

To: Board of the Hudson River-Black River Regulating District  
From: Robert Leslie, General Counsel  
Date: Prepared July 5, 2012 for the July 10, 2012 Board Meeting  
Re: Memo in Support of the Apportionment Resolution

New Apportionment which removes an amount chargeable to the State

In consultation with counsel at the Department of Environmental Conservation, staff has prepared the attached Resolution to approve an Apportionment of costs for the Regulating District's Hudson River Area facilities to supercede the apportionment adopted by the Board on December 5, 1924 and the apportionment adopted by the Board on March 30, 2010 (later invalidated by the Appellate Division Third Department to the extent that the March 30, 2010 Apportionment failed to deduct the benefits to the state derived from the reservoirs prior to apportioning the remaining costs). In response to the Appellate Division's ruling, this new Apportionment subtracts an amount chargeable to the State from the District's operation and maintenance costs before apportioning the balance among the same beneficiaries and using the same methodology identified in the March 30, 2010 Apportionment.<sup>1</sup>

Apportionment will be used to set Current and Past Due Assessments

By Resolution 09-24-06, passed June 9, 2009 and Resolution 12-24-06, passed June 12, 2012, the Board of the Hudson River-Black River Regulating District passed the previous and current three year budgets which determined the total cost to operate and maintain the Regulating District's Hudson River Area facilities. NY ECL §15-2121(2) and §15-2125(2) require the Regulating District Board to apportion such cost, less the amount chargeable to the state, among the public corporations and parcels of real estate benefited, in proportion to the amount of benefit which shall inure to each such public corporation and parcel of real estate by reason of such reservoir. The Appellate Division's ruling invalidated the apportionment upon which the Board then assessed its costs for fiscal years 2009-2010, 2010-2011, and 2011-2012 and the assessment for the current budget period of 2012-2015. Therefore, both the previous and current three year budgets and associated assessments will require revision in order to reflect this new Apportionment<sup>2</sup>.

U.S.C.A. DC Circuit Decision shifts costs from Hydropower Beneficiaries

As discussed extensively in other memoranda to the Board<sup>3</sup>, on November 28, 2008, the United States Court of Appeals, DC circuit determined that the Federal Power Act preempts the Regulating District's use of state law to collect the Regulating District's annual costs of operation and maintenance from Hudson River hydropower companies licensed by the Federal Energy Regulatory Commission (FERC). The Regulating District continues to pursue headwater benefits charges from downstream hydro power companies pursuant to the Federal Power Act. Such headwater benefits consist of an 'equitable' portion of the "Interest, Maintenance, and Depreciation" expenses incurred by upstream facilities such as the Regulating District for the operation of facilities like the Conklingville Dam. As a result of the court's decision and the

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<sup>1</sup> See Senior Staff's July 6, 2012 Memo entitled "2012 Hudson River Area /Great Sacandaga Lake Apportionment"

<sup>2</sup> See attached Revised Budgets/Assessments attachments

<sup>3</sup> November 23, 2009 Memo from Counsel to the Board; January 7, 2010 Memo from Counsel to the Board; March 29, 2010 Response to Comments; and two December 5<sup>th</sup>, 2008 confidential memoranda from Counsel to the Board.

expected revenue from FERC's headwater benefits determination currently underway, the Regulating District Board must shift a significant portion of its Hudson River Area costs from the merchant hydropower companies to the municipalities in the Hudson River basin.

Reasonable Return to the State should be set at Zero

Pursuant to ECL 15-2125(1), if lands of the Forest Preserve have been used in the construction, operation and/or maintenance of the Regulating District's Hudson River Area facilities, then the Board's estimate of an amount sufficient to pay the expense of the maintenance and operation of the works erected under Article 15, Title 21 shall include a reasonable return to the state upon the value of the rights and property of the state used and the services of the state rendered. For the reasons detailed below, staff recommends that the Board determine the amount of a reasonable return to the state should be set at zero dollars.

As defined at ECL 15-2125(1), the value of the rights and property of the state used means six percent upon the value of the lands flowed. That calculation is made without regard to the timber and saleable wood on such lands. None-the-less, staff presumes that any timber taken from those lands was sold and the proceeds of such sale were long ago presented to the Comptroller to be added to the state's general fund as required by 15-2119(8)(h). The Regulating District isn't currently selling any timber.

The Regulating District has never collected a reasonable return to the state for the lands underlying the Great Sacandaga Reservoir. None-the-less, staff presumes that the statutory provision at issue contemplates an annual assessment of 6% rather than a one-time assessment. If a one-time assessment were contemplated, such charge would have been made long ago, or in the absence of such a charge, the State's opportunity to challenge the District's failure to assess such a charge would have long ago expired. So, for the sake of argument, staff assumes that the reasonable return to the state is an annual charge which should be contemplated as part of each Assessment. The establishment of such charge is made part of the Apportionment calculation by its inclusion in 15-2121(6).

The next question becomes what lands should be included in the lands flowed calculation. The Regulating District purchased private tracts of land, using the power of eminent domain, and then acquired such lands in the name of the State of New York. The purchase of such lands was funded by assessments upon the beneficiaries of the Regulating District's facilities. Thus, in a real sense, the several hydropower companies and municipalities who were the initial beneficiaries of the Regulating District's Hudson River Area facilities paid for the lands acquired. It would not make sense to assess these same beneficiaries a 6% annual charge on lands they have already paid for.<sup>4</sup>

In the alternative, had the Regulating District needed lands already owned by the State for the construction of the impoundment and reservoir, then use of such lands would have provided a windfall to the Regulating District's beneficiaries to the detriment of the State's

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<sup>4</sup> Summary of Assessed Values – Great Sacandaga Lake. Note, that this chart is offered for illustrative purposes only...if only to show that a 6% annual charge on the value of the lands underlying GSL would balloon the total HRA estimate of expenses from \$3.8 Million to \$10 Million.

residents/taxpayers. In that case, an assessment of an annual charge (6% per statute) would have provided the State with compensation for the use of Forest Preserve lands. (At the time, Article 7, Section 7 of the State Constitution authorized the use of Forest Preserve lands for stream flow control reservoirs). However, a review of the Regulating District's records reveals no indication that the District acquired or took jurisdiction over state lands at the time of the reservoir's construction. Instead, the "General Plan for the Regulation of the Flow of the Hudson River" (June 7, 1923, Page 19<sup>5</sup>) reveals that the plan contemplated no use lands of the State lands for the construction of the Sacandaga Reservoir. A chart appended to the plan showing available and feasible reservoir sites confirms both 'no use of state lands' and 'no acres of forest preserve lands required'. Therefore, we will recommend to the Board that the Apportionment reflect no value for a reasonable return to the state for lands flowed to construct GSL.

