BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY SCS CARBON TRANSPORT LLC FOR A PERMIT TO CONSTRUCT A CARBON DIOXIDE TRANSMISSION PIPELINE

DOCKET NO. HP22-001

Direct Testimony of Gary Napp
On Behalf of the Staff of the South Dakota Public Utilities Commission
June 23, 2023

Q: Please state your name and business address.

A: Gary Napp, 75 Valley Stream Parkway, Suite 200, Malvern, Pennsylvania 19355

Q: Describe your educational background.

A: I received a Bachelor of Science degree in Environmental Resource Management from the Pennsylvania State University and a Master of Engineering Administration degree from the George Washington University.

Q: By whom are you now employed?

A: I have been employed by Environmental Resources Management, Inc. since September 2019.

Q: What work experience have you had that is relevant to your involvement on this project?

A: I have 44 years of air quality experience in air quality permitting and air quality modeling. Some of that experience is air quality permitting and modeling for interstate natural gas pipeline facilities, including the development of numerous Resource Report 9 submittals to the Federal Energy Regulatory Commission (FERC). Throughout my career I have been responsible for a broad range of air quality permitting projects in the mid -Atlantic and Northeast states. In addition to complying with the varied state air quality permitting regulations, I have experience in key Federal regulations including Title V operating permits, Prevention of Significant Deterioration and Non-Attainment New Source Review (NSR), New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAPS), Many of my projects have included development of Best Available Control Technology (BACT), Reasonable Available Control Technology (RACT) and Lowest Achievable Emission Rate (LAER) analyses. I have also conducted and managed numerous risk assessment projects focused on emissions of toxic air pollutants. I have tracked and analyzed numerous air-related regulatory initiatives and issues throughout my career.

Q: What is the purpose of your testimony?

A: To review the assessment of air quality permitting requirements provided in the application associated with the construction of the SCS Carbon Transport LLC Midwest Carbon Express Project.

Q: Did you review Section 5.7 of SCS's Supplement of the Application (dated October 13, 2022) that addresses the project's impacts to air quality?

A: Yes. I reviewed Section 5.7 – Air Quality of the SCS Supplement of the Application where the applicant summarized the potential air quality impacts of the project including fugitive and mobile source emissions during construction.

Q: In your opinion, did SCS properly address ARSD 20:10:22:21?

A: Yes. SCS stated in Section 5.7 of the Supplement of the Application that it will comply with all South Dakota and federal air quality regulations that are applicable to the proposed project. Potential emissions from construction and mobile sources are not subject to South Dakota air quality regulations found at ARSD Article 74:36. In addition, because there are no National Ambient Air Quality Standard (NAAQS) nonattainment areas in all of South Dakota, the Clean Air Act conformity requirements do not apply. Based on this information, the proposed pipeline will comply with all applicable air quality standards and regulations.

Q: Did you find SCS's analysis on potential impacts to Air Quality consistent with industry standards and complete?

A: SCS's analysis of potential air quality impacts is consistent with industry standards and is complete taking into account the equipment that will be used to construct and operate the facilities. According to SCS there will be no combustion emissions from the facilities. The Supplement of the Application states that the pumps at the pump stations will be electric-driven. In its Response to Staff's Fifth Data Request, SCS confirmed that the launcher and receiver equipment and the mainline valves proposed in South Dakota for this project are also electric powered. As described in the Supplement of the Application, emissions of fugitive dust and tailpipe emissions from construction of Project facilities will be short-term, localized to construction sites and will steadily decrease with distance, therefore these emissions should result in minor air quality impacts.

Q: Do SCS's proposed construction techniques and mitigation measures adequately minimize fugitive particulate emissions?

A: SCS states in Section 5.7 that fugitive particle emission impacts in residential and commercial areas adjacent to pipeline construction will be minimized by utilizing dust minimization techniques, such as minimizing exposed soil areas, reducing vehicle driving speeds, and watering or using soil amendments along the exposed soils of the right-of-way, as needed. The measures outlined by SCS should be adequate.

