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VIA FIRST CLASS MAIL AND E-MAIL (Jeff.Koerner@dep.state.fl.us)

Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management
FL Department of Environmental Protection
2600 Blairstone Road, MS #5505,
Tallahassee, Florida 32399-2400

RE: Comments Concerning the Proposed Title V Operating Permit (Permit No. 0330045-038-AV) for Gulf Power Company's Crist Electric Generating Plant

Dear Mr. Koerner:

Sierra Club submits the following comments on the proposed Title V Operating Permit No. 0330045-038-AV ("Proposed Permit") published by the Florida Department of Environmental Protection ("FLDEP") for Gulf Power Company's ("Gulf Power") Crist Electric Generating Plant ("the Plant" or "Crist") in Pensacola, Escambia County, Florida.

The Proposed Permit fails, in several key respects, to require performance consistent with the Clean Air Act ("CAA" or "the Act"), Florida's State Implementation Plan ("SIP"), and state law and regulations. Accordingly, Sierra Club urges FLDEP to correct these defects and notice a revised draft permit for public review before issuing a final Title V permit for Crist.

I. BACKGROUND

A. Factual Background

Crist is a large fossil fuel-burning electric generation facility in Pensacola, Escambia County, Florida. When firing coal, the Plant's primarily pulverized coal-burning boilers (Units 4, 5, 6, and 7) have a nominal maximum heat input of 1,096.7, 1,096.7, 3,704.8, and 6,406.6 million British thermal units per hour (MMBtu/hr), respectively. Proposed Permit at 7. Units 4, 5, 6, and 7 began operations in 1959, 1961, 1970, and 1973, respectively. *Id*. at 7 and 8. These units share a common stack that is equipped with wet flue gas desulfurization ("FGD") equipment. *Id* at 8. In addition, the plant has two FGD bypass stacks, one for Units 4 and 5 and one for Units 6 and 7. *Id.*

Sierra Club is the oldest and largest grassroots environmental group in the United States, with approximately 620,000 members nationally, including more than 28,000 members in Florida. These members enjoy and are entitled to the benefits of natural resources including air, water, and soil; forests and cropland; parks, wilderness areas, and other green space; and flora and fauna, which are negatively impacted by pollutants from the Crist Station—which emitted a reported 1,960 tons of sulfur dioxide ("SO_2"), 2,618 tons of nitrogen oxides ("NOx"), and 3,786,334 short tons of carbon dioxide (CO_2) in 2013.[1] The Proposed Permit and accompanying Statement of Basis were issued for notice and comment on December 23, 2014, making Sierra Club's submission of these comments timely.

B. Governing Law and Regulatory Background

The Clean Air Act is intended to protect and enhance the public health and public welfare of the nation. *See* 42 U.S.C. § 7401(b)(1). To this end, the U.S. Environmental Protection Agency ("EPA") is required to promulgate primary and secondary National Ambient Air Quality Standards ("NAAQS") for six "criteria" pollutants—sulfur dioxides, nitrogen oxides, particulate matter, carbon monoxide, ozone, and lead. *Id.* at § 7409. Primary NAAQS are health-based standards and must be set at a level adequate to protect the public from the harmful effects of exposure to the criteria pollutants with an adequate margin of safety. *Id*. For sulfur dioxide ("SO_2") pollution, EPA adopted a one-hour standard set at 75 parts per billion (ppb) (equivalent to 196.2 micrograms per cubic meter), recognizing that the prior 24-hour and annual standards did not adequately protect the public against adverse respiratory effects associated with short term (5-minute to 24-hour) exposure. *See* U.S. EPA, Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520 (June 22, 2010) (codified at 40 C.F.R. § 50.17(a)). Due to both the shorter averaging time and the lower concentration value, the one-hour SO_2

[1] EPA's Clean Air Markets Database, Query, 2013 Emissions from Crist, *available at* http://ampd.epa.gov/ampd/.

NAAQS is far more protective than the prior standards and is projected to have enormous public health benefits once implemented—EPA has estimated that 2,300 to 5,900 premature deaths and 54,000 asthma attacks a year will be prevented by the new standard. *See* U.S. EPA, Final Regulatory Impact Analysis (RIA) for the SO2 National Ambient Air Quality Standards (NAAQS) tbl. 5.14 (2010), available at http://www.epa.gov/ttnecas1/regdata/RIAs/fso2ria100602full.pdf.

States that are delegated implementation authority under the CAA (such as Florida) develop and implement plans—state implementation plans or "SIPs"—by which they ensure attainment of the federal NAAQS. The air quality standards contained in each SIP are applied to specific major emissions sources through a state's "Title V" permitting program. *See* 42 U.S.C. §§ 7410, 7661. Major stationary sources of air pollution are prohibited from operating except in compliance with an operating permit issued under Title V of the Act. 42 U.S.C. § 7661a(a); 40 C.F.R. § 70.5(a); Section 403.087(1), Florida Statutes ("F.S."); Rule 62-4.030, Florida Administrative Code ("F.A.C."). Title V permits must provide for all federal and state regulations in one legally enforceable document, thereby ensuring that all CAA requirements are applied to the facility and that the facility is in compliance with those requirements. *See* 42 U.S.C. §§ 7661a(a) and 7661c(a); 40 C.F.R. § 70.6(a)(1).

