

EXECUTIVE SUMMARY

The Millennium Pipeline Project is a proposed interstate natural gas pipeline that consists of 442 miles of natural gas pipeline extending from the Canadian border in Lake Erie to an interconnection with the local gas distribution facilities of Consolidated Edison Company of New York, Inc. in New York City. The Project is located in New York's coastal zone because of proposed construction across Lake Erie and the proposed river crossing of the Hudson River at Haverstraw Bay.

The New York State Department of State (NYS DOS) has been assigned the review of projects in New York State that are jurisdictional under the Coastal Zone Management Act (CZMA), as implemented through the New York Coastal Management Program (CMP). The proceeding before the NYSDOS commenced on November 20, 1998, when Millennium filed with the NYSDOS its consistency certification and associated documents. On May 9, 2002, the NYSDOS completed its review and issued a decision which concluded that the Millennium Project was not consistent in certain respects with New York's CMP. Significant to the NYSDOS decision was concern about the proposed crossing of the Hudson River and the potential for alternatives to that crossing location. Millennium appealed that decision to the U.S. Secretary of Commerce. In its initial brief, the NYSDOS proposed a number of alternative Hudson River crossings for the Project. Many of the same alternatives, as well as some additional alternatives, were proposed by the Villages of Croton-on-Hudson and Briarcliff Manor, NY in a subsequent amicus brief that was accompanied by a "Feasibility Evaluation" prepared by O'Brien & Gere Engineers, Inc.

Millennium retained the engineering firm of Baker Engineering NY, Inc. to review and critique the alternatives to the FERC certificated Millennium Pipeline location proposed by the NYSDOS and the Villages as well as the "Feasibility Evaluation" prepared by O'Brien & Gere. A total of 15 different routes containing 23 separate segments in Rockland and Westchester Counties were reviewed. Each of these routes was evaluated on a stand-alone basis, as a pipeline is a continuous structural conduit, and each of its segments must be feasible in order for the route as a whole to be viable. Baker's staff, familiar with the permitting, design and construction of linear utilities such as high pressure, large diameter gas transmission pipelines, reviewed aerial photography and topographic maps and made several detailed on-site field reviews of all the separate routes and their respective segments.

Six of the nine routes South of the FERC certified Millennium Route cross the Hudson River in the same area as the existing Tennessee Gas Pipeline right-of-way (ROW) and land on the eastern shore in the small community of the Village of Dobbs Ferry. From there, they all follow the Tennessee ROW until its intersection with the FERC certificated Millennium route near the Sawmill Parkway. These 6 routes are infeasible as they all contain the following fatal flaws from a design construction and operation and maintenance perspective:

- No workspace exists to land the pipeline on the eastern shore.
- Tennessee's facilities occupy all the existing usable workspace and ROW for at least 500 feet along Wickers Creek.
- Inadequate workspace and no available ROW exist within "The Landing" for at least 1,000 feet due to severe encroachments to Tennessee's ROW from condominiums.

- Inadequate workspace and no available ROW exist at multiple locations within the upscale residential community of “Legend Hollow”.

It should also be noted that each of these 6 routes cross through the Piermont Marsh, an ecologically sensitive area which is designated as a Significant Coastal Fish and Wildlife Habitat, the same designation as Haverstraw Bay. Further, each route would require permanent removal (via blasting) of approximately 3,700 cubic yards of rock that is currently part of the scenic cliffs of the Palisades. Some of the alternative segments leading to the river crossing location would virtually completely clear miles of the eastern side of the Palisades Interstate Parkway (PIP), a National Historic Landmark, of its mature forests, degrading the PIP’s visual aesthetics and exposing hundreds of private residences (which are located immediately adjacent to the PIP ROW) to the visual and noise impacts associated with the PIP.

Two of the other Southern routes would cross the Hudson River near Nyack Beach State Park and would land in the vicinity of Route 117 on the eastern shore. None of the segments that comprise these routes are feasible, primarily due to inadequate workspace and/or ROW to install and operate the facilities. Further, Nyack Beach State Park, also a National Natural Landmark, would be closed for at least several months to complete the required pipeline construction activities in this area. The historic access roads with hand-laid, vertical stone walls and the seawall along the Hudson River would most certainly be severely damaged or destroyed by construction equipment.

The other proposed Southern alternative would cross the Hudson River near Nyack Beach State Park and would follow the river’s longitudinal navigation channel for several miles. This route would significantly increase the length, time and construction related impacts to Haverstraw Bay. Further, construction could not be completed within the narrow construction window that has been imposed, and it is extremely doubtful that the US Army Corps of Engineers would permit joint occupation of the federal navigation channel for this extended length.

The remaining six routes north of the FERC certificated Millennium Pipeline cross the Hudson River in the same vicinity near Algonquin’s pipelines and the Lovett Power Plant. From there, they all follow electric transmission ROW and ultimately cross NY State Route 9. The NY State Route 9 crossing is not feasible due to extensive rock walls close to the highway, which do not allow adequate room to construct the bore under the highway. In addition, the alternative routes leading to the Hudson River each contain multiple fatal flaws, primarily inadequate workspace to construct, operate and maintain the pipeline facilities as follows:

- Inadequate workspace and no available ROW exist within several upscale residential communities for over a mile due to severe encroachments to Algonquin’s and/or Orange & Rockland’s ROWs from residences.
- Inadequate workspace and no available ROW exist at the Algonquin ROW on the east side of the Hudson River.
- Inadequate workspace and no available ROW exist along much of Orange & Rockland’s electric transmission ROW from residences.