Q: Do you have any additional recommendations for SCS to further mitigate the impacts the project may have on Air Quality? Please explain.

A: Yes. In addition to the measures listed in Section 5.7 of the Supplement of the Application, the following should be considered:

- Use low-emitting equipment that is properly maintained.

- Tarps or dust covers should be utilized on equipment such as dump trucks when transporting materials with significant dust content for the project. In addition, trucks should be cleaned regularly to remove any dust or dirt that may have accumulated.
- Minimize idling of construction equipment and diesel-powered vehicles to reduce diesel exhaust emissions.

Q: Did you review sections 1.8 of SCS's Supplement of the Application that addresses other required permits and approvals?

A: Yes. I reviewed Section 1.8 – Other Required Permits and Approvals of the SCS Supplement of the Application, which presents applicable state and federal permits for the construction of the pipeline.

Q: Will SCS be required to obtain any state or federal air quality permits for the Project?

A: SCS will not be required to obtain any state or federal air quality permits based on the information presented in the Supplement of the Application.

Q: Do you agree with SCS's findings and conclusions regarding potential impacts on Air Quality?

A: Based on the information provided in the Supplement of the Application, I agree that there are no stationary source air quality permits required for construction and operation of the SCS Midwest Carbon Express Project.

Q: Does this conclude your testimony?

A: Yes.

Gary Napp

Principal Consultant

Gary is an environmental scientist with over 40 years of air quality permitting and compliance experience. He has been employed by government, industry, engineering firms, and consulting organizations and as a result has a broad range of expertise to bring to his project management and technical support duties. Gary has managed and participated in a wide variety of air quality permitting, compliance, emission inventory, air modeling, ambient monitoring and risk assessment projects for numerous organizations over his career. Gary's focus over his career has been in the energy sector, including power plants, interstate natural gas transmission projects and liquefied natural gas import/export terminals, however he also has experience in the refining and chemical weapons demilitarization (incineration) sectors. One of Gary's key support functions over his entire career has been the tracking and analysis of regulatory initiatives and issues.

Experience: Over 40 years of experience in the field of air quality permitting and project management for power generation and energy projects.

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Education

- Masters of Engineering Administration, George Washington University, USA, 1989
- BS Environmental Resource Management, Pennsylvania State University, USA, 1979

Professional Affiliations and Registrations

- Air and Waste Management Association (AWMA)

Languages

- English, native speaker

Fields of Competence

- Air permitting and regulatory compliance strategies
- Title V and minor source air permitting
- PSD and non-attainment NSR permitting
- Regulatory tracking and analysis
- BACT, LAER, and RACT control technology evaluations
- GHG reporting
- Human health risk assessment

Key Industry Sectors

- Power
- Oil & Gas
- Chemical Weapons Demilitarization (Incineration)

Key Projects

Major Interstate Gas Pipeline Client, Pennsylvania and New Jersey.

Managing and technical contributor to the air permitting and air modeling of additional compression at compressor stations in Pennsylvania (Pennsylvania Department of Environmental Protection (PADEP) Northeast Regional Office) and New Jersey. The Duties include project management, permitting strategy, review of control technology analyses, and managing the preparation of air permit applications. Air quality-related information including regulatory applicability, air modeling results, construction emissions, General Conformity applicability, and an air cumulative impact analysis was also integrated into Resource Report 9 for submittal to FERC.

Major Interstate Gas Pipeline Client RACT III Support, Pennsylvania.

Managing and technical contributor to the development of RACT III applications to PADEP for four compressor stations in Pennsylvania. Two of the applications required a case-by-case RACT analysis to demonstrate RACT III emission limits met by the current equipment.