A Title V permit is issued for a term of no more than five years, 40 C.F.R. § 70.6(a)(2), with a timely and complete application for renewal filed by the source at least six months prior to the date of permit expiration. 40 C.F.R. § 70.5(a)(1)(iii). Once a complete renewal application has been submitted, the existing permit governs the source's operation until the application is acted upon by the permitting agency. *See* 40 C.F.R. § 70.7(b); 40 C.F.R. § 70.7(a)(2) ("[T]he program shall provide that the permitting authority take final action on each permit application (including a request for permit modification or renewal) within 18 months . . . after receiving a complete application."). Permit renewals are subject to the same procedural requirements, including those for public participation and federal review, which apply to initial permit issuance. *See* 40 C.F.R. § 70.7(c)(1)(i).

EPA delegated to Florida, through FLDEP, the authority to administer the CAA's Title V operating permit program within the State. Florida's Title V operating permits program is enacted through Florida Administrative Code, Chapter 62-213. Title V permits issued by FLDEP must include enforceable emission limitations and standards and such other conditions as are necessary to assure compliance with all applicable requirements at the time of permit issuance. *See* 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(1); *see also* Rule 62-213.440(1), F.A.C. "Applicable requirements" include standards or other requirements of the Clean Air Act that are codified in state or federal laws, and include regulations that have been promulgated or approved by EPA through rulemaking at the time of permit issuance but that have future effective compliance dates, as well as standards provided for in Florida's SIP that are effective at the time of permit

issuance. *See* 40 C.F.R. 70.2; *see also* Rule 62-210.200(21), F.A.C. (defining "applicable requirement").

Among the applicable requirements for Title V permits in Florida is the pollution prohibition in the State's primary environmental control statute, Chapter 403, Florida Statutes. Specifically, Florida prohibits "any person [t]o cause pollution . . . so as to harm or injure human health and welfare . . ."[2] Section 403.161(1)(a), F.S.

This pollution prohibition is certainly applicable because it pertains to all sources of pollution, including those that are subject to Title V permits. Further, Title V permits must incorporate all applicable requirements that are codified under state law even if they are not yet codified under federal law. This is consistent with the State's recent addendum to its proposed Infrastructure SIP for the 2010 SO_2 NAAQS, in which FLDEP confirms that to conduct various air program activities, such as Title V permitting, FLDEP relies broadly on Florida Statutes, including provisions that are not yet incorporated into its proposed SO_2 NAAQS Infrastructure SIP. In particular, FLDEP has confirmed that Florida Statutes, such as Chapter 403, "are essential to Florida's implementation of the SO2 NAAQS." FLDEP Letter of January 8, 2014, to EPA re Air Program: Addendum to State Implementation Plan Infrastructure Confirmation for the 2010 Revised National Ambient Air Quality Standard for Sulfur Dioxide, at 4, available at http://www.dep.state.fl.us/air/rules/regulatory/naaqs_for_sulfur_dioxide/2014-01-08_Addendum-SIP_Infrastructure_Confirmation_2010_Revised_NAAQS_for_SO2.pdf. Indeed, the Department's duty to control and prohibit pollution stems from the Chapter 403 pollution prohibition, and the same requires the Department and the polluters it regulates to comply with health-based pollution standards such as the federal NAAQS. *See* Section 403.161(1)(b), F.S. (establishing that it is a violation of Florida Statutes "for any person… [t]o fail to obtain any permit required by this chapter or by rule or regulation, or to violate or fail to comply with any rule, regulation, order, permit, or certification adopted or issued by the department pursuant to its lawful authority.")

Thus, FLDEP-issued Title V permits must limit power plant emissions to avoid exceedances of an applicable NAAQS since such exceedances constitute prohibited pollution under Florida Statutes, and FLDEP relies on those statutes for its authority to exercise the duties, powers, and responsibilities required of the State under the CAA, including Title V permitting.

[2] Title V permits are meant to accomplish the important task of identifying and recording requirements and must be effective vehicles for defining compliance obligations. Fla. Stat. § 403.161 is an applicable regulation for any source in Florida which generates air contaminants. Accordingly, the Title V permit issued by FLDEP must explicitly contain and reference the language of Fla. Stat. § 403.161, and include necessary operation and emissions limitations sufficient to ensure the requirement will be met.

Note that "pollution", as defined by Chapter 403, is "the presence in the outdoor atmosphere . . . of any substances, contaminants, noise, or manmade or human-induced impairment of air . . . or alteration of the chemical, physical, biological, or radiological integrity of air . . . in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation unless authorized by applicable law." Section 403.031(7), F.S. The Florida Administrative Code likewise defines "air pollution" as "[t]he presence in the outdoor atmosphere of the state of any one or more substances or pollutants in quantities which are or may be harmful or injurious to human health or welfare, animal or plant life, or property, or unreasonably interfere with the enjoyment of life or property, including outdoor recreation." Rule 62-210.200(16), F.A.C. EPA sets the NAAQS at levels that are adequate to protect public health. Accordingly, concentrations of air pollutants that exceed the NAAQS pose a threat to human health and welfare and, thus, are prohibited pollution under Florida law. Consequently, to comply with Florida's pollution prohibition, FLDEP-issued Title V permits must appropriately limit power plant emissions that cause or contribute to an exceedance of an applicable NAAQS.