The question then remains, what is the value of State services rendered? Per statute, such amount shall be construed to mean the actual cost thereof. Staff has taken this clause to contemplate 'force labor' or use of materials owned by the State and employed in the construction or maintenance of the Reservoir. Where necessary, the Regulating District pays rent to the State for office space. It pays telephone charges, etc. Such costs are added to the Regulating District's annual assessments. Unless, the Regulating District were to get a bill from the State for the Department's costs in conducting its review of the Apportionment, or for other expenses incurred by the State, there are no additional costs to assess.

#### Mitigate Potential for Disparate Treatment

As described in a series of memorandum prepared for the December 8, 2009 Board meeting<sup>6</sup>, staff recommends that the Regulating District Board determine that by grouping the towns, cities, villages and the individual parcels of real estate within each such public corporation, the potential for disparate treatment of one individual parcel, neighborhood or municipality when compared to others diminishes. The Appellate Division Third Department's May 2012 decision held this to be consistent with the statute.

Staff's preparation of the apportionment is based upon data and analysis which could be applied to an apportionment at either the county level, or to an apportionment against the cities, towns and villages within such counties. The documents supporting staff's recommended apportionment against the counties includes information upon which the counties could rely to pass-through such apportionment to the constituent cities, towns and villages within such county. A refinement to the data input for the 2012 Apportionment, to remove the assessed value of state properties lying within the designated flood plain, is designed to enhance that pass-through ability and to more accurately reflect the total market value of real property in each county that would be within the 100-year floodplain. Such information will be publically available both through FOIL and on the Regulating District's website. Consistent with the methodology approved by the Appellate Division with respect to the March 30, 2010 Apportionment, staff recommends that the tentative apportionment itself list only the five counties against whom the apportionment applies; an expression of that apportionment in decimal form; and the dollar amount to be paid by each county. The simplicity of listing the counties only, rather than listing

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<sup>5</sup> Page 19 of the plan and the chart noted below are appended to this memo

<sup>6</sup> November 23, 2009 Memo from Counsel to the Board(supra); December 1, 2009 Memo from Senior staff to the Board.

each county with a break-out of the cities, towns and villages within such county forestalls any argument by a county that the apportionment actually lies against the cities, towns and villages, rather than the county itself. Listing only the entity which derives a benefit best reflects the statutory requirement set forth at NY ECL §15-2121(2). (“...**Such apportionment shall be made in writing and shall show the name of each public corporation and** a brief description of each parcel of real estate benefited; the name of the owner, or owners, of each such parcel of real estate, so far as can be ascertained; **the proportion of such cost less the amount which may be chargeable to the state to be borne by each, expressed in decimals; and the amount to be paid by each such public corporation** or the owner or owners of each such parcel of real estate.” *Emphasis added*). The proportion of costs chargeable to the state to the total estimated annual costs of operations and maintenance will result in a state share which will then be subtracted from the total estimated annual costs of operations and maintenance so that the resulting balance can be apportioned among the remaining beneficiaries.

#### The Facilities in the Hudson River Area

The Regulating District has historically issued a single Apportionment of costs for the Hudson River Area. The proposed estimate of an amount sufficient to pay the expense of the maintenance and operation of the works erected in the Hudson River Area includes each of the facilities associated with the Great Sacandaga Lake and the Indian Lake Reservoir. While the Board could elect to conduct a separate Apportionment for just the Indian Lake Reservoir expenses, staff believes that the added cost to separately account for, apportion, and assess such expenses, even spread among the two additional beneficiaries, would not materially reduce, and perhaps not reduce at all, the charges imposed upon the five counties identified in the proposed apportionment.

The expenses associated with the operation of the Indian Lake reservoir are typically a small percentage of the total operational and maintenance expenses in the Hudson River Area. As an example, the annual expenses associated with Indian Lake in the proposed triennial budget total approximately \$62,000 where as the expenses associated with the balance of the Hudson River Area facilities total approximately \$3.8 Million.

The five counties identified as beneficiaries in the proposed Apportionment each lie downstream of the Conklingville Dam creating Great Sacandaga Lake. Each of those five counties also lies downstream of the Indian Lake Reservoir. Below the Indian Lake reservoir, the Indian River and the Upper Hudson River travel a short distance between Essex and Hamilton counties before entering Warren County North of North Creek on their way to the confluence of the Hudson River with the Sacandaga River. By comparison to the Sacandaga, the Indian Lake Reservoir releases a lower volume of water into a steep river channel. The resulting limited floodplain, and lower assessed value of the properties that lie within that floodplain, reduce the percentage of costs which could be apportioned to Essex and Hamilton Counties.

As part of the process to identify a method of quantifying the flood benefit derived from operation of Great Sacandaga Lake, the Regulating District analyzed the limits of the “with” and “without” GSL 100-year flood plain. It was concluded that rather than identifying only the properties between the “with” and “without” flood plain lines (i.e. the properties that avoid inundation due to operation of GSL during a 100-yr flood) as those properties which should

serve as the basis for the calculation of the proportion of benefit derived, all the properties within the “without GSL 100-year flood plain” should serve as the basis for determining the proportion of benefits. The storage capacity of Indian Lake and its contribution to flood protection as a percentage of the 1) total flood protection provided, and 2) the flood protection provided by GSL, is not significant enough to impact the limits of the “without GSL 100-year flood plain” and would not materially impact the total quantity of properties within the flood plain boundary that would be used to determine the value of property in each county that receives benefits. From a percentage stand point one could argue that the calculation of GSL flood protection benefit mathematically / statistically accounts for the protection provided by IL by the time the Board considers hydraulic modeling margins of error and approximations of flood boundary on a large scale map.