IPP Client Combined Cycle RACT III Support, Pennsylvania

Managing and technical contributor to the development of RACT III application to the Allegheny County Health Department (ACHD) for a combined cycle power plant. The application included a case-by-case RACT analysis.

Major Terminal Client, New Jersey.

Developed the significant modification application to add new products at a large bulk storage terminal. Project includes the submittal of a refined risk assessment to the New Jersey Department of Environmental Protection (NJDEP).

Major Midstream Energy Services Client, New Jersey.

Supported the development of a Title V permit modification for marine loading operations at a New Jersey tank farm.

Major Oil & Gas Trade Association

Supported an update to the *GHG Compendium* by managing the revision on the Combustion Emissions Estimation section.

Major Chemical Client, Worldwide.

Managed the development of Scope 2 emission factors, resource mix data, and Scope 1 reporting requirements for a major chemical company. The effort covered over 70 sites worldwide, including 20 in the United States.

IPP Client Combined Cycle Air Permitting Support, Southern NJ

Supported a significant modification and renewal of a Title V permit for a 750 MW combined cycle power plant located in southern New Jersey. Emphasis was on developing hazardous air pollutant (HAP) emission estimates and managing a facility wide risk assessment that is required by the New Jersey Department of Environmental Protection (NJDEP) as part of the significant modification. In addition, developed a minor modification application to remove an annual operating hours limitation for an auxiliary boiler.

Major Interstate Gas Pipeline Client, Pennsylvania

Managed the development of several Title V renewal applications for compressor stations in Pennsylvania.

Major Interstate Gas Pipeline Client, Pennsylvania

Supported construction extension requests for two compressor stations in southwestern Pennsylvania. Each request included an update to the Best Available Technology (BAT) for the key project equipment.

Upstream Oil Client, Alaska

Managing the review of GHG intensity calculations for a planned oil production project in the Alaska North Slope. The review will compare the client's calculations versus industry best practices and the client's own internal calculation methodology.

IPP Client Power Plant Air Modeling Support, New York City

Managed a 1-hour NO_2 air modeling study for a power plant located in New York City which operates steam units as well as a combined cycle unit. Coordinated approval of modeling inputs with the New York State Department of Environmental Conservation (NYSDEC) permit engineer and air modeling staff.

Manufacturing Client, Pennsylvania

Managed and technical contributor to the renewal of a State-Only Operating Permit for a manufacturing facility located in Wilkes Barre, PA (PADEP Northeast Regional Office).

Manufacturing Client, Pennsylvania

Managing Plan Approval application for installation of a new dust collector to a manufacturing facility in PADEP Southeast Region.

Confidential Manufacturing Client, Pennsylvania

Supported a defense material manufacturer during a compliance audit conducted by U.S. EPA Region 3 and PADEP. Conducted a file search and summarized key information prior to the audit. Supported client in successfully responding to EPA's questions during and after the audit.

IPP Client Combined Cycle Air Permitting Support, Arizona

Supporting the development of an application to EPA Region 9 to upgrade two combustion turbines at a combined cycle power plant. A key task was to demonstrate that 40 CFR Part 49 minor NSR requirements were not triggered. Proposed changes were requested to the current Title V permit as well as an underlying PSD permit. EPA Region 9 also required an Endangered Species Act (ESA) analysis and a National Historical Preservation Act (NHPA) analysis.

Key Projects Prior to Joining ERM

Major Electric Utility Client, New Jersey

Developed white paper on the unique aspects of permitting OCS air emission sources. Major issues and risks were also identified.

Offshore Wind Developer, Delaware

Conducted research and assisted with the initial air permitting strategy for an offshore wind project, including issues relating to BACT/LAER and offshore air modeling.

Gas Sector Projects

Major Interstate Gas Pipeline Client, Southeastern U.S.

