United States District Court,
D. New Jersey.
STATE OF NEW JERSEY, DEPARTMENT OF ENVIRONMENTAL PROTECTION, Plaintiffs,
v.
GLOUCESTER ENVIRONMENTAL MANAGEMENT SERVICES, INC, Defendants.
United States of America, Plaintiff,
v.
Air Products and Chemicals Incorporated, et al., Defendants.
Civil Nos. 84-0152 (JBS), 92-3860(JBS).

May 11, 2005.

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OPINION

SIMANDLE, District Judge.

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I. *Background*

A. *The GEMS Landfill, Owned by Gloucester Township*

This case involves the sixty-acre Gloucester Environmental Management Services, Inc. ("GEMS") Landfill, a federal Superfund hazardous waste site, located in Gloucester Township, Camden County, New Jersey, which was owned by the Township of Gloucester and operated by Amadei Sand & Gravel, Inc., and GEMS, in the late 1950s through 1980. *See State of New Jersey Dept. of Envtl. Prot. v. Gloucester Envtl. Mgmt. Servs., Inc.*, 719 F.Supp. 325, 328 (D.N.J.1989). The State of New Jersey, Department of Environmental Protection ("NJDEP") originally brought the case in New Jersey Superior Court in 1980, seeking proper closure and remediation of the Landfill which was caused by the dumping of hazardous wastes; the case was eventually removed to federal court in 1984. *Id.* The United States also filed suit for recovery of response costs and other remedies under the Comprehensive Environmental Response, Compensation and Liability Act, as amended ("CERCLA" or "Superfund"), 42 U.S.C. § 9601, *et seq.*, in 1992. The State and Federal cases were combined and coordinated for all purposes. Several hundred parties were joined as alleged generators or haulers of wastes to the GEMS Landfill, including many municipalities in Southern New Jersey, industrial plants, waste processing facilities, trucking companies and other institutions, both private and public.

Congress has placed broad powers upon the United States Environmental Protection Agency ("EPA") to determine the appropriate responses and remedial actions to protect the environment at the nation's hazardous waste sites, subject to review in federal court, pursuant to the CERCLA or "Superfund" statute.

In the early 1980s, the Landfill was placed by EPA on the National Priorities List ("NPL") pursuant to CERCLA. After reviewing the nature and extent of contamination, the EPA issued a Record of Decision ("ROD") on September 27, 1985, which called for various measures to be implemented at the GEMS Landfill including the installation of security fencing, the implementation of an environmental monitoring program, the installation of a clay cap and gas venting system, and the extraction and treatment of contaminated groundwater. According to the ROD, this groundwater could be treated completely on-site and discharged to surface water, or alternatively, treated partially on-site and conveyed to the regional publicly-owned treatment works ("POTW"), the Camden County Municipal Utilities Authority ("CCMUA").

In this litigation, intensive exchange of pretrial discovery and scientific and engineering studies led to the preliminary (Phase I) remediation settlement in 1989 and the final (Phase II) remediation settlement in 1997 to provide for the cleanup of the GEMS Landfill, financed by the responsible parties, over a 30-year period.

B. *The 1997 Consent Decree*

On June 27, 1997, the parties to the suit entered into a

Consent Decree, which had been negotiated over an extensive period of time, undergoing a period of public comment and review and a hearing, during which time no objection was raised with respect to the proposed remediation plan for the Landfill. The terms of the Consent Decree required the construction of a Groundwater Extraction System ("GWE") and an On-Site Groundwater Pre-Treatment ("OSPT") System as shown in the Pre-Trial Remedial Design Report which was attached to the Consent Decree, and the operation of the GWE and OSPT systems with discharge of the treated water to the Gloucester Township Municipal Utilities Authority ("GTMUA") sewerage system for final treatment at the CCMUA. This remedial action, including the extraction and treatment of contaminated groundwater underlying the Site, was selected by the EPA, with concurrence by the NJDEP, pursuant to CERCLA. All parties, including the United States, the NJDEP, Gloucester Township, and representatives of the hundreds of potentially responsible parties, urged the Court to adopt the Consent Decree. After public notice of the proposed Consent Decree and an opportunity for any opposition to be considered at a hearing, this Court approved the Consent Decree under the authority of CERCLA.

C. *The GTMUA Sewer Service Agreement*

In addition, the GTMUA and the Trust executed a Sewer Service Agreement ("Sewer Agreement") on May 28, 1997, which permitted the discharge of treated effluent from the GEMS Landfill to flow through the GTMUA's sewage system, and required the Trust to pay a $400,000 one-time connection fee along with annual user fees. The Sewer Agreement was attached to and was made part of the Consent Decree.

The Trust paid the $400,000 connection fee to the GTMUA in two installments, and also paid its connection fee of over $1.7 million to the CCMUA, receiving from the CCMUA a permit for discharge. In addition, as of June 1999, the Trust constructed the GWE and OSPT systems, according to the terms of the Consent Decree, and prepared to begin the one-year "start-up" phase.

D. *The Discovery and Remediation of Radionuclides*

Prior to the start-up phase, the CCMUA requested that samples of effluent from the Landfill be analyzed for radionuclides. In late 1999 to 2000, a series of tests indicated low levels of radionuclides [FN1] in the wells of the Landfill, raising concerns with federal, state and local agencies. The analysis indicated the low level presence of gross alpha and gross beta particle activity, causing the CCMUA to issue a Cease and Desist Order on June 15, 1999, prior to the start-up. The CCMUA subsequently informed the Trust that it was sending the radionuclide data to the EPA and NJDEP for confirmation that the radionuclide levels found in the discharge would be acceptable for the system.

> FN1. Radionuclides are chemical elements with unstable nuclei that release charged particles (ions), or emit electromagnetic radiation. *Fertilizer Inst. v. U.S. EPA*, 935 F.2d 1303, 1306 (D.C.Cir.1991); *see also* Sloane-Dorland Annotated Medical-Legal Dictionary, at 602 (1987). Radionuclides are present here in the form of radium, specifically radium-226 and radium-228, and uranium. According to the EPA, most drinking water sources in the United States have low levels of these radioactive contaminants. *See* EPA, Radionuclides in Drinking Water, at http://www.epa.gov/safewater/standard/pp/radnucpp.html.

The detection of the low-level radionuclides prompted careful study, reconsideration and actual testing. The Court convened a conference in March 2001, at which the Trust, the EPA, the NJDEP, and the CCMUA agreed to negotiate a plan to proceed with a baseline study and trial operation of the OSPT, with the effluent going to the CCMUA. The parties were subsequently involved in nearly a year-long negotiations process, which also determined what levels of radionuclides would be permitted during the trial operation of the OSPT. In July 2000, the Trust's radiation expert, Van Pelt Associates, had issued a report regarding the existence and concentrations of radionuclides in the GEMS area groundwater. The CCMUA also enlisted its own radiation consultant to develop a discharge standard for radionuclides. In August 2001, the CCMUA consultant proposed a discharge limit for radionuclides which would be applicable

to the GEMS discharge during the trial operation of the OSPT. [FN2]

> FN2. The discharge limits proposed by the CCMUA's consultant were more stringent than the limits allowed by the NJDEP regulations governing the discharge of radionuclides to sanitary sewers pursuant to *N.J.A.C.* 7:28-11.2, the levels of which are 400 pCi/L (picocuries per liter) for radium-226; 800 pCi/L for radium-228; 70,000 pCi/L for radium-224; and 20,000 pCi/L for uranium. The levels contained in the CCMUA's proposed permit were 42 pCi/L for radium-224; 60 pCi/L for radium-226; 42 pCi/L for radium-228; 220 pCi/L for uranium-238. (*Id.*) The temporary discharge to the CCMUA never occurred, however, as the parties opted for on-site pre-treatment and discharge of the effluent to the surface waters of Holly Run for the pilot study, as explained in the text below.

The CCMUA then proceeded to public hearings regarding the proposed radionuclide discharge limits as recommended by its experts. The CCMUA had developed a Work Plan that proposed to govern the discharge of the GEMS effluent to the CCMUA, having received input from the EPA and the Trust, but no response or feedback from the NJDEP. The CCMUA then sent a letter to the NJDEP on August 31, 2001 stating its intention to apply the proposed standard to the GEMS discharge, giving it a 45-day period in which to comment. After the 45-day period, the CCMUA again notified the NJDEP of its intentions on October 25, 2001. The NJDEP replied by letter dated November 1, 2001, indicating that it had technical concerns regarding the CCMUA consultant's study, but stating that it would not share those concerns at that time. The parties were unable to reach agreement on the standard to be applied.

In fall 2002, the CCMUA adopted the even more stringent national drinking water standards (MCLs) as the standard it would apply to radionuclides associated with any discharge from the GEMS Landfill. [FN3] The CCMUA notified the NJDEP and the EPA of its position that it would not accept the groundwater unless "all radionuclides are removed *on-site* to meet drinking water standards, and all other pollutants are removed *on-site* to meet normal industrial sewerage standards." The CCMUA therefore required that the pre-treated GEMS Landfill wastewater must meet the standards for drinking water (as far as radionuclides are concerned) before discharge to the CCMUA could be permitted.

> FN3. The national safe drinking water standards were set by the U.S. Environmental Protection Agency, as authorized and required by Congress in the Safe Drinking Water Act ("SWDA"), 42 U.S.C. § 300a, *et seq.*, over a thirty-year process, culminating in 2000. The maximum contaminant levels for public drinking water systems are defined in the MCLs, including those for uranium and isotopes of radium. The EPA's regulatory identification of these MCLs for safe drinking water is discussed in detail in Part II.E, below.

E. *The Eight-Month Pilot Study*

Meanwhile, the Trust had submitted an application to the NJDEP in the summer of 2001 to permit the discharge of treated effluent from the OSPT System by surface water to Holly Run on a trial basis, as a contingency plan in the event the sewer trial could not be realized. The original proposed sewer trial would have provided for pre-treatment of the Landfill water and discharge of the water into the CCMUA system, whereas the contingency surface water trial would treat the water on-site and discharge it to Holly Run. A stipulation providing for a six-month sewer trial was submitted to the Court in March 2002, though a regional drought problem surfaced and the parties agreed to postpone the sewer trial. The parties thus agreed to implement a 90-day surface water pilot study, for which the Trust had previously obtained a surface water permit from the NJDEP. The Trust additionally added a solids removal system to its OSPT system to facilitate the removal of suspended solids from the effluent. The discharge to the CCMUA consequently never occurred, while the temporary pilot discharge of treated effluent to Holly Run went forward in accordance with the testing and measurement protocols to which all parties agreed.