#### The Board’s viewing of the affected Parcels of Real Estate and Public Corporations

NY ECL §15-2121(4) requires that ‘the board, or a majority thereof, before making such apportionment shall view the premises and public corporations benefited’. Historically, a viewing of the premises benefited might have meant a visit to each affected hydropower facility along the length of the Sacandaga and Hudson Rivers and thus, a visit to the county within which such land lay. In light of the court case ruling for Federal Power Act preemption, visits to such specific sites are not warranted. Staff’s opinion, bolstered by the Appellate Division decision, is that the word ‘view’, when taken in this context, contemplates a thorough understanding of: the breadth and scope of the apportionment; against whom such apportionment will lie; and the relative amount to be borne by each such entity. In the absence of a written record or a definition explaining the legislature’s intent, and in light of available modern technology, staff believe that such an appreciation can best be gained through review of aerial photographs, inundation mapping, and the presentation of staff’s data analysis. In short, the same material reviewed by the Regulating District Board in connection with the 2010 Apportionment. In addition, some on the Board have indicated that they have already physically visited each affected county. The Appellate Division Third Department opined in its May 10, 2012 decision that the Regulating District’s interpretation of the view requirement was rational.

#### Certification to NYS DEC for Approval

NY ECL §15-2121 requires that the Regulating District Board shall, upon its approval of the apportionment, certify such apportionment to the Department of Environmental Conservation for approval. The second ‘Resolved Clause’ of the attached Resolution accomplishes this certification. The Executive Director will provide a copy of the Resolution, the Apportionment, and supporting documentation to the NYS DEC Commissioner immediately upon the Board’s approval. Regulating District staff have exchanged emails and met with DEC staff to iron out any differences of opinion between the Department and the Regulating District with regard to the process and substance of the conduct of the Apportionment. Staff hopes that such efforts will facilitate a quick turn-around for DEC’s anticipated approval.

#### The Apportionment Grievance Hearing Process

NY ECL §15-2121(4) requires that upon approval of the Apportionment by the DEC, copies of the Apportionment should be served upon the chair or other presiding officer of the county legislature of each county, the mayor of each city, the supervisor of each town, and the mayor of each village named in the Apportionment and that it shall be filed in the office of the

county clerk of each county in which any public corporation or real property thereby affected is located. Since, the Apportionment will affect only the counties, staff recommends that copies be served on the county legislature and the county clerk. Copies would also be posted to the Regulating District's website. Following such service, NY ECL §15-2121(4) also requires that a notice be published announcing the time and place at which the Board will meet to hear any public corporation or person aggrieved by the Board's apportionment determination. Staff recommends that the Board chose to hear grievances at the meeting of the Board to be held in September 2012.

Pursuant to NY ECL §15-2121(5), following such apportionment grievance hearing, such apportionment if not modified shall become final and conclusive; or if modified, following approval of the modified apportionment by the DEC, such apportionment as so modified shall become final and conclusive.

#### A New Apportionment

The Appellate Division Third Department's decision modified the April 1, 2011 Supreme Court Saratoga County decision 'by reversing so much thereof as granted respondent's motion dismissing the third and fourteenth causes of action to the extent that said causes of action allege that respondents failed to consider and reduce the total amount to be apportioned by the amount chargeable to the state'.... In short, the Appellate Division declared the Regulating District Board's March 30, 2010 Apportionment invalid to the extent that the March 30, 2010 Apportionment did not establish a state share and reduce the total amount to be assessed to the Five Counties by the amount of that state share. By remitting the matter back to the Regulating District for further proceedings not inconsistent with the court's decision, the Appellate Division instructed the Regulating District Board to determine an amount chargeable to the state before it apportioned the remaining costs among the Five Counties for their respective shares.

In conjunction with attorneys from the Litigation bureau and the Appeals and Opinions bureau at the Attorney General's office, and staff counsel at DEC, staff at the Regulating District recommends that the Board establish an amount chargeable to the state as part of a new Apportionment of costs. The Board could treat the establishment of this state share as a separate and distinct act from the apportionment methodology approved by the Court's decision. However, staff and counsel from the AG and DEC agree that affording all parties affected by the Board's determination an opportunity to grieve both determinations will provide a more defensible final product. Obviously, the Five Counties and the State all have an interest in the Board's calculation of the State's share. The Five Counties also have an interest in the apportionment of the remaining costs between them. The Counties will be notified of their right to grieve the apportionment in the manner specified by statute. The State will be notified through submission of an invoice seeking payment of the 'State share' to be delivered to both the Division of Budget and the Office of the State Comptroller. As with the March 2010 Apportionment, the Regulating District Board should expect the parties to present arguments during the administrative proceeding which may result in a modification of the Apportionment after the Apportionment Grievance Hearing. Once both elements of this new Apportionment are finalized, the Board will have a strong administrative record upon which to defend any Article 78 challenge.

### Same Methodology – Refined Input

The new Apportionment will utilize the same methodology to fix the percentage of costs to be borne by each respective county as was used in the March 30, 2010 Apportionment.<sup>7</sup> The data input will undergo a slight refinement to remove from the total value of properties within the floodplain lying within the five Counties the value of state properties lying within the floodplain within those Counties. This refinement will better reflect the value of non-state properties within the affected area and the proportion of benefit derived by each county. The refinement may also better enable those Counties who wish to pass-through the apportionment of cost directly to the properties identified in the apportionment to do so.

