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RE: Delaware Riverkeeper Network Public Comment on Delaware River Partners, LLC's Joint Application under the Newly Adopted Underground Storage Caverns Rule N.J.A.C. 7:1F – Commercial/Industrial/Public (Landward) Flood Hazard Area Individual Permit Application No(s): 0807-16-0001.5 LUP220001

Dear Ms. Biggins,

The Delaware Riverkeeper Network (DRN) respectfully requests the opportunity to submit public comment to the Department of Environmental Protection (DEP) on the above-referenced joint application submitted by Delaware River Partners LLC (DRP) for the construction of two underground storage caverns at the Gibbstown Logistics Center (GLC) in Gibbstown, Gloucester County.

DRN has consistently petitioned DEP throughout the application process of DRP attempting to construct two underground storage caverns at GLC, that the review of all of their application materials submitted along with supplemental permit applications were premature in absence of the adoption of the Underground Storage Caverns Rule N.J.A.C. 7:1F. On May 1, 2023 DEP adopted said rule, and in DRN's opinion, confirmed our concerns about the inadequacy and premature nature of DRP's application. Specifically concerning the adequacy of the submitted feasibility study, EHIS, and lack of demonstrated compliance with other regulatory programs there is more than enough basis to deny the joint

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application. DRN further urges DEP to halt all examination of DRP's application for its land use permits, or to deny the joint application until DRP can demonstrate compliance with all required regulatory programs. DEP should not create a precedent encouraging premature permit applications that are subject to statutory decision deadlines. This is further evidence as to why DEP should reject DRP's request for conditional permit approval for its other supplemental permits for the GLC caverns until clear demonstration of compliance with N.J.A.C. 7:1F is determined.

These comments were sourced from a review of the permit application materials and communications with DEP that DRP submitted in May of 2022, that DRN acquired via OPRA requests. After re-reviewing DRP submitted materials in the context of the finalized rule DRN compiled below comments detailing how DRP's application does not meet the regulatory requirements of many of the updated provisions of the rule.

I. The Feasibility Study submitted by DRP provides incomplete data concerning the liquefied petroleum gas (LPG) substances that would be stored in the proposed facility and does not meet the updated and finalized regulatory requirements of N.J.A.C. 7:1F-2.1

DRN has been consistent in its message to DEP that the DRP's present permit applications, particularly for the construction and operation of the caverns themselves, have been woefully premature and should be denied for myriad reasons. Even foregoing the issues of possible undue influence that DRP could be having over the rulemaking process by submitting its application at the rule proposal stage. Or even the legal and public participation issues of DRP submitting some of its applications materials for permits all together simply asking for conditional approval instead of subsequent permits instead of demonstrating sequential compliance with necessary regulatory programs. There are clear logistical and technical reasons why DRP's preemptive permit application strategy is faulty and should result in a denial from DEP. In no other place of DRP's application is this plainer than in its feasibility study in the light of the finalized regulatory language of N.J.A.C. 7:1F-2.1.

Under 7:1F-2.1(a)(4)–(5), DEP requires that a feasibility study for a underground cavern facility identify all of the mixtures and grades of the regulated LPG that will be stored in the facility, the concentration of the types/mixtures of each, and determine the compatibility of those regulated substances with each other while stored at the facility.[1] In DRP's *Hydrogeological Study for Construction and Operation of Hard Rock Caverns at Repauno Port and Rail Terminal*, it provides information and data for the storage of butane and propane within the cavern facility that does not meet the requirements of this rule. In this portion of the feasibility study DRP provides data about how the geologic and

[1] N.J.A.C. 7:1F-2.1(a)(4-5)

hydrologic conditions of the cavern could allow for the storage of butane and propane, listing the density, viscosity, and temperature at which each will be stored and the relative estimated seepage/leak rates of them both within those conditions.[2] But nowhere in the feasibility study itself can you find the exact mixtures and grades of the substances that will be stored in these caverns. That information can only be found within the construction and design portion of the application covered under 7:1F-2.2.[3] And the differences between the figures provided and applied across these two reports paints a confusing picture.