The surface water pilot study commenced on April 10,

2002, and continued for eight months. [FN4] During that time, in accordance with the pre-approved testing protocols, the Trust pumped and tested from the GEMS Landfill groundwater extraction wells, monitored weekly the readings they obtained of the effluent from and influent into the OSPT, and analyzed the levels of radionuclides in the treated groundwater that was then discharged into Holly Run. The Trust's engineering evaluation [FN5] of December 20, 2002 confirmed that the effluent from the OSPT System met drinking water standards for radionuclides: [FN6]

> FN4. After it became clear that the groundwater would not attain steady state conditions within ninety (90) days, the Trust requested approval to operate the pilot program for a longer time. The Deputy Regional Administrator of EPA, Region II, issued a Determination under Section VII of the Consent Decree requiring that the pilot program continue until January 10, 2003. The NJDEP approved the Determination after consulting with the EPA.
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> FN5. The Work Plan for Additional Response Actions, submitted by the GEMS Trust to the EPA in July 2002, provided for additional work divided into three categories: 1) continued operation of the existing treatment plant on a temporary basis, until steady state conditions were achieved, to definitively characterize influent; 2) an engineering evaluation, based on refined groundwater flow modeling, of alternatives for management of collected site groundwater; and 3) detailed engineering design and pilot studies, if needed, following a decision regarding the point of discharge.
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> FN6. The drinking water level, or Maximum Contaminant Level (MCL), for the isotopes radium-226 and radium-228 is 5 pCi/L, while the MCL for uranium is 30 pCi/L, as promulgated by the EPA in December 2000. *See* National Primary Drinking Water Regulations: Radionuclides, 65 Fed.Reg. 76,708 (Dec. 7, 2000) (Final Rule) ("Drinking Water Regulations"); *see also* 40 C.F.R. § 141.66; *City of Waukesha v. Envtl. Prot. Agency*, 320 F.3d 228, 232 (D.C.Cir.2003) (rejecting challenge to EPA's promulgation of National Primary Drinking Water Regulations for radionuclides under the Safe Drinking Water Act). The Appendix to the New Jersey Groundwater Quality Standards, *N.J.A.C.* 7:9-6, refers to the radionuclides standard as being the prevailing Safe Drinking Water Standard, citing to *N.J.A.C.* 7:10-1 *et seq.* *N.J.A.C.* 7:10-5.1, in turn, indicates that the National Primary Drinking Water Standards are incorporated as the State Primary Drinking Water Standards, except as otherwise provided in that section.
>
> The cumulative data containing the sampling from eight months of the OSPT operation indicates that the effluent levels entering Holly Run ranged from 1.75 to 4.73 pCi/L for radium, and from 2.33 to 9.68 pCi/L for uranium, which are below the safe drinking water standards.

> Radionuclides are below the permit equivalent limits, which are the same as drinking water quality for radionuclide parameters. Routine monthly reports are submitted to the USEPA and NJDEP pursuant to the agency-approved Work Plan for Discharge to Surface Water Pilot Study and the surface water discharge permit equivalent. These reports continue to show compliance with the permit equivalent limits including radionuclides, except for the non-radiological parameters [total dissolved solids, ammonia, and chemical oxygen demand] noted above.
>
> Of note, the GEMS treatment plant effluent data have consistently demonstrated that with the addition of solids removal (rather than solids return as originally provided for in the constructed design), the plant is capable of meeting Maximum Contaminant Levels (MCLs, i.e., drinking water quality) as the radionuclide permit limits for a discharge to the CCMUA.

(Discharge Alternatives Evaluation, GEMS Landfill, at 2-1) Thus, the engineering report found that radionuclides existed in very low levels, that on-site treatment further reduced the trace amounts of radionuclides, that the treatment on-site met all the standards contained in the Permit received by the Trust, and furthermore, that the

effluent met the MCL discharge (drinking water) standard for radionuclides. The final data generated in December 2002 further confirmed that radionuclides pose no risk to human health. [FN7]

> FN7. The OSPT system had operational problems and was stopped on December 20, 2002, and it resumed operations briefly prior to January 10, 2003. It had developed a leak due to unusually harsh weather conditions, and the fact that the pilot study equipment was of a temporary nature. The Trust's counsel, Mr. Lesneski, represented at the hearing that a procedure of notification to the other parties would take place if any problems occurred in the future. (Hearing Tr. 5/15/03, at 30-32.) Such monitoring and disclosure requirements would also presumably be among the reasonable safeguards of any eventual CCMUA permit for this Site.

It may be instructive for the Court to summarize these findings in TABLE I, below, by comparing the actual observed values of the GEMS Landfill water discharged after treatment during the eight month pilot study (Line 1 below), with the EPA's National Primary Drinking Water Standards (MCLs) promulgated in 2000 at 40 C.F.R. § 141.66 (Line 2 below), with the CCMUA's original proposed permit levels in 2001 (Line 3 below), and with the standards for discharge of radionuclides to sanitary sewer systems in New Jersey promulgated by the NJDEP at *N.J.A.C.* 7:28-11.2 (Line 4 below).

TABLE I: Radionuclides Contained in GEMS Landfill Pretreated Effluent (2002-2003 Pilot Study)

	Radium-226	Radium-228	Uranium
GEMS Pretreated Effluent L2-3OETOTAL:	1.75 pCi/L	2.33 to 9.68 pCi/L	to 4.73 pCi/L
EPA Drinking Water Standards ("MCLs")	5 pCi/L		30 pCi/L
CCMUA's Original Proposed Permit Levels	60 pCi/L	42 pCi/L	220 pCi/L
NJDEP Sanitary Sewer Limits	400 pCi/L	800 pCi/L	20,000 pCi/L

These measured values for radium-226 and radium-228 in the GEMS pilot study, ranging from 1.75 to 4.73 picocuries per liter, represent the total of the *combined* raw results for the individual readings of each isotope. This means that the actual value for either component is *lower* than the combined value reflected in the chart. The lower individual values also demonstrate a significant margin of safety before the Drinking Water Standard of 5 pCi/L would be exceeded.

The eight-month pilot study also yielded better data about the concentration of radionuclides in the untreated Landfill water, as measured by the pumped water influent into the on-site plant. After about six (6) months of running the pump-and-treat pilot study, the groundwater system was believed to reach steady state, and the radionuclide content did not vary significantly from month to month of measurements.

The NJDEP, in a letter dated February 19, 2003, stated that its Bureau of Environmental Radiation ("BER") "believes that discharge to the CCMUA is an acceptable alternative." The NJDEP continued, however, to request additional sampling and gathering of information.

F. *May 2003 Order Enforcing the Consent Decree*

As the CCMUA had withdrawn its permit when the radionuclides issue arose, and the CCMUA and NJDEP were not in agreement regarding the conditions for accepting the discharge, the Trust filed a Motion to Enforce the Consent Decree on April 3, 2003. The Trust sought an

order of this Court to move forward with the permitting process so that the CCMUA could issue a discharge permit which would allow pretreated effluent from the GEMS Site to be directed to CCMUA's plant. The GTMUA submitted its opposition to the motion, arguing that the GEMS Trust had materially breached the Sewer Service Agreement the two parties had entered into on May 28, 1997, by failing to comply with contractually required conditions. The EPA, meanwhile, on April 23, 2003, issued a letter to the Trust indicating that it should proceed with its efforts to obtain a permit from the CCMUA. [FN8] The NJDEP, having participated fully in the pilot study and confirming that the pretreated effluent posed no radionuclide problem, had no opposition to going forward with the remediation by discharge to CCMUA, subject to reasonable permit requirements by CCMUA. This Court issued an Opinion and Order, on May 29, 2003, that upheld the Consent Decree and ordered the CCMUA, with the NJDEP's cooperation, to finalize the draft permit. *See* *State of New Jersey Dept. of Envtl. Prot. v. Gloucester Envtl. Mgmt. Servs., Inc.*, 264 F.Supp.2d 165 (D.N.J.2003).

> FN8. The EPA's April 23, 2003 letter concluded that the on-site treatment plant at the GEMS Landfill Superfund Site, with the construction of a permanent solids removal facility, will treat the groundwater extracted from the Site, including radionuclides, to a level that will meet the standards for drinking water. The EPA thus determined that the Trust should take the steps necessary to obtain the CCMUA permit in order to implement the remedy detailed in the Consent Decree.

G. *Final Permitting*

Following this Court's Order of May 29, 2003, the NJDEP and the CCMUA agreed on a draft permit, which became the subject of public hearings. [FN9] There was strenuous public opposition to the issuing of the CCMUA permit to receive this pretreated effluent into the regional sewage treatment system; according to counsel, the opposition centered upon the treatment of radionuclides that remained in the pretreated effluent, albeit in trace amounts. During the comment period, however, Carole Peterson, Chief, New Jersey Remediation Branch, EPA Region II, received a letter, dated September 9, 2003, from the NJDEP's Bruce Venner that stated that the Trust had not provided Classification Exception Area ("CEA") groundwater monitoring data, although the State had requested it in a meeting on June 24, 2003 and a letter of August 1, 2003. The CEA delineation report was approved by the State by letter dated July 6, 1998. A report of this type is required in every area determined to be a CEA. In this instance, because the CEA was being developed in recognition that a remedial action was to be taken at the GEMS Site, the CEA report for the GEMS Site specifically refers to the groundwater performance monitoring program attached to the Consent Decree as Appendix G. The "Groundwater Performance Monitoring Plan" requires hydraulic monitoring and groundwater monitoring with sampling to occur after operation of the remedial system begins. Furthermore, the Hydrogeological Remedial Action Work Plan--approved by both EPA and the State of New Jersey--states that groundwater performance monitoring of the aquifers underlying the GEMS Site will commence once continuous operations officially begin.

> FN9. Two public hearings were held on September 10, 2003 and October 6, 2003. The comment period was extended until October 17, 2003.

While the CCMUA's public hearing process was taking place, NJDEP Commissioner Bradley Campbell wrote to CCMUA Executive Director Herman Engelbert on September 10, 2003, expressing for the first time "strong objections to the draft discharge permit." (*See* Certification of Bradley M. Campbell). Commissioner Campbell gave several reasons for his opposition, including the NJDEP's longstanding preference for an on-site remedy, his concerns about the failure of the Trust to provide data needed for the establishment of a CEA, an error in the CCMUA public notice related to the draft permit, and concerns expressed by interested citizens in the Camden County area. (*Id.*). By copy of that letter, Commissioner Campbell also requested that the EPA Regional Administrator reopen the ROD to consider an on-site remedy.

Several telephone conferences were held with the parties and this Court, including one on November 6, 2003. During

that conference, this Court allowed the NJDEP to supply to the CCMUA, on or before December 6, 2003, the NJDEP's comments on the permit record. (*See* Certification of Richard F. Engel, ¶ 3).