The 2012 Apportionment will utilize the same assessment data compiled for the 2010 Apportionment. The data utilized is supplied from the assessment rolls maintained by each County. The Regulating District is aware of no change in the assessment rolls of any relevant County that would affect a material change in the Apportionment.

In conjunction with the March 2010 Apportionment, the Regulating District commissioned a study by an outside consultant (Economic Research Services, Inc. (AEG)) through which the consultant would prepare an apportionment methodology. Following submission of the proposed methodology, conference calls and exchange of comments, the Regulating District's Chief Engineer drafted a September 10, 2010 memo to the Board<sup>8</sup> which articulated staff's recommendation to utilize the in-house apportionment methodology created by staff rather than the AEG methodology for future apportionments.

### Calculation of the Amount Chargeable to the State

The Regulating District staff has considered several methods to calculate the portion of the estimated operations and maintenance costs which is chargeable to the State. Staff recommends that the Board employ a methodology to calculate the amount chargeable to the state similar to the methodology utilized to establish each county's proportional share of said costs.

Staff notes that while the methodology used to calculate the "State share" and the "counties share" is similar, the data inputs are not identical. The methodologies are similar in that both rely upon a comparison of the value of property assets within the 100-year floodplain. Both methodologies also recognize that, after consideration of various benefits including increased property values, recreation and flow augmentation and absent the federally preempted benefit to hydropower, flood protection is the most substantial clearly defined benefit of the reservoirs and that this benefit can be reasonably and rationally represented by the proportion of each county's value of property assets within the 100-year flood plain to the value of all property value in the flood plain. Both methodologies are empirical and repeatable. The data inputs are different to the extent that the comparison among the Counties looks at total value of property assets within the 100-year floodplain and the comparison between the State and the Counties adds the value of roads and bridges to the calculation.

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<sup>7</sup> See January 7, 2010 Memo from Senior Staff to the Board entitled "Hudson River Area / Great Sacandaga Lake Apportionment"

<sup>8</sup> See September 10, 2010 memo from Robert Foltan to the Board entitled "Hudson Area Reapportionment Study – September 2010 Update"

The “chargeable to the state” methodology will involve:

- Calculation of an amount “Chargeable to the State” based on the same methodology used for the apportionment of costs among the Counties.
- Identification and extraction of State property values, which were previously included in the inventory of properties developed for each county, from the list of properties within the “without GSL 100-yr flood plain.” The remaining properties comprise the “Value of County (Non-State) Property” within the “without GSL 100-yr flood plain.”
- Summation of the “Value of State Property,” including real property value from county assessments, value of State roadways, and value of State bridges, that are within the “without GSL 100-yr flood plain.”
- Calculation of the “Value of All Property” within the “without GSL 100-yr flood plain” by a summation of the “Value of State Property” and the “Value of County (Non-State) Property” within the “without GSL 100-yr flood plain.”
- Calculation of the ratio of “Value of State Property” to “Value of All Property.” That is, the sum of the value of all State property, roadways, and bridges, within the “without GSL 100-yr flood plain,” divided by the sum of the value of all non-State property within the “without GSL 100-yr flood plain.”

Although the various benefits (augmentation, waste assimilation, canal operation, flood protection, recreation, quality of the environment) derived by the State and by the Counties may differ, the use of value of state and the value of non-state property within the 100-year flood plain as a basis for calculating a respective proportion of benefit derived by the state and each county remains equally rational and reasonable as the methodology used in the March 30, 2010 apportionment. The flood protection benefit realized by each beneficiary and the State continues to represent all benefits received by those beneficiaries and the State.

#### Rejected Alternative Methods for calculating the Amount Chargeable to the State

In arriving at a recommendation for the best method to calculate the amount chargeable to the State, staff sought to determine why the statute treats the State differently than the other potential beneficiaries. One, theory, perhaps the most straightforward, is that the procedure proscribing the mechanism for collecting assessments from the other beneficiaries is simply not relevant to the collection of the assessment from the State. Another theory considered is that the state legislature intended that the State itself would determine the amount chargeable to the State in an appropriation in advance of each year’s HRBRRD assessment. While passage of the State budget in April of each year and commencement of the Regulating District’s fiscal year on July 1<sup>st</sup> might make this practice possible, there is no indication that the state has ever elected to offer an appropriation. This theory might also explain why the Regulating District’s enabling statute provides the State neither notice of the District’s Apportionment process, nor an avenue to challenge even the Board’s establishment of the amount chargeable to the State as part of that process. None-the-less, the Appellate Division Third Department decision makes clear that the Regulating District Board is to establish an amount chargeable to the State. We recommend that the Board notify the State Comptroller and the Division of Budget to ensure the state an



opportunity to contest the Board's determination of the amount chargeable to the state (a.k.a. 'State share). We must presume that the Legislature has simply been waiting for the Regulating District's invoice before taking-up and passing an appropriation necessary to cover that annual charge.

Staff considered simply employing the same comparison of properties in the floodplain and treating the State as another beneficiary. However, doing so would create six beneficiaries for the purpose of determining the amount chargeable to the State but then apportion an amount, less the amount chargeable to the State, among the remaining five beneficiaries. The resulting change in the denominator would result in an assessment of less than the District's total costs. Perhaps more importantly, this solution would not employ the analysis of the state roads and bridges that the Appellate Division suggested at page 12 of their decision.