Impacts to historic sites along some of these routes would also be significant and permanent. Two of these routes traverse miles of either Harriman State Park (National Register of Historic Places) or the PIP (National Historic Landmark). The necessary grading, blasting, and mature

forest removal will permanently alter these parks. Another of these routes would cross Stony Point Battlefield (National Historic Landmark) near the park entrance and stone archway. The rock cut through this area is very narrow and would have to be widened by at least 50 feet. This would permanently destroy the character of this entranceway and the historic bridge would be permanently removed in this process.

It is Baker's opinion that none of the alternative routes, or any other combination of the individual alternative route segments, are feasible from a design, construction, operation and maintenance perspective. In contrast, the FERC certificated route with proper mitigation can be constructed operated and maintained in a safe and responsible manner.

A number of construction methods to cross the Hudson River, including HDD have been investigated. After careful study, Millennium proposed the lay-barge method, which among other beneficial aspects will restrict construction activities to a relatively short area. This method also permits the spoil to be temporarily stored in barges for later use during backfilling and thus minimizes turbidity in the water column. An HDD crossing of Haverstraw Bay is not feasible for a number of reasons. In this instance, the lengthy staging area necessary to fabricate the pipe string is not available, and the crossing length is at least an order of magnitude longer than any directional drilling firm has ever accomplished with 24-inch pipe. This is hardly the basis for a sound construction plan and Haverstraw Bay is far too sensitive an area to even attempt using river crossing technologies which are in the realm of research and development.

The Village of Croton-on-Hudson claims that Millennium's proposed route will cause a number of impacts to their Wellfield. However, based on our involvement in the routing of this portion of the pipeline and review of the extensive construction and mitigation information filed by Millennium, it is apparent that none of the impacts are of serious consequence.

- Dewatering the trench will not result in a decline in the local water table since the water would normally be discharged immediately adjacent to the construction work area and be available to recharge the aquifer. Further, using concrete coated pipe will increase the mechanical protection on the pipe and eliminate the need to de-water the trench altogether.
- A comprehensive SPCC plan will be closely followed during construction and no materials are proposed to be stored in the area which could impact either the Wellfield or the aquifer.
- Geotechnical data for the valley show that bedrock is over 68 feet deep. Thus, blasting within the Wellfield is not required and none of the cited potential impacts will occur.
- The route across the Wellfield was selected with assistance from a landowner whose land would be traversed, and with the Village of Croton-on-Hudson Engineer who, in effect, chose the alignment through the Village's Water Wellfield. This alignment avoided all existing wells (active and inactive) and sites for future wells. Virtually the entire Wellfield will be available for future development.
- The chance that the pipeline would leak and introduce contaminants into the Wellfield is extremely remote. The completed pipeline is thoroughly tested before it is placed into service and will be continuously monitored to detect leaks. The odorants added to the natural gas are not soluble in water, and are a vapor in the gas stream and will dissipate into the atmosphere should a leak occur.

- The suggested alternatives that would avoid the Wellfield are not reasonable from a construction or design perspective. The “Northeast Alternative” would require side slope construction through a steep area that has several slips and two additional crossings under Con Ed’s powerline facilities. These slips could easily compromise the integrity of the pipeline during operation and place not only Millennium’s facilities in jeopardy but Con Ed’s as well. The “Southwest Alternative” would place the pipeline in multiple local roads which are narrow and winding. Even with the use of manufactured bends, it is doubtful that the pipeline would fit into this narrow corridor. Construction would require closure of these local roads for weeks if not months and suitable detours are not available.

Regarding the O’Brien & Gere’s comments on the route location through the Jane B. Lytle Memorial Arboretum, Millennium has incorporated numerous design and construction features to minimize impacts within the Arboretum. These plans include the use of sack breakers, devices that are specifically designed to prevent the trench from acting like a conduit. Thus, existing subsurface water patterns are maintained. Other standards specifically require restoration of original wetland and drainage pattern contours, thus surface drainage will be equally unaffected. As a result of these site-specific mitigation measures, there will be no short or long-term affects on surface or ground waters. An HDD installation in this location is not recommended. It is not apparent that sufficient workspace is available outside the Arboretum. Additionally, due to the depth of the installation, the cathodic protection and voltage mitigation effectiveness cannot be routinely confirmed. An HDD installation near Con Ed’s power lines (the integrity of which have been the subject of great concern from the New York Public Service Commission and Con Ed) is not in the best interests of either facility.

The NYSDOS requested Millennium to consider an alternate route at the Catskill Aqueduct Bryn Mawr Siphon. This suggested route is not feasible as it contains numerous fatal flaws described below.

The west side (cut side) of the Thruway at the crossing location has a rock cliff immediately adjacent to the roadway. The east side (fill side) has a steep incline consisting of fill material and supports the Thruway surface. This area is also on a substantial curve in the Thruway. In order to stay as far away from the Aqueduct valve chamber (located immediately to the east of the Thruway) as possible, the pipeline would have to be installed along the western edge of the Thruway. This would result in a bore well over 600 feet in length, far beyond the typical maximum bore length of 250 feet. Regardless of the bore length, the proximity of the rock cliff prevents creation of a receiving pit, thus a bore is infeasible. Further complicating this crossing site is the location of an apartment complex and Con Ed’s electrical facilities, in particular the towers supporting six of the main electrical circuits providing power to New York City. As a consequence, the pipe cannot be adequately bent, even with the use of manufactured bends, to reconnect with the certificated route. Other pipe installation methods were also considered but the available workspace prevents their use.