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County of Rockland
Allison-Parris County Office Building
11 New Hempstead Rd
New City, NY 10956
Attn: C. Scott Vanderhoef, County Executive

Re: United Water New York - Lake DeForest Rule Curve/Passing Flow

September 12, 2013

Dear Mr. Vanderhoef:

The Rockland Water Coalition (Coalition) is writing to request that Rockland County ask the New York State Department of Environmental Conservation (DEC) to reopen the Lake DeForest Water Supply Permit (WSA 2189) to make appropriate adjustments to the permitted flow of water from Lake DeForest to New Jersey so that Lake DeForest is operated "solely for the benefit of the citizens of Rockland County" as intended when WSA 2189 was issued.

As you know, the Coalition and its technical advisors have serious concerns regarding the passing flows and rule curve for United Water New York's (UWNY) Lake DeForest reservoir. The initial passing flow that was included in the 1952 permit was, and remains, unwarranted and inequitable; therefore, before considering any proposals for new infrastructure and water sources, it is important to first maximize the utility of our current water assets. Revising the permit would be a far simpler, more cost effective and equitable way of managing Rockland's water supply than current proposals to build a \$200 million desalination plant. Moreover, the 1982 rule curve amending the passing flow from Lake DeForest based on the percentage of storage in United Water New Jersey's (UWNJ)

downstream reservoirs has made Rockland County more vulnerable to drought while simultaneously and unfairly benefitting UWNJ customers at Rockland County's expense.

The New York State Water Power and Control Commission (Commission) established a minimum passing flow of 9.75 million gallons per day (MGD) downstream from the Lake DeForest Dam in 1952. The passing flow is the rate of water flow which must be maintained downstream of the Lake DeForest dam, ostensibly to protect the water rights of downstream users and to maintain sufficient flow to support downstream aquatic ecosystems. However, in this case, the passing flow is far greater than necessary to accomplish these ends, and therefore fails to meet the 1952 enabling requirement for the DeForest Reservoir that the Reservoir will be primarily operated for the benefit of Rockland County.

Further, in 1982, a "rule curve" was established modifying the permit by allowing increasing passing flows from Lake DeForest as storage declines in UWNJ's downstream reservoirs. The phased passing flows in the rule curve primarily benefit the customers of UWNJ. In order to achieve these increases in flow to UWNJ reservoirs, the amount of reserve storage in Lake DeForest was reduced. This action fundamentally reduced the "cushion" necessary to withstand a future drought that is worse than the drought of record.

Condition K of WSA 2189 states that "should events prove that the amount of water herein required to be released from the reservoir (Lake DeForest) under Condition I (minimum release from reservoir) above be in error, the Commission [now the NYSDEC], upon application of any party to this proceeding, will reopen this case in order to make a suitable adjustment of the amount of flow to be maintained." Rockland County was party to the original 1952 permit, as well as to several subsequent modifications to the permit case and, therefore, is entitled to exercise this provision. The Coalition requests that Rockland County formally request that the NYSDEC to reopen the permit to make appropriate adjustments to the passing flow because, for the reasons detailed below, the amount of water release allowed under the 1952 permit and the 1982 rule curve is inappropriate and therefore in error.

The Passing Flow Selected in Original 1952 Permit is Inappropriate

While proceedings for the Lake DeForest permit were underway in the 1950s, New York City's diversions of water from the Delaware River basin were the subject of litigation. In that unrelated case, a Special Master appointed by the US Supreme Court recommended that a natural flow equivalent to that which would be in the Delaware River 82 percent of the time should be maintained at a distant gauge station in New Jersey (Montague, which is 80 miles downstream of the uppermost New York City reservoir). This flow target is equivalent to 0.323 MGD/square mile (Collier, 2007, pages 49-51).

In consideration of the fact that the Hackensack River is also an interstate river, the Commission used a similar approach on the Hackensack River for the proposed Lake DeForest project. The Commission determined that a natural flow that is equivalent to the normal flow in the river occurring about 80 percent of the time would be equitable. Based on

the drainage area upstream of the then-proposed dam at Lake DeForest, this translated to a passing flow of approximately 7.75 MGD (or 0.291 MGD/square mile). Since Nyack already had an existing withdrawal on the Hackensack River downstream from the planned DeForest Dam, 2 MGD was added to the 7.75 MGD passing flow to meet Nyack's needs, for a total passing flow of 9.75 MGD downstream of the DeForest Dam. Based on this passing flow, in conjunction with then-estimated drought flows into the reservoir, Lake DeForest was calculated to have a safe yield of about 10 MGD. This is how the permit granted by the Commission came to include the provision, "at least 10 MGD are forever reserved for the needs of the inhabitants of Rockland County."