Staff determined that the analysis of state roads and bridges required a two step process wherein one set of data was used to calculate the amount chargeable to the state, and then another step wherein the balance was apportioned among the remaining beneficiaries. Staff considered a number of comparisons of State roads, bridges, parks and other infrastructure to similar non-state elements. Each method to value the various elements presented some issues. Measurements of the initial cost of infrastructure construction would require calculations to value new and old projects equally. A calculation of replacement cost would require costly engineering and procurement analysis on potentially hundreds of roads, bridges and structures and as a result would fall well beyond the capabilities of the Regulating District's small staff. Cost of acquisition would require subjective determinations where public lands (county or state) were acquired via donation. A calculation of the square area, would weight roads at a far higher amount than any other element (parks, state buildings, or bridges). Avoided cost, or 'loss of use' calculations using FEMA modeling might provide a regional impact, but would not be easily scale-able to the county level. While the time necessary to gather such data, and then run the FEMA HAZUS software may not have been prohibitive, the non-state share of such cost would ultimately be borne by the beneficiaries. Staff also considered a comparison of State to County budgets for emergency operations. We determined it would be difficult to discern the portion (5/62nds?) of the state budget spent on emergency operations. Also, it would be difficult to discern each element of the State's emergency preparedness expense (State hospitals, state aid to local hospitals, State Fire, SEMO, etc.). In the end, staff recommends the methodology outlined above.

## MEMORANDUM

To: Board of the Hudson River – Black River Regulating District

From: Michael A. Clark, P.E., Executive Director  
Robert P. Leslie, General Counsel  
Richard J. Ferrara, Chief Fiscal Officer  
Robert S. Foltan, P.E., Chief Engineer

CC: File

Date: 07/06/2012 (For the July 10 Board Meeting)

Re: 2012 Hudson River Area / Great Sacandaga Lake Apportionment

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### March 2010 Apportionment

In March 2010 the Regulating District Board completed an apportionment of costs based on the benefit derived from the regulation of the Hudson River and the operation of the Great Sacandaga Lake.

The March 2010 apportionment analysis identified the type of benefit derived by operation of Great Sacandaga Lake, the group of beneficiaries which are benefited by operation of the Great Sacandaga Lake, and the methodology by which a proportion of benefit would be determined to establish an assessment of cost to be levied among the members of the beneficiary group.

The Regulating District Board concluded that flood protection is the most direct and clearly defined benefit to the beneficiaries derived from the operation of the District's river regulating reservoirs, and that the 100-year flood should serve as the basis for an apportionment analysis.

Recognizing that flood protection benefits are received by both the properties in the floodplain as well as the greater community, the Board adopted an apportionment among five counties that lie within the flood protected 100-year flood plain. The five counties included Albany, Rensselaer, Saratoga, Washington, and Warren.

The Apportionment utilized a graphic information (GIS) system, *ArcGIS*, to conduct a mapping analysis of the properties in the five counties that derive flood protection benefits from the operation of the Great Sacandaga Lake. The chosen methodology used flood inundation data, New York State Office of Real Property Services<sup>1</sup> data, and United States Geological Survey topographic maps to identify flood protected properties within 100-year flood plain. The District created an inventory of flood protected properties and property values, within each town, city, and village, for each county.

Finally, the apportionment analysis quantified the benefit derived from flood protection based on the value of properties within the 100-year “without GSL” flood plain. Property value data, supplied by ORPTS and the County Assessors and adjusted to “market value” through application of equalization rates, served as the basis for a proportion of benefit derived by each county. A complete account of the apportionment calculation completed in early 2010 is summarized in a January 7, 2010 memorandum from Regulating District staff to the Board.

### 2012 Apportionment Analysis

In response to the May 10, 2010 Appellate Division, Third Department court decision described in General Counsel’s July 5, 2012 memorandum to the Board, Regulating District staff calculated the 2012 apportionment to reflect a separation of the benefit derived by the State from the benefit derived by the counties, in order to determine an amount “chargeable to the state.”

Regulating District staff selected a property value based methodology to calculate an amount chargeable to the State, similar to that used in March 2010 to apportion benefit among the five counties. The 2012 apportionment analysis compared the value of State-owned and State-maintained flood protected real property, roadways, and bridges with non-state-owned properties in the floodplain, consistent with the court decision, as the basis for the calculation of the State’s portion of benefit. Here, as was the case in the 2010 Apportionment, the value derived by the State’s use of water for operation of the canal system was considered *de minimis*.

### Value of Flood Protected State Real Property

The Regulating District calculated value of State-owned flood protected properties by extracting the value of state-owned real property from the March 2010 Apportionment’s flood protected

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<sup>1</sup> Now known as the NYS Office of Real Property Tax Services “ORPTS”

real property inventory. Staff then created a summation of the value of State-owned flood protected property. Staff then completed a recalculation of the value of real property in each county receiving a flood protection benefit (non-state property receiving flood protection). The value of State-owned real property receiving flood protection in the 100-year flood plain is \$175,555,884. The value of the non-state real property receiving flood protection in the 100-year flood plain is \$3,909,444,919.

#### Value of Flood Protected State Roads

The methodology then required a calculation of the value of State flood protected roads by applying a unit value (\$/mile) to a total length of State roadway within the 100-year flood plain. The New York State Department of Transportation (DOT) completed an analysis of the length of roads and calculated a total of 46.4 miles of State roads maintained within the 100-year flood plain.

The Regulating District staff recommends the Board select a unit value of \$1,500,000 per mile to represent the value of State roadways within the 100-year flood plain. The use of unit cost per highway mile is a professionally accepted standard for highway project preliminary budgeting. Staff chose \$1.5 Million per roadway-mile based on an analysis of representative project construction costs. A replacement value of \$1,500,000 per mile is in the range used by various state's Department of Transportation to estimate new construction or total replacement of a 2-lane minor arterial, or rural state highway. The section "Sensitivity Analysis for Road and Bridge Value" discusses the range of replacement costs considered. Applying the unit value of \$1.5 Million per mile to total miles (46.4 miles), the value of State roadways receiving flood protection in the 100-year flood plain is \$69,600,000.

#### Value of Flood Protected State Bridges

Regulating District staff conducted a map and aerial photography assessment of State bridges within the 100-year flood plain to create an inventory of bridge deck surface area. The State maintains a total of 19 State bridges with a total deck surface area of 953,519 square feet (sq. ft.) within the 100-year flood plain.

Staff recommends that the Board calculate the value of State flood protected bridges by applying a unit value for replacement (\$/sq. ft. of bridge deck surface area) to the total surface area of State bridges within the 100-year flood plain.

