



Ohio FutureGen Task Force Final Report

Preface

For Ohio, the FutureGen competition is over. Neither of Ohio's proposed sites advanced to the next round of competition. The process and decisions announced by the FutureGen Industrial Alliance, and approved by the U.S. Department of Energy, are final and not subject to appeal. The Ohio FutureGen Task Force accepts that reality and understands the need for the FutureGen project to move forward expeditiously.

The Ohio FutureGen Task Force, on behalf of every person and organization that worked so hard in our efforts to secure FutureGen, commends the FutureGen Industrial Alliance and the U.S. Department of Energy for their wisdom and far-sightedness in proposing to build the world's first near-zero-emissions, coal-based power plant. The urgent need to find cleaner, alternative energy sources has been amplified by recent events in the Middle East and Alaska, and at gasoline pumps on every corner of the nation. Indeed, the fact that the FutureGen project's timetables were accelerated this year by the Alliance is a reflection of this urgency.

However, given the public nature of the proposal evaluations done by the Alliance, we felt a public duty to thoroughly review those evaluations as well as our proposals in order to reach our own conclusions about the outcome of the process. This Final Report presents our findings.

Although everyone associated with Ohio's competition for FutureGen understandably is disappointed at the outcome, Ohio and the participating counties have derived many benefits from the process. Those were summarized in the Interim Report released by the Task Force earlier this summer. Looking ahead, there is a strong belief among Ohio's FutureGen participants that our state has put itself squarely in line for the next-generation power plants that will follow the FutureGen prototype as well as other advanced energy projects.

On July 25, 2006, the Alliance announced that two sites in Texas and two in Illinois "could meet the requirements for both a power plant and geologic storage of carbon dioxide and are capable of meeting the Alliance's need to avoid potential design, construction, regulatory, or permitting impediments that could result in schedule delay and mission failure."

Upon learning that neither of Ohio's proposed sites in Meigs and Tuscarawas Counties made the FutureGen short list, the Ohio FutureGen Task Force requested a thorough debriefing by the Alliance at the earliest possible date. Task Force representatives received a preliminary debriefing on July 31; and a more detailed, technical debriefing was held on August 7. The Task Force appreciates the willingness of the Alliance to conduct these debriefings.

Based on the information and viewpoints exchanged during those debriefings, and on the results of a detailed internal review discussion conducted by key Task Force representatives, we present the following commentary on the proposal reviews.

Meigs County

In its Request for Proposals (RFP), the Alliance set forth a series of 35 "qualifying criteria," each of which was absolutely essential for a proposed site to meet. Failure to meet any one of these criteria was grounds for a site's dismissal from the process.

The Alliance found that the Meigs County site failed to meet two of the qualifying criteria. One of those stipulated that a proposed site must not be within 10 miles of "public access areas," such as state and national parks. The external team of engineering consultants engaged to prepare Ohio's proposals failed to identify the existence of a national wildlife refuge situated within 10 miles of the proposed site – specifically, within 10 miles of 10 proposed carbon sequestration injection wells on the site. The Ohio River Islands National Wildlife Refuge, situated on islands in the Ohio River, including some adjacent to Meigs County, is deemed a public access area as defined in the RFP.

Secondly, the consulting team misinterpreted another qualifying criterion requiring a similar, 10-mile separation between the proposed site and certain "sensitive features," such as a large dam. The Alliance found that the Racine Locks and Dam along the Ohio River met the RFP definition of a large dam. Again, the same 10 proposed test wells on the Meigs County site were within 10 miles of the Racine Locks and Dam. Our consulting team believed that the role of a lock structure to preserve river navigability excluded it from inclusion in the definition of a dam. This qualifying criterion reflects the Alliance's concern about scheduling delays that might result from the additional seismic testing necessary to assess potential adverse impacts on such dams.

Task Force members believe the proposed site in Meigs County has many assets that make it a viable candidate for a future power plant whose siting requirements are less stringent than those associated with a first-of-a-kind prototype plant such as FutureGen.

Nevertheless, it is beyond debate that failure to meet the qualifying criteria always constituted grounds for a site's dismissal. The Ohio Air Quality Development Authority is currently exploring potential remedies with its contractors for the failure to identify these issues.

Tuscarawas County

Ohio's proposed Tuscarawas County site met all of the RFP qualifying criteria and moved forward to the "scoring criteria" phase of the process. The 43 scoring criteria included in the RFP were deemed as desirable attributes and assigned respective, maximum point totals. Each criterion was assigned a range of possible scores and a weighting value for those scores in the Alliance review. (The Alliance chose not to make those scores or weights available to competitors during the proposal preparation process. Each competitor was required to make its best estimate of the value of each criterion to the project.) An evaluation team of Alliance experts visited all 12 proposed sites, and various teams reviewed the written proposals for each and assigned point totals for each of the scoring criteria.

