

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

IN THE MATTER OF)
)
Freeport LNG Expansion, L.P., FLNG) FE Docket No. 21-98-LNG
Liquefaction, Liquefaction 2, and)
Liquefaction 3, LLCs)
)

Motion to Intervene and Protest of Sierra Club and Natural Resources Defense Council

Freeport LNG Expansion, LP and three “FLNG Liquefaction” entities (collectively, “FLEX”) seek to increase their exports to non-free trade agreement countries by 88 billion cubic feet of gas per year, or 0.24 bcf/d.¹ Sierra Club and Natural Resources Defense Council (“NRDC”) hereby move to intervene in this docket, pursuant to 10 C.F.R. § 590.303(b). Sierra Club and NRDC concurrently protest this application, pursuant to § 590.304, as inconsistent with the public interest, 15 U.S.C. § 717b(a).

LNG exports are harming Americans *now*. The Energy Information Administration expects that Americans will pay at least 30% more on home heating this winter than last.² Wholesale gas prices will be double last winter’s, driven largely by increased demand for LNG exports.³ FLEX seeks to increase exports this winter—beginning in January 2022⁴—which will

¹ U.S. DOE, Notice of Receipt of Application (Oct. 27, 2021), *available at* <https://www.energy.gov/fecm/articles/freeport-lng-expansion-lp-flng-liquefaction-llc-flng-liquefaction-2-llc-and-flng>.

² U.S. EIA, Winter Fuels Outlook (Oct. 2021) at 1, *available at* https://www.eia.gov/outlooks/steo/special/winter/2021_Winter_Fuels.pdf.

³ FERC, Winter Energy Market and Reliability Assessment (Oct. 21, 2021) at 2, *available at* <https://ferc.gov/sites/default/files/2021-10/Winter%20Assessment%202021-2022%20-%20Report.pdf> (attached); *accord id. at 11*. See also Clark Williams-Derry, IEEFA U.S.: Booming U.S. natural gas exports fuel high prices, IEEFA.ORG (Nov. 4, 2021), <https://ieefa.org/ieefa-u-s-declining-demand-lower-supply-dont-explain-rapidly-rising-gas-prices/> (attached).

⁴ FLEX, Application in FE Dkt. 21-98-LNG, at 5 (Sep. 10, 2021) *available at* <https://www.energy.gov/sites/default/files/2021-09/21-98-LNG.pdf>.

exacerbate this immediate problem. At a minimum, recent trends call into question the continuing validity of the analyses DOE has relied upon in approving prior export applications, and DOE cannot approve FLEX's application without revisiting these analyses. And DOE must consider whether current winter gas price increases warrant imposing conditions on FLEX's application, such as allowing exports only in other seasons outside of peak demand.

LNG exports will also harm Americans *for generations*. Freeport seeks to increase its LNG exports *through 2050*. But well before 2050, the world must have fully transitioned to net-zero emissions, as the U.S.—and the world—recently affirmed in Glasgow.⁵ There is no place for LNG in that future. Limiting global warming to 1.5 °C “requires rapid, deep and sustained reductions in global greenhouse gas emissions,” including intermediate steps such as “reducing global carbon dioxide emissions by 45 per cent by 2030.”⁶ Global LNG export volumes must decline below present levels in the near future: as the International Energy Agency recently affirmed, further expansion of LNG export facilities cannot be part of the path to net-zero emissions.⁷

I. Intervention

DOE's rules do not articulate any particular standard for timely intervention, and as such, intervention should be granted liberally. DOE merely requires would-be-intervenors to set out the “facts upon which [their] claim of interest is based” and “the position taken by the movant.” 10 C.F.R. § 590.303(b)-(c). As explained in the following section, Sierra Club's and NRDC's position is that the application should be denied or, in the alternative, heavily conditioned. Sierra Club's and NRDC's interests are based on the impact the proposed additional exports will have on each organization's members and the organizations' missions.

⁵ U.N. Framework Convention on Climate Change Secretariat, Glasgow Climate Pact at ¶17, *available at* https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf (attached).

⁶ *Id.*

⁷ International Energy Agency, Net Zero by 2050, at 102 (May 2021), *available at* https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf (attached).

The requested increase in export volumes will harm Sierra Club, NRDC and each of its members by increasing the prices they pay for energy, including both gas and electricity. As DOE and the Energy Information Administration have previously explained, each marginal increase in export volumes is also expected to further increase domestic energy prices.

The proposed exports will further harm Sierra Club and NRDC members by increasing gas production and associated air pollution, including (but not limited to) emission of greenhouse gases and ozone precursors. As DOE has recognized, increasing LNG exports will increase gas production,⁸ and increasing gas production increases ozone pollution, including risking creation of new or expanded ozone non-attainment areas or exacerbating existing non-attainment.⁹ FLEX has previously explained that it “anticipates that much of the ... feed gas” for its project “will be incremental production within Texas, largely from the South Texas (Eagle Ford) shale.”¹⁰ Sierra Club’s 23,334 members in Texas are already subject to harmful levels of ozone, including ozone caused by oil and gas production. This particularly includes’ Sierra Club’s 6,057 members residing with the Dallas-Fort Worth ozone non-attainment area.¹¹ NRDC’s 9,600 members in Texas are similarly affected.

Increasing export volumes will also necessarily increase shipping traffic beyond levels that would otherwise occur. *See Sierra Club v. FERC*, 827 F.3d 59, 66-67 (D.C. Cir. 2016) (“*Sabine Pass*”) (holding that increase in terminal export volumes would cause Article III injury because it would increase *actual* amount of tanker traffic, even though traffic would stay below

⁸ *See, e.g.*, U.S. EIA, Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets (Oct. 2014) at 12, *available at* <https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf> (explaining that “[n]atural gas markets in the United States balance in response to increased LNG exports mainly through increased natural gas production,” and “[a]cross the different export scenarios and baselines, higher natural gas production satisfies about 61% to 84% of the increase in natural gas demand from LNG exports,” with “about three-quarters of this increased production [coming] from shale sources.”).