On November 7, 2003, the NJDEP received a copy of a letter sent by the United States Nuclear Regulatory Commission ("NRC") to Congressman Robert Andrews on November 4, 2003, which raised questions about the sources of radioactivity in the Landfill. (*See* Campbell Cert. at ¶ 7). The NRC stated that eight of the primary responsible parties identified as having allegedly contributed some sort of waste to GEMS were also licensed to handle uranium, a substance that has been detected in ground water at the Landfill. (*Id.*). The NJDEP stated that it requested, but has not yet received, additional information regarding these licensees' activities to gain a clearer understanding of whether uranium may have been deposited at GEMS and, if so, in what amounts. (*Id.* at ¶ 8). The NJDEP forwarded the NRC letter to the parties and to the Court. The NRC completed its search for possible sources of radionuclides in 2004, which was exhaustive, turning up no information to indicate disposal of radioactive materials at GEMS. [FN10]

> FN10. According to the NRC's letter of John B. Hickman to NJDEP's Dr. Jill Lipoti, Asst. Dir., Radiation Protection Programs, dated September 2, 2004, extensive database searches were conducted by the NRC focusing on NRC licensees authorized to process natural uranium, including active files, warehouse files, and various electronic databases. These efforts produced no evidence that such materials were disposed of at GEMS. *See* Hickman Letter of Sept. 2, 2004, attached to letter of Brian Donohue to Court, dated Apr. 25, 2005.

On December 5, 2003, the NJDEP commented to the CCMUA concerning the record of the public hearings, urging the CCMUA not to issue the permit. (*See* Engel Cert. at ¶ 4 and Ex. B). Commissioner Campbell voiced the same concerns about the NRC information, the Trust's alleged failure of monitoring groundwater, and NJDEP's preference for on-site treatment and wastewater management. (*Id.*)

Meanwhile, the EPA Regional Administrator, Jane M. Kenny, by letter dated November 5, 2003, responded to Commissioner Campbell's request to reopen the ROD to consider an on-site remedy. (Quinn Decl., Ex. 14). She reviewed the allegation of the Trust's non-compliance with CEA monitoring and found it had no merit, since the particular requisites were not effective until the remedy was in operation, discharging the treated effluent to CCMUA. She also found that there was no basis for reopening the ROD, finding that "the remedial approach selected in the 1985 ROD and agreed to in the 1997 Consent Decree, as implemented by the GEMS Trust, is protective of human health and the environment." (*Id.* at p. 2). This conclusion was based on the modifications to the on-site groundwater pretreatment system, in which the GEMS Trust was installing suspended solids removal equipment to ensure that the radionuclide levels will not exceed the standard established by the federal and state Safe Drinking Water Acts, all consistent with the CCMUA's draft permit requiring such compliance. (*Id.*)

On December 10, 2003, this Court conducted another telephone conference with the parties and ordered the NJDEP to file a motion by December 24, 2003 if the NJDEP wished to seek to modify the 1997 Consent Decree.

Meanwhile, the CCMUA submitted to the EPA a memorandum dated December 8, 2003 by Dr. Nidal Rabah. (CCMUA Ex. D). Dr. Rabah, a consulting environmental engineer with PMK Group in Cranford, New Jersey, presented at the request of Camden County a "summary of a Preliminary Technical Review of the selected groundwater remedy in the Record of Decision (ROD) of the GEMS Landfill." (*Id.* at p. 1). Dr. Rabah's conclusions are said to be "considered preliminary and are contingent on further review and assessment of additional data and documents." (*Id.*) In these preliminary views, he urges further study of contaminant delineation and source assessment to detect whether "hotspots" of radionuclides are present, because many of the readings exceed the naturally-occurring background levels in the regional groundwater. (*Id.*) Dr. Rabah also questions whether there is sufficient certainty about the effectiveness of the on-site treatment system and the impacts upon the CCMUA system. (*Id.* at pp. 3-4). Dr. Rabah proposes reconsideration of groundwater reinjection

at the Landfill, which he opines will be less costly than the selected remedy. (*Id.* at pp. 5-6).

The EPA studied Dr. Rabah's suggestions and addressed them in some detail in the Memorandum of Brian Quinn, dated December 18, 2003 and the Memorandum of EPA Geologist Andy Crossland, dated December 17, 2003 attached thereto. (Quinn Cert. at ¶¶ 69-79 & Ex. 18). The EPA pointed to the substantial evidence in the record refuting Dr. Rabah's concerns on each of his points, as discussed in more detail below, and on January 15, 2004, the EPA's Regional Administrator concurred that the selected remedy will be protective of health and environment. (Quinn Cert. at ¶ 70 & Ex. 16 at p. 2).

H. *New Jersey Legislature Passes P.L.2003, c. 196*

The New Jersey Legislature also weighed in against the proposed remedial action at the GEMS Landfill Site. On December 16, 2003, former New Jersey Governor Jim McGreevy signed S2429, also known as P.L.2003, c. 196, which prohibits "the operator of a hazardous discharge site in the State that is: (1) situated within a municipality of the second class which is located within a county of the second class with a population density of 2,289.4 persons per square mile, according to the latest federal decennial census; (2) a former landfill; and (3) that is included on the National Priorities List of hazardous discharge sites" from discharging any untreated or pre-treated wastewater into a POTW or into any municipal utility sewer or storm drain line. (*See* Engel Cert. at ¶ 6). As the sparse [FN11] legislative history makes clear, this statute applies to only one circumstance in New Jersey, namely, the GEMS Landfill.

> FN11. Counsel for NJDEP, in response to the Court's questioning, indicated that there is no record of legislative hearings on this legislation. Nor did the Legislature acknowledge the huge administrative record leading to the choice of remedy for the GEMS Landfill nor the record of the elaborate efforts since 1999 to redress the radionuclide problem and promote public safety, including the eight month pilot study, described above

The New Jersey Department of Environmental Protection filed its motion to Amend the Consent Decree on December 24, 2003. Also on that date, the CCMUA filed its Motion for Clarification and Relief Under Prior Orders. In response, the United States filed opposition to these motions and a Cross-Motion to Enforce the Consent Decree. Oral argument was heard on January 29, 2004 and February 5, 2004.

II. *NJDEP's Motion to Amend the Consent Decree*

A. *Standards for Modifying Consent Decree*

The NJDEP moves for modification of the existing 1997 GEMS Landfill Consent Decree on the basis of alleged changes in circumstance, alleging that the detection of the presence of radionuclides should require the EPA to select a new remedy for the GEMS Landfill not involving discharge of pretreated wastewater to the CCMUA. Generally, amendment of consent decrees is disfavored. Relief from judgments not involving clerical mistakes is governed by Rule 60(b) of the Federal Rules of Civil Procedure. While a federal court has the authority to modify such judgments, including consent decrees, due to changed circumstances, *see* *Sansom Comm. v. Lynn*, 735 F.2d 1535, 1538 n. 3 (3d Cir.1984), modification by the court should be exercised with special caution when the judgment at issue is a consent decree by the parties. *See e.g.*, *Bellevue Manor Assoc. v. United States*, 165 F.3d 1249, 1253 n. 4 (9th Cir.1999) ("[i]t might be argued with some force that there is even less of a basis to disrupt a consent decree to which all parties agreed (which truly partakes in part of the nature of a contract) than a court-issued final judgment that has been contested by at least one party"); *W.L. Gore & Assoc., Inc. v. C.R. Bard, Inc.*, 977 F.2d 558, 561 (Fed.Cir.1992) ("[w]hen litigation is ended by the deliberate choice of the parties, [the] burden for modification of a consent decree is particularly heavy"). Indeed, the Third Circuit has stated that, "[a] court should not later modify [a consent] decree by interposing terms not agreed to by the parties or not included in the language of the decree." *Harris v. City of Philadelphia*, 137 F.3d 209, 212 (3d Cir.1998).

In this case, the NJDEP relies upon subsection (5) of Fed.R.Civ.P. 60(b), which provides:

> On motion and upon terms that are just, the court may relieve a party ... from a final judgment, order, or proceeding for the following reasons: ... (5) it is no longer equitable that the judgment should have prospective application....

To justify modifying a consent decree under Rule 60(b)(5), a party bears the burden of showing that a significant change in circumstances warrants revision of the decree. *Rufo v. Inmates of Suffolk County Jail*, 502 U.S. 367, 383 (1992).

Courts have recognized three situations that can justify revising obligations in a consent decree: (1) when changed factual conditions make compliance with the decree substantially more onerous; (2) when the decree proves to be unworkable because of unforeseen obstacles; or (3) when enforcement of the decree would be detrimental to the public interest. *Id.* at 384; *see also* *Building and Constr. Trades Council of Phila. v. NLRB*, 64 F.3d 880, 886 (3d Cir.1995). The burden upon the NJDEP to amend the consent decree is heightened further by the fact that the subject of the potential risks of the low levels of radionuclides was thoroughly considered and addressed in the development of the pilot study, the analysis of the 8-month testing program, and the hearing before this Court in May 2003, resulting in the Opinion and Order in *State v. GEMS, supra*, 264 F.Supp.2d 165, as to which NJDEP voiced no opposition. Both the NJDEP and CCMUA acknowledged at that time that the pretreated effluent could safely be discharged to CCMUA for final treatment and disposal as an industrial waste, subject to final approval of suitable permit conditions with which the Trust must comply

Here, the New Jersey Department of Environmental Protection relies on three alleged changes in circumstance to support its motion for modification: (1) the NJDEP learned in November 2003 that eight responsible parties had NRC licenses to handle and dispose of uranium (although it lacks any information that any of these parties actually disposed of uranium at the Site); (2) the NJDEP has reevaluated and received new technical data and believes that the GEMS Landfill wastewater should be fully treated on-site; and (3) the recently-passed state statute that prohibits the Trust from discharging, and the CCMUA from accepting, the treated effluent from the GEMS Site. This Court will now examine each of these three asserted changes in factual circumstances.

B. *NRC Licenses Held by Responsible Parties*

The NJDEP learned, in November 2003, that the Nuclear Regulatory Commission had identified eight alleged primary responsible parties in this case as licensed to handle and dispose of uranium. (*See* Quinn Decl., Ex. 15). The NJDEP claims that this has raised concern that significant amounts of uranium may have been disposed of at the Site and that there may be an area of higher uranium contamination that has not yet reached the wells that were monitored during the operation of the trial run. The State argues further that this changed fact makes enforcement of the Consent Decree detrimental to the public interest and that it requires more information from the NRC in order to allay concerns that the uranium concentration will not increase during the operation of the on-site pretreatment system.

Furthermore, the NJDEP states that it has become concerned that the Trust will not sufficiently monitor the effluent it sends to the CCMUA for additional treatment; this concern arises from the Trust's failure to provide data needed to establish a Classification Exception Area, as discussed above.

The speculation about possible concentrations of uranium is not new, but rather was addressed in the careful testing protocols and in the detailed results, all of which were available and reviewed in connection with the May 2003 hearing. This information does not satisfy the State's burden for modification of a Consent Decree. The State could have learned of these licenses as early as 1999 when radionuclides were found in groundwater at the Site if it had contacted the NRC in a timely manner.

