THE ALASKA EXCEPTION:
ENERGY AND THE FRONTIER

PREPARED FOR SEN. LISA MURKOWSKI
U.S. SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES
APRIL 26, 2016

AN *ALASKA: FIRST IN ENERGY* REPORT

The Alaska Exception:
Energy and the Frontier

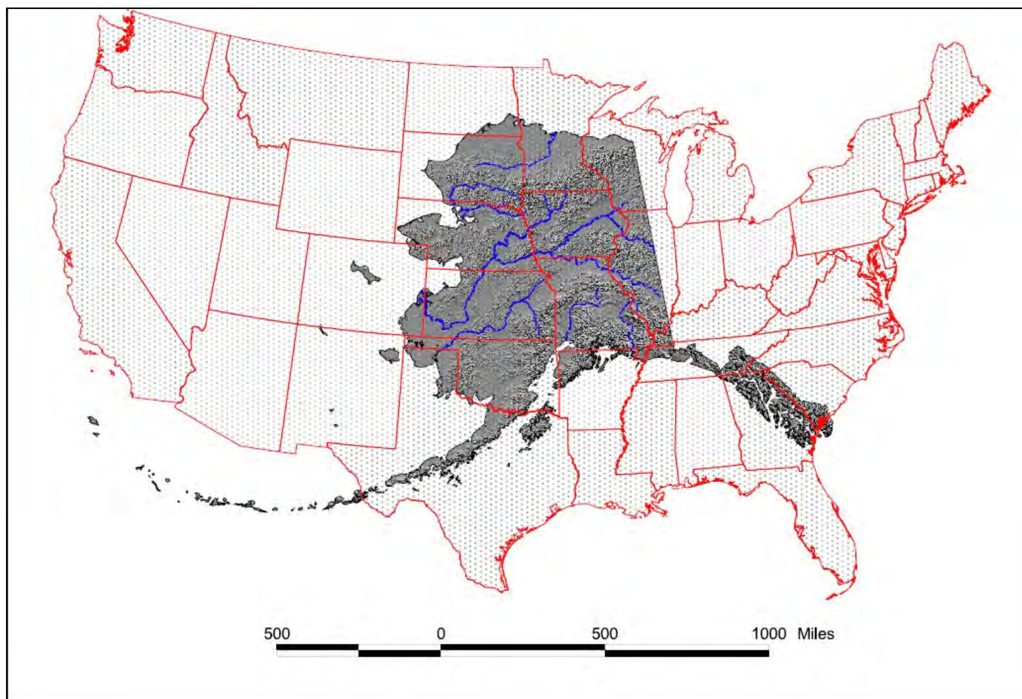
Prepared by Majority Staff for Chairman Lisa Murkowski
U.S. Senate Committee on Energy & Natural Resources
April 26, 2016

Introduction

To describe the State of Alaska as "unique" would be an understatement. The U.S. Energy Information Administration (EIA) summarizes its exceptional attributes as follows:

> "Alaska, the largest U.S. state by area, is one-fifth the size of the Lower 48 states and, with the Aleutian Island chain, as wide as the Lower 48 states from east to west. It is the only state with territory north of the Arctic Circle, and it has the highest mountains and longest coastline of any state. Alaska's winters are frequently severe, but its climate varies significantly from north to south and from winter to summer….Large areas of Alaska remain uninhabited. It has the fourth-smallest population and is the least densely populated of any state."[1]

These geographic dimensions shape Alaskan demographics and economics, particularly in the energy sector. This report highlights several ways in which the federal government's energy policies bestow a degree of special status on the State.



The True Size of Alaska (Source: USDA)

[1] EIA, Alaska State Profile (October 15, 2015): https://www.eia.gov/state/analysis.cfm?sid=AK.

Trans-Alaska Pipeline

The bulk of Alaska's oil production occurs on the North Slope. The 800-mile Trans-Alaska Pipeline System (TAPS) transports virtually all of this oil to Valdez, where it is loaded onto tankers and shipped to refineries. The construction of this pipeline required federal legislation, the Trans-Alaska Pipeline Authorization Act, which was signed into law in November 1973. The Act directed the Secretary of the Interior (and supporting agencies) to "take all necessary action to administer and enforce rights-of-way, permits, leases, and other authorizations that are necessary for or related to the construction, operation, and maintenance of the trans-Alaska oil pipeline system." (43 USC §1652(b)).

See Appendix A for additional background information.

The TAPS System (Source: BLM)

Kenai LNG

The Kenai Liquefied Natural Gas (LNG) project has exported natural gas in liquefied form from Alaska's Cook Inlet since 1969, with only one brief interruption. Until this year, it was the only operating liquefaction terminal in North America. Over the course of its lifetime, the project has received numerous federal authorizations – initially from the Federal Power Commission[2] and later from the Department of Energy – to export natural gas. In part, this unique treatment is due to the plant's small operating capacity, the fact that Alaskan natural gas markets are geographically separated from Lower 48 natural gas markets, and the age of the facilities (i.e., they are "grand-fathered," according to FERC).

See Appendix B for additional background information.

The *Arctic Sun* Loading at Kenai LNG (Source: ConocoPhillips)

[2] The Federal Power Commission was the predecessor to the Federal Energy Regulatory Commission (FERC).