⁹ U.S. DOE, Final Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States (Aug. 2014) at 27-32, *available at* <https://www.energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf>.

¹⁰ FLEX, Application in DOE/FE Dkt. 10-161-LNG, at 22 (Dec. 17, 2010), *available at* https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/2010/applications/10_161_LNGnfta.pdf.

¹¹ Addendum, *supra* note 9, at 27.

previously *authorized* levels). This additional vessel or tanker traffic will increase air pollution, including carbon monoxide and ozone-forming nitrogen oxides, in an area that is already designated as non-attainment for ozone, thereby harming Sierra Club's 191 members and NRDC's 40 members residing in Brazoria County. Increased ship traffic will also harm wildlife that each organization's members enjoy viewing, etc., including the recently-listed threatened giant manta ray,¹² threatened oceanic whitetip shark,¹³ and endangered Rice's whale (formerly designated as the Gulf of Mexico population of the Bryde's whale).¹⁴

Increasing export volumes, and thus the amount of gas that must be pretreated, will also increase direct air emissions: pretreating more gas necessarily means removing more impurities from that gas, and Freeport handles these impurities by burning them. As with shipping, FLEX contends that increasing exports will not increase emissions above previously authorized levels,¹⁵ but the issue is that flaring the added impurities from added pretreatment will increase actual emissions. This additional pretreatment will cause additional emissions that impact each organization's members in Brazoria County.

Finally, increasing LNG exports will impact Sierra Club, NRDC, and their members because of the additional greenhouse gases emitted throughout the LNG lifecycle, from production, transportation, liquefaction, and end use. *See pages 18–22 below.* The impacts from climate change are already harming Sierra Club and NRDC members in numerous ways. Coastal property owners risk losing property to sea level rise. Extreme weather events, including flooding and heat waves, impact members' health, recreation, and livelihoods. Increased frequency and severity of wildfires emits smoke that impacts members' health, harms ecosystems members depend upon, and threatens members' homes. Proposals, such as this one,

¹² Final Rule to List the Giant Manta Ray as Threatened Under the Endangered Species Act, 83 Fed. Reg. 2,916 (Jan. 22, 2018).

¹³ Listing the Oceanic Whitetip Shark as Threatened Under the Endangered Species Act, 83 Fed. Reg. 4,153 (Jan. 30, 2018).

¹⁴ Technical Corrections for the Bryde's Whale (Gulf of Mexico Subspecies), 86 Fed. Reg. 47,022 (Aug. 23, 2021).

¹⁵ Application, *supra* note 4, at 10.

that encourage long-term use of carbon-intensive fossil fuels will increase and prolong greenhouse gas emissions, increasing the severity of climate change and thus of these harms.

In summary, FLEX's proposed increase in export volumes will harm Sierra Club, NRDC and each organization's members in numerous ways. Sierra Club and NRDC accordingly contend that the application should be denied or conditioned, as further described in the following protest.

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II. Protest

The request to increase export volumes should be denied because it is contrary to the public interest. 15 U.S.C. § 717b(a).

As DOE explained when reviewing previous applications from FLEX, “when reviewing an application for export authorization,” DOE evaluates “economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others.”¹⁶ Here, all of these factors weigh against the application.

A. Domestic Energy Prices and Supply

DOE has historically given particular emphasis to “the domestic need for the natural gas proposed to be exported” and “whether the proposed exports pose a threat to the security of domestic natural gas supplies.”¹⁷ As recent data shows, exports are increasingly linking domestic gas prices to prices in the global market. These increases harm American households and energy intensive industry.

Exports are increasing domestic gas prices, as recognized by FERC, the Wall Street Journal,¹⁸ S&P Global Platts Analytics,¹⁹ the Institute for Energy Economics and Financial Analysis, and others. FERC, for example, has identified LNG exports as the “primar[y]” source of the additional demand that is driving recent gas price increases.²⁰ And these price increases are severe. Benchmark futures prices at the Henry Hub have already increased 103% relative to

¹⁶ DOE/FE Order No. 3357-B (Freeport LNG), at 9 (Nov. 14, 2014), *available at* <https://www.energy.gov/sites/prod/files/2014/11/f19/ord%203357-B.pdf>.

¹⁷ *Id.* at 10.

¹⁸ Collin Eaton & Katherine Blunt, Natural-Gas Exports Lift Prices for U.S. Utilities Ahead of Winter, WALL ST. J., Nov. 7, 2021, <https://www.wsj.com/articles/natural-gas-exports-lift-prices-for-u-s-utilities-ahead-of-winter-11636281000>.

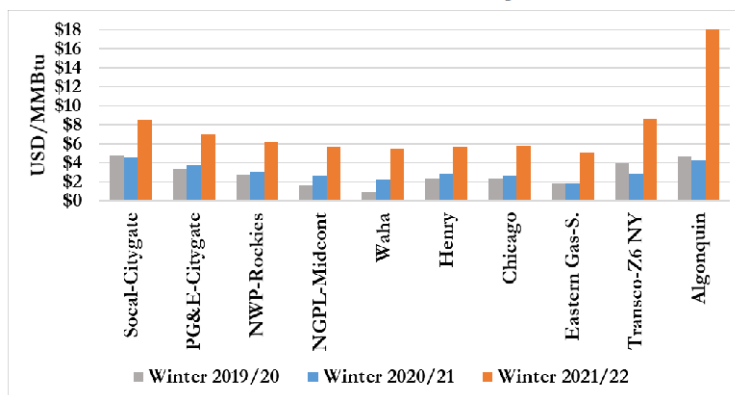
¹⁹ Kelsey Hallahan, Henry Hub could reach \$12-\$14 this winter as capital discipline limits supply growth: Platts Analytics, S&P GLOBAL PLATTS, Oct. 14, 2021, <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/101421-henry-hub-could-reach-12-14-this-winter-as-capital-discipline-limits-supply-growth-platts-analytics>.