More importantly, the NRC indicates only that the eight parties had licenses to "possess or use source material or special nuclear material." (Quinn Decl., Ex. 15). First, possession or use is not the same as actual disposal. (*Id.*) Second, the NRC does not indicate when the licenses were

held, so it is unclear whether such licenses were in effect during the operation of the GEMS Landfill. (*Id.*) Third, while uranium may fall under the rubric of "source material" or "special nuclear material," it is not the only such substance; indeed, the NRC indicated that the eight parties may have used thorium instead of uranium, and thorium is not implicated at GEMS. (*Id.*) Fourth, the NRC states that some of the eight parties had multiple licenses at multiple locations; only six of the ninety-three locations listed in the NRC letter are in New Jersey. (*Id.*) Fifth, the NRC notes in its letter that the radionuclides could be naturally occurring. (*Id.*) Moreover, EPA has checked its records [FN12] and discovered no evidence, either from the parties responding under oath to CERCLA information requests seeking information on disposal of radioactive materials or in any waste-in information it has unearthed over the years, suggesting that such substances were disposed of at the Site. (Quinn Decl. at ¶ 62). Finally, the NRC performed an exhaustive search of databases for its licenses and potential licensees and found no actual link to the GEMS Landfill for any disposal of nuclear materials. (Letter of NRC by John B. Hickman to NJDEP's Dr. Jane Lipoti, dated Sept. 2, 2004).

> FN12. In his declaration, Brian Quinn certifies that he sought out the files relating to the eight responsible parties who, at some time, held a NRC license. He reviewed files for six of the generators--Air Products and Chemicals, Inc., American Cyanamid Company, E.I. duPont de Nemours & Co., Inc., General Electric, Public Service Electric and Gas, and Westinghouse Electric Corporation--and found no suggestion that any radioactive material from those facilities went to the GEMS landfill. There are no files for Fuller Brush Company and Western Electric Company at EPA. (Quinn Decl. at ¶ 62).

Furthermore, uranium has never been found to be present in amounts exceeding drinking water standards in the influent to the on-site treatment plant. Even if, contrary to the available evidence, uranium may have been disposed of at the Site, the eight month pilot study demonstrated that stringent drinking water standards were consistently met for uranium. The NRC information is "material" if it is of some consequence to the outcome; here, the uranium parameter has been shown by actual measurements in the pilot study to be so low at the GEMS Landfill that it is indistinguishable from permissible, safe drinking water. It is not rational or logical for NJDEP to base its change of view upon this data, where the natural uranium component in the GEMS discharge to the CCMUA would be so low that it could be safely consumed in public drinking water. When one further considers that the GEMS effluent is not to be discharged to a public drinking water supply but rather to a state-of-theart regional sewage treatment plant, NJDEP's argument for "changed conditions" becomes even weaker. Thus, for these reasons, the State has failed to meet its burden to show that the information received from the NRC is a changed circumstance sufficient to justify modification of the Consent Decree.

C. *Technical Data and On-Site Treatment*

In May of 2003, the NJDEP agreed that the pretreated effluent could be safely conveyed to the CCMUA system under certain conditions, pursuant to the Consent Decree. However, now it asserts that it has obtained new information and reevaluated previously available information, which convinces Commissioner Campbell that it would not be prudent to do so. The NJDEP expresses a concern about the potential existence of areas of high concentration of uranium at the GEMS Site and argues that most groundwater in New Jersey does not contain naturally-occurring radionuclides. The United States Geological Survey ("USGS") study of the Kirkwood-Cohansey formation (groundwater at the Site) determined that the elevated levels of radionuclides detected in some of the Site wells cannot be attributed to natural sources. In fact, the concentrations of uranium measured in several wells located on the GEMS Landfill were several orders of magnitude higher than expected from natural sources. These radioanalytical results reveal that the maximum values for the GEMS Landfill, with the exception of radon, are a factor of two to several times higher than indicated by the USGS study of the regional aquifer's groundwater. In addition, the NJDEP contends that the uranium in several wells is much higher than normal.

There has been, however, no new testing since May 2003, when the premises of the Consent Decree were examined and enforced by this Court, nor newly discovered information not previously analyzed. The State thus had all this information before it since the time leading up to its entry into the 2003 challenge to the Consent Decree. Except for the one anomalous uranium result, uranium has consistently been well below drinking water levels in the influent, effluent, or at other monitoring wells. In the highly unlikely event of detecting a uranium content exceeding the safe drinking water standards, the draft permit would require immediate cessation of any discharge into the GTMUA system as a further safeguard.

The NJDEP also expresses concern about whether the GEMS Trust will consistently supply timely data. The NJDEP's concern arises from the Trust's alleged refusal to provide months of ground water data needed to establish a CEA, despite the provision of several reminders that such data were due. The NJDEP further asserts that its concerns about uranium contamination are especially serious because uranium is not treated by the on-site pretreatment system. The NJDEP states that the Trust has declined to fulfill numerous NJDEP requests that the Trust explore the installation of a treatment system that would treat uranium.

Allaying the NJDEP's fears, however, is the fact that the Trust has not failed to supply CEA data since none was due under the terms of the Consent Decree. The Trust did, however, monitor and furnish groundwater data throughout the eight-month trial run of the OSTP. The CEA delineation report to which the State agreed adopts the monitoring requirements of Appendix G to the Consent Decree. Appendix G embodies the parties' agreement that monitoring was to be performed *during operation* of the remedial action at the GEMS Site. By agreement of all parties, groundwater performance monitoring is not to commence until continuous operations officially begin. This has not yet occurred. The Court finds that the Trust has not failed to provide any CEA data required by the Consent Decree. To the contrary, the Trust has shown significant responsiveness to the needs of the EPA and NJDEP for collection, analysis and sharing of data throughout these efforts to examine the extent of the radionuclide concentrations and treatments. Also, the NJDEP and CCMUA can meet this concern by adopting the CEA monitoring as a permit requirement for discharge to the CCMUA.

Furthermore, the Consent Decree itself has remedies (stipulated penalties) for failure by the Trust to carry out its obligations. (*See* Quinn Decl., Ex. 2, Consent Decree at Section XXI). Moreover, the United States has taken the position that it will work with CCMUA to develop an effective monitoring program; thus, any violation of the standards set forth in the permit the CCMUA issues can be immediately detected and addressed. (Quinn Decl., Ex. 18). If need be, the CCMUA permit can be strengthened by additional reasonable precautions. The State's suggestion that circumstances have changed from May 2003 with respect to this issue is therefore also unfounded.

D. *New Jersey's Passage of S2429*

On December 16, 2003, the Governor of New Jersey signed S2429 into law as P.L.2003, c. 196, which prohibits "the operator of a hazardous discharge site in the State that is: (1) situated within a municipality of the second class which is located within a county of the second class with a population density of 2,289.4 persons per square mile, according to the latest federal decennial census; (2) a former landfill; and (3) that is included on the National Priorities List of hazardous discharge sites" from discharging any untreated or pre-treated wastewater into a POTW or into any municipal utility sewer or storm drain line. The NJDEP argues that this statute is a changed circumstance that reinforces the scientific and technical basis for modifying the Consent Decree. The United States, on the other hand, argues that the Supremacy Clause of the United States Constitution recognizes that federal law, embodied in CERCLA and in this Court's approval of the Consent Decree in accordance with CERCLA, is supreme in matters of remediation of federal Superfund sites such as GEMS, and that a state is not free to disregard or impair these obligations by enacting a local law to the contrary.

A consent decree represents a bargain between two or more parties who have compromised their claims in order to reach agreement. Since a consent decree may affect the

interests of the public, however, it is also a judicial order and, in essence, a continuing decree of injunctive relief. *See e.g.*, *Kelley v. Thomas Solvent Co.*, 717 F.Supp. 507 (W.D. Mich.1989). "The language of CERCLA and the legislative history of that act indicate that once [a] consent decree is entered by a federal court," *United States v. Akzo Coatings of America, Inc.*, 949 F.2d 1409, 1454-55 (6th Cir.1991), it "giv[es] the decree the force of law ..." *Id.* "[C]ourts have found that consent decrees displace state law to the same extent as do judgments on the merits." *United States v. AT & T*, 552 F.Supp. 131, 155 n. 102 (D.D.C.1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

Under the Supremacy Clause [FN13] of the U.S. Constitution, a judicial decree entered by a federal court cannot be vitiated by a state law that essentially prevents decree compliance. In *AT & T*, the court noted that the United States Supreme Court has "repeatedly and consistently held that the Supremacy Clause of the Constitution rendered invalid any state authority that conflicted with [a] federal court order." *Id.* at 154-55.

> FN13. Article VI of the U.S. Constitution provides, in pertinent part:
> This Constitution and the laws of the United States which shall be made in pursuance thereof ... shall be the supreme law of the land, and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding.

Here, the new state law would prohibit any discharge of treated groundwater to the local POTW from the GEMS Site, no matter how clean the discharge. It also provides that the treated effluent may only be discharged into groundwater at or near the Site. This statute therefore is intended to prevent compliance with the Consent Decree and, as such, it violates the Supremacy Clause. The Legislature also substitutes its judgment for that of the EPA in selecting the remedial action, contrary to the authority vested in the EPA under federal law. Legislative action by the State of New Jersey cannot undo or unilaterally modify the Consent Decree entered by this Court pursuant to the exclusive jurisdiction of this federal court under the CERCLA statute. The new law is impermissive under the Supremacy Clause because it effectively prevents compliance with a valid federal court order. [FN14]

> FN14. This Court need not decide the issue of whether the new statute is constitutional under the New Jersey State Constitution in order to reach a decision under the Supremacy Clause. In fact, this Court expresses no opinion about the constitutionality of the new law under the New Jersey State Constitution. As explained in the text above, even if S2429 is within the Legislature's power under the New Jersey Constitution, the enforcement of this state statute is barred by the Supremacy Clause of the United States Constitution in the circumstances of this case.

It is troubling to this Court that the recently passed statute is site-specific in nature. The language of the statute limits its effect to former landfills on the National Priorities List in counties of the second class with a population density of 2,289.4 persons per square mile, which is exactly descriptive of Camden County. It is clear here that the New Jersey Legislature was only motivated by a desire to regulate the single situation presented at the GEMS Site. While the Legislature may choose to enact a policy based only upon a sample of one circumstance, it cannot restrict the application of law to only one possible instance of conduct, yet it has done so in S2429. The law only applies to Camden County and is limited in scope to NPL sites; sites not on the NPL or not in Camden County are not barred from discharge to the local or regional POTW's in New Jersey. The GEMS Landfill is the only such site touched by this statute. Moreover, existing landfills or other generators of industrial wastes are not affected by this new law and remain free to discharge to POTW's under existing New Jersey laws and regulations. Consequently, the state statute at issue here may well present an example of prohibited special legislation, but this specific issue is not here decided. *See e.g.*, *Camden City Bd. of Educ. v. McGreevey*, 850 A.2d 505 (N.J.Super.Ct.App.Div.2004); *Town of Secaucus v. Hudson County Bd. of Taxation*, 628 A.2d 288 (N.J.1993); *Raybestos-Manhattan, Inc. v. Glaser*, 365 A.2d 1 (N.J .Super.Ct. Ch. Div.1976), *aff'd*, 384 A.2d 176 (N.J.Super.Ct.App.Div.1978).