Managed and technical contributor to major pipeline expansion project that included two new compressor stations in West Virginia; a new compressor station in Kentucky; a new compressor station in Tennessee; and new compression at two existing stations in Kentucky. Managed and provided technical input to the development of the air quality portion of Resource Report 9. Just before the project started, FERC required applicants to conduct cumulative impact analyses. Gary developed a first-of-its-kind framework for addressing air quality cumulative impacts. Managed and contributed to the development of the detailed air cumulative impact analysis and the General Conformity applicability analysis. Managed the development and integration

of construction emissions from all six sites into the Resource Report 9. After the submission of the FERC application, supported client in responding to various FERC data requests.

Major Interstate Gas Pipeline Client, New York State.
Managed and technical contributor to the air permitting and air modeling of four (4) new compressor stations proposed for a major new pipeline in New York State. Duties included project management, preparing the permit applications and estimating emissions. Air quality-related information including air modeling results and air permitting information was integrated into Resource Report 9 for submittal to FERC.

Major Interstate Gas Pipeline Client, Pennsylvania and New Jersey
Managed the air quality permitting of four compressor stations along a major Pennsylvania/New Jersey pipeline - one existing station and two greenfield stations in Pennsylvania, and an existing station in New Jersey. The Pennsylvania stations required PaDEP Plan Approval applications while a significant modification to the Title V permit was necessary for the New Jersey compressor station. The project scope also included the development of the air quality portion of Resource Report 9. Managed and contributed to estimating criteria and GHG emissions from pipeline and compressor station construction and determined General Conformity applicability. The Resource Report 9 addressed seven pipeline loops and construction at nine compressor stations. Managed screening air modeling of the greenfield stations' air emissions, as required by FERC. Supported client in responding to FERC comments.

Major Interstate Gas Pipeline Client Air Permitting, Pennsylvania and New York
Gary served as project manager and technical lead for the development of permit applications (minor and Title V modifications) for seven compressor stations in Pennsylvania and New York. Developed RACT II applications for three (3) compressor stations in Pennsylvania.

LNG Import/Export Project, Maine
Managed and provided technical input for the air permitting of client's LNG import terminal proposed for northern Maine. Scope included obtaining an air emissions license for the terminal and developing the air portion of Resource Report 9. Assisted in the development of the Resource Report 9 included detailed emission calculations for terminal sources, vessel emissions, terminal construction, and pipeline construction. The project attracted significant scrutiny from an air perspective because the site is located near two PSD Class I areas and because of local opposition to the project. Later, prepared a Cumulative Air Impact Analysis for submittal to FERC. This analysis included studies of ambient air concentrations, visibility impacts, and deposition impacts at two PSD Class I areas and the nearby "Class I-like" Saint Croix Island International Historic Site. Worked closely with the Fish and Wildlife Service and the National Park Service to develop the approach to analyze Class I impacts.
Supported client in initial FERC Resource Report 9 work for additional equipment to include an export terminal at the same facility

LNG Import Terminal and Combined Cycle Project, Maine
Project manager for air quality permitting of a LNG import terminal and combined-cycle power plant in Puerto Rico. Duties also included: air quality modeling; regulatory applicability analysis; human health risk assessment; siting a meteorological tower and a SODAR system; PSD and state permit application preparation; drafting permits; speaking at public hearings and information sessions; and interaction with EPA Region II and the Puerto Rico regulatory agency.

Power Sector Projects

IPP Client Combined Cycle Air Permitting, Northern NJ
Managed the development of PSD and nonattainment NSR air permit applications for a 1,200 MW combined cycle power plant proposed for northern New Jersey. The project consisted of two combustion turbine alternatives which necessitated the submittal of two separate applications. Gary's technical support included development of emissions estimates, LAER/BACT analysis, and coordination of risk screening and refined risk assessment along with RADIUS application development. Gary was the point of contact with the NJDEP permit engineer and coordinated all comments on the permit "Predrafts". Gary also participated in the review and analysis of several vendor design alternatives during the turbine vendor selection process.