Under FLDEP's rules the burden is on polluters to give "reasonable assurance" that their activities will meet applicable pollution standards including, again, the provisions of Chapter 403. Rule 62-4.030, F.A.C. FLDEP has adopted and incorporated by reference EPA's one-hour NAAQS for SO_2, as well other federal air pollution standards. *See* Rule 62-204.800(1)(b)(20), F.A.C. Accordingly, Title V permittees in Florida must give FLDEP reasonable assurances that their power plant operations will not interfere with the attainment and maintenance of the one-hour SO_2 NAAQS or otherwise cause a condition of air pollution, as prohibited by law. In the context of environmental permits, Florida courts and administrative agencies hold that "reasonable assurance" means a demonstration that the installation has a "substantial likelihood" of compliance with applicable standards, or a "substantial likelihood that the project will be successfully implemented." *Metro. Dade County v. Coscan Fla., Inc.*, 609 So. 2d 644, 648 (Fla. 3d DCA 1992) ("*Coscan*"); *see also City of Newberry v. Watson Constr. Co.*, Case No. 95-0753 (DOAH Aug. 9, 1996) (citing *Coscan*). Notably, air dispersion modeling is viewed favorably in Florida cases deciding whether applicants have met the reasonable assurance test for compliance with national ambient air quality standards.[3]

[3] *See*, *e.g.*, *Haile Community Ass'n v. Florida Rock Industries, Inc.*, Case No. 95-5531 (DOAH July 23, 1996) ([T]he applicant "provided reasonable assurance through air quality modeling that [it] would meet primary and secondary ambient air quality standards."); *Arnold R. Di Silvestro v. Medico Envtl. Servs., Inc.*, Case No. 92-0851 (DOAH Feb. 19, 1993) ("The air model shows that none of the National Ambient Air Quality Standards for any of the criteria pollutants would be exceeded by adding either the impact of the . . . facility [at issue]" or another nearby polluting facility, or both facilities combined).

Indeed, air dispersion modeling is the best way to assess ambient SO_2 concentrations from specific emission sources. In its final rule, EPA recognized the "strong source-oriented nature of SO_2 ambient impacts," 75 Fed. Reg. at 35,370, and concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the one-hour SO_2 NAAQS is air dispersion modeling. *Id.* at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient, and readily available method for assessing short-term ambient SO2 concentrations in areas with large point sources."). In promulgating the SO_2 NAAQS, EPA explained further that, for the one-hour standard, "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources."[4] *Id.* at 35,570. This is especially true given the weaknesses of an alternative monitoring-based approach, stating that "the current monitoring network provides relatively limited geographic coverage, and many monitors in the existing network are not sited with the objective of characterizing source-oriented maximum concentrations." U.S. EPA, Next Steps for Designations and Implementation of the Sulfur Dioxide National Ambient Air Quality Standard (Feb. 6, 2013), available at http://www.epa.gov/air/sulfurdioxide/pdfs/20130207SO2StrategyPaper.pdf.

In addition to emission limitations and standards, each Title V permit must contain sufficient monitoring, recordkeeping, reporting, and inspection and entry requirements to assure compliance with permit limits. *See* 40 C.F.R § 70.6(a)(1), § 70.6(a)(3), and § 70.6(c)(2); *see also* Rule 62-213.440(1)(b), F.A.C. Monitoring requirements must "assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement." 40 C.F.R. § 70.6(a)(3)(i)(B); 40 C.F.R. § 70.6(c)(1) (requiring "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit") (emphasis added); *see also* Rule 62-213.440(1)(b)1.b, F.A.C. These monitoring requirements consist of both "periodic" and "umbrella" monitoring rules. *See generally Sierra Club v. EPA,* 536 F.3d 673 (D.C. Cir. 2011).

The periodic monitoring rule provides that where an applicable requirement does not, itself, "require periodic testing or instrumental or noninstrumental monitoring," the permit-writer must develop terms directing "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." 40 C.F.R. § 70.6(a)(3)(i)(B); 40 C.F.R. § 70.6(c)(2)(iv) (requiring that substances and parameters are to be sampled and monitored at reasonable intervals so as to assure compliance with the permit or applicable requirements); *see also* Rule 62-213.440(1)(b)1.b, F.A.C. In other words, if compliance with a given applicable requirement is a condition of the permit, the permit must

[4] *See also Montana Sulphur & Chemical Co. v. EPA*, 666 F.3d 1174 (9th Cir. 2012) (affirming use of modeling to ascertain SO_2 pollution impacts); U.S. EPA, Final Response to Petition From New Jersey Regarding SO_2 Emissions From the Portland Generating Station, 76 Fed. Reg. 69,052 (Nov. 7, 2011) (using modeling to set emission limits sufficient to prevent air pollution).

contain monitoring of a frequency and type sufficient to assure compliance to the emitter, to the permitting authority, and to the public.

In instances where governing regulations set forth monitoring requirements inadequate to ensure compliance with certain applicable standards, the Title V permit must supplement those requirements to the extent necessary to ensure compliance with the permit's terms and conditions. This "umbrella" monitoring rule, 40 C.F.R. § 70.6(a)(3)(C), backstops the periodic requirement by making clear that permit writers must also correct "a periodic monitoring requirement inadequate to the task of assuring compliance," *Sierra Club*, 536 F.3d at 675. EPA has confirmed the rigor of Title V permit monitoring requirements. *See In re U. S. Steel Corp*., Petition No. V-2009-03, 2011 WL 3533368, at *5 (EPA Jan. 31, 2011) (concluding that "[t]he rationale for the monitoring requirements . . . must be clear and documented in the permit record" and that adequate monitoring is determined by careful, content-specific inquiry into the nature and variability of the emissions at issue). Relevant Florida regulations are in accord: the permit, as a whole, must contain compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. *See* Rule 62-213.440(1)(b), F.A.C.