The Hydrogeologic study determined the butane/propane leak rate, and its cavern/water seepage rate based off of figures that are different or at least not representative of the specific LPG grades and mixtures that will be stored at the facility. On page 4 of DRP Construction and Design Application it lists the proposed stored LPG's as:[4]

- n-Butane
- i-Butane
- Propane
- HD-5 Propane
- 2%C2 Propane
- Propylene

While it does list each of the storage temperatures, pressure, density, and volume at both the Liquid and Vapor phase for each, this necessary specificity in the proposed substances is largely absent from the hydrogeologic study, and the feasibility study as a whole.

This disparity in data used for the design and construction portion of the application compared to the feasibility study portion, presents issues greater than that of technical regulatory compliance. It presents the possibility of an incomplete data set, with an incomplete list of parameters accounted for in determining the viability and environmental impact of the facility. One of the principal claims of DRP in its application is that the LPG stored in these facilities will have *de minimis* impact on the groundwater and surrounding cavern due to a seepage rate 0.00005% of stored volume per day into the surrounding cavern walls.[5] DRP make this claim based on the testing they conducted using an unspecified grade of propane and butane, at pressures and at temperatures which are only partially representative of how they will be stored with the caverns. DRN does acknowledge that in a testing environment, limitations must be imposed in order to collect applicable data, and it also acknowledges that a large portion of the DRP's claim surrounding lack of impact is based off of the depth between the facility and the

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[2] *Hydrogeological Study for Construction and Operation of Hard Rock Caverns at Repauno Port and Rail Terminal*, Lane Power and Energy Solutions on behalf of Delaware River Partners LLC, pg. 4-2

[3] *DRP Repauno Storage Caverns Front-End Engineering Design Report*, Lane Power and Energy Solutions on behalf of Delaware River Partners LLC pg. 4-6

[4] *Id.*

[5] *Hydrogeological Study for Construction and Operation of Hard Rock Caverns at Repauno Port and Rail Terminal*, Lane Power and Energy Solutions on behalf of Delaware River Partners LLC, pg. 4-30

groundwater table, and overall high hydrogeologic pressure at that depth, However, the required detailed breakdown of the differences and impacts of each type of LPG product is still missing from the feasibility study. DRP cannot be allowed to skirt the regulatory requirements of one section of the rule, because it happened to have similar data used to fulfill the requirements of a different provision of the rule.

But this is not the only place where there is missing information concerning the specifics surrounding the LPG products that will be stored in the facility. Throughout the feasibility study and specifically within the hydrogeologic study, DRP discuss the two underground storage facilities as the butane cavern and the propane cavern.[6] The reason for this is logistically clear in the different temperature and pressure storage requirements of each. The simulations done in the hydrogeologic study used that as its modeling basis:

> "All models were simulated in three distinct phases. The first stage assumed air inside the cavern openings during the construction phase lasting 18 months. The second stage assumed 6 months of initial storage pressure at 25 psi in the SE Butane cavern and 100 psi in the NW Propane cavern, prior to long-term storage pressures of 5 psi in either cavern in the third and final stage. The initial in-cavern product storage temperature was assumed to be 85 degrees Fahrenheit (°F) for both products, whereas the final long-term temperatures were assumed to be 47°F for butane and –32°F for propane."[7]

And yet in the list of proposed LPG substances that will be stored, and in the further communications between DRP and DEP, there is the discussion of propylene. DRP is attempting to use data derived from its study of propane in its feasibility study as a complete substitute for propylene. This is not technically sound, and appears to be another example to why DRP's preemptive application method is faulty. DRP is attempting to broaden what they are able to store in their cavern facility, based on a feasibility study that likely was commissioned before DRP had a complete idea of how it was going to utilize the facility. And now they are attempting to shoehorn in propylene using a study that in no way considers it.