Staff recommends that the Board select a unit value for replacement of \$300/sq. ft. to represent the value of State bridges within the 100-year flood plain. The use of square-footage of bridge deck is a professionally accepted standard for bridge project preliminary budgeting. Staff chose \$300 per square-foot of bridge deck based on an analysis of representative bridge replacement costs. Applying the unit value per square foot of \$300, to the total bridge deck area (953,519 sq. ft.), the value of State bridges receiving flood protection in the 100-year flood plain is \$286,055,700.

Sensitivity Analysis for Road and Bridge Value

Unit value highway construction costs used to calculate roadway replacement value are dependent upon rural or urban conditions, terrain, intersections, traffic maintenance during construction, climate, availability of construction materials, availability of labor, and the overall economy. The potential range for the unit value of 46.4 miles of State roadway in the 100-year flood plain is from \$46.40 Million to \$148.48 Million. The sensitivity of the State share of this Apportionment to variation in the unit cost per mile is -0.46% / +1.54%.

*Representative Highway Construction Costs*

<b>State / Other Entity</b>	<b>Average Budgeting Costs per Mile of Road</b>	<b>Comments</b>
Arkansas DOT	\$2.3 Million Per Mile	Interstate
Florida DOT	\$2.2 Million per Mile	2-lane Arterial
Washington State DOT	\$1.0 Million per Lane-Mile	2-Lane Minor Arterial
Federal Highway Administration (FHWA)	\$1.0 Million to \$3.2 Million per Mile	FHWA's "Highway Economic Requirement System" , 2006

The range of bridge replacement unit costs considered varies from \$230 to \$395 per sq. ft. of bridge deck. The sensitivity to unit price of the Value of State Bridges within the 100-year Hudson River floodplain can be represented as: 953,519 sq.ft. (total area State bridges in floodplain) x (\$395 - \$230) = \$157.33 Million in total variation. This analysis suggests that the sensitivity to variation in unit replace costs of the total value of State flood-protected bridges is between \$219.31 Million and \$376.64 Million. This Apportionment calculates the flood

protected value of State bridges based on \$300 per sq. ft., and a total value of \$286,055,770. The sensitivity of the State Share of this Apportionment to variation in flood-protected bridge value within the range tabulated is -1.34% / +1.76%.

*Representative Bridge Construction Costs*

STATE/OTHER ENTITY	COST PER Square-Foot of Bridge Deck
NYS DOT - Batchellerville Bridge	\$396 per sq.-ft. <u>Batchellerville Bridge square foot cost - Actual:</u>
Over Great Sacandaga Lake	Contract award: \$46 million
	Length: 3,078 ft.
	Width: 37.88 ft.
	Cost per sq. ft. = \$46,000,000/(3,078 x 37.88) = \$395 per sq. ft.
FHWA - National Average Adjusted for Inflation	\$230 per sq.-ft.

Calculation of State Percent of Benefit “Chargeable to the State”

The total value of the all State flood protected property is the sum of the value of the real property, roads, and bridges receiving flood protection.

Value of State Real Property	\$175,555,884
Value of State Roads	\$69,600,000
Value of State Bridges	\$286,055,700
<b>Total Value of All State Property</b>	<b>\$531,211,584</b>

Table 1A summarizes the total value of all State flood protected property and the value of county real property which receives flood protection.

Value of State Real Property	\$175,555,884
Value of State Roads	\$69,600,000
Value of State Bridges	\$286,055,700
<b>Total Value of All State Property</b>	<b>\$531,211,584</b>
<b>Total Value of County Property (non-state)</b>	<b>\$3,909,444,919</b>
<b>Total Value of All Property</b>	<b>\$4,440,656,503</b>

The percent of benefit derived by the State is established by proportioning the total value of State flood protected property and total value of all flood protected property. Based on the values provided above and shown in Table 1A, the percent of benefit “chargeable to the State” is

11.96% of Regulating District cost of operation and expenses after other, non-assessment, income.

### County Apportionment

Table 1B contains a calculation of the counties proportion of benefit using non-State flood protected property values for each county.

**Table 1A - Portion of Flood Protection**

**State Portion of Flood Protection ("Chargeable to the State")**

A County	B Total Value of Non-State Real Property Receiving Flood Protection Benefit 1	C Value of State Real Property Receiving Flood Protection Benefit 2	D Value of State Roads Receiving Flood Protection Benefit 3	E Value of State Bridges Receiving Flood Protection Benefit 4	F Total Value of All Property Receiving Flood Protection Benefit
Albany	\$1,482,824,786	\$120,797,946			
Rensselaer	\$867,551,045	\$14,610,360			
Saratoga	\$1,139,605,893	\$26,209,828			
Washington	\$152,256,062	\$8,502,873			
Warren	\$267,207,133	\$5,434,877			
<b>Total</b>	<b>\$3,909,444,919</b>	<b>\$175,555,884</b>	<b>\$69,600,000</b>	<b>\$286,055,700</b>	<b>\$4,440,656,503</b>
			Value of State Real Property	\$175,555,884	
			Value of State Roads	\$69,600,000	
			Value of State Bridges	\$286,055,700	
			<b>Total Value of All State Property</b>	<b>\$531,211,584</b>	
				<b>Percent Chargeable to State</b>	<b>11.96%</b>

**Table 1B - Portion of Flood Protection**

**County Portion of Flood Protection**

A County	B Total Value of Non-State Property Receiving Flood Protection Benefit	C County Apportionment of Benefit (%)
Albany	\$1,482,824,786	37.92929%
Rensselaer	\$867,551,045	22.19116%
Saratoga	\$1,139,605,893	29.15007%
Washington	\$152,256,062	3.89457%
Warren	\$267,207,133	6.83491%
	<b>\$3,909,444,919</b>	<b>100.00%</b>

**Notes**

- 1 ORPS and County Real Property Assessment Data
- 2 State owned land, buildings, parks from ORPS and Real Property Assessment Data
- 3 State owned roads
- 4 State owned bridges