The Tuscarawas County site placed seventh among the eight rated sites that survived the qualifying criteria phase. During the debriefing process, it became clear that both the external and internal engineering consultants working with the Ohio FutureGen Task Force disagreed, in some cases strongly, with judgments made by the Alliance review team and with the point totals assigned as a result.

Following is a brief description of several scoring criteria which had a significant impact on the final scoring for the Tuscarawas County site and where we believe there are strong, factual, supporting data justifying better scores.

- A low point total was assigned to the site in the "proximity to proposed target formation" criterion of the "other characteristics" category based on an incorrect assumption by the Alliance that proposed CO₂ injection wells on the site are two-to-five miles off-site. The Ohio proposal clearly states that a total of nine possible target saline formations exist under the site. The Tuscarawas proposal showed a configuration of fourteen possible wells, twelve on-site and two off-site, using only three of those formations. Other potential configurations clearly exist. The Alliance score treated the proposal as if all wells, and the formation itself, were off-site.
- The "air dispersion" criterion within the same category states that terrain conditions will be compared to the stack height of the power plant, and this comparison will "serve as a *proxy*" (emphasis added) for later air-dispersion modeling. Ohio's proposal went beyond the required "proxy" and performed the more accurate preliminary modeling for the site that demonstrated acceptable air dispersion. Yet the Tuscarawas site was scored low by the Alliance based upon its own proxy measurement, even though Ohio provided analysis based upon a methodology recognized as more accurate.
- Also in the same category, the Tuscarawas site received a comparatively low score in the "existing land use category." Seeking a site compatible and consistent with surrounding land use, the Alliance included "mineral extraction" among the desirable characteristics. The proposed site presently supports a clay-mining operation and is within 1,000 feet of a gravel and sand pit – both mineral extraction operations. The

site meets the criteria defined to meet the highest score, yet received the second-lowest.

- In the “regulatory” category, the Alliance stipulated that a proposing state must not have a State Environmental Policy Act (SEPA). None of the competing states, including Ohio, have such Acts. Displaying an Ohio advantage in this area, the Tuscarawas proposal pointed out that the Ohio Power Siting Board was created to help *facilitate and speed* the project development process. Alliance raters apparently misunderstood the purpose of the Board and equated it to a SEPA-- a clear mistake. The Tuscarawas proposal received the lowest possible score for this criterion.
- The site received a low score for the “wetlands” criterion of the “physical characteristics” category. The presence of 9.99 acres of wetlands on the 959 acres that comprised the site was cited as the reason for the low score. The Alliance solicitation provided no information about the potential technologies or facility configurations for the FutureGen plant except to say a minimum of 200 acres was required. The Tuscarawas proposal provided a site almost 5 times the minimum in order to provide the Alliance with maximum configuration flexibility. There exist several 200-acre (or larger) tracts on the site that would have absolutely no effect on relatively miniscule acreage of wetlands on the site. We believe the site should have received a higher score.
- The RFP called for more than 60 percent of the land on the site above the target formation(s) to be physically accessible for surface and subsurface monitoring equipment, under its “physical access” and “legal access” criteria. Ohio’s proposal states that more than 60 percent of the land on the Tuscarawas site meets these criteria. The Alliance *assumed* that this meant *only* 60 to 70 percent of the land on the Tuscarawas site, when in fact, this is not the case. Ohio received drastically low scores in each of these criteria.

The Alliance RFP also contained a set of “best value criteria.” These were not scored in point totals, but were viewed as “desirable” attributes that could affect the overall assessment of a site – favorably if a given site met the criteria, and unfavorably if it did not.

In its initial email letter of July 25 outlining the reasons for neither Ohio site being short-listed, the Alliance indicated that the Tuscarawas County site fared poorly with respect to several best value criteria. Following is a brief, verbatim description of issues raised by the Alliance in the July 25 email, along with the Task Force view of each issue.

- “*There are a very large number of residences above the expected target formation (10,000 to 20,000).*” Based upon an analysis using the modeled area of the sequestration plume and the U.S. Census figures for average residences per acre in Tuscarawas County, we believe this Alliance estimate significantly overstates the actual number of residences in that area.