Moreover, by preventing compliance with the Consent Decree, and thereby with CERCLA itself, the newly-enacted state statute is also preempted by that federal law. Federal law preempts state law if the language of the federal statute reveals an express congressional intent to do so. *United States v. City and County of Denver*, 100 F.3d 1509, 1512 (10th Cir.1996)(citing *Barnett Bank of Marion County v. Nelson*, 517 U.S. 25 (1996)). In the absence of explicit language, the state's law may still be preempted implicitly. One way is through "field preemption," which occurs when the federal scheme of regulation is so pervasive that Congress must have intended to leave no room for the states to supplement it. *Id.* "Conflict preemption," on the other hand, occurs where it is impossible to comply with both the federal and state laws. *Id.; Akzo Coatings*, 949 F.2d at 1454 1991) (also pointing out that once a consent decree is entered under CERCLA by a federal court--giving the decree the force of law--alternative state remedies may not be pursued).

Because P.L.2003, c. 196 stands as an obstacle to the implementation of the Consent Decree of all parties (including the State of New Jersey) and the remedy selected by the EPA, rendering it in direct tension with CERCLA's purpose of effecting the expeditious and permanent cleanup at the Site, this Court is presented with a case of conflict preemption. CERCLA provides that the authority to select a remedy lies exclusively with EPA. 42 U.S.C. § 9604(c)(4). The state in which the site is located, meanwhile, has primarily an advisory role. *Id.;* 40 C.F.R. §§ 300.430(f)(5) and 300.515(e)(2)(I). Allowing a state to derail EPA's court-approved remedial decision and a duly-adopted Consent Decree through the post-ROD enactment of a law prohibiting the remedy, however, takes the ultimate decision-making authority from the hands of EPA and places it instead with the state. While Congress might have chosen to give a veto power over Superfund site remediation to the states, it clearly has not done so anywhere in the CERCLA scheme. Such a result is contrary to the express language and intent of CERCLA which overcomes the effects of neglect or weakness by state and local governments in remediating hazardous waste sites. The GEMS Landfill itself, which was owned by Gloucester Township and where much of the waste disposal was in fact permitted by the NJDEP and its predecessors, perfectly fits this CERCLA paradigm.

Many of the civil environmental enforcement actions that the United States prosecutes under CERCLA are resolved by entry of consent decrees, as in this case in 1997. The continued effectiveness of consent decrees in resolving such actions and expediting cleanups of hazardous waste sites, a stated purpose of CERCLA, depends on the vigorous enforcement of these decrees. If a state which is a party to the decree were able to eviscerate the terms of a settlement simply because it unilaterally changed its position by the passage of a state law, the United States' ability to use consent decrees as a means of settlement and for achieving compliance with federal environmental laws would be undermined. It would also, contrary to the purposes of CERCLA, place a state in the position of having the ability to unilaterally override EPA's remedial decisions and the implementation of remedial action through federal court orders where necessary.

The State of New Jersey points to *United States v. City and County of Denver*, 100 F.3d 1509 (10th Cir.1996), in support of its argument that the new state statute is not preempted. However, that case supports the position of the United States. In *City and County of Denver*, the Tenth Circuit was faced with a local zoning ordinance that conflicted with a remedial order issued by EPA based on a duly-issued ROD. The court explained that a local law can be preempted if it is "an obstacle to the objectives of CERCLA, whose purpose is to effect the expeditious and permanent cleanup of hazardous waste sites, and to allow EPA the flexibility needed to address site-specific problems." *Id.* at 1512. Ultimately, the Tenth Circuit barred the local zoning ordinance at issue because it would "dramatically restrict the range of options available to the EPA." *Id.*

Similarly, here, the new state law restricts EPA's choices by precluding both options for the GEMS Landfill that were identified and permitted by the ROD. First, it prohibits implementation of the remedy determined by EPA to be appropriate in this case, and agreed to by all parties, including NJDEP, in the Consent Decree, namely, on-site pretreatment and discharge to CCMUA. Second, it even

prohibits the alternative remedy provided in the ROD--discharge of treated groundwater to surface water. In essence, and contrary to the ROD, it would require only one groundwater cleanup option out of the many potentially available for the Site--reinjection. In effect, the statute restricts the range of options available to the EPA in a post-hoc manner to one remedy, and not a remedy identified in the Record of Decision, thereby providing no option at all. That the Legislature saw fit to do so without the benefit of hearings reviewing the extensive and careful scientific record in this case scarcely bears further comment.

This Court finds that the newly-passed state law in P.L.2003, c. 196, runs contrary to the stated purpose of CERCLA and the duly adopted Consent Decree of this Court and is therefore preempted by that federal law. Thus, this Court may not find "changed circumstances" based upon the recent passage of a state law that is preempted by federal law.

E. *National Safe Drinking Water Standards for Uranium and Radium Isotopes*

What the State advances therefore amounts not to changed circumstances, as is required for a motion brought under Fed.R.Civ.P. 60(b), but rather a change of mind on the part of the NJDEP based on the alleged risks of operating under the drinking water standards as outlined in the Consent Decree. Those risks, however, have already been extensively examined by EPA and the risks have not changed in any material way due to the presence of the reported radionuclides, as now discussed.

To understand the risks posed by radionuclides, it is necessary to understand the EPA's promulgation of the Safe Drinking Water standards for these contaminants in a drinking water supply, which has evolved over thirty years of study, analysis and comment. EPA previously considered the effects of humans actually drinking water containing uranium and other radionuclides over the long term when it set drinking water standards as directed by Congress through the Safe Drinking Water Act ("SDWA" or "Act"), 42 U.S.C. § 300f, *et seq.* The "National Primary Drinking Water Regulation; Radionuclides; Final Rule" was published in the Federal Register on December 7, 2000, *see* 65 Fed.Reg. 76708, *et seq.*, at which point those regulations were codified at 40 C.F.R. Parts 8, 141, and 142.

The Safe Drinking Water Act applies to "each public water system in each State," 42 U.S.C. § 300g, and authorizes EPA to set standards for drinking water contaminants therein, 42 U.S.C. § 300g-1. For a given contaminant the Act directs that EPA first establish maximum contaminant level goals ("MCLG") which are "the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety." *Id.* at § 300g-1(b)(4)(A). The EPA then sets a maximum contaminant level ("MCL") "as close to the [MCLG] as is feasible." *Id.* at § 300g-1(b)(4)(B).

In 1976, the EPA first promulgated interim regulations that established MCLGs and MCLs for radionuclides in drinking water. Radionuclides consist of three factors: radium-226 and radium228, naturally occurring uranium, and various beta/photon emitters. The regulations established an MCL of 5 picocuries/Liter (pCi/L) for the isotopes radium-226 and radium-228; no MCL for naturally-occurring uranium; and a combined MCL of 4 millirems (mrem) for all beta/photon emitters; *see* National Interim Primary Drinking Water Regulations, 41 Fed.Reg. 28,402, 28,404 (July 9, 1976).

In 1991, EPA proposed new MCLs for the radionuclides: 20 pCi/L for radium-226 and -228; 4 mrem effective dose equivalent ("ede") for the beta/photon emitters; and 20 micrograms per liter (mu g/L) or 30 pCi/L for naturally occurring uranium. *See* National Primary Drinking Water Regulations; Radionuclides, Notice of Proposed Rulemaking, 56 Fed.Reg. 33,050, 33,051 (July 18, 1991). Thus, the 1991 proposals relaxed the radionuclide levels that were established during the 1976 rule making.

Congress mandated re-examination of the safe drinking water requirements. As a result, Congress amended the SDWA in 1996 to, *inter alia*, add an "anti-backsliding" provision requiring that any water regulation revision "maintain, or provide for greater, protection of the health of persons," 42 U.S.C. § 300g-1(b)(9), and to require the agency to consider the relative costs and benefits in setting each MCL, *id.* at § 300g-1(b)(3)(C), (4)(C). In April 2000,

EPA issued a "Notice of Data Availability" ("NODA") proposing that the 1991 radionuclide MCLs be revisited in light of "new information" and the 1996 amendments. *National Primary Drinking Water Regulations; Radionuclides*, 65 Fed.Reg. 21,576 (Apr. 21, 2000). The 2000 NODA proposed maintaining the 1976 MCLs for radium-226 and radium-228 and for beta/photon emitters, and it set MCLs for naturally occurring uranium at either 20, 40, or 80 mu g/L. EPA further proposed revising the 1976 radium monitoring regimen--which required public water systems to test for radium-228 only if the radium-226 level exceeded 3 pCi/L--to require separate testing for each of the two isotopes. The NODA further set June 20, 2000, as the deadline for submitting comments on the proposed rule and its underlying data and analysis.

In December 2000, EPA issued the final radionuclides rule, *National Primary Drinking Water Regulations; Radionuclides*, 65 Fed.Reg. 76,708 (Dec. 7, 2000) (Final Rule). As it had proposed, EPA retained the 1976 standards for radium-226 and radium-228 and for beta/photon emitters and instituted the separate radium isotope monitoring requirement. 65 Fed.Reg. at 76,710-11. For uranium, however, the final rule set the MCL at 30 mu g/L. 65 Fed.Reg. at 76,710. These levels were established based on the risk ceilings established by the EPA.

