmission can be unbundled. Thus, a merchant plant may be interconnected to the transmission system without acquiring transmission rights. Transmission rights would have to be acquired by, for example, a marketer to whom the merchant plant owner has agreed to deliver the output of the plant.

For smaller projects, it was suggested that the procedures which were developed for qualifying facilities under the Public Utility Regulatory Procedures Act of 1978 be used for smaller facilities. It is likely, however, that these procedures will have to be updated.

In the coming year Edison plans on filing an interconnection process with the FERC. This process will require a deposit, a system impact study and a facilities study, and a letter agreement. In addition Edison also plans to file a pro forma interconnection and operating agreement with the FERC. Edison notes that the FERC may have jurisdiction over interconnection standards irrespective of the size of the facility if the generator chooses to sell some of its output.

Consumers Energy Company

Consumers Energy Company is the electric utility which serves most of the outstate areas of the Lower Peninsula of Michigan. Consumers Energy is the principal subsidiary of CMS Energy Corporation

Consumers recognizes that interconnection procedures and requirements may vary depending on the size of the facility being interconnected, but 70 - 80% of the requirements for metering, relays and telemetering may be the same for small projects as for large projects. Currently the Institute for Electrical and Electronics Engineers is developing a set of standards for the interconnection of distributed resources (working group P1547). Consumers is a participant in the development of this

standard and believes that it will provide a minimal standard for distributed generators of up to 10 megawatts in size. Consumers believes that site specific situations could result in additional requirements, however. In addition, Consumers suggests that the procedures which were developed for qualifying facilities under the Public Utility Regulatory Procedures Act of 1978 be updated and used for smaller facilities. (C.f., “Guidelines on Interconnection for SPP&Cs,” Michigan Department of Commerce, Public Service Commission, June 1985)

For larger projects Consumers has already developed a set of interconnection guidelines. These guidelines will be updated and used as part of a planned filing with the Federal Energy Regulatory Commission. The filing with the FERC will include an application procedure, interconnection guidelines, and an interconnection and operating agreement. This filing will be made as appendices to the company’s open access transmission tariff agreement.

Consumers recognizes the concept that interconnection and transmission can be unbundled, but is concerned that transmission network upgrades required by a generation project may not be accepted by the generator as a cost of interconnection.

Finally, like Detroit Edison, Consumers believes that the FERC may have jurisdiction over interconnection standards irrespective of the size of the facility if the generator chooses to sell some of its output.

Cummins & Barnard

Cummins & Barnard, Inc. is an engineering consulting firm located in Ann Arbor, Michigan. Its services include a variety of areas related to electricity production and use, and its clients have included several Michigan businesses and institutions. Cummins & Barnard proposes that technical submissions

for various sizes of generators be used as a basis for a “Notice of Proposed Interconnection.” The transmission provider would then have a time line to meet in responding to the proposal.

Decker Energy International

Decker Energy International, Inc., headquartered in Winter Park, Florida, develops, acquires and owns generating facilities. Decker Energy has been involved in projects in several states including Michigan. In Michigan Decker Energy is a partner in the Grayling Generating Station and the Cadillac Renewable energy project. At this time, Decker is in the late stages of development of two other projects in Michigan, one in Carson City and one in St. Clair. Each of these projects is a natural gas fired generating facility with a capacity in the range of 500 to 800 megawatts.

Decker Energy’s concerns about interconnection procedures are related to the review phase of the process. Decker believes that the review process is too slow at times and that the cost of the required pre-interconnection studies is too high. Decker states that the cost of these studies can be in the tens of thousands of dollars.

As a means of making the interconnection process more efficient, Decker proposes a modification to existing procedures. Decker suggests that an initial feasibility study be performed first to determine the viability of a project. This study would presumably be less expensive and of shorter duration than a complete pre-interconnection set of studies. Then, if the project is shown to be feasible, the more extensive reviews would be conducted.

PG&E National Energy Group

PG&E National Energy Group is the competitive subsidiary of PG&E Corporation, the parent company of Pacific Gas and Electric. PG&E National Energy Group has proposed the construction of a 1000 megawatt natural gas fired combined-cycle generating plant in Covert Township, Van Buren County.