²⁰ FERC, Winter Energy Market and Reliability Report, *supra* note 3 at 2.

last winter,²¹ with larger increases elsewhere, including more than quadrupling of the price at the Algonquin Citygate outside Boston,²² as illustrated in this chart from FERC:²³

Winter Futures Prices Increased at Nearly Every Major U.S. Trading Hub

Average U.S. Natural Gas Futures Prices Across Major Hubs for November - February



Source: InterContinental Exchange Inc

And these futures prices may understate the problem, as actual prices may rise far above even these levels. S&P Global Platts, for example, predicts that Henry Hub prices could reach \$12.00, or even \$14.00, per MMBtu.²⁴

These price increases will harm both households and industrial energy consumers. The EIA has predicted that homes that use gas for heat will spend 30% more than they spent last winter.²⁵ The Industrial Energy Consumers of America, which represents manufacturers that use at least 1 million MMBtu of energy per year,²⁶ has repeatedly written to DOE about how export-

²¹ *Id.* at 2, 11.

²² *Id.* at 12.

²³ FERC, 2021-2022 Winter Energy Market and Reliability Assessment (Oct. 21, 2021) at 10, available at https://ferc.gov/sites/default/files/2021-10/Winter%20Assessment%202021-2022_Presentation.pdf (attached).

²⁴ Hallahan, *supra* note 19.

²⁵ Winter Fuels Outlook, *supra* note 2, at 1.

²⁶ “Membership Info,” IECA, <https://www.ieca-us.com/membership-info/> (last accessed Dec. 7,

driven gas prices increases are harming domestic industry.²⁷ From an economic perspective, LNG exports are simply making most Americans worse off: all Americans must pay energy bills, but few own shares (even indirectly, through pension plans and the like) in the gas companies that are benefiting from high gas prices and LNG sales.²⁸ But DOE is charged with protecting the “public” interest, 15 U.S.C. § 717b(a); that is, the interest “of ... all or most of the people” in the United States. *Public*, Merriam-Webster Unabridged Dictionary.²⁹ DOE has previously recognized that “the distributional consequences of an authorizing decision” may be so negative as to demonstrate inconsistency with the public interest despite “net positive benefits to the U.S. economy as a whole.”³⁰ Accordingly, unless DOE addresses distributional concerns, DOE will have failed to consider an important part of the problem. But to date, DOE has never grappled with the distributional impacts of LNG exports: DOE has acknowledged that LNG exports have some positive and some negative economic impacts,³¹ but DOE has not addressed the fact that those who suffer the harms are not the same as those who enjoy the benefits, or that the former are more numerous and generally less advantaged than the latter. In particular, research shows that low-income, Black, Hispanic, and Native American households all face dramatically higher energy burdens—spending a greater portion of their income on energy bills—than the average

2021).

²⁷ See, e.g., Letter from Paul N. Cicio to Jennifer Granholm (Nov. 22, 2021), available at https://www.ieca-us.com/wp-content/uploads/11.22.21_LNG_-_Why-a-Safety-Valve-is-Needed_FINAL.pdf.

²⁸ Synapse Energy Economics, Inc., *Will LNG Exports Benefit the United States Economy?* (Jan. 23, 2013) at 9, available at https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/export_study/Exhibits_1-20.pdf (attached) (Initially submitted as Exhibit 5 to Comments of Sierra Club *et al.* on the 2012 NERA macroeconomic report).

²⁹ <http://www.merriam-webster.com/dictionary/public> (last visited Dec. 7, 2021).

³⁰ DOE/FE Order 3638-A (Corpus Christi) at 45 (May 26, 2016), available at https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/2012/applications/12-97-LNG_CMI_Corpus_Rehearing__May_26.pdf

³¹ See, e.g., NERA Economic Consulting, *Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports* (June 7, 2018) at 19, 21, 64, 67, available at <https://cms.doe.gov/sites/prod/files/2018/12/f58/2018%20Study.pdf>.

household.³² Especially in light of this administration’s emphasis on environmental justice, the distributional and equity impacts of export-driven gas price increases require careful consideration.

FLEX, for its part, ignores these issues. *FLEX’s application is entirely silent regarding impacts to domestic gas prices.* FLEX argues, at 8-9, that its application is consistent with the public interest because U.S. gas reserves are sufficient to meet both domestic needs and exports. But the issue isn’t merely whether there is enough recoverable gas to supply all users—it’s the price at which that gas could be, and is, made available. As the Wall Street Journal recently explained, “American frackers ... are holding the line on new drilling as investors pressure them to maintain capital discipline and return money to shareholders. *The result is that natural gas exports are pushing domestic prices higher.*”³³ Thus, while FLEX had previously argued that “Producers will anticipate demand growth” constituted by FLEX’s proposed exports “and bring more supplies online,”³⁴ that is not how producers are in fact responding to increased exports.

DOE has previously relied on modeling of how energy markets will balance in response to increased LNG exports, and on studies of the macroeconomic effects of such balancing. The current surge in gas prices calls those prior analyses into question, and DOE cannot approve additional exports without carefully examining the continuing validity of those analyses. We understand that DOE and the EIA is currently revisiting the 2012 and 2014 LNG export studies, with an updated analysis expected in the spring of 2022.³⁵ At a minimum, DOE should not approve further export applications until this study is complete.

DOE must be particularly cautious given DOE’s refusal, to date, to exercise supervisory authority over already-approved exports. Although DOE retains authority to amend and/or rescind existing export authorizations, 15 U.S.C. § 717o, DOE has stated its reluctance to

³² American Council for an Energy-Efficient Economy, *How High are Household Energy Burdens?* (Sept. 2020), available at <https://www.aceee.org/sites/default/files/pdfs/u2006.pdf> (attached). Accord Eva Lyubich, *The Race Gap in Residential Energy Expenditures* (June 2020), available at <https://haas.berkeley.edu/wp-content/uploads/WP306.pdf> (attached).