- *“It would be difficult to construct a power plant on this site given its configuration and topography.”* In fact, the Tuscarawas site placed fourth among the eight sites in the five criteria that were part of the “site characteristics” category. Although the site is not flat in its entirety, we do not believe the site presents any significant challenges to power plant construction. In fact, many power plants in Ohio have been built with far more challenging topography and configuration.
- *“The site also poses difficulties with respect to access to water for power plant operation.”* In fact, the Tuscarawas site received the *highest* ranking for the water criteria set forth in the RFP – and higher also than three of the selected sites and equal to the fourth. The Alliance assertion in this instance clearly is not supported by either the facts presented in the proposal, or by the Alliance’s own scoring system. In the debriefing sessions, Alliance members noted that water on the Tuscarawas site would need to be piped beneath a state road and a railroad track, with the added thought that dealing with railroad rights-of-way can be a difficult process. This assessment did not take into account the fact that the road is controlled by the site offeror (i.e., the State of Ohio) or the fact that the CEO of the railroad in question was a member of the local task force that identified the site and analyzed its viability.
- *“As acknowledged in the proposal, there is uncertainty whether the proposed target formation actually exists at the proposed site, which raises doubt about the reliability of the proposed injection plan.”* There is no question that the target formation exists at the site. In fact, the proposal clearly states that the site is endowed with the diversity of as many as nine saline injection zones. The Alliance evaluation is not supported by the data contained in the proposal and agreed upon by expert geologists.
- *“If the target formation exists and its properties are similar to what has been assumed in the proposal, then the CO2 plume would intersect an important, privately owned historic park (Gnadenhutten Historical Park).”* The presence of a local, as opposed to state or federal, park is not a qualifying issue as set forth in the Alliance’s own criteria. Gnadenhutten Historical Park is a local park. Although local parks initially were listed by the Alliance RFP as entities to be avoided, they were specifically stricken from that list in the Alliance’s March 20, 2006 Amendment to Request for Proposals. Thus, the existence of the Gnadenhutten Historical Park is a non-issue.

The FutureGen Task Force believes, therefore, that most of the Alliance “negatives” stated in its July 25 communication should not have detracted from the site score.

Ironically, during the two Alliance debriefings, the Task Force was told that the “best value” findings noted above and in the July 25 email letter were actually not of great importance and had no bearing on the final assessment of the Tuscarawas site. This assertion stands in utter contradiction to the following sentence in the July 25 email: *“The net effect of the best value criteria was to further weaken the standing of this site following the initial scoring.”*

The Ohio FutureGen Task Force believes the proposed Tuscarawas County site received lower-than-merited points in the above-noted areas of the scoring criteria. And, despite the later disavowal of the July 25 “best value” commentary by the Alliance, the Task Force further must assume that the Tuscarawas County site was, in fact, downgraded in this important area. Whether a higher re-scoring of the site reflective of the Task Force review – coupled with a fresh assessment of the “best value” criteria based on facts and not faulty assumptions – would have placed Tuscarawas County among the FutureGen finalists can only be the subject of conjecture.

Epilogue

Although the final outcome for Ohio was disappointing, the state is fully supportive of the FutureGen process as it moves into its next stage. We wish our colleagues in Texas and Illinois the best in the months ahead. Ohio will continue to be a vital player in the nation’s quest to expand clean-coal technology research, development, and deployment.

One outcome of Ohio’s FutureGen competition seems to call for further examination, and potential action, on the part of Ohio leadership. Simply put, Ohio dramatically lags other states – and not surprisingly Texas and Illinois – in the amount of available analyzed geologic data. It was understood from the outset that this area constituted a challenge for our state in answering that FutureGen RFP.

It is the view of the Task Force that Ohio adequately demonstrated that the “right” geology for FutureGen lies beneath our state. At the same time, it appears that the Texas and Illinois proposals were able to provide the Alliance with geologic data well in excess of those in Ohio’s proposals.

Hence, going forward into an era when deep geologic sequestration of carbon dioxide perhaps becomes normal, accepted practice – and when the siting of later-generation power plants may depend on the utmost in reliable geologic data – it seems imperative that Ohio place a higher priority on supporting the activities of the Division of Geologic Survey within the Ohio Department of Natural Resources. It may not be an overstatement to assert that Ohio’s energy future will depend, at least in part, on a much more comprehensive and precise understanding of our deep geology.

On the positive side, based on what we had already learned during our site analysis process, the Task Force recommended a deep test well to be drilled at one of our prospective sites. Governor Taft worked closely with the leadership of the General Assembly to secure funding for that well. Using those dollars from the General Revenue Fund and the Ohio Coal Development Office research funds, Ohio will move forward with the drilling of such a well, at any one of a number of desirable sites around the state. This well will represent an excellent step forward in our quest to gather the type of essential data described above.