One comment made by PG&E related to the concern that the creation of Michigan interconnection standards would create an additional procedural step for merchant generators, thus delaying the development of new projects. For the larger projects, interconnection procedures and standards were felt to be under the jurisdiction of the Federal Energy Regulatory Commission.

PG&E also commented that it endorsed the concept that interconnection and transmission should be unbundled. Further, PG&E stated that issues related to unbundling should be resolved at the regional level, preferably, for example, by a regional transmission operator. In the absence of a regional organization, these issues should be resolved at least on a Michigan system-wide basis until such time as a regional organization is in place.

A final point raised by PG&E relates to the distinction between facilities which may be constructed to increase the reliability of a generation project, and those facilities which are required to interconnect with the transmission system in a manner which does not negatively effect the system. PG&E wishes to emphasize that whether to make expenditures to further increase the reliability of a generating plant should be left to the developer as a business decision. At the same time, PG&E recognizes that it is necessary to construct those facilities which are required to protect the continued safe and reliable operation of the transmission system.

Southern Energy

Southern Energy, Inc. is a unit of Southern Company which is the parent company of Alabama Power, Georgia Power, Gulf Power, Mississippi Power, and Savannah Electric. Southern Energy is developing an 850 MW natural gas-fired generating plant near Zeeland, Michigan. The first phase of this project (300 MW) is scheduled for completion by June 1, 2001, the second phase (550 MW) is scheduled to be completed by June 1, 2002.

Southern expressed the concern that an interconnection process should require accountability to ensure that the review of an application is performed in a timely manner. Southern believes that there should be firm dates established on which an applicant can plan to receive the information it needs.

Southern also stated that interconnection standards would be useful if they served to prevent changes from being required after a project was already under construction.

Southern distinguished between what it referred to as commercial as opposed to technical issues. Southern believes that transmission access should be a separate issue from interconnection. Thus, a generator should be allowed to be interconnected, but be able to sell its power to a third party marketer who would be responsible for acquiring transmission services.

Southern also observed that the case by case process of the Federal Energy Regulatory Commission can result in variations in technical requirements from one electric company to another. For example, Southern believes that the requirement for reactive support varies among companies.

Finally, Southern suggested that if an interconnection agreement requires the provision of ancillary services to the transmission provider, then the generator should receive compensation for the services it provides to the system.

Armstrong Service

Armstrong Service Inc. provides engineering, procurement and construction services for steam systems. The parent company of Armstrong Service is Armstrong International, Inc. Armstrong Services is currently involved with a co-generation facility located on the campus of Western Michigan University.

Armstrong Service believes that current interconnection policies may result in excessive interconnection costs being charged to generating facilities.

Energy Michigan

Energy Michigan is a trade association formed to represent the interests of independent power producers, their customers, and other parties with an interest in the independent power industry. The following material has been adapted and summarized from a preliminary report on interconnection standards prepared on behalf of the association.

Energy Michigan has identified what it believes are seven issues related to the interconnection of independent generators.

1. Energy Michigan suggests that interconnection issues should be separate from transmission issues. A generating project should be allowed to interconnect without being required to reserve transmission capacity.

2. Energy Michigan is concerned about the amount of time that is needed and the cost of interconnection studies. Thus it suggested that time frames be established and that there be cost caps for smaller projects. For large projects it is suggested that there be monetary damages for delays and that the project be allowed to use a private vendor for studies if there have been delays.

3. Energy Michigan also suggested that there be standard interconnection agreements, especially for smaller projects, one for projects which will be selling power, and another for “inside the fence” projects.

4. Regarding the time and cost of constructing interconnection facilities, Energy Michigan proposed that there be a standard policy on the amount of time allowed to construct facilities; a standard which could differ for large and small projects. It is also proposed that liquidated damages be specified for failure to meet time limits and budgets. Procedures used in Texas are recommended as a model on this issue. [C.f. Public Utility Commission of Texas, Chapter 25 Substantive Rules Applicable to Electric Service Providers, Section 25.211(m)]

5. Energy Michigan also proposed that non-utility generation be subject to the same dispatch and other standards as generation owned by the interconnecting utility, with an exception for inside the fence projects.

6. In the view of Energy Michigan a program of equipment pre-certification could increase the timeliness of the interconnection process.