³³ Eaton & Blunt, *supra* note 18 (emphasis added).

³⁴ Application, *supra* note 4 at 20.

³⁵ <https://www.energy.senate.gov/hearings/2021/11/full-committee-hearing-on-domestic-and-international-energy-price-trends> (testimony of Stephen Nalley at 47:50 to 48:15)

exercise such authority.³⁶ But if export applications are, in effect, a one-way ratchet on export volumes, DOE cannot issue such authorizations carelessly.

The Natural Gas Act's "principle aim[s]" are "encouraging the orderly development of plentiful supplies of natural gas at reasonable prices and protecting consumers against exploitation at the hands of natural companies," with the "subsidiary purposes" of addressing "conservation, environmental, and antitrust issues." *Minisink Residents for Env'tl. Pres. & Safety v. FERC*, 762 F.3d 97, 101 (D.C. Cir. 2014) (cleaned up). At present, LNG exports are not achieving these purposes. DOE's uniform approval of all export applications has not protected consumers from exploitation at the hands of gas companies, and LNG exports are not leading to reasonable gas prices. Accordingly, even putting aside the numerous and severe environmental impacts of increased LNG exports, FLEX's application is inconsistent with the public interest and should be denied.

B. Environmental Impacts

The environmental impacts of FLEX's proposed export increase also weigh against the public interest. These include impacts occurring across the entire LNG lifecycle, which both the Natural Gas Act and NEPA require DOE to consider. DOE must reject FLEX's claim that this project may be categorically excluded from NEPA review, and DOE must revisit its deeply flawed analysis of the climate impacts of LNG exports.

1. DOE Must Consider the Entire LNG Lifecycle

Both the Natural Gas Act and NEPA require DOE to take a hard look at environmental impacts occurring throughout the entire LNG lifecycle, and to consider such impacts in the public interest determination.

Under the Natural Gas Act, DOE itself has recognized that a key consideration in its public interest determinations is the effect increased export volumes will have on gas production

³⁶ See Policy Statement Regarding Long-Term Authorizations to Export Natural Gas to Non-Free Trade Agreement Countries, 83 Fed. Reg. 28,841 (June 21, 2018). Although DOE has not exercised this authority yet, DOE *should* carefully consider doing so, given the severe impact already-authorized exports are having on domestic gas prices.

and use. DOE therefore must consider the environmental impacts of such effects. As the D.C. Circuit has affirmed, the Natural Gas Act’s public interest standards provide authority and obligation to consider indirect effects on gas production and use, and the environmental consequences thereof, as part of the public interest inquiry. *See Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) (“*Sabal Trail*”) (holding that indirect impacts, including indirect climate impacts, must be evaluated as part of public interest inquiry under Natural Gas Act, and that for export approvals under section 3, DOE has exclusive authority to consider these issues).

Similarly, NEPA’s statutory text requires agencies to consider the “effects” of proposed actions. 42 U.S.C. § 4332(2)(F). This requirement is not limited to only some “effects,” and the statute demands a broad perspective, including consideration of the “worldwide and long-range character of environmental problems.” *Id.* Accordingly, cases have interpreted this language to mean that the statute itself requires consideration of both direct and indirect effects. *City of Davis v. Coleman*, 521 F.2d 661, 676–77 (9th Cir. 1975); *see also Kleppe v. Sierra Club*, 427 U.S. 390, 409-10 (1976) (noting that Congress’s mandate that agencies use “all practicable means” to “assure consideration of the environmental impact of their actions in decisionmaking,” requires consideration of cumulative effects) (citations omitted). The plain meaning of “effects” includes indirect but foreseeable or intended consequences, such as effects proximately caused by the action.³⁷ And here, where FLEX has repeatedly identified stimulating U.S. gas production and overseas gas use as purposes of the Freeport export project,³⁸ these are plainly “effects” of the authorization of increased exports.

³⁷ Courts interpreting NEPA have occasionally analogized to the tort doctrine of proximate cause. *E.g.*, *Sierra Club v. FERC*, 827 F.3d 36, 47 (D.C. Cir. 2016) (“*Freeport I*”) (quoting *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004)). There are two problems with this. One, proximate cause is itself a flawed concept: the authors of the Restatement of Torts argue that the concept should be excised even from the field of tort law. Restatement (Third) of Torts: Phys. & Emot. Harm 6 Spec. Note (2010). Two, the purpose of proximate cause—to assign legal responsibility and blame for events that have already occurred—is fundamentally different from the purpose of NEPA review, which is to inform the public and decisionmakers of effects that have not yet occurred, and which can still be avoided. Under NEPA, identifying an adverse effect is important, and can and should inform decisionmaking, even if that effect could, in the tort sense, be said to be someone else’s fault.

³⁸ *See, e.g.*, FLEX, Application in DOE/FE Docket 11-161, at 15-16, 22-23, 35 (Dec. 19, 2011), available at https://fossil.energy.gov/ng_regulation/applications-2011-flex11-161-lngnfta.

Accordingly, soon-to-be reinstated NEPA regulations explicitly require consideration of “indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.F.R. § 1508.8(b) (1978 to Sept. 2020); *see* Council on Environmental Quality, Proposed Rule: NEPA Implementing Regulations, 86 Fed. Reg. 55,757, 55,762-64 (Oct. 7, 2021) (proposing to restore this regulatory definition). And even under the regulations adopted in September 2020, which omitted this explicit requirement, the Council on Environmental Quality had conceded that indirect effects that “have a reasonably close causal relationship to the proposed action” must be considered. Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304-01, 43,331 (July 16, 2020). Thus, while NEPA’s statutory text would require consideration of foreseeable effects across the lifecycle regardless of the Council on Environmental Quality’s position, here, the regulations and agency interpretations thereof support this view.

In summary, both the Natural Gas Act and NEPA require DOE to evaluate and weigh environmental impacts occurring through the LNG life cycle.