II. SUBSTANTIVE COMMENTS

The Proposed Permit for Crist fails to satisfy certain basic requirements under the Clean Air Act. For the reasons discussed in detail below, Sierra Club urges FLDEP to address the shortcomings of the Proposed Permit and to make a revised permit available for public comment prior to issuing a final Title V permit for the Plant.

A. <u>The Proposed Permit Must Be Revised to Clarify that the Emissions Limitations and Standards Contained Therein Apply at All Times, Even During Startup, Shutdown, Maintenance, and Malfunction</u>.

Sierra Club urges FLDEP to correct certain flaws in the Proposed Permit to assure the Plant's compliance with all applicable requirements, and ultimately to protect the health and welfare of the local and downwind communities.

In particular, the Proposed Permit exempts an <u>unlimited</u> amount of excess emissions from Units 4, 5, 6, and 7 during startup, shutdown, short-term FGD-related maintenance, and long-term FGD-related maintenance. *See, e.g.,* Proposed Permit at 15. The exemptions for uncontrolled, dangerous air pollution in the Proposed Permit are extreme—including an <u>unlimited</u> startup and shutdown exemption, which FLDEP estimates will be 96 hours per unit per

year, or nearly 400 hours per year for the four units, as well as an unlimited short-term maintenance exemption and 720 hours of exempt emissions during long-term maintenance.[5]

This is impermissible under the CAA, and EPA has specifically rejected FLDEP's practice of permitting such excess emissions. *See State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction*, Proposed Rule, 78 Fed. Reg. 12460, 12503-04 (Feb. 22, 2013). Indeed, in accordance with the definition of ''emission limitations'' in CAA section 302(k), emission limitations must be continuous. *Id.* Variances such as those contained in the Proposed Permit are not allowed in Title V permits, except to the extent allowed by the narrow emergency defense provision in 40 CFR Part 70—under specific, narrowly applied requirements for actual, unforeseeable emergencies, such as acts of God. *See* 40 C.F.R. § 70.6(g). Accordingly, Crist must not be allowed to exceed its permit terms, even during startup, shutdown, or maintenance periods.

The exemptions contained in the Proposed Permit and its appendices from emission limitations during startup, shutdown, or maintenance are substantially inadequate and impermissible.[6] "[A]ny excess emissions above the level of the applicable [. . .] emission limitations must be considered violations of such limitations, whether or not the state elects to exercise its enforcement discretion." 78 Fed. Reg. at 12503. The Proposed Permit's exemptions for excess emissions during startup, shutdown, and scrubber system maintenance are inconsistent with the fundamental requirements of the CAA. *See id.*

Similarly, FLDEP's proposed exemptions for malfunctions are improper and must be corrected. For example, the Proposed Permit states that excess emissions from malfunction events at Units 4, 5, 6, 7, and 15 shall be permitted (i.e., allowed and thus not treated as violations) provided: (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. *See* Proposed Permit at 15. Excess emissions from these units during startup and shutdown are also permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized. *Id.* In addition, the Proposed Permit allows CEMS SO_2 emissions data collected during startup and shutdown to be excluded from the 30-day rolling

[5] If you were to add together the estimated 400-hours of startup and shutdown exemptions and the 720-hours of long-term maintenance exemptions, the Proposed Permit allows for more than a month a half's worth of unmitigated SO_2 pollution! This is entirely contrary to the CAA and its implementing regulations.

[6] "[T]hese exemptions are impermissible even though the state has imposed some factual and temporal limitations on their potential scope." 78 Fed. Reg. at 12503.

permit limit compliance total.[7] Proposed Permit at 12. These permit provisions constitute a variance at a state official's discretion from the otherwise applicable emissions limitations, providing "impermissible exemptions from the emission limitations by defining the excess emissions as 'permitted' and thus not violations." *See* 78 Fed. Reg. at 12503.

Because the CAA requires compliance at all times, Crist's Title V permit must require continuous compliance. Automatic exemptions for permit noncompliance during startup, shutdown, malfunction, and maintenance are improper. Moreover, "[b]y creating these impermissible exemptions, the state has defined violations in way that would interfere with effective enforcement by the EPA and citizens for excess emissions during these events as provided in CAA sections 113 and 304." *See* 78 Fed. Reg. at 12504. Even in periods of startup, shutdown, malfunction, and maintenance, the emissions standards and limitations contained in the permit still apply and are enforceable, and all excess emissions are violations of the applicable standards. The permit must not provide exceptions for startup, shutdown, malfunction, and maintenance, or otherwise allow periodic exceedances of emission limitations. Any such grants of exemptions must be entirely removed from the Proposed Permit and its appendices before a final permit issues.

In addition, the Proposed Permit must be revised to require continuous operation of the Plant's pollution control equipment. For instance, as currently drafted, the Proposed Permit allows the Plant to bypass the Selective Catalytic Reduction ("SCR") system on Units 6, and 7—meant to reduce the Plant's emission of NOx—during startup and shutdown. Proposed Permit at 12. Likewise, the Proposed Permit allows the Plant to bypass the FGD scrubber—meant to control SO_2 emissions—for Units 4, 5, 6, and 7 during startup and shutdown. *Id.* Similar bypass allowances are granted during maintenance periods. This is improper, particularly with regard to the FGD bypass since, as mentioned, SO_2 emissions data collected during startup and shutdown bypass mode are excluded from determining compliance with the Plant's SO_2 emissions limit. *Id*. Again, excluding such emissions data from compliance determinations makes no sense. What good is a permit limit if the source's emissions are widely exempted from complying with the limit? As a result, SO_2 emissions during FGD bypass are not only, in effect, unrestricted, but also uncontrolled. FLDEP must modify the permit terms by including an explicit requirement that all pollution control technology (including the Plant's FGD, SCR, and SNCR systems) be operated continuously in accordance with best engineering practices, even during periods of startup, shutdown, and maintenance.