Power Sector Client Combined Cycle Air Permitting, Northern NJ
Managed the development of PSD and nonattainment NSR air permit applications for the addition of a 540 MW combined cycle power plant to an existing generating station located in northern New Jersey, which is owned by an integrated generation and energy services company. The client revised the project design after submittal of the original application thereby necessitating the submittal of a revised permit application. Gary's technical support included development of emissions estimates, LAER/BACT analysis, and coordination of risk screening and refined risk assessment along with RADIUS application development. Gary was the point of contact with the NJDEP permit engineer and coordinated all comments on the permit "Predrafts". The initial permit application was being developed shortly after EPA required BACT analyses for greenhouse gases (GHGs). Gary successfully proposed a rationale for incorporating design and degradation margins into the proposed GHG BACT levels, and developed a detailed rationale to dismiss carbon capture and sequestration (CCS) as a control alternative. Follow-up work included supporting the development of Title V operating permit significant modifications for design changes and the addition of HVAC and space heating sources

Power Sector Client Combined Cycle Air Permitting, Connecticut
Managed the development of a PSD and nonattainment NSR air permit application for the addition of a 500 MW combined cycle power plant to an existing generating station located in Bridgeport, Connecticut, which is owned by an integrated generation and energy services company. Gary's technical support included development of emissions estimates, LAER/BACT analysis coordination of risk screening, and a refined risk assessment, and coordination of the completion of numerous application forms required by the Connecticut Department of Energy and Environmental Protection (CTDEEP). Gary assisted the client in responding to questions and data requests from the CTDEEP permit engineer and in reviewing several draft versions of the three (3) NSR permits required for the project. Follow-up work included supporting the development of NSR Permit modifications for design changes and the addition of HVAC and space heating sources.

Power Sector Client Combined Cycle Air Permitting Support, Maryland
Supported an integrated generation and energy services company with various air permitting tasks after it acquired a 750 MW combined cycle power plant located in Prince George's County, Maryland. Gary's key support consisted of the following efforts:

- Conducted a due diligence analysis of the facility's Certificate of Public Convenience and Necessity (CPCN) air requirements before purchase of the facility.
- Supported the development of a successful Motion to Amend the CPCN to incorporate various design changes. This effort included managing the associated air modeling update and developing revised CPCN air permit limits.

- Developed a Permit to Operate (PTO) application submitted to the Maryland Department of Environment (MDE) in order to allow facility operations until MDE issuance of a Part 70 (Title V) operating permit.
- Developed the application for the facility's initial Part 70 operating permit.
- Assisted the client in analyzing various potential design changes and in tracking various compliance related activities via the development and weekly review of a permitting matrix.
- Developed a 40 CFR Part 98 GHG Monitoring Plan.

IPP Client Combined Cycle Air Permitting Support, Southern NJ

Supported an independent power producer with various air permitting tasks at a 750 MW combined cycle power plant located in southern New Jersey. Gary's key support consisted of the following efforts:

- Permitting strategy development to add an additional combined cycle unit to the facility. Also supported the air modeling of the additional unit.
- Developed a Title V operating permit significant modification application to add four black start generators to the facility.
- Developed a Title V operating permit significant modification to upgrade turbine components and software, and managed the associated facility wide risk assessment.
- Developed a Title V operating permit renewal application and associated significant modifications to reduce the frequency of PM10/PM2.5 testing, base compliance with annual emission limits on testing results, and relaxation of a TSP limit.
- Under retainer, tracked Federal and State of New Jersey air regulations to identify initiatives that could potentially affect facility operations. Provided detailed analyses of initiatives that were identified as having major impacts.

Confidential IPP Client Siting Study, New Simple Cycle Units at Existing Facility, New York City

Gary directed an engagement with a confidential IPP client to evaluate air quality permitting and regulatory issues, constraints, and advantages and disadvantages for potential new simple cycle turbines at an existing facility located in New York City. Managed the air quality modeling of various design and fuel alternatives for the new and existing emission units, and researched and summarized the nonattainment NSR and PSD permitting implications of each.