Radioactive drinking water contaminants differ from one another in ways that determine their potential long-term harmfulness. [FN15] The risks associated with exposure to chemical carcinogens are usually expressed as the risks of illness. [FN16]

> FN15. Each radionuclide has a particular half-life and emits characteristic forms of radiation (alpha particles, beta particles, and/or photons). A radionuclide's half-life and concentration determine its radioactivity. These factors--concentration, half-life, form of radioactive decay, and radiation energy--all determine a particular radionuclide's potential for impacting human health. The potential for harmful health effects from exposure to radioactive compounds results from the ability of ionizing radiation to chemically change the molecules that make-up biological tissues called "ionization." Ionization may result in significant chemical changes to biologically important molecules. 65 Fed.Reg. at 76720-76722.
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> FN16. It is EPA policy to issue standards that maintain a risk ceiling in the target risk range of 1 x 10-6 (one in one million) up to 1 x 10-4 (one in ten thousand). 63 Fed.Reg. at 25180. For consistency between the level of protection between chemical and radiological drinking water contaminants, EPA utilizes whichever risk provides the greater protection for MCL changes, a 1 x 10-4 risk of cancer incidence, or a mortality risk at half the incidence, 5 x 10-5. The risk of death at 5 x 10-5 is the more protective if the mortality rate from a particular radionuclide is more than 50%, which is true for most of the radionuclides. However, for the thyroid, the mortality rate from thyroid cancer is at 10%. Protecting at 1 x 10-4 incidence corresponds to a mortality at 1 x 10-5. Conversely, protecting at 5 x 10-5 mortality with only a 10% mortality rate allows an incidence, of 5 x 10-4, a less protective number. *Id.*

Under this risk ceiling for public drinking water, it is necessary to track the evolution of each radionuclide component and understand the basis and research that supports the 2000 radionuclide levels. As noted above, EPA set interim MCLs for each radium isotope at 5 pCi/L in 1976 and in 1991 proposed a new MCL of 20 pCi/L for each. *See* 56 Fed.Reg. at 33,082. The agency based the 1991 MCLs on the "RADRISK" risk assessment model, with adjustments to conform with data from epidemiological studies. *See id.* at 33,056; 33,073- 74. In the 2000 Final Rule, the agency used a newer risk assessment model, set out in "Federal Guidance Report No. 13," Keith F. Eckerman et al., EPA, Federal Guidance Report No. 13: Cancer Risk Coefficients for Environmental Exposure to Radionuclides (1999) (hereinafter "FGR-13") [FN17], *see* 65 Fed.Reg. at 76,735, and, based thereon, decided to retain the original 1976 MCLs of 5 pCi/L, *see id.* at 76,712; 76,748 (codified at 40 C.F.R. § 141.66). [FN18]

> FN17. Federal Guidance Report No. 13: (EPA,

1999) presents the current methods, models, and calculational framework EPA uses to estimate the lifetime excess risk of cancer induction following intake or external exposure to radionuclides in environmental media. The report presents compilations of risk coefficients that may be used to estimate excess cancer morbidity (cancer incidence) and mortality (fatal cancer) risks resulting from exposure to radionuclides through various pathways. *See* 63 Fed.Reg. at 21603. FGR-13 compiled the results of several models predicting the cancer risks associated with radioactivity. The cancer sites considered in these models include the esophagus, stomach, colon, liver, lung, bone, skin, breast, ovary, bladder, kidney, thyroid, red marrow (leukemia), as well as residual impacts on all remaining cancer sites combined. *Id.* at 21626.

FN18. The FGR-13 presents risk coefficients for seven exposure pathways: inhalation, ingestion of food, ingestion of tap water, ingestion of milk, external exposure from submersion in air, external exposure from the ground surface, and external exposure from soil contaminated to an infinite depth. 63 Fed.Reg. at 21603. For some radionuclides, however, only external exposure pathways were considered; these include noble gases and the short-lived decay products of radionuclides addressed in the internal exposure scenarios. *Id.*

The drinking water quality standard for radionuclides was questioned in *City of Waukesha, et al. v. EPA*, 320 F.3d 228 (D.C .Cir.2003), by several plaintiffs including industry trade associations who complained that the new standards were too strict. The D.C. Circuit upheld the radium, uranium, and beta/photon MCLs, as set by EPA, on their merits, finding that the EPA used the "best available science" in setting acceptable levels of radionuclides during the December 2000 rule making. *Id.* at 257.

In *City of Waukesha*, the petitioners argued that during the 2000 rulemaking, the EPA ignored the epidemiological studies on which it relied in 1991 and failed to reconcile the results of the FGR-13 model with the data therefrom, thus arriving at MCLs which were too stringent. *City of Waukesha*, 320 F.3d at 247. Specifically, the petitioners pointed to studies of watch dial painters who, in the early 20th century, ingested radium-226 and radium-228 when they inserted luminescent paint brushes into their mouths to sharpen the tips. *Id.* Essentially, the petitioners argued that the EPA arbitrarily ignored that the dial painter data involved ingestion of high doses leading to bad outcomes, and that those data did not support any risk at the trace levels permitted by the proposed 2000 MCLs for the radium isotopes. In 1991, the EPA modified the results of the RADRISK assessment in response to concerns expressed by EPA's Science Advisory Board ("SAB"), based on epidemiological evidence that included the dial painter data, that the results overstated the risk of leukemia and understated the risk of head cancer. [FN19]

FN19. The *City of Waukesha* court held that the record revealed that the EPA did rely in part on the dial painter data which are reflected to some degree in the FGR-13 model. In other respects the agency adequately explained its reasons for rejecting the data. *City of Waukesha*, 320 F.3d at 248. The court then systematically reviewed the EPA's decision making process and its reliance on the FGR-13 model.

During its 2000 rulemaking, the EPA noted that its use of its model for radionuclides "is entirely consistent with all past and current observations and recommendations" of a number of national and international science organizations [FN20] and that "the U.S. Department of Energy, the U.S. Nuclear Regulatory Commission, and other Federal and State agencies with regulatory authority over radioactive materials also apply this model as the basis for setting regulations and guidelines for radiation protection." 65 Fed.Reg. at 76,721; *see also FGR-13* at v ("Several recent expert panels ([United Nations Scientific Committee on the Effects of Atomic Radiation 1993, 1994; National Radiation Protection Board 1993; and the National Council on Radiation Protection and Measurements 1997]) have concluded that the LNT model is sufficiently consistent with current information on carcinogenic effects of radiation that

its use is scientifically justifiable for purposes of estimating risks from low doses of radiation. As a practical matter, the LNT approach is universally used for assessing the risk from environmental exposure to radionuclides as well as other carcinogens").

> FN20. The EPA identified, in particular, the International Commission on Radiological Protection, the National Council on Radiation Protection and Measurements, the National Academy of Sciences Committee on the Biological Effects of Ionizing Radiation, the United Nations Scientific Committee on the Effect of Atomic Radiation, and the National Radiation Protection Board. 65 Fed.Reg. at 76,721.

The *City of Waukesha* court found that the EPA "sufficiently justified" its model choice to satisfy the reasonable relationship standard. [FN21] The substantial scientific support on which EPA relied for selecting the FGR-13 model (and in particular its LNT approach) was found to be the "best available, peer-reviewed science," as required by the Act. *See* *City of Waukesha*, 320 F.3d at 250.

> FN21. See *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 565 (D.C.Cir.2002) ("We may reject an agency's choice of a scientific model 'only when the model bears no rational relationship to the characteristics of the data to which it is applied.' ") (quoting *Appalachian Power Co. v. EPA*, 135 F.3d 791, 802 (D.C.Cir.1998) (citing *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1005 (D.C.Cir.1997); *Chem. Mfrs. Ass'n v. EPA*, 28 F.3d 1259, 1265 (D.C.Cir.1994))); *cf.* *Am. Forest & Paper Ass'n, Inc.*, 294 F.3d 113, 121 (D.C.Cir.2002) (applying "rational relationship" standard and upholding EPA's reasoned preference for one methodology of calculating safe exposure levels over alternative methodology).

In setting the uranium standard, EPA first set the MCLG for uranium based on the risks of carcinogenicity. 65 Fed.Reg. at 76,712. The EPA reasoned that because natural uranium is a radionuclide, and all radionuclides emit ionizing radiation that can cause cancer, there was no threshold level of safety for uranium. *Id.* EPA then concluded that the lowest feasible level for controlling the risks of cancer from natural uranium in drinking water was 20 mu g/L. *Id.*

Next, EPA addressed the effects of uranium on the human kidney, deciding that the best available science showed that uranium did have toxic effects on the human kidney, and that the level of uranium in drinking water that could be expected to protect human health was 20 mu g/L. 65 Fed.Reg. at 76,713. The EPA, however, determined that 30 mu g/L would be expected to protect against the effects of kidney toxicity, 65 Fed.Reg. at 76,713-14, but that any higher level of long-range use of the drinking water might result in serious adverse effects on human kidneys, 65 Fed.Reg. at 76,714. Finally, EPA relied on its cost-benefit analysis to conclude that at 30 mu g/L essentially the same health benefits could be achieved at much lower cost compared to the 20 mu g/L level. *Id.* EPA therefore set the uranium MCL at 30 mu g/L.

The *City of Waukesha* court held that, in the face of uncertain laboratory and epidemiological data, it was reasonable for EPA to take the risk-averse approach of relying on the animal laboratory data to develop a more stringent standard. *Id.*, 320 F .3d at 254. Although studies to date may not have detected any impacts of natural uranium on cancer rates when it is ingested in drinking water in humans, it was determined by the court that EPA could reasonably conclude that based on the known carcinogenic potential of similar substances, natural uranium should also be considered a Group A carcinogen. *Id.* Hence, the EPA has adopted the strictest feasible standard for natural uranium in drinking water, at 30 mu g/L.

During the 2000 rulemaking, the EPA retained the beta/photon MCLs that were established in 1976. Nevertheless, the EPA complied with the SDWA's "best available science" requirement, because it used FGR-13 for the analysis that led to its 2000 decision to retain the 1976 MCLs. *Id.* at 256. That analysis disclosed that the 1976 MCLs continue in virtually all cases to confine health risks within the acceptable range of between 1 x 10-4 and 1 x 10-6 (1 in 10,000 to 1 in 1,000,000) lifetime excess risk of cancer if continuously consumed in drinking water. 63 Fed.Reg. at 21,583, 21,605-14 tbl. II-3. Moreover, EPA also

used FGR-13 to evaluate the new beta/photon MCLs that the agency proposed in 1991. EPA decided to retain the stricter 1976 levels in favor of the 1991 proposals because FGR-13 showed that the latter were in almost all cases outside the acceptable range and less protective of human health than the 1976 levels. *Id.*

The petitioners in *City of Waukesha* argued that the 2000 beta/photon MCLs were artificially low and unnecessarily conservative. *City of Waukesha*, 320 F.3d at 257. The court held that the EPA did have a rational basis for preferring the stricter 1976 MCLs for beta/photons over those proposed in 1991: the 1991 proposed levels were in almost all cases less protective of human health than the 1976 levels and outside the range of acceptable cancer risk. (*Id.* citing 65 Fed.Reg. at 21,583; *see* 65 Fed.Reg. at 21,582 fig.1; 65 Fed.Reg. at 21,605-14 tbl. II-3).

As the court in *City of Waukesha* recognized, these current standards reflect stringent safety concerns and employ the best available science by EPA for water that is intended to be consumed by the public. In this case, as demonstrated throughout the pilot study, the pretreated effluent from the GEMS Site will meet national drinking water standards for radionuclides. The water from GEMS would be pretreated and discharged to the CCMUA's regional sewage treatment system and is not meant to be ingested by the public and thus poses an even lesser threat to the public health than the small risk allowed by EPA for water that is intended to be consumed over a lifetime. Therefore, in insisting upon compliance with the national safe drinking water standards for radionuclides, the CCMUA would put into place the highest degree of protection for public health and safety.