This same concern DEP brought to DRP attention in a meeting where the lack of consideration for propylene within the feasibility study was discussed. In DRP's response they effectively dismiss this concern, discussing the chemical similarity, and that there will be no material difference in how it is stored versus propane.[8] This flippant approach to addressing the differences between propane and propylene is not supported by the regulatory language nor DRP's own application materials. Propylene is listed right next to propane, and butane in the rule's definition of LPG's indicating that DEP believes it to be a

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[6] *Id.* at 4-1

[7] *Id.*

[8] *Comments on Draft Underground Storage Cavern Application Materials*, Repauno Cavern Project Team, 1/20/22

material difference, enough so that it is a regulated substance independent of propane. Furthermore, in DRP's Front-End Engineering Design Report, when listing the fluid properties of propylene and three different grade of propane that will be stored, the differences become even more material.[9] The pressure difference at the liquid phases of propylene is greater than the differences between any of the different grades of propane, and there will be no chilled storage for propylene whereas each grade of propane will.[10] These differences are meaningful and must be addressed within the feasibility study.

One of the statements made by DRP in its response to DEP's well-founded concerns about the lack of consideration for propylene within its feasibility study, is that the only real difference between the substances is that propane is single bonded, and propylene is double bonded.[11] What DRP failed to mention is that the double bonded nature of propylene makes it more combustible and it burns at a high temperature. DRP is attempting to argue that because some of the storage parameters and chemical properties between these substances is similar, that it can: ignore the differentiation that DEP gave them in is definition of LPG, not have to account for it in its feasibility study despite clear regulatory directive to the contrary, and gloss over the inherent differences in safety surrounding their storage. All of this because DRP was irresponsible in submitting an incomplete feasibility study for a permit application a year before the rule governing that permit application process was finalized. For these reasons alone DEP should immediately halt all review of DRP's application materials and deny their permit application. DRP cannot be rewarded for a premature application that flagrantly attempts to skirt the rules promulgated for its governance.

II. The EHIS submitted by DRP does not fulfill the requirements of 7:1F-2.4(b)(5) concerning the quantification of the environmental inventory and surface footprint of the proposed facility

In the finalized rule, DEP provided some clarification and detail surrounding the determination of the 'surface footprint' of a facility for purposes of assessing the environmental inventory, relative to the proposed rule. First DRN expresses appreciation that DEP both responded to our concerns about the ambiguity and confusion surrounding the proposed language of 7:1F-2.4(b)(5), and updated it and the definition of 'surface footprint' making them both clearer. Under the finalized language of this rule DRP's EHIS is not in compliance, and as such their application should be denied without prejudice.

Under 7:1F-2.4(b)(5), the EHIS of the proposed underground cavern storage facility must complete an environmental inventory of a broad list of resources, protected areas,

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[9] *DRP Repauno Storage Caverns Front-End Engineering Design Report*, Lane Power and Energy Solutions on behalf of Delaware River Partners LLC pg. 4-6

[10] *Id.*

[11] *Comments on Draft Underground Storage Cavern Application Materials*, Repauno Cavern Project Team, 1/20/22

and other important items that will or could be impacted by the construction and operation of the facility.[12] The surface footprint is what dictates the area for which this inventory is taken. The total acreage of that footprint is determined by the boundaries of the facility which includes: above ground infrastructure, the caverns themselves, along with any access roads and monitoring system.[13] In response to comment 111, attributed to DRN, DEP clarified that the surface footprint of the cavern portion of the facility is determined by projecting the exterior walls of the caverns as if they were vertically projected to the surface. In review of the environmental inventory that DRP submitted in May 2022, it does not appear to evaluate its surface footprint as including the exterior walls of the cavern facility.

In its EHIS, DRP spends almost no time discussing the surface footprint of the facility stating that the only surface footprint will be the well heads that will be used for loading and unloading of the LPG from each cavern amounting to a total of 500 square feet.[14] The figures do show what the footprint of the caverns would be on the surface, but the EHIS does not use that for doing its environmental inventory. DRP also states that the caverns will be operated, controlled, and monitored from existing operations buildings nearby, implying that those buildings would therefore not be used to determine the surface footprint.[15] There is also no discussion about the surface footprint of any access roads this facility will use. In effect, the surface footprint that DRP used in it EHIS, is dramatically smaller than is required under 7:1F-2.4(b)(5). This means that a substantial portion of the EHIS is in noncompliance, which is another reason why this permit application should be denied, and why DRP's preemptive application strategy was faulty and should not be rewarded.