7. Finally, Energy Michigan recommends there be a dispute resolution process.

In addition to these seven issues, Energy Michigan suggests that large projects may be under the jurisdiction of the Federal Energy Regulatory Commission, and hence are not covered by Michigan law.

American Electric Power

American Electric Power Co. (AEP) is the parent of Indiana-Michigan Electric Co. which serves electric customers in the St. Joseph and Three Rivers areas. Indiana-Michigan Electric currently does business under the American Electric Power name.

AEP provided several documents for review: interconnection requirements for projects 25 kW and below, interconnection requirements for larger projects, and its filing with the Federal Energy Regulatory Commission to add procedures for interconnection to its open access transmission tariff.

Dynegy

Dynegy, Inc. is a marketer of energy products headquartered in Houston, Texas. It has a 50% interest in a generating facility located in Ludington, Michigan and is considering further investment in a merchant facility located in the state.

Dynegy commented on the issue of state/federal jurisdiction by observing that most states are letting the Federal Energy Regulatory Commission take the lead on merchant plant interconnection. Two states which have been or are now working on this issue are Texas and Louisiana.

Shell Exploration and Production

Shell Exploration and Production Company is a subsidiary of Shell Oil Company. Shell E&P currently has up to 15 megawatts of unused generating capacity at a facility located in

Kalkaska, Michigan. It wishes to interconnect for the purpose of selling the output of 3 - 4 megawatts of this capacity into the grid.

Shell E&P raised as an interconnection issue the cost of constructing the facilities required to achieve the interconnection. Also, related to the total cost issue, Shell E&P also felt that the separation of costs between those which are network related and those which are directly assignable to the generator is another issue. In addition, Shell E&P suggested that a useful interconnection process should review applications to interconnect in a timely manner.

Wisconsin Electric Power

Wisconsin Electric Power Co. serves electric customers in the Upper Peninsula of Michigan. Wisconsin Electric submitted a draft copy of an interconnection agreement between certain electric companies located in Wisconsin and the American Transmission Company. It is expected that this agreement will be filed with the Federal Energy Regulatory Commission and is expected to provide the basis for interconnection in the Upper Peninsula for interconnections at or above 69 kilovolts.

Bay Windpower

Bay Windpower argues that wind facilities should have what it refers to as “priority interconnection status” to encourage the development of this resource in Michigan.

Michigan Electric and Gas Association

The Michigan Electric and Gas Association (MEGA) is a trade association of retail gas and electric companies operating in the state of Michigan.

MEGA is of the view that the Federal Energy Regulatory Commission has jurisdiction over the interconnection standards of transmission systems. MEGA also stated that its members intend to

develop their own standards for the interconnection of facilities at the distribution level, possibly based on standards being developed by the Institute of Electrical and Electronic Engineers.

Midwest Independent Power Suppliers Coordination Group

The Midwest Independent Power Suppliers Coordination Group (MWIPS) is an association of power suppliers who plan to participate in the wholesale and retail power markets in Michigan and other Midwestern states.

In its consultations with the Commission Staff, MWIPS raised five separate issues related to interconnection standards.

1) MWIPS believes that the establishment of interconnection standards is under the jurisdiction of the Federal Energy Regulatory Commission, but suggests that the Michigan Commission may be able to influence what is filed by a transmission provider operating in its state by requiring the adoption of the Electric Power Supply Association's model transmission agreement.

2) Facilities studies and system impact studies should be completed and facilities should be constructed in a timely manner.

3) The place a project holds in a backlog "queue" while waiting for its proposal to be reviewed should be determined by the planned start-up date of the facility, not the date when the application was submitted to the transmission provider.

4) State commissions should recognize that merchant plant developers may choose the site for a project based on the proximity of a natural gas pipeline in order to receive gas directly

from an interstate pipeline. Such a direct connection should not be considered an impermissible bypass.

5) MWIPS also raised an issue related to the tax consequences of the transfer of interconnection assets by merchant plants to transmission providers.. MWIPS believes that the transmission provider should not seek payment to cover a future income tax liability at the time the asset transfer occurs. Rather, any taxes related to such transactions should be charged to the merchant plant only when actually paid.