[7] The permit also allows exclusion of CEMS data from its compliance determination for its SO_2 emissions limits in other instances, as well. *See, e.g.*, proposed Permit at 12-13. Exclusion of actual, monitored emissions data from compliance determinations is wholly improper. Title V permits must contain monitoring requirements sufficient to assure continuous compliance with all applicable requirements. 40 C.F.R. § 70.

B. The Proposed Permit Fails to Prevent Violations of Florida's Prohibition on Air Pollution with Regard to the Plant's Sulfur Dioxide Emissions.

As drafted, the Proposed Permit fails to explicitly incorporate the State's prohibition of air pollution—an "applicable requirement"—and to include numerical SO_2 emissions limitations sufficient to ensure the requirement will be met. As a result, the Proposed Permit lacks the clearly defined compliance obligations needed to ensure that SO_2 will not be emitted "in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare" and, as a result, fails to satisfy requirements of the CAA. In addition, the Plant has failed to provide FLDEP with reasonable assurances that operation of the Plant will not interfere with the attainment and maintenance of the one-hour SO_2 NAAQS.

In order to fulfill its obligations as the delegated permitting authority, FLDEP must revise the Proposed Permit to explicitly include the prohibition on air pollution and to establish appropriate numerical limitations based on sufficiently short averaging periods that restrict the emission of SO_2 to levels that will not be injurious to human health or welfare. Because EPA set the 2010 SO_2 NAAQS at levels designed to ensure the protection of human health, the numerical limitations necessary to ensure that Crist's SO_2 emissions will not be injurious to human health and violate the State's prohibition on air pollution are those that guarantee that its emissions will not cause or contribute to exceedances of the one-hour primary NAAQS (75 ppb) downwind of the Plant.[8] As demonstrated below, the limits for SO_2 emissions in the Proposed Permit are not protective enough to prevent exceedances of the 2010 SO_2 NAAQS.

i. The Proposed Permit Fails to Establish Sufficiently Stringent Numerical Emission Limitations for Sulfur Dioxide.

As currently drafted, Proposed Permit Section III, Subsection A limits SO_2 emissions from Units 4, 5, 6, 7, and 15 to the following:

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[8] *See, e.g.,* Draft Title V operating permit for Mt. Tom Generating Station, Holyoke, Massachusetts, requiring that: "[i]n accordance with [state prohibition on air pollution] the Permittee shall demonstrate that the facility does not cause or contribute to an exceedance of U.S. EPA's one hour SO_2 NAAQS (40 C.F.R. 50.71)." Mt. Tom Proposed Permit at 20, attached hereto as Exhibit 1; *see also* October 1, 2014 letter to Mt. Tom Plant Manager from Mass DEP, providing "notice to Mt. Tom that if it decides to resume operation, then before the facility resumes operation the report must be completed and all related Air Quality Permits amended to reflect adjusted emission rates that will ensure compliance with the SO_2 NAAQS, or Mt. Tom may be subject to enforcement under 310 CMR 5.00," at 2, attached hereto as Exhibit 2; *see also Palmer Renewable Energy, LLC*, OADR Dkt. No. 2011-021 & 022, 2012 WL 5377276, at *19 (Mass. Dep't Env. Prot. July 9, 2012), *available at* http://www.mass.gov/dep/service/adr/12decis/palmer2011-021and022rfdafterremand.doc (state air agency properly exercised "its regulatory charge by relying upon the $PM_{2.5}$ NAAQS to determine whether a plant [emitting $PM_{2.5}$] will cause or contribute to a condition of air pollution").

a. All Fuels. Except as provided in item e. below, sulfur dioxide emissions shall not exceed 2.40 pounds per million Btu heat input;
b. Solid Fuel. When burning solid fuel, sulfur dioxide emissions from Unit 006 shall not exceed 38,945 tons per year;
c. Liquid Fuel Sulfur Content. In order to ensure continuous compliance with the sulfur dioxide limit for liquid fuels, the liquid fuel sulfur content shall not exceed 2.18 percent, by weight;
d. Sulfur Dioxide (SO_2) Limit. The SO_2 emissions from the combined operation of Units 4, 5, 6 and 7 shall not exceed 886.0 tons during any 30-day rolling total of FGD scrubber operational days; and
e. FGD Bypass Operation. When operating in FGD bypass mode, SO_2 emissions from all four units combined shall not exceed 25,840 lb/hour (equivalent to 2.1 lb SO2/MMBtu) based on 3-hour block averages.

See Proposed Permit at 14. As demonstrated by refined air dispersion modeling, the Proposed Permit's numerical SO_2 emissions limitations do not assure compliance with the applicable requirement of Fla. Stat. § 403.161(1)(a)—Florida's pollution prohibition. *See* Crist Electric Generating Plant, Pensacola, Florida, Evaluation of Compliance with the 1-hour NAAQS for SO_2 (January 22, 2015) (hereinafter "Crist Modeling Report"), attached hereto as Exhibit 3.