2. The Proposed Exports Cannot be Categorically Excluded from NEPA Review

FLEX argues³⁹ that its proposed export expansion qualifies for a categorical exclusion that DOE adopted in December 2020, codified at 10 C.F.R. Part 1021 Part D Appendix B, B5.7. Adoption of this categorical exclusion was arbitrary and unlawful, and DOE cannot rely on this categorical exclusion here. Alternatively, this proposal lacks the integral elements of an exempt project and presents extraordinary circumstances, precluding reliance on a categorical exclusion here.

a) The 2020 Categorical Exclusion Is Invalid

Adoption of the 2020 categorical exclusion was arbitrary, capricious, and contrary to law. Most egregiously, in promulgating the 2020 exclusion, DOE improperly excluded from NEPA

³⁹ Application in Docket 21-98-LNG at 10–11.

review *all* impacts occurring upstream of the point of export, based on a basic and fundamental legal error. The Notice of Proposed Rulemaking argued that DOE need not consider “environmental impacts resulting from actions occurring [before] the point of export” because “the agency has no authority to prevent” these impacts, citing *Sierra Club v. FERC*, 827 F.3d 36 (D.C. Cir. 2016) (“*Freeport I*”). 85 Fed. Reg. at 25,341; *accord* Final Rule, 85 Fed. Reg. 78,197, 78,198. This is the exact opposite of *Freeport I*’s explicit and central holding. *Freeport I* held that **FERC** had no authority prevent these impacts, specifically because **DOE** had retained “exclusive” authority to do so. 827 F.3d at 40-41, 46. FERC had “no authority” to consider the impacts of export-induced gas production because “the Natural Gas Act places export decisions squarely and exclusively within the Department of Energy’s wheelhouse.” *Id.* at 46.⁴⁰ Because DOE *has* such authority, the categorical exclusion was adopted unlawfully, cannot be relied upon here, and provides no evidence to suggest that all environmental effects occurring before the point of exports will be insignificant.

Nor can upstream impacts be dismissed as unforeseeable. DOE has in fact foreseen them, with EIA modeling, an environmental addendum, and a lifecycle report that extensively, although at times incorrectly, discuss these impacts. In these, DOE has broadly conceded that the climate impacts of upstream effects are foreseeable. And DOE’s Environmental Addendum acknowledged that increased gas production “may” increase ozone levels and “may” frustrate some areas’ efforts to reduce pollution to safe levels.⁴¹ But as DOE has acknowledged, it has not made any determination as to the likelihood or significance of such impacts—the Addendum made no “attempt to identify or characterize the incremental environmental impacts that would result from LNG exports” whatsoever.⁴² Insofar as DOE contends that these impacts can be

⁴⁰ In finalizing the 2020 Categorical Exclusion, DOE also erred in asserting that its approval of exports is “not interdependent” with FERC’s approval of export infrastructure. 85 Fed. Reg. 78,197, 78,199. DOE’s export authorization cannot be effectuated without FERC approval of export infrastructure, and vice versa; even if FERC infrastructure could proceed solely on the basis of FTA export authorization, neither this project nor any other major project in fact seeks to do so.

⁴¹ Addendum, *supra* note 9, at 27-28.

⁴² DOE/FE Order No. 3638 (Corpus Christi LNG), at 193-194 (May 12, 2015), *available at* https://fossil.energy.gov/ng_regulation/sites/default/files/programs/gasregulation/authorizations/2012/applications/ord3638.pdf.

difficult to foresee, that affirms, rather than refutes, the need for case-by-case analysis. *See also Cal. Wilderness Coal. v. DOE*, 631 F.3d 1072, 1097 (9th Cir. 2011) (rejecting DOE argument that environmental impacts of designation of electric transmission corridors were too speculative to require NEPA analysis). Even if DOE determines that upstream impacts can only be discussed generally, in something like the Environmental Addendum, this does not entail the conclusion that the impacts are insignificant. Similarly, a conclusion that an agency can meet its NEPA obligations by tiering off an existing document (which may need to be periodically revised as facts and scientific understanding change) is different than the conclusion that NEPA review simply is not required.

The 2020 Categorical Exclusion's treatment of downstream impacts was also arbitrary. As with upstream impacts, DOE mistakenly asserted that some downstream impacts (downstream impacts relating to regasification and use of exported gas) were entirely outside the scope of NEPA analysis. 85 Fed. Reg. at 78,202. This is again incorrect: DOE has authority to consider these impacts when making its public interest determination, and DOE has not shown that these impacts are so unforeseeable that they cannot be meaningfully discussed at all. Indeed, DOE has refuted this argument itself, discussing these impacts in the life cycle analysis.

For other impacts, relating to marine vessel traffic, the preamble to the 2020 final rule arbitrarily dismissed these impacts as *de minimus*, claiming that because LNG export has historically constituted only a small share of overall U.S. shipping traffic, the effects of future LNG export approvals could be ignored.⁴³ This is legally and factually incorrect. LNG exports are rapidly expanding, and this expansion depends upon and is caused by authorizations like the one FLEX has requested here. In addition, noting that LNG traffic is a small share of the total does not demonstrate that the impact of LNG traffic in particular is insignificant: a small portion of a large problem can itself constitute a significant impact. And even if such a fractional approach could be justified, it would require a different denominator: the number of ships in the habitat of the species at issue. LNG traffic—now and in the future—constitutes a larger and growing share of traffic *in the Gulf of Mexico*, where many of the species that will be impacted

⁴³ The proposed rule ignored wildlife impacts entirely.

by FLEX’s exports, including multiple listed species, live. Ship traffic to the West and East Coasts inflates the denominator but is irrelevant to many of these species.

b) Both the “Integral Elements” and “Extraordinary Circumstances” Requirements of DOE’s Regulations Preclude Use of a Categorical Exclusion Here.