Hudson River 100-Year Floodplain without GSL  
Summary of State Real Property (not including roads and bridges)

	<b>Total Value of Non-State Real Property Receiving Flood Protection Benefit</b>	<b>Value of State Real Property Receiving Flood Protection Benefit 1</b>	<b>Total Value of Real Property Receiving Flood Protection Benefit 2</b>
<hr/>			
<b>County</b>			
Albany	\$1,482,824,786	\$120,797,946	\$1,603,622,732
Rensselaer	\$867,551,045	\$14,610,360	\$882,161,405
Saratoga	\$1,139,605,893	\$26,209,828	\$1,165,815,721
Washington	\$152,256,062	\$8,502,873	\$160,758,935
Warren	\$267,207,133	\$5,434,877	\$272,642,010
<b>Counties</b>	\$3,909,444,919		
<b>State of New York</b>		\$175,555,884	
<b>Total Value</b>			\$4,085,000,803

Note

1. Excludes roads and bridges
2. State and Non-State owned real property

Hudson River 100-Year Floodplain without GSL

**Albany County**

	<b>B</b>	<b>C</b>	<b>D</b>
	Assessed Value	Equalization Rate (2009)	Full Market Value (Col B / Col C)
<b>County (less NYS)</b>			
City of Albany	\$482,577,056	98.00%	\$492,425,567
City of Cohoes	\$26,134,189	56.00%	\$46,668,195
City of Watervliet	\$223,902,600	64.15%	\$349,029,774
Town of Bethlehem	\$151,766,135	93.00%	\$163,189,392
Town of Coeymans	\$119,508,069	99.25%	\$120,411,153
Town of Colonie	\$99,179,951	65.75%	\$150,844,032
Town of Green Island	\$8,621,809	5.38%	\$160,256,673
	<hr/>		
	\$1,111,689,809		\$1,482,824,786

**State of New York**

City of Albany	\$114,811,300	98.00%	\$117,154,388
City of Cohoes	\$1,107,100	56.00%	\$1,976,964
City of Watervliet	\$0	64.15%	\$0
Town of Bethlehem	\$0	93.00%	\$0
Town of Coeymans	\$0	99.25%	\$0
Town of Colonie	\$7,000	65.75%	\$10,646
Town of Green Island	\$89,090	5.38%	\$1,655,948
	<hr/>		
State property values	\$116,014,490		\$120,797,946

Hudson River 100-Year Floodplain without GSL

**Rensselaer County**

	<b>B</b>	<b>C</b>	<b>D</b>
	Assessed Value	Equalization Rate (2009)	Full Market Value (Col B / Col C)
<b>County (less NYS)</b>			
City of Rensselaer	\$96,625,911	28.50%	\$339,038,284
City of Troy	\$51,220,771	13.22%	\$387,449,100
Town of East Greenbush	\$11,097,326	100.00%	\$11,097,326
Town of North Greenbush	\$16,453,393	26.25%	\$62,679,592
Town of Schaghticoke	\$9,331,760	23.00%	\$40,572,870
Town of Schodack	\$3,237,900	100.00%	\$3,237,900
Village of Castleton-on-Hudson	\$13,170,021	56.10%	\$23,475,973
	\$201,137,082		\$867,551,045

**State of New York**

City of Rensselaer	\$486,810	28.50%	\$1,708,105
City of Troy	\$144,900	13.22%	\$1,096,067
Town of East Greenbush	\$2,723,449	100.00%	\$2,723,449
Town of North Greenbush	\$0	26.25%	\$0
Town of Schaghticoke	\$1,780,140	23.00%	\$7,739,739
Town of Schodack	\$1,343,000	100.00%	\$1,343,000
Village of Castleton-on-Hudson	\$0	56.10%	\$0
	\$6,478,299		\$14,610,360
State property values	\$6,478,299		\$14,610,360

Hudson River 100-Year Floodplain without GSL

**Saratoga County**

	<b>B</b>	<b>C</b>	<b>D</b>
	Assessed Value	Equalization Rate (2009)	Full Market Value (Col B / Col C)
<b>County (less NYS)</b>			
City of Mechanicville	\$16,231,746	70.0%	\$23,188,209
Town of Corinth	\$11,403,267	97.0%	\$11,755,945
Town of Hadley	\$88,115,700	72.0%	\$122,382,917
Town of Halfmoon	\$32,057,212	59.0%	\$54,334,258
Town of Moreau	\$90,062,407	31.8%	\$283,215,116
Town of Northumberland	\$22,964,100	100.0%	\$22,964,100
Town of Saratoga	\$11,339,200	64.0%	\$17,717,500
Town of Stillwater	\$56,184,799	91.0%	\$61,741,537
Town of Waterford	\$73,163,174	33.8%	\$216,459,095
Village of Corinth	\$131,631,000	97.0%	\$135,702,062
Village of Schuylerville	\$12,188,662	64.0%	\$19,044,784
Village of South Glens Falls	\$23,682,256	30.8%	\$76,990,429
Village of Stillwater	\$67,253,025	91.0%	\$73,904,423
Village of Waterford	\$6,829,465	33.8%	\$20,205,518
	\$643,106,013		\$1,139,605,893

**State of New York**

City of Mechanicville	\$105,000	70.0%	\$150,000
Town of Corinth	\$0	97.0%	\$0
Town of Hadley	\$0	72.0%	\$0
Town of Halfmoon	\$420,100	59.0%	\$712,034
Town of Moreau	\$5,877,000	31.8%	\$18,481,132
Town of Northumberland	\$622,300	100.0%	\$622,300
Town of Saratoga	\$1,041,600	64.0%	\$1,627,500
Town of Stillwater	\$182,400	91.0%	\$200,440
Town of Waterford	\$0	33.8%	\$0
Village of Corinth	\$0	97.0%	\$0
Village of Schuylerville	\$14,000	64.0%	\$21,875
Village of South Glens Falls	\$0	30.8%	\$0
Village of Stillwater	\$180,000	91.0%	\$197,802
Village of Waterford	\$1,418,500	33.8%	\$4,196,746
	\$9,860,900		\$26,209,828
State property values	\$9,860,900		\$26,209,828