Confidential IPP Client Startup Support, Upstate New York

Evaluated options for estimating annual emissions from startup of a combined cycle unit located in upstate New York. Conducted a detailed review of an initial Title V operating permit application required by the New York State Department of Environmental Conservation (NYSDEC). Successfully supported the submittal of the Title v application under very stringent deadline.

IPP Client Title V Support, Pennsylvania

Developed an application for a Title V modification to install combustion turbine combustor upgrades at an existing generating station in Lebanon County, Pennsylvania. Supported client in successfully authorizing certain operational changes through PaDEP's Request for Determination (RFD) process.

Power Sector Client GHG Reporting, Nationwide

Gary served as project manager and technical lead for the development of GHG inventories for a major integrated Northeastern utility for five (5) separate inventory years. Sources included combustion units at generating stations, natural gas operations GHG sources, and other (Scope 3) GHG sources. Gary employed the latest guidance from The Climate Registry (TCR) and WRI.

Power Sector Clients Coal Plant Permit Tracking, Nationwide
Supported major Midwestern electric utilities by tracking over 60 new coal plant projects in U.S., developing BACT analysis and reviews, air modeling strategy support, emerging GHG BACT issues, and various other air issues related to coal-fired power plant permitting in support of a new coal-fired generating unit proposed for western Kansas. Gary also researched and developed responses to comments on issues such as $PM_{2.5}$ BACT, HAPs limits, HAPs testing methods, modeling material handling equipment, etc.

Chemical Weapons Demilitarization (Incineration) Projects

Department of Defense Chemical Weapons Demilitarization Facility, Oregon
Gary provided human health and ecological risk assessment support and air permitting support for a chemical weapons incinerator complex in eastern Oregon. Duties included the development of emissions databases and managing the air dispersion and deposition modeling of incinerator units. Supported a program to implement the hazardous waste combustor (HWC) MACT regulations at the facility. Duties including MACT regulation analysis and supporting the development of a MACT Application for Approval of Construction, a comprehensive performance test plan, and a continuous monitoring system performance evaluation plan. Assisted in the development of a comprehensive monitoring program work plan. The monitoring program was designed to measure baseline and post-operational levels of contamination in air, soil, water, and biota to confirm the pre- and post-trial-burn risk assessments. Gary also managed the development of an initial Title V permit application for the complex and a host storage depot. Gary was responsible for developing supplements and updates to the application, and for draft Title V permit review.

Department of Defense Chemical Weapons Demilitarization Facility, Johnston Island, Pacific Ocean
Gary managed a complex, multi-pathway human health and ecological risk assessment of a chemical weapons incinerator valued at over $1 million. The incinerator complex was located on Johnston Island in the Pacific Ocean. Responsibilities included developing a quality assurance plan; supporting the air quality modeling, emissions estimation, and human health risk assessment efforts; and interacting with the Department of the Army, EPA Region IX, and various interested environmental groups. Manager and technical contributor to a revision of that risk assessment. Assisted in several aspects of the planning and RCRA permitting of the closure of the incinerator complex. Duties include a review of the Army's risk-based cleanup levels, overseeing the development of a long-term ecological monitoring program, and the development of a Class III RCRA permit modification for a Subpart X miscellaneous treatment unit. Provided support to analyze secondary waste treatment alternatives, including oversight of human health and quantitative risk assessments of the various treatment alternatives

Department of Defense Chemical Weapons Demilitarization Facility, Pine Bluff, Arkansas
Performed dispersion modeling and provided technical support to revise a Title V operating permit for a chemical weapons incinerator facility in Pine Bluff, Arkansas. Project included revisions to emissions estimates and a BACT analysis, complete revision of air modeling including development of a new regional emission inventory, and preparation of an updated air permit application.