DOE cannot invoke a categorical exclusion without determining that the proposed action has the “integral elements” of excluded actions as defined in Appendix B to 10 C.F.R. Part 2021 Subpart D. DOE must also determine whether there are “extraordinary circumstances that may affect the significance of the environmental effects of the proposal.” 10 C.F.R. § 1021.410(b).⁴⁴ These requirements have some conceptual overlap but are distinct and must be separately considered. *Oak Ridge Env’t Peace All. v. Perry*, 412 F. Supp. 3d 786, 846 (E.D. Tenn. 2019). Here, the proposed increase in exports violates both requirements.

i. Integral Elements

The proposal does not satisfy integral element 1, because it “threaten[s] a violation of applicable statutory [or] regulatory ... requirements for environment, safety, and health, or similar requirements of ... Executive Orders.” 10 C.F.R Part 1021 Subpart D Appendix B. This integral element is missing whenever a proposal *threatens* a violation; if there a possibility of such a violation, a project-specific NEPA analysis is required to evaluate that risk.

⁴⁴ Another paragraph requires a determination that “the proposal fits within a class of actions that is listed in Appendix ... B” 10 C.F.R. § 1021.410(b)(1). Prior to the 2020 revision to Appendix B, exclusion B5.7 applied to “Approvals or disapprovals of new authorizations or amendments of existing authorizations to import or export natural gas under section 3 of the Natural Gas Act that involve minor operational changes (such as changes in natural gas throughput, transportation, and storage operations) but not new construction.” However, former Appendix D9 specified that “Approvals or disapprovals of authorizations to import or export natural gas under section 3 of the Natural Gas Act involving major operational changes (such as a major increase in the quantity of liquefied natural gas imported or exported)” would “normally require [an] EIS.” The increase in export volumes proposed here is “major”, and thus within the scope of former D9 and outside the scope of former B5.7.

In the alternative, even if the proposal here is one that fits within former B5.7, the integral elements and extraordinary circumstances requirements would preclude application of this former exemption, for the reasons stated above.

Here, increased exports threaten violations of air quality standards and related requirements, because the proposal would require increased shipping traffic, with associated emissions of ozone precursors, in an area designated as non-attainment for ozone. FLEX contends that emissions will not rise above previously-approved levels (even though, as a practical matter, the number of ships must increase). However, as Sierra Club explained in the related FERC proceeding, those prior approvals rest on analysis from 2004, which must be reconsidered in light of changes in the surrounding environment, regulatory framework, and composition of the LNG tanker fleet.⁴⁵

Increased exports also threaten a violation of Executive Order 14,008, Tackling the Climate Crisis at Home and Abroad.⁴⁶ This order—like the Paris Accord, recent Glasgow Pact, and other commitments—affirms that “Responding to the climate crisis will require ... net-zero global emissions by mid-century or before.”⁴⁷ Increasing exports through mid-century (*i.e.*, 2050) is inconsistent with any plausible trajectory for achieving this goal, as recognized by the International Energy Agency.⁴⁸ Even if DOE somehow contends that expanded exports can somehow be reconciled with the President’s climate goals and policies, that surprising contention does not change the fact that expanded exports at least “threaten” a violation of those policies, such that integral element 1 is not satisfied.

The proposal also violates integral element 4, because it has “the potential to cause significant impacts to environmentally sensitive resources,” which “include ... Federally-listed threatened or endangered species or their habitat,” “state-listed” species, “Federally-protected marine mammals and Essential Fish Habitat,” and species proposed for listing.⁴⁹ Three species have been federally listed since the last time FERC or DOE analyzed the Freeport facility: the

⁴⁵ See Protest of Sierra Club in FERC Docket CP21-470, Accession No. 20210804-5118, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20210804-5063&optimized=false, (attached).

⁴⁶ 86 Fed. Reg. 7619 (Jan. 27, 2021).

⁴⁷ *Id.* § 101, 86 Fed. Reg. at 7619.

⁴⁸ Net Zero by 2050, *supra* note 7, at 102-03.

⁴⁹ 10 C.F.R Part 1021 Subpart D Appendix B.

threatened giant manta ray,⁵⁰ threatened oceanic whitetip shark,⁵¹ and endangered Rice's whale (formerly designated as the Gulf of Mexico population of the Bryde's whale).⁵² These species are all at risk from ship strikes and noise from vessel traffic, impacts that will be increased by the proposed additional exports.⁵³ As with integral element 1, integral element 4 is precautionary: a categorical exclusion cannot be used if the proposed action would "have the potential to cause significant impacts," even if it is unclear whether the action's impacts will in fact rise to the level of significance. Fulfilling NEPA's purpose requires investigating such potential impacts.

Ultimately, the potential to impact species and other protected resources is real. Ship strikes injure marine life, including listed whales,⁵⁴ sea turtles,⁵⁵ and giant manta rays.⁵⁶ Ship traffic also causes noise, which "can negatively impact ocean animals and ecosystems in complex ways."⁵⁷ Noise interferes with animals' ability to "communicate" and "to hear environmental cues that are vital for survival, including those key to avoiding predators, finding food, and navigation among preferred habitats."⁵⁸ Unsurprisingly, many animals display a suite of stress-related responses to increased noise. Because the proposed export increase will increase these impacts, the proposal does not satisfy integral element 4.

⁵⁰ 83 Fed. Reg. 2,916 (Jan. 22, 2018).

⁵¹ 83 Fed. Reg. 4,153 (Jan. 30, 2018).

⁵² 86 Fed. Reg. 47,022 (Aug. 23, 2021).

⁵³ The potential for impacts to these species further violates integral element 1, because it threatens a violation of the Endangered Species Act and similar laws.

⁵⁴ David W. Laist et al., *Collisions Between Ships and Whales*, 17 MARINE MAMMAL SCIENCE 1, 35 (Jan. 2001) (describing ship strikes with large vessels as the "principal source of severe injuries to whales), available at <https://www.mmc.gov/wp-content/uploads/shipstrike.pdf> (attached).