The Commission Set a Passing Flow Far in Excess of the Level that is Needed

During the Delaware River Basin controversy, New Jersey wanted to ensure that the river maintained minimum flow for water supply purposes *as well as* retard saltwater from migrating up the Delaware River estuary so as to infiltrate freshwater aquifers and invade water supply intakes in the Philadelphia area (Collier, 2007, pages 48-51). These site-specific factors resulted in a rather large passing flow (i.e., 0.323 MGD/square mile). It was inappropriate to have applied the same threshold to the passing flow for the Hackensack River since there were no such site-specific concerns.

New Jersey does not require and did not request a passing flow amount equivalent to 0.291MGD/square mile of watershed to protect its water rights. The Commission's report states that New Jersey law required a passing flow of at least 0.125 MGD/square mile in order to maintain sanitary conditions in a stream – this law is still in effect.

When the Commission established the passing flow for Lake DeForest, it did not consider the total drainage area that the Hackensack River occupies in New York State. The watershed upstream of the Lake DeForest dam/Nyack intake occupies just over half of the total Hackensack River watershed upstream of the New York/New Jersey border, and if the water that drains from Nyack's intake to the state boundary was taken into account, as it should be, substantially more water would be made available for Rockland County. Indeed, this is consistent with New Jersey's concern that the "State of New Jersey, through its Water Policy Commission, request that this [New York State Water Power and Control] Commission protect the rights of that State and its citizens in their legal use of the waters of the Hackensack River below the [New Jersey] State boundary," (NYSDEC, 1952, page 12, emphasis added). Rockland is entitled to upstream watershed supply, but is not benefiting from it.

Adoption of 1982 Rule Curve Exacerbates Droughts in Rockland

The 1982 adoption of a new rule curve into the Lake DeForest permit contravenes the provision in the original 1952 permit that required that “the applicant at all times must maintain in the [Lake DeForest] reservoir a quantity of water in storage and the level of water therein shall never be lowered...below 1.4 billion gallons” (NYSDEC, 1952, page 19). The 1982 rule curve effectively increased passing flows from Lake DeForest as storage declines in UWNJ’s downstream reservoirs. Up to 25 MGD – far more than the 9.75 MGD passing flow originally required in the 1952 permit – is supposed to be released as water levels decline in UWNJ reservoirs. In order to achieve these increased flows to UWNJ reservoirs, the original 1952 permit provision that required that the applicant at all times to maintain at least 1.4 billion gallons was revised where reserve storage during a future severe drought would be reduced to less than 1.0 billion gallons (NYSDEC, 1982, page 34). The result of this 1982 revision to the Lake DeForest permit was that UWNJ customers have been and continue to be at greater risk during future severe drought solely in order to increase the safe yield of UWNJ’s reservoirs.

The implementation of this rule curve served to transform Lake DeForest from an independent water supply in New York State to an integrated inter-state water supply that benefited New Jersey at Rockland County’s expense. The reduction in reserve storage essentially translates to a loss of the “buffer” that the customers of UWNJ could once count on to withstand the severe droughts of the future, while simultaneously increasing the supply for the customers of UWNJ.

In reviewing the 1982 Lake DeForest rule, and in balancing it against the requirement that DeForest be operated primarily for the benefit of Rockland County, NYSDEC should consider whether the passing flow was set at a level beyond that required by the standard of what is necessary to meet the rights of downstream users and aquatic ecosystems as noted above. Here, the critical issue to consider is the UWNJ water use patterns and the condition of its water system. Summer demand patterns by UWNJ customers are more than twice the rate of those of Rockland County users, and UWNJ’s water system leaks in Bergen County are ten percent greater than the UWNJ water system in Rockland County. Both issues suggest that, in fact, the current passing flow is not necessary, as envisioned in the criteria for establishing it, but are, in effect, subsidizing a pattern of water use far beyond that of Rockland County and the unwillingness of UWNJ to charge its customers for the costs of repairing leaks from its aging infrastructure. In short, the current level of passing flow is not “necessary,” but was established to enable New Jersey water users and their water supplier, UWNJ, to avoid difficult decisions about water management.