Hudson River 100-Year Floodplain without GSL

**Washington County**

	<b>B</b>	<b>C</b>	<b>D</b>
	Assessed Value	Equalization Rate (2009)	Full Market Value (Col B / Col C)
<b>County (less NYS)</b>			
Town of Easton	\$641,130	2.0%	\$32,878,462
Town of Fort Edward	\$24,090,548	83.0%	\$29,038,751
Town of Greenwich	\$14,171,500	100.0%	\$14,171,500
Village of Fort Edward	\$35,459,053	83.0%	\$42,742,349
Village of Hudson Falls	\$33,425,000	100.0%	\$33,425,000
	\$107,787,231		\$152,256,062

**State of New York**

Town of Easton	\$1,900	2.0%	\$97,436
Town of Fort Edward	\$6,847,300	83.0%	\$8,253,737
Town of Greenwich	\$151,700	100.0%	\$151,700
Village of Fort Edward	\$0	83.0%	\$0
Village of Hudson Falls	\$0	100.0%	\$0
	\$7,000,900		\$8,502,873
State property values	\$7,000,900		\$8,502,873

Hudson River 100-Year Floodplain without GSL

**Warren County**

	<b>B</b>	<b>C</b>	<b>D</b>
	Assessed Value	Equalization Rate (2009)	Full Market Value (Col B / Col C)
<b>County (less NYS)</b>			
City of Glens Falls	\$72,765,056	73.0%	\$99,678,159
Town of Lake Luzerne	\$77,166,450	83.0%	\$92,971,627
Town of Queensbury	\$56,663,584	76.0%	\$74,557,347
	\$206,595,090		\$267,207,133

**State of New York**

City of Glens Falls	\$186,500	73.0%	\$255,479
Town of Lake Luzerne	\$1,701,000	83.0%	\$2,049,398
Town of Queensbury	\$2,378,800	76.0%	\$3,130,000
	\$4,266,300		\$5,434,877
State property values			

Hudson River 100-Year Floodplain without GSL  
Summary of Value of Roads

<b>Road Miles within 100-year flood plain</b>		<b>Unit Value (\$/mile)</b>	<b>Value</b>
Total	131.7 miles		
<u>Non-State</u>	<u>85.3 miles</u>		
State	46.4 miles	\$1,500,000	\$69,600,000

Hudson River 100-Year Floodplain without GSL  
Summary of Value of Bridges

Bridge Name & Route	Location	Bridge ID	Owner	Deck Area (sq. ft.)	Value
SR 197/28 Reynolds Rd	Moreau / Fort Edward	1039840/4039850	NYS DOT	22764	\$6,829,200
SR 29 / Ferry St	Saratoga / Easton	1073800/4020700	NYS DOT	24390	\$7,317,000
SR 9N / Lake Ave	Lake Luzrne	1006730	NYS DOT	15408	\$4,622,400
I-87	Moreau / Queensbury		NYS DOT	104320	\$31,296,000
US 9 / Main St	Glens Falls / S. Glens Falls		NYS DOT	38828	\$11,648,400
US 4	Northumberland	4001020	NYS DOT	14482	\$4,344,600
SR 125 / Stillwater Bridge	Stillwater / Schaghticoke	4029210	NYS DOT	31860	\$9,558,000
SR 67 / Howland Ave	Mechanicville		NYS DOT	20052	\$6,015,600
US 4 and 126th St / Broad St	Waterford	4000950	NYS DOT	32970	\$9,891,000
SR 470 / 112th St	Cohoes	4093220	NYS DOT	32970	\$9,891,000
US 4 / Broadway @ canal	Fort Edward		NYS DOT	13212	\$3,963,600
US 4 east of Griffin Island	Fort Edward		NYS DOT	6171	\$1,851,300
US 4 over Fish Creek, west of Hudson	Schuylerville		NYS DOT	13212	\$3,963,600
SR 7	Green Isl / Troy		NYS DOT	152040	\$45,612,000
SR 2	Troy		NYS DOT	48180	\$14,454,000
SR 378 / High St	Menands / North Greenbush		NYS DOT	82500	\$24,750,000
US 90	Albany		NYS DOT	68000	\$20,400,000
US 9 / 20	Albany		NYS DOT	123360	\$37,008,000
US 90	Selkirk		NYS DOT	108800	\$32,640,000

Unit value for replacement (\$ per square foot of deck surface): **\$300**

**\$286,055,700**



**SUMMARY OF ASSESSED VALUES - GREAT SACANDAGA LAKE MUNICIPAL**

<u>Municipality</u>	<u>Total Assessed Value</u>	<u>6.00%</u>
Day (T)	\$24,887,301.00	\$1,493,238.06
Edinburg (T)	\$24,226,451.00	\$1,453,587.06
Benson	\$520,956.00	\$31,257.36
Broadalbin (T)	\$8,996,852.00	\$539,811.12
Mayfield (T)	\$12,632,182.00	\$757,930.92
Northampton (T)	\$28,594,728.00	\$1,715,683.68
Hadley (T)	\$3,389,160.00	\$203,349.60
Hope (T)	\$179,936.00	\$10,796.16
Providence (T)	\$116,824.00	\$7,009.44
<b>TOTAL ALL TOWNS</b>	<b>\$103,544,390.00</b>	<b><u>\$6,212,663.40</u></b>
Mayfield (V)	\$710,987.00	
Northville (V)	\$4,271,855.00	
<b>TOTAL VILLAGES</b>	<b>\$4,982,842.00</b>	<b>\$298,970.52</b>
<b>TOTAL IF VILLAGES ARE INCLUDED</b>	<b>\$108,527,232.00</b>	<b><u>\$6,511,633.92</u></b>