⁵⁵ National Oceanic and Atmospheric Administration Fisheries, *Understanding Vessel Strikes* (June 25, 2017), available at <https://www.fisheries.noaa.gov/insight/understanding-vessel-strikes> (attached).

⁵⁶ National Oceanic and Atmospheric Administration Fisheries, *Giant Manta Ray*, <https://www.fisheries.noaa.gov/species/giant-manta-ray> (attached).

⁵⁷ National Oceanic and Atmospheric Administration, *Cetacean & Sound Mapping: Underwater Noise and Marine Life*, <http://cetsound.noaa.gov/index> (attached).

⁵⁸ *Id.*

ii. Extraordinary Circumstances

Similarly, a categorical exclusion cannot be applied where there are “extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal.” 10 C.F.R. § 1021.410(b)(2).

One such extraordinary circumstance is that this project, unlike most (if not all) other LNG export projects DOE and FERC have approved, is in an ozone nonattainment area. This is a unique situation not presented by other LNG export proposals, and therefore requires greater consideration here. Even if FERC, rather than DOE, takes the lead in reviewing the impact of the additional ship traffic and associated ozone precursor emissions, that would merely provide DOE with the possibility of meeting its NEPA obligations by adopting FERC’s analysis: FERC’s review does not enable DOE to apply a categorical exclusion and skip project specific NEPA analysis entirely. *See Oak Ridge Env’t Peace All. v. Perry*, 412 F. Supp. 3d 786, 846 (E.D. Tenn. 2019), *appeal dismissed*, No. 19-6332, 2021 WL 2102583 (6th Cir. Jan. 14, 2021).

3. DOE’s Prior Life Cycle Greenhouse Gas Analyses Are Not a Substitute for NEPA Review, and Do Not Demonstrate that Greenhouse Gas Emissions Caused by the Proposal Are Consistent with the Public Interest

One way or another, DOE must revisit its prior analyses of the greenhouse gas impact of LNG exports. Procedurally, the 2014 and 2019 lifecycle analyses are not a substitute for NEPA review, as DOE continues to recognize.⁵⁹ Although the lifecycle analyses can inform NEPA review, DOE must address the impacts of this and other LNG proposals within the NEPA framework.

More fundamentally, the lifecycle analyses both ask the wrong questions and do not reflect available science regarding LNG’s impacts.

a) The Life Cycle Analyses Ask the Wrong Questions

FLEX seeks authorization to increase exports through 2050. DOE therefore must take a hard look at the environmental impact of expanded exports of LNG across that thirty-year time

⁵⁹ *E.g.*, 85 Fed. Reg. at 78,202 (The life cycle “reports are not part of DOE’s NEPA review process.”).

period, with the long-term gas production and use such exports necessarily entail. This includes addressing whether such impacts are consistent with the United States' climate goals. They are not. But the lifecycle analyses do not address this issue. That is, the analyses do not provide any discussion of whether increasing LNG export will help or hinder achievement of the long-term drastic emission reductions that are essential to avoiding the most catastrophic levels of climate change.

Instead, the analyses look only to the short term. The only questions asked by the analyses are “How does exported LNG from the United States compare with” other fossil fuels (coal or other gas) used in used “in Europe and Asia, from a life cycle [greenhouse gas] perspective?”⁶⁰ DOE has attempted to justify this narrow focus by arguing that in the present moment, LNG primarily competes with other sources of fossil fuel. But DOE has not contended, nor can it, that this will be true throughout the thirty-year requested authorization term.

Limiting global temperature rise to 1.5 degrees Celsius will require dramatic emission reductions in the near and long term, reductions which are inconsistent with further development of long-lived fossil fuel infrastructure in the U.S. or abroad, as confirmed by the International Energy Agency,⁶¹ Intergovernmental Panel on Climate Change,⁶² and others. Executive Order 14,008 appropriately instructs federal agencies to work to discourage other countries from “high carbon investments” or “intensive fossil fuel-based energy.”⁶³ The lifecycle analyses argue that the infrastructure needed to receive and use U.S. LNG is not higher emitting than other sources of fossil fuel, but the analyses do not inform decisionmakers or the public whether facilities to use U.S. LNG are nonetheless such a “high-carbon,” “intensive” source of emission that they must be discouraged.

⁶⁰ 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

⁶¹ IEA, Net Zero by 2050 at 101-02.

⁶² Intergovernmental Panel on Climate Change, *Special Report: Global Warming of 1.5 C, Summary for Policymakers* at 13-17 (May 2019), available at https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf (attached).

⁶³ Executive Order 14,008 at § 102(f), (h).

Even for the short term, the lifecycle analyses ignore important parts of the question of how DOE's decision to authorize additional U.S. LNG exports will affect greenhouse gas emissions. DOE has recognized, for example, that increasing LNG exports will both cause some gas-to-coal shifting in the U.S. electric sector.⁶⁴ Similarly, DOE has acknowledged that "U.S. LNG Exports may ... compete with renewable energy ... as well as efficiency and conservation measures" in overseas markets.⁶⁵ Indeed, while DOE has refused to address the likely share of U.S. LNG exports that will be displaced by fossil fuels, peer reviewed research concludes that such exports are likely to play only a limited role in displacing foreign use of coal, and such that U.S. LNG exports are likely to increase net global GHG emissions.⁶⁶

Finally, while it is important to address foreseeable overseas impacts of LNG exports, DOE also needs to examine the impact of increased exports specifically on domestic or territorial emissions. The world must transition away from fossil fuel development as quickly as possible. It is inappropriate, unfair, and nonstrategic for the U.S. to argue that it can nonetheless increase fossil fuel production, and enjoy the purported economic benefits thereof, because the associated emissions will be offset by foregone production elsewhere. Instead, nations' commitments under the Paris Accord and similar agreements "should include greenhouse gas emissions and removals taking place within national territory and offshore areas over which the country has jurisdiction."⁶⁷ Requiring nations to measure and report territorial emissions also ensures the reliability of emission calculations, as nations can only directly regulate emissions within their borders. Estimates of emissions from activities within the U.S. are also likely to be more accurate than estimates that seek to trace the lifecycle of fuels combusted in an end use country. For all of these reasons, a hard look at the climate impact of increasing U.S. LNG exports must address the

⁶⁴ EIA 2014, *supra* note 8, at 12, 19.