To further call into question the issue of the necessity of the current level of passing flow under the 1982 rule curve, that passing flow level was set without consideration of the transfers of water to UWNJ’s Oradell Reservoir from the North Jersey District Water Supply Commission’s (NJDWSC) reservoirs. Until recently, 40 MGD of NJDWSC water was pumped to the Oradell Reservoir to augment the UWNJ system during dry weather conditions. The safe yield of NJDWSC’s reservoirs was increased last month; now, nearly 50 MGD can be pumped to the Oradell Reservoir. The 1982 rule curve, however, does not provide for consideration of these transfers, and Lake DeForest releases water as if these

transfers do not increase water levels in UWNJ's reservoirs, even though the extra 10mgd a day provides more than enough cushion to permit a significant diversion of the passing flow to the use of Rockland County,. It should also be noted that a significant fraction of water in the NJDWSC's reservoirs is comprised of water originating in New York State. This inequity is completely inappropriate and it must be said adds insult to the injury the current passing flow levels inflict on Rockland County Water users.

Recommendation

The Coalition asks Rockland County to invoke Condition K of WSA 2189 and requests that DEC reopen those proceedings to re-examine its passing flow requirements pursuant to the underlying principles discussed in this correspondence.

The Coalition is aware of the necessity to maintain a passing flow sufficient to protect riparian rights of downstream users and the aquatic ecosystem. However, as this presentation demonstrates, the current passing flow and rule curve permit water far in excess of that necessary to meet New Jersey's needs for flow from New York to New Jersey. The requested proceeding should proportionately adjust the permit to reflect a passing flow on the Hackensack River using 0.125 MGD/square mile threshold, incorporating all flows from New York to where the river flows into New Jersey and eliminating the excess drawdowns permitted by the 1982 rule curve. Doing so would result in a substantial increase in the safe yield of Lake DeForest, which we estimate would provide at least 4 MGD additional water for Rockland County, thereby providing equity in the apportionment of the Hackensack River between the two states, and deferring the need for a costly water supply infrastructure project in Rockland County. The Coalition also requests that the reserve storage capacity of 1.4 billion gallons that was originally required in the 1952 permit for Lake DeForest should be restored. If not restored, at a minimum, the reductions in reserve storage should be targeted to increasing the safe yield of Lake DeForest to benefit the residents of Rockland County.

Last, as you are likely aware, negotiations on the UWNY-UWNJ Lake DeForest Reservoir Intercompany Agreement are to begin next month. This agreement provides for the annual allocation of the operating cost of Lake DeForest based on its safe yield. As currently structured the intercompany agreement unfairly benefits New Jersey at the expense of Rockland County, thereby acting as a perverse incentive for United Water to favor New Jersey and look to a capital intensive supply solution to future water needs, rather than considering the benefits of a more equitable allocation of Lake Deforest flows. As part of the process of reconsidering the passing flows under the Lake Deforest permit, that agreement should be restructured in a way that would provide incentives for the most beneficial use of Lake Deforest water, as well as financial relief to the Rockland County ratepayer. Consequently, the Coalition asks the County to request that the Public Service Commission not approve this agreement until the NYSDEC makes a determination on Lake DeForest, and to actively participate in the process of restructuring this agreement.

We look forward to your response.

Respectfully submitted,

Senator David Carlucci
Assemblywoman Ellen Jaffee
Assemblyman Kenneth Zebrowski
Harriet Cornell, Chairwoman, Rockland County Legislature
Christopher P. St. Lawrence, Town of Ramapo Supervisor
Shirley Lasker, Town of Clarkstown Councilwoman
Citizens Campaign for the Environment
Hudson River Fishermen's Association
Public Health and Sustainable Energy (PHASE)
Riverkeeper
Rockland AARP Chapter 1577
Rockland Residents Against Flooding Tomorrow (RAFT)
Rockland Sierra Club
Rockland Water Coalition
ROSA
Scenic Hudson
Sparkill Creek Watershed Alliance
Strawtown Art & Garden Studio
Stony Point Action Committee for the Environment (SPACE)
Torne Valley Preservation Association
West Branch Conservation Association

Copies

Governor Cuomo
Joe Martens, NYSDEC Commissioner
Marc Gerstman, NYSDEC Executive Deputy Commissioner
NYSpsc
NYSdos
US Army Corps of Engineers

REFERENCES

New York State Department of Environmental Conservation, Lake DeForest Water Supply Permit 2189, 1952.

New York State Department of Environmental Conservation, Water Supply Application No. 4925, Hackensack Water Company, 1965.

New York State Department of Environmental Conservation, Rockland County Water Supply Study, 1982.

Collier, Carol R., Sustainable Water Resources Management in the United States: Use of River Basin Commissions to Promote Economic Development, While Protecting the Environment and Improving Community Quality, 2007.