Where there is evidence that numerical emissions limitations or other standards contained in a Title V permit do not assure compliance with an applicable narrative requirement, such as Florida's pollution prohibition, necessary numerical limitations must be included in the permit to assure compliance.[9,10] Here, the evidence is an expert air dispersion modeling analysis

[9] EPA has stated that where a state agency has "reason to believe that a person is in violation of [a general prohibition on air pollution], [the state agency] has the authority . . . to do any analysis it deems necessary to ensure compliance with the Act and the Rules." *In the Matter of Hercules, Inc.,* Petition IV-2003-01, 2004 (November 10, 2004) at 8 (hereinafter "*Hercules*"). Moreover, "[s]hould [the state agency] determine that a person is in violation of [the general prohibition on air pollution], it has the authority to include and/or revise emission limitations, i.e., numerical limits and/or equipment or operation or maintenance requirements, in the applicable air quality permit." *Id*. Indeed, FLDEP's prohibition on air pollution recognizes that there may be times when compliance with the specific emission limitations or other requirements in the permit may be insufficient to prevent a condition of air pollution as defined by the Florida Statute and that in such circumstances FLDEP has broad authority to impose necessary emission limitations in a Title V permit. *See* Hercules at 10. Thus, where there is evidence to show that the prohibition on air pollution will be violated, FLDEP should include necessary limits in the Plant's Title V permit in order to assure compliance with the applicable prohibition on air pollution.

[10] Just as is required when certain monitoring, recordkeeping, or reporting requirements are insufficient to assure compliance with an applicable requirement, here, FLDEP must employ a gap-filling method to ensure the Plant's final permit contains numerical SO_2 limits sufficient to ensure compliance with this applicable requirement. Ensuring that the permit contains appropriate numerical limits is essential since the Title V permit is the critical tool

of the Proposed Permit's SO_2 emission limits, conducted to determine whether allowable SO_2 emissions from the Plant's coal-burning boilers cause or contribute to exceedances of the NAAQS and thereby violate the statutory prohibition on air pollution. The dispersion modeling is based on the Proposed Permit's numerical SO_2 emission limit for Units 4, 5, 6, and 7 of 2.4 lb/MMBtu. *See* Crist Modeling Report at 3, fn 5. The modeling also analyzed the Proposed Permit's SO_2 emission limit of 2.1 lb/MMBtu for these units when the Plant is operating in FGD bypass mode. *See id.* The dispersion analysis was conducted in adherence to all available EPA modeling guidance for evaluating source impacts on attainment of the one-hour SO_2 NAAQS via aerial dispersion modeling, including the AERMOD Implementation Guide; USEPA's Applicability of Appendix W Modeling Guidance for the 1-hour SO_2 National Ambient Air Quality Standard, August 23, 2010; modeling guidance promulgated by USEPA in Appendix W to 40 C.F.R. 51; USEPA's March 2011 Modeling Guidance for SO_2 NAAQS Designations, *available at* http://www.epa.gov/ttn/scram/SO_2%20Designations%20Guidance%202011.pdf; and USEPA's December 2013 SO_2 NAAQS Designations Modeling Technical Assistance Document, *available at* http://epa.gov/oaqps001/sulfurdioxide/pdfs/SO2ModelingTAD.pdf. Notably, where any assumptions had to be made in the running of the model, the modeler employed conservative inputs that favor the prediction of lower impacts from the plants so that the results, in fact, are likely to <u>understate</u> the Plant's true SO_2 emissions impacts.

The expert modeling results demonstrate that, at the emission levels allowed under the Proposed Permit, the Plant by itself is predicted to cause exceedances of the applicable one-hour SO_2 NAAQS during both operating scenarios contemplated by the proposed permit—i.e. during (1) FGD Mode using the control system and its single stack for all four controlled units; and (2) Bypass Mode where the FGD system is not used and two bypass stacks exhaust the four uncontrolled units.[11] Consequently, the Proposed Permit, as drafted, allows SO_2 to be emitted from the Plant in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, in violation of the law.[12] *See* Fla. Stat. § 403.161(1)(a), § 403.031(7)

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enabling the permittee, FLDEP, EPA, and the public to identify all applicable requirements that apply to the Plant's air emissions and to determine whether the facility is complying with those requirements.

[11] Oddly enough, the proposed SO_2 emission rate for when the Plant is operating in Bypass Mode is slightly lower than the proposed rate for when the Plant operates in FGD Mode—the time when SO_2 emissions are being controlled and, therefore, would presumably be lower. If the Plant is expected and able to meet the lower Bypass Mode limit when its emission are uncontrolled, surely the applicable limit for when the Plant operates its SO_2 controls must be even lower. Notably, as demonstrated below, both limits are insufficient to comply with applicable requirements under the CAA.

[12] As discussed above, the one-hour SO_2 NAAQS was designed <u>specifically</u> to prevent the harmful effects of SO_2 pollution on human health and welfare. Accordingly, the one-hour primary SO_2 NAAQS represent a definitive pollution level above which negative public health impacts will occur and are, therefore, dispositive *authority* that such a level of SO_2 pollution is inimical to public health and injurious to human life, in violation of the applicable

(defining "pollution"). Specifically, as illustrated in the table below, allowable emissions from Crist during FGD Mode are predicted to cause peak impacts of 902.4 µg/m^3. Crist Modeling Report at 3. This is more than four and a half times higher than the NAAQS of 196.2 µg/m^3—the public health standard set by the EPA. In addition, allowable emissions from Crist during Bypass Mode are predicted to cause peak impacts of 549.4 µg/m^3. Crist Modeling Report at 3. This is almost three times higher than the NAAQS of 196.2 µg/m^3—the public health standard set by the EPA.