III. The Excavation Plan submitted by DRP does not fulfill the requirements of 7:1f-2.2(c)(1) concerning compliance with the Radiation Protection Act

In the finalized language of the rule, in the design and construction section, a provision was added requiring the construction and operation of the facility to meet the requirements of the Radiation Protection Act, specifically concern the handling of excavated materials.[16] Nowhere in either the design and construction proposal or the EHIS does DRP discuss the possibility of extracting radioactive material during construction, or what it would do with radioactive materials. With the proposed caverns being between

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[12] 7:1F-2.4(b)(5)
[13] *Id.*
[14] *Environmental & Health Impact Statement: Proposed Underground Storage Caverns DRP Gibbstown Logistics Center Gibbstown, Gloucester County, New Jersey*, Prepared by Ramboli US Consulting, Inc. on behalf of Delaware River Partners LLC, Project Number: 1690000609-003, May 2022. Pg. 8
[15] *Id.*
[16] 7:1f-2.2(c)(1)

600-800 feet in depth resulting in an estimate 419,000 cubic yards of material removed, the possibility of excavating radioactive materials is far too high to allow this application to be reviewed in the absence of Radiation Protection Act compliance.[17] Because DRP plans to use drill cutting ponds to store the mixtures of used water and solid waste, there is the possibility of the inadvertent spreading of radioactive materials, which is impermissible and must be addressed.[18]

Overall, DRP's discussion of the management of excavated materials is lacking with incongruent information split across both the EHIS and the design and construction sections of the application. The only concrete discussion of dealing with possible hazardous substances within the excavated material is in its few-sentence discussion in the EHIS about the presence of Nitrobenzene at the site.[19] And even so, DRP merely states that the Nitrobenzene has been remediated and capped in the affected areas, and views that as complete evidence that none of it will be excavated during construction.[20] There is a complete lack of discussion of how this construction with affect the Nitrobenzene remediation efforts or even the degree in which the remediation is ongoing. DEP must require that DEP show clear design and construction parameters that will guarantee that it will not disrupt or undo any of the existing remediation pumps, monitoring systems, or any infrastructure. A mere statement that the Nitrobenzene has been remediated cannot be found to be a sufficient means of doing so. Regardless, the entire application is absent of any procedures that could demonstrate compliance with the Radiation Protection Act, and thus this application must be denied. 419,000 cubic yards is far too much material to go unaccounted for, and the lack of consideration of radioactive materials makes both DRP's EHIS and design and construction proposal substantially noncompliant and should on its own be a complete basis for denial.

IV. Conclusion

Finally, DRN implores DEP to allow for public comment for the application and any subsequent re-application that DRP submits for the proposed GLC cavern facility. The rule specifically empowers DEP to allow for public comment on applications that receive significant public interest, and it should be clear to DEP that this facility has substantial public interest.[21] The hundreds of comments that the public submitted concerning the proposed rule, which was in some part specifically crafted for the regulation of this facility, is clear evidence of such public interest. Furthermore, if this project ever gets to the draft

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[17] *Environmental & Health Impact Statement: Proposed Underground Storage Caverns DRP Gibbstown Logistics Center Gibbstown, Gloucester County, New Jersey*, Prepared by Ramboli US Consulting, Inc. on behalf of Delaware River Partners LLC, Project Number: 1690000609-003, May 2022. Pg. 13

[18] *Id.* at 12

[19] *Id.*

[20] *Id.*

[21] 7:1F-4.1(d)

approval stage, it must hold a public hearing, and provide the maximum 60-day comment period to fully allow for the interested public to participate in this process.[22]

Most if not all of the listed findings of substantial non-compliance of DRP's application with N.J.A.C. 7:1F. could be a complete sole reason to deny DRP's permit application. When all of the reasons are added together, matched with a large portion of DRP's noncompliance coming out of their improper preemptive strategy of submitting their application under the language of the **proposed** rule, DEP must deny this application. DRP's mistakes and carelessness throughout this application process must not be rewarded by DEP considering such an incomplete application.

Respectfully submitted,

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[22] 7:1F-4.2(f)