F. *This Court's Authority Over the Remedy*

The State's overriding request in its motion to amend the Consent Decree is to require complete on-site remediation of groundwater (i.e.reinjection); in effect, the State asks the Court to select a new remedy for the GEMS Site. Although the ROD provides an alternative remedy (specifically, pretreatment and discharge to surface water) for the Site should the State and the CCMUA not approve the discharge to the CCMUA, reinjection into groundwater is not a provided alternative in the EPA's Record of Decision. The State therefore seeks to change the remedy, not just the Consent Decree. As discussed above, however, federal law in CERCLA severely limits this Court's authority to do so.

According to federal law, the ultimate decision concerning the remedy lies with the lead agency, here, the EPA, under 42 U.S.C. § 9604(c)(4), and judicial review of EPA's remedial choice is statutorily limited. Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), expressly provides that judicial review of the response action EPA selects must be on the administrative record and that the standard of review to be applied is the arbitrary and capricious standard. [FN22] The arbitrary and capricious standard provides for a narrow review based on the administrative record. *Downer v. United States*, 97 F.3d 999, 1002 (8th Cir.1996) (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)) (in performing its narrow review, the court looks to, among other things, whether the agency failed entirely to consider an important aspect of the problem; whether the agency decision runs counter to the evidence before it; or whether there is such a lack of a rational connection between the factors found and the decision made that the disputed decision cannot "be ascribed to a difference in view or the product of agency expertise").

> FN22. Section 113(j) of CERCLA, 42 U.S.C. § 9613(j) provides: (1) Limitation. In any judicial action under this Chapter, judicial review of any issues concerning the adequacy of any response action taken or ordered by the President shall be limited to the administrative record....
> (2) Standard. In considering objections raised in any judicial action under this chapter, the court shall uphold the President's decision in selecting the response action unless the objecting party can demonstrate, on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with law.
> 42 U.S.C. § 9613(j).

Also, when a court is reviewing an agency's scientific determination, the court "must generally be at its most deferential ." *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 377 (1989). *See also*, *Hi-Craft Clothing Co. v. NLRB*, 660 F.2d 910, 915 (3d Cir.1981) ("When, however,

an agency has been entrusted with wide discretion in a technical area ... and Congress has specifically designated the agency as the primary source for the interpretation and application of the statute, a different standard often applies. There, judges ought to refrain from substituting their own interstitial lawmaking for that of the (agency), so long as the latter's lawmaking is not irrational.") (internal citation omitted). Courts have accorded deference to the EPA's determinations when it is acting, as here, within its expertise. *See* *Chemical Mfrs. Ass'n v. Natural Res. Def. Council, Inc.*, 470 U.S. 116, 125 (1985) (EPA's interpretation of actions necessary to implement the Clean Water Act is entitled to "considerable deference"). Moreover, courts have held that "[w]hen specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive." *Marsh*, 490 U.S. at 378. *De novo* review simply cannot be reconciled with complex, technical requirements for the clean-up of hazardous waste sites contained in CERCLA and the NCP. EPA, as the agency designated to implement those statutory requirements, has the expertise and resources to interpret and apply the technical standards to select the appropriate response actions, subject to judicial review as provided by statute, *supra*.

Nevertheless, in 2003, in order to address the concerns raised by the Camden County Board of Chosen Freeholders and more recently by the State of New Jersey DEP, the Court encouraged the parties to reexamine the issues in remedy selection and to come forward with responsible expert opinion testimony or other new evidence that the EPA's remedy selection is flawed under the governing CERCLA requirements. While the State has in effect requested that this Court modify the remedy, it has not presented any expert evidence to support that request. Not only is the administrative record leading to the ROD complete and comprehensive, so too is the supplemental record supporting EPA's more recent decision that the ROD should not be reopened and that a discharge to the CCMUA which complies with drinking water standards is protective of human health and the environment. The State has presented no sound argument that EPA's original decision as provided in the ROD, nor in its decisions to uphold it, are arbitrary and capricious.

Thus, this Court is not expressing and, in fact lacks the authority to express, which remedy it personally deems to be better or preferable. The Court does hold that the detection of low-level radionuclides and uranium, when addressed by the new OSPT and monitored for compliance with the strictest standards for public drinking water supplies, does not present a material change in circumstances justifying reopening the Consent Decree or setting aside the selected remedy. Lacking changed circumstances, this Court does not engage in *de novo* review of the selected remedy and instead, gives the EPA's remedy the weight it deserves and is accorded under federal law.

In summary, as the State has not satisfied its burden under Fed.R.Civ.P. 60(b), its motion to amend the Consent Decree of June 1997, as enforced in May 2003, must be denied.

III. *United States' Cross Motion to Enforce Consent Decree*

In addition to voicing its opposition to the NJDEP's motion to amend the Consent Decree, the United States also makes a cross motion to enforce that Order. As discussed above, the issue of enforcement of the Consent Decree was before this Court and decided in May of 2003. *See* *State v. GEMS, supra*, 264 F.Supp.2d at 165. The Consent Decree entered into by the parties expressly provides for this Court's continuing jurisdiction over the parties and the subject matter of that decree:

> This Court retains jurisdiction over both the subject matter of this Consent Decree and the Plaintiffs and the Settling Defendants for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XX (Dispute Resolution) hereof.

(Consent Decree, ¶ 62). Moreover, it is a well-established principle that a court has jurisdiction to enforce the terms of its own consent decree, as a judicial decree. *See* *S.E.C. v.*

Hatch, 128 F.R.D. 58, 60 (D.N.J.1989) ("[A] Consent Judgment is a judicial act and 'possesses the same force and character as a judgment rendered following a contested trial.' ") (quoting *Siebring v. Hansen*, 346 F.2d 474, 477 (8th Cir.), *cert. denied*, 382 U.S. 943 (1965)). As stated by the Supreme Court:

> A Consent Decree no doubt embodies an agreement of the parties and thus in some respects is contractual in nature. But it is an agreement that the parties desire and expect will be reflected in, and be enforceable as, a judicial decree that is subject to the rules generally applicable to other judgments and decrees.

Rufo, 502 U.S. at 378. This Court therefore retains jurisdiction over the Consent Decree and thus has the authority to enforce its terms as necessary.

The United States effectively argues that the State of New Jersey is in breach of the Consent Decree by directing the CCMUA not to issue the final permit. As a preliminary matter, the State lacks any argument that it is shielded by the protection afforded by the doctrine of sovereign immunity. A state waives any claim to immunity by consenting to be sued in federal court; clearly, the same logic applies even more forcefully when, as here, the state is itself a plaintiff in the action. *See* *Lapides v. Board of Regents of University System of Georgia*, 535 U.S. 613, 619-22 (2002). As such, this Court retains the ability to direct the State how to proceed in conformity with the terms of the valid and duly-adopted Consent Decree.

In his December 5, 2003 correspondence to CCMUA Executive Director Herman Engelbert, NJDEP Commissioner Bradley Campbell directed the CCMUA not to issue the final permit. (CCMUA Motion, Ex. B). Commissioner Campbell wrote:

> The NJDEP has repeatedly stated that its first preference is that the wastewater extracted from the GEMS Site should be treated and managed entirely at the Site. The NJDEP stated this position following hearings on the draft permit that the CCMUA issued in 2002, in papers submitted to the Court in May 2003, and on other occasions. The issues outlined above continue to support the NJDEP's preference for an onsite remedy. The groundwater monitoring data must be generated and submitted, and the joint investigation with the NRC into the unresolved source of the uranium must proceed. That work will support a more informed decision about the merits of the proposed discharge to the CCMUA and the merits of reopening the ROD. I therefore believe that the CCMUA should not issue a final discharge permit at this time.

(*Id.*) Thus, the motivating factor behind the CCMUA's position that it can not issue the final permit is the NJDEP's implicit directive not to do so.

The State of New Jersey, as a Plaintiff in this case, is obviously a principal party to the Consent Decree and the promises to implement the selected remedy contained therein. The State is effectively in violation of the Consent Decree when it unreasonably withholds approval of the final permitting that is necessary under the terms of the Decree. In any provision of a contract, there is an element of implied reasonableness, and here, the United States again seeks merely to enforce the provisions of that contract. While the Consent Decree does not impose an obligation on the State to issue the permit, it does obligate the State to make decisions regarding the permit in a reasonable manner. Furthermore, if there were situations in which the State might have a reasonable basis for disrupting the permitting process and preventing the final permit from being issued, the Consent Decree itself would recognize this. (*See* Consent Decree, ¶ 7). However, no such reasonable basis exists here.

The Consent Decree describes the methodology to be employed in the remediation of the contamination found at the GEMS Site. To date, the Trust has designed, constructed, and test run the GWE and the OSPT of the remedial system. Moreover, it has operated the system, utilizing a discharge to surface water method, and confirmed the characteristics of the effluent generated by the OSPT. With respect to the concerns about the presence of radionuclides in the effluent which would be discharged to the CCMUA, the Trust added a solids removal system to the OSPT which reduced the radium components detected in the groundwater below the landfill to levels below drinking water standards for radionuclides, as required by the CCMUA's draft permit.

The permitting of discharges of water containing radionuclides into municipal or regional treatment systems is not unusual in New Jersey or elsewhere. Radionuclides both occur naturally and are present in many consumer products. One should not lose sight of the fact that the New Jersey DEP has itself determined the effluent limits for such discharges into its sanitary sewer systems in regulations that appear at *N.J.A.C.* 7:28-11.2, which are summarized in Table I, above. It is instructive to note that the NJDEP Sanitary Sewer Limits for these radionuclides would permit the discharge of effluents containing at least *100 times* the concentrations of these contaminants as will be present in the pre-treated GEMS effluent water. In other words, GEMS effluent water discharged to the CCMUA will contain less than one percent of the limits of the concentration levels of radionuclides permitted for such discharges to sanitary sewer systems elsewhere in New Jersey under *N.J.A.C.* 7:28-11.2. Nowhere has the NJDEP in this motion suggested that its own NJDEP Sanitary Sewer Limits are not protective of the human environment and the treatment plants into which the radionuclides are received.

The EPA's drinking water standards required by the CCMUA are much more stringent than those promulgated in the state regulations adopted by the NJDEP for industries that discharge water containing radionuclides to sanitary sewer systems, pursuant to *N.J.A.C.* 7:28-11.2. There is simply no basis for concluding that the pretreated effluent of the GEMS Site in general, or the radionuclide component in particular, will pose any measurable risk to the residents of Gloucester Township or of Camden where the regional treatment plant is located. The parties have continuously agreed that the radionuclides including uranium will be carefully monitored much like any other contaminant of waste, to assure that the GTMUA and CCMUA systems and the environment are not harmed in any way. These agreed upon procedures lead to the inescapable conclusion that the NJDEP has no reasonable basis for refusing to comply with its obligations under the Consent Decree.