Crist Modeled One-Hour SO_2 Impacts Under Proposed Permit					
Emissions	**Highest Projected Concen. (ug/m^3)**	**Background Concen.[13] (ug/m^3)**	**Total Concen. (ug/m^3)**	**NAAQS (ug/m^3)**	**NAAQS Exceeded?**
Allowable – FGD[14]	845.2	57.2	902.4	196.2	YES
Allowable – Bypass[15]	492.2	57.2	549.4	196.2	YES

The fact is quite clear, the allowable numerical SO_2 emissions limits contained in the Proposed Permit fail to assure compliance with the State's prohibition on air pollution, as informed by the ambient level of SO_2 set forth in the NAAQS.

Because the terms of the Proposed Permit fail to assure compliance with, and, thus, allow violations of, the State's prohibition on air pollution, Fla. Stat. § 403.161, the SO_2 emission limits in the Proposed Permit must be revised. FLDEP has a duty to ensure that the Plant is not permitted to discharge SO_2 in a manner or concentration which may be injurious to public health and welfare. *See* Fla. Stat. § 403.161(1)(a), § 403.031(7) (defining "pollution"). The expert air dispersion modeling provides clear and compelling evidence that the Proposed Permit's SO_2 emissions limits fail to comply with contemporary scientific knowledge establishing the concentration of ambient SO_2 that is injurious to human health and welfare. Again, the one-hour SO_2 NAAQS informs the level of ambient SO_2 which is injurious to public health and welfare since the standard was designed to protect human health. *See* Policy Assessment for the Review of

requirement set forth at Fla. Stat. § 403.161(1)(a). The one-hour SO_2 NAAQS is based on rigorous research and extensive notice and comment rulemaking. Indeed, EPA has recognized the proven causal relationship between SO_2 concentrations above the NAAQS and significant human health damage—"the strongest finding" that EPA's science advisors can make. *See* 75 Fed. Reg. at 35,525. Because maintaining concentrations below the NAAQS is necessary to protect public health, concentrations above the NAAQS are necessarily injurious to human health and welfare. *See id.* at 35,548. Therefore, if a source's emissions of SO_2 cause or are predicted to cause exceedances of the SO_2 NAAQS, those discharges are clearly injurious to human health and violate Fla. Stat. § 403.161(1)(a). *See* Fla. Stat. § 403.031(7) (defining "pollution").

[13] Background concentrations were based on the 2011-13 design value measured by the Escambia County ambient monitor. Crist Modeling Report at 12.

[14] Modeled allowable emission rate during FGD Mode is 2.4 lbs/mmbtu. Crist Modeling Report at 3, fn 5.

[15] Modeled allowable emission rate during Bypass Mode is 2.1 lbs/mmbtu. Crist Modeling Report at 3, fn. 5.

Particulate Matter National Ambient Air Quality Standards ("Policy Assessment"), p. 1-3, available at http://www.epa.gov/ttnnaaqs/standards/pm/data/20110419pmpafinal.pdf.

In addition to demonstrating that the SO_2 emissions limits contained in the Proposed Permit fail to assure compliance with State's applicable prohibition on air pollution and must be revised, the modeling analysis provides FLDEP with the information necessary to set appropriate SO_2 emission limits in Crist's Title V permit. Based on the modeling analysis, a reduction of at least 84% in permitted SO_2 emissions from the proposed 2.4 lb/MMBtu limit is required to ensure that ambient concentration levels of SO_2 will not cause a condition of air pollution in Florida. *See* Crist Modeling Report at 4. "Since the FGD operating mode had the highest predicted impacts, [the FGD allowable rates] were used to calculate the required reduction." *Id*. at 3. Accordingly, to ensure that the Title V Permit will assure compliance with applicable requirement, the Plant's Title V Permit must contain a facility-wide SO_2 emissions limit that is at least as restrictive as 4,856.6 lb/hr, or 0.39 lb/MMBtu, based on a one-hour average. *See id.* at 4.

ii. THE PROPOSED PERMIT FAILS TO INCLUDE PROPER AVERAGING PERIODS FOR THE PLANT'S SULFUR DIOXIDE EMISSION LIMITATIONS.

In addition to lacking sufficiently stringent numerical SO_2 emission limits, the Proposed Permit also fails to set an appropriate averaging period for determining compliance with those limits. As discussed above, the health-based maximum concentration of SO_2 permitted to exist in the ambient air so as to prevent harm to public health and human life—harm which can be caused by as little as five minutes of exposure—is based on a one-hour averaging time. *See* 40 C.F.R. § 50.17(a). Accordingly, the Plant's Title V permit must establish an appropriate numerical SO_2 emission limit, based on an one-hour averaging period for compliance purposes, in order to assure compliance with applicable requirements. A one-hour averaging period must accompany the Proposed Permit's SO_2 emissions limits, otherwise the Plant could exceed the numerical limit for various hours a day, thereby causing exceedances of the one-hour NAAQS and violations of the State's prohibition on air pollution in violation of the law, and yet still comply with the Proposed Permit's SO_2 emission limit, as long as those higher emissions were balanced out with emissions below the limit over enough hours. This would be contrary to the basis for EPA's recent lowering of the one-hour SO_2 NAAQS—namely, EPA's recognition that short-term exposure to SO_2 for time periods as low as five minutes can cause serious health problems. *See* 75 Fed. Reg. at 35,524. Therefore, Crist's Title V permit must ensure that an appropriately protective SO_2 emissions standard applies at all times by establishing a one-hour averaging period.