⁶⁵ DOE/FE Order 3638 at 202-03.

⁶⁶ Gilbert, A. Q. & Sovacool, B. K., *US liquefied natural gas (LNG) exports: Boom or bust for the global climate?*, Energy (Dec. 15, 2017), available at <https://doi.org/10.1016/j.energy.2017.11.098> (attached).

⁶⁷ Witi, J. & Romano, D., 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 8: Reporting and Tables, available at https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/1_Volume1/19R_V1_Ch08_Reporting_Guidance.pdf, at 8.4.

impact of such exports on domestic emissions specifically, in addition to including reasonable forecasting about global impacts.

b) The 2019 and 2014 Lifecycle Analyses Understate Emissions

In addition to asking the wrong questions, DOE’s prior lifecycle analyses are factually unsupported and understate emissions, as Sierra Club and NRDC have previously explained.

First, the 2019 analysis assumes that the “upstream emission rate” or “leak rate” of U.S. LNG exports—the amount of methane that is emitted to the atmosphere during production, processing, and transportation of gas to the export facility—is 0.7% of the gas delivered.⁶⁸ Studies measuring actual emissions find much leak rates: a 2020 study that found that oil and gas production in the Permian basin had a leak rate of roughly 3.5% or 3.7%.⁶⁹ As we have previously explained, there are many reasons to believe these atmospheric measurements are more reliable than the “bottom up” estimates used by DOE—notably, the fact that bottom up estimates poorly represent the rare but severe major leaks that constitute a large fraction of upstream emissions.⁷⁰ Every year, new research further affirms that gas production emits greater amounts of methane than what DOE’s analyses have assumed, despite ongoing efforts to reduce methane emissions.⁷¹ At a minimum, DOE must review and to respond to this research before approving any further LNG export applications.

⁶⁸ 2019 Life Cycle GHG Perspective at 27.

⁶⁹ See Yuzhong Zhang *et al.*, *Quantifying methane emissions from the largest oil-producing basin in the United States from space*, SCIENCE ADVANCES (Apr. 22, 2020), DOI: 10.1126/sciadv.aaz5120, available at <https://advances.sciencemag.org/content/6/17/eaaz5120/tab-pdf> (attached); *see also* Environmental Defense Fund: New Data: Permian Oil & Gas Producers Releasing Methane at Three Times National Rate (Apr. 7, 2020), *available at* <https://www.edf.org/media/new-data-permian-oil-gas-producers-releasing-methane-three-times-national-rate> (attached).

⁷⁰ Sierra Club, Comment on 2019 Update to Life Cycle Greenhouse Gas Perspective, at 6-8 (Oct. 21, 2019), *available at* <https://fossil.energy.gov/app/DocketIndex/docket/DownloadFile/604>.

⁷¹ See NRDC, *Sailing to Nowhere: Liquefied Natural Gas Is Not an Effective Climate Strategy* (Dec. 2020), *available at* <https://www.nrdc.org/sites/default/files/sailing-nowhere-liquefied-natural-gas-report.pdf> (attached).

III. Conclusion

For the reasons stated above, Sierra Club and NRDC's motion to intervene in this docket should be granted. The proposed export increase is not consistent with the public interest and should be denied. At a minimum, DOE must not approve the application without reviewing whether current gas price spikes call into question DOE's prior analyses and assumptions about the effects of increased exports on domestic gas production and prices. Nor can DOE approve the application without taking a hard look at foreseeable environmental impacts occurring throughout the LNG lifecycle. DOE must reject FLEX's assertion that this proposal may be categorically excluded from NEPA review.

Ultimately, the United States and nations around the globe have set ambitious but necessary goals for reducing greenhouse gas emissions during the proposed authorization period. Expanded gas exports and use cannot be reconciled with those goals, and this proposal should be denied.

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UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

IN THE MATTER OF)
)
Freeport LNG Expansion, L.P., FLNG) FE Docket No. 21-98-LNG
Liquefaction, Liquefaction 2, and)
Liquefaction 3, LLCs)
)

SIERRA CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b), I, Nathan Matthews, hereby certify that I am a duly authorized representative of the Sierra Club, and that I am authorized to sign and file with the Department of Energy, Office of Fossil Energy and Carbon Management, on behalf of the Sierra Club, the foregoing documents and in the above captioned proceeding.

Dated at Oakland, CA this 7th day of December, 2021

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)

NRDC CERTIFIED STATEMENT OF AUTHORIZED REPRESENTATIVE

Pursuant to 10 C.F.R. § 590.103(b), I, Gillian Giannetti, hereby certify that I am a duly authorized representative of the Natural Resources Defense Council, and that I am authorized to sign and file with the Department of Energy, Office of Fossil Energy and Carbon Management, on behalf of the Natural Resources Defense Council, the foregoing documents and in the above captioned proceeding.

Dated at Springfield, VA this 7th day of December, 2021



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)

SIERRA VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Nathan Matthews, hereby verify under penalty of perjury that I am authorized to execute this verification, that I have read the foregoing document, and that the facts stated therein are true and correct to the best of my knowledge.

Executed at Oakland, CA on December 7, 2021

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)

NRDC VERIFICATION

Pursuant to 10 C.F.R. § 590.103(b), I, Gillian Giannetti, hereby verify under penalty of perjury that I am authorized to execute this verification, that I have read the foregoing document, and that the facts stated therein are true and correct to the best of my knowledge.

Executed at Springfield, VA on December 7, 2021



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CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 590.107, I, Nathan Matthews, hereby certify that I caused the above documents to be served on the persons included on the official service list for this docket, as provided by DOE/FE, on December 7, 2021.

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