Where, as here, the NJDEP's current Commissioner changes his mind, this Court has made a careful reexamination of the selected remedy, in deference to the environmental stewardship inherent in the Commissioner. The Commissioner's qualms or change of position, unless backed by probative evidence, do not amount to significant changed circumstances and thus do not provide a reasonable basis for failing to perform the State's obligations under the Consent Decree. It is simply not reasonable to conclude that a pretreated waste stream which has been shown to lie within the limits set in the national safe drinking water standards, will pose a meaningful risk of harm to human health or the environment when discharged to the regional sewage treatment system and subjected to strict monitoring and performance requirements.

The Court is mindful of the intense expression of public opinion at the 2003 hearings before the CCMUA, mostly against granting the proposed CCMUA final permit. It is understandable that the mention of radionuclides and uranium, whatever the quantities, provokes sincere concerns for the health and well-being of the communities from Gloucester Township to the CCMUA regional treatment plant in Camden. NJDEP Commissioner Campbell has responded to the public opposition and has called upon this Court to review the EPA's decision and the GEMS Trust's conduct in addressing these health and safety concerns. The EPA, the GEMS Trust, the CCMUA and the NJDEP have each carefully addressed the concerns specifically posed by radionuclides. No party has even remotely suggested that the national drinking water standards are not fully protective of human health, the natural environment, and the sewerage facilities and workers. No party has suggested that the CCMUA cannot routinely and safely process the pretreated GEMS wastewaters, just as it daily processes hundreds of times greater volume of wastewaters from throughout Camden County. Indeed, debate about the optimal possible remedy can be endless, as the federal, state and local environmental protection agencies consider every nuance and possibility. Hopefully, all citizens are reassured by the careful study and consideration given to achieve and implement a suitable, safe and environmentally responsible remedy for a longstanding environmental problem.

The far greater risk to the public, in this Court's view, based upon all the available evidence, would be the risk of continuing to postpone the final clean-up of the GEMS Landfill groundwater. Nature does not wait for all scientists

and engineers to converge upon a single solution to complex environmental hazards. The limited abatement efforts to date cannot reverse the underground leaching of hazardous wastes into the surrounding groundwater, where the risk becomes measurable and real. It is, in the end, the duty of the federal court, in exercise of the power conferred by Congress, to determine whether the evidence supports enforcement or modification of the Consent Decree. This Court, with the assistance of all interested parties, has now made that determination.

For these reasons, therefore, this Court will grant the United States' cross-motion to enforce the Consent Decree and require the State to fulfill its obligations therein.

IV. *CCMUA's Motion for Relief Under Prior Orders*

The CCMUA seeks an order clarifying its role in this matter, and requests that the Court relieve it of any duties or obligations it may have due. CCMUA was not a party to the Consent Decree which selected the remedy at issue; its rights and interests, however, are affected by the Consent Decree and ROD.

The CCMUA and Trust have previously agreed to terms of the fees to be paid by the Trust for hook-up and for ongoing annual processing. The ROD indicates that both the State of New Jersey and POTW must approve such a discharge before the discharge commences.

In his December 5, 2003 letter to the CCMUA, NJDEP Commissioner Campbell effectively directed the CCMUA not to issue the final permit. (CCMUA Ex. B). CCMUA therefore believes that the state approval required by the ROD is lacking. Previously, in its October 15, 2003 letter to the CCMUA, the State outlined its authority to oversee and override CCMUA action. (CCMUA Ex. C). In that correspondence, the State asserts that its supervisory authority over the CCMUA extends to revoking the CCMUA's status as a delegated local agency ("DLA"). Further, the State notes that the delegation of permitting authority is both limited and revokable, presumably in whole or in part. (*Id.*) The NJDEP has never revoked CCMUA's status as the delegated local agency.

In addition to these communications, the CCMUA has received an engineering report by Dr. Nidal M. Rabah, a consultant to Camden County. (CCMUA Ex. D). That report outlines several criticisms of the remedy selected by the EPA and proposes what Dr. Rabah feels is a more cost and environmentally-effective treatment alternative. Specifically, Dr. Rabah raises three main points: (1) that the contaminant delineating at the Site is inadequate and more investigation should be done to locate possible radionuclide hotspots in the Landfill; (2) that the remedy selected in the ROD and Consent Decree will not be effective and will have negative impacts on the CCMUA; and (3) that complete groundwater reinjection instead of discharge to the CCMUA presents less risk and is more cost-effective than the remedy selected in the ROD and Consent Decree. (*Id.*

Finally, the CCMUA is troubled by the newly passed legislation, S2429. CCMUA is of the position that not only has the NJDEP directed it not to issue the final permit but the recently-enacted legislation alone prohibits CCMUA's acceptance of the GEMS discharge.

The CCMUA takes the position that it has fulfilled this Court's Orders of May 29, 2003 and July 1, 2003, as it has fully cooperated with the NJDEP in the development of the draft permit and because it has proceeded through its normal regulatory process in publishing the draft permit and submitting that permit for public comment. (CCMUA Ex. F). Thus, the CCMUA requests that this Court relieve it of any duties or obligations to which it might be subjected as a burdened non-signatory party to the Consent Decree.

First, with respect to the CCMUA's request that it be relieved of its duties or obligations under the Consent Decree, this Court refuses to do so. As discussed above, the NJDEP has not demonstrated that changed conditions should cause the permit to be denied for any substantial reason, *see* Parts II.B, C, & D, above. The CCMUA's concern about the newly enacted state legislation is addressed by this Court's discussion of preemption and overriding power of the Supremacy Clause; namely, this Court has determined that New Jersey's P.L.2003, c. 196, violates the Supremacy Clause of the United States Constitution because it is preempted by federal law in CERCLA and this Court's Consent Decree of 1997 herein.

The new state law cannot be a basis for overriding CERCLA and the Consent Decree, *see* Part II.D, above.

With respect to Dr. Rabah's report, nothing therein suggests that the EPA's drinking water standards are inappropriate or that they will not be consistently attained. In addition, on the issue that further contaminant delineation at the Site is necessary, EPA believes that the available information does not support the conclusions that Dr. Rabah has reached. EPA is of the position that the "hotspot" referred to by Dr. Rabah is an anomaly, as indicated by subsequent sampling in neighboring wells. Because the on-site treatment receives the water from multiple wells on the site at one time, the impact of any "hot spot" is further diminished, even if one existed. Consequently, EPA believes that an investigation as suggested by Dr. Rabah would result in further delay and not reach any determination. (Quinn Decl. at ¶ 71). Dr. Rabah's statements that the remedy selected in the ROD and Consent Decree will not be effective and will have negative impacts on the CCMUA are not supported by information available to EPA. The eight-month pilot discharge program showed that the uranium and radium levels in the effluent were consistently within drinking water limits. (*Id.* at ¶ 72).

Dr. Rabah proposes an alternative to the remedy specified in the ROD and the Consent Decree, claiming that complete groundwater reinjection is possible by using a lower extraction and reinjection rate. This alternative, he claims, is less expensive than a discharge to CCMUA. Brian Quinn, in his declaration, certifies that a geologist in the EPA's Program Support Branch has reviewed Dr. Rabah's memorandum and disagreed with the assumptions that Dr. Rabah made in reaching his conclusions. Furthermore, according to the modeling performed by the GEMS Trust, the extraction rates cannot be lowered as proposed by Dr. Rabah and still maintain hyrdraulic containment. In addition, the slip stream cannot be minimized as he proposes because the lower volume of reinjection would not act as a barrier to up-gradient infiltration. (Quinn Decl. at ¶ 77). These conclusions, as noted above, were ratified by the EPA's Regional Commissioner in 2004

Even assuming that Dr. Rabah's alternative remedy is feasible and more cost-effective, the selection of the remedy is within the reasonable discretion of the EPA. EPA has given careful consideration to Dr. Rabah's opinions and views, addressing them in the supplemental record as discussed above. Indeed, the risk of delay in proceeding with the remedy agreed to under the Consent Decree substantially outweighs the risk of going forward, particularly where Dr. Rabah has not articulated how the GEMS model is deficient or why its conclusions should be disregarded. Thus, this Court will deny the CCMUA's request to be relieved of further duties or obligations.

At the same time, this Court will direct the CCMUA to issue the final permit forthwith, including reasonable conditions for operations and monitoring, or show cause within 30 days why it will not issue the same based on the determinations made in this Opinion.

V. *Conclusion*

For the reasons discussed above, the New Jersey Department of Environmental Protection's motion to modify the Consent Decree will be denied, and the Consent Decree of 1997 continues in full effect. The Court has found that reliance upon New Jersey's enactment of P.L.2003, c. 196, as a basis for failing to implement the selected remedy, is preempted by federal law. In addition, the U.S. Environmental Protection Agency's cross-motion to enforce the Consent Decree will be granted, and the NJDEP shall be compelled to honor its obligations under the Consent Decree, including interposing no further unreasonable interference with the selected remedy. Finally, the CCMUA's motion to be relieved from further obligations and duties is denied and this Court directs the CCMUA to issue the final permit, including reasonable conditions for operation and monitoring, or show cause within 30 days why it will not do so. The accompanying Order will be entered.

ORDER

This matter having come before the Court upon the New Jersey Department of Environmental Protection's motion to modify the Consent Decree; the cross-motion of the United States Environmental Protection Agency to enforce the Consent Decree; and the Camden County Municipal Utilities Authority's motion for relief from further obligations and/or for clarification; and the Court having

reviewed the parties' submissions; and the parties having presented oral argument before the Court at a hearing convened on January 29, 2004 and continued on February 5, 2004; and for the reasons given in the Opinion of today's date; and for good cause shown;

IT IS on this *11th* day of May, 2005, hereby

ORDERED that the New Jersey Department of Environmental Protection's motion to modify the Consent Decree shall be, and hereby is, *DENIED;* and

IT IS FURTHER ORDERED that the State of New Jersey Department of Environmental Protection and the Camden County Municipal Utilities Authority shall not rely upon New Jersey's enactment of P.L.2003, c. 196, as a basis for failing to implement the selected remedy; an

IT IS FURTHER ORDERED that New Jersey P.L.2003, c. 196, is preempted by federal law and shall be of no further force and effect; and

IT IS FURTHER ORDERED that the United States Environmental Protection Agency's cross-motion to enforce the Consent Decree shall be, and hereby is, *GRANTED* and the New Jersey Department of Environmental Protection shall be compelled to honor its obligations under the Consent Decree, including interposing no further unreasonable interference with implementation of the selected remedy; and

IT IS FURTHER ORDERED that the CCMUA's motion for clarification and relief under prior orders shall be, and hereby is, *DENIED*, and the CCMUA is hereby *ORDERED* to proceed in finalizing the discharge permit, which may include reasonable conditions for operation and monitoring, within thirty (30) days of today's date or show cause why it will not issue the same consistent with this Order and the prior Orders of this Court.