Indeed, EPA guidance has recommended that averaging times, for example in SIP emissions limits, "should not exceed the averaging time of the applicable NAAQS that the limit is intended to help attain." EPA Memorandum of Apr. 23, 2014, to Regional Air Division Directors, Regions 1 – 10, Guidance for 1-Hour SO_2 NAAQS Nonattainment Area SIP Submissions, at 22,

available at http://www.epa.gov/airquality/sulfurdioxide/pdfs/20140423guidance.pdf. Thus, "emission limits for attaining the 1-hour SO_2 standard should limit emissions for each hour, without any provision for limiting emissions as averaged across multiple hours." *Id.* In the most recent guidance on point, EPA advises that "any emissions limits based on averaging periods longer than 1 hour should be designed to have comparable stringency to a 1-hour average limit at the critical emission value." *Id.* Accordingly, if FLDEP chooses to employ an averaging period longer than one-hour here, the numerical limit for Crist's SO_2 emissions must be ratcheted down to provide adequate assurance that the NAAQS, and the State's pollution prohibition under section 403.161, F.S., will be met. *See id.* Appendix B (detailing EPA's guidance for setting longer term average emission limits).

C. The Proposed Permit Must Be Revised to Include Adequate Reporting Requirements for Scrubber Bypass Incidents.

Proposed Permit Section III, Subsection A, Condition A.57 requires the Plant to record and maintain on-site records of all scrubber bypasses. *See* Proposed Permit at 23. Permit Condition A.58 provides additional requirements as to what information must be recorded for each incident of scrubber bypass operation. *See id.* However, the accompanying reporting requirement contained in Permit Condition A.58—"the permittee shall identify and summarize each incident and duration of scrubber bypass on the quarterly excess emissions report"—fails to allow FLDEP, EPA, and the public to determine whether the Plant has complied with the proposed 25,840 lb/hr or 2.1 lb/MMBtu SO_2 emissions limits for bypass operation. *Id; see also id.* at 14. An incident summary in the Plant's quarterly excess emissions report is insufficient; instead, adequate detail as to the duration of the bypass and the actual SO_2 emitted during each incident must be included in the report. This information must also be included on each quarterly SO_2 CEMS report so that the report clearly indicates each and every monitored reading which occurred during Bypass Mode. Only then with FLDEP, EPA, and the public be able to determine whether the facility is complying with the applicable requirements for FGD Mode and Bypass Mode, since there are separate emissions requirements for each. *See* 40 C.F.R. § 70.6(c)(1) (requiring "compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit") (emphasis added).

D. The Proposed Permit Must Be Revised to Allow for Credible Evidence to Determine Compliance.

As underscored by the Clean Air Act Amendments of 1990, 42 U.S.C. § 7413(e)(1), the Clean Air Act allows citizens, FLDEP, U.S. EPA, and the facility itself, to rely upon any credible evidence to demonstrate violations of or compliance with permit terms and conditions. In particular, EPA's regulations set forth that any credible evidence can be used in enforcement actions. 62 Fed. Reg. 8314 (Feb. 24, 1997); *see also* 40 C.F.R. § 51.212(c). However, Crist's

Proposed Permit lacks an affirmative statement that any credible evidence may be used to determine compliance with the permit.

It is well-recognized that EPA supports the inclusion of credible evidence language in all Title V permits. As explained by EPA:

> It is the United States Environmental Protections Agency's (USEPA) position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998, page 1, available at http://www.epa.gov/region7/air/title5/t5memos/credible.pdf. In addition, EPA's Title V Permit Writer's Tips webpage states that:

> Title V permits should contain language clarifying that any credible evidence may be used in determining a source's compliance status (or alternatively, that nothing in the permit precludes the use of credible evidence in determining compliance or noncompliance with the terms of the permit). Such language gives fair notice to the source and the public, and prevents the source from claiming that they weren't on notice that other credible evidence could be used to demonstrate a violation or compliance.

Available at http://www.epa.gov/reg3artd/permitting/t5_compl_enf.htm. EPA has even provided state agency permit writers with examples of boilerplate credible evidence language to include in their Title V permits. In addition, Title V permits must not include any language which could be improperly read to limit the type of evidence that is to be used for compliance purposes or to show that the facility is in violation of an applicable requirement. Otherwise, even if the Proposed Permit contains a general condition allowing for the use of credible evidence, a court might construe specific language in the permit as the law for compliance purposes.

Because the Proposed Permit fails to include language clarifying that any credible evidence may be used to show compliance or noncompliance with applicable requirements, the permit must be revised so that it is clear that any credible evidence may be used in determining the Plant's compliance status.

III. CONCLUSION

For the foregoing reasons, the Proposed Permit for the Crist Station is insufficient to meet the standards required by law and must be amended as described above and re-noticed for public comment before any final permit issues.

We thank FLDEP for its attention to and consideration of these comments and would be happy to discuss them at your convenience. Please do not hesitate to contact the undersigned or Sierra Club Associate Attorney Diana Csank, at diana.csank@sierraclub.org or 202-548-4595.

Respectfully submitted,

/s Kathryn Amirpashaie

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