Alaska LNG

Under new administrative procedures established in 2014, liquefaction projects in the Lower 48 will not generally receive "conditional authorizations" to export LNG to non-Free Trade Agreement countries. Instead, the Department of Energy will only consider issuing final authorizations to projects that have completed environmental review by other agencies. The Department noted in its new procedures, however, that Alaska may deserve special treatment:

> "The revised procedures will apply only to exports from the lower-48 states. In the Proposed Procedures Notice, DOE stated that no long-term applications to export LNG from Alaska were currently pending and, therefore, DOE could not say whether there may be ***unique features of Alaskan projects*** that would warrant exercise of the DOE's discretionary authority to issue conditional decisions."[3] [emphasis added]

Indeed, the proposal to build a gas pipeline from the North Slope to Nikiski, a gas treatment plant at Point Thomson, and a liquefaction facility in Nikiski – the "Alaska LNG" project – received a conditional authorization from the Department of Energy in May 2015. It is the only project to receive such an authorization since the new procedures were implemented.

See Appendix C for additional background information.

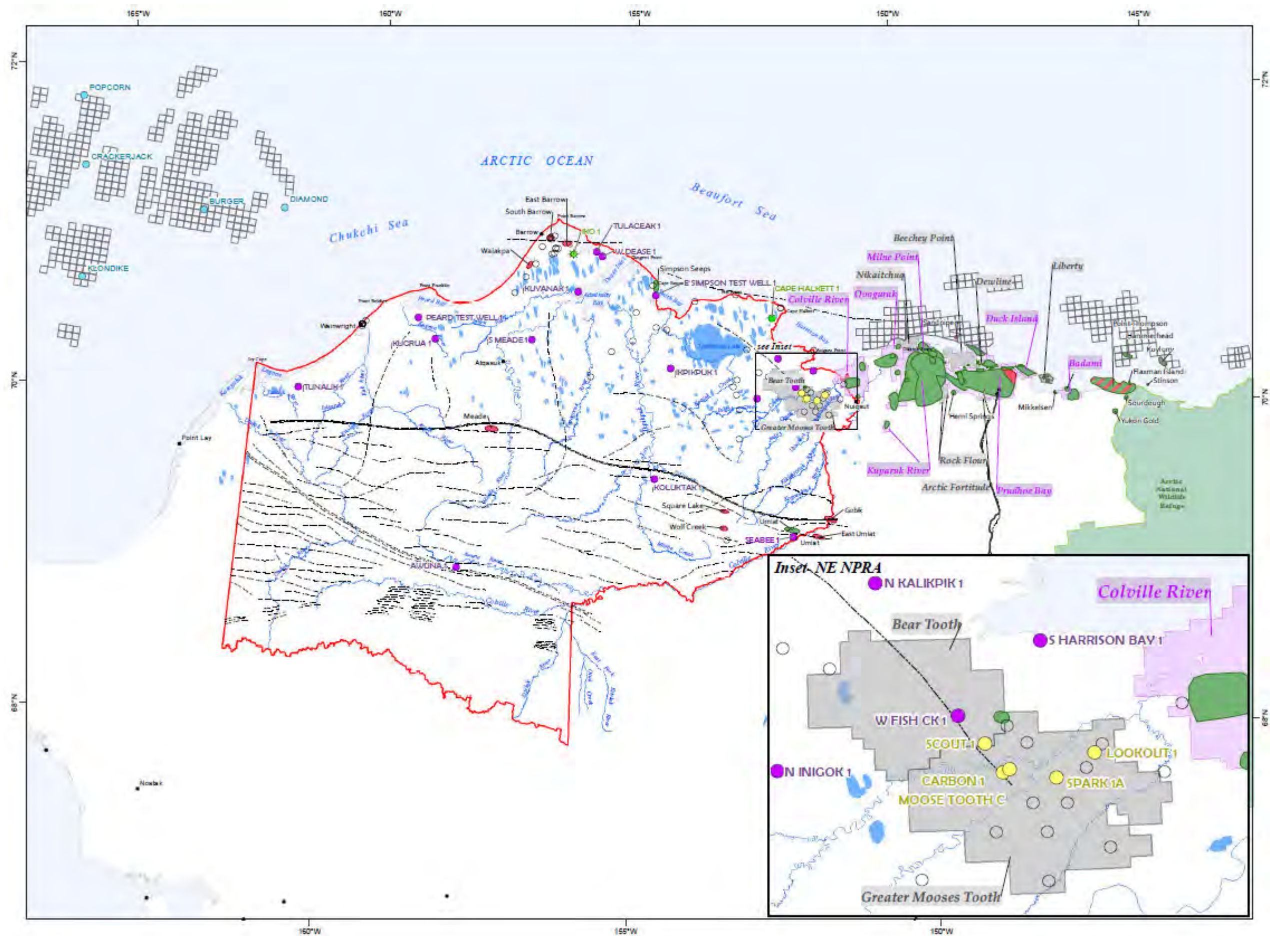
Preliminary Facility Locations (Source: Alaska LNG)

[3] DOE, *Procedures for Liquefied Natural Gas Export Decisions* (August 15, 2014): http://energy.gov/sites/prod/files/2014/08/f18/FR%20Procedures%20LNG%20Exports%2008_15_14.pdf.

National Petroleum Reserve-Alaska

The United States once maintained a network of Naval Petroleum Reserves – at Elk Hills and Buena Vista in California, Teapot Dome in Wyoming, and on the North Slope of Alaska. The reserve in Alaska was transferred to the Department of the Interior in 1976 and renamed, while the other sites were transferred to the Department of Energy. The National Petroleum Reserve-Alaska (NPR-A) covers approximately 23 million acres, making it larger than any national park or wildlife refuge. It is the only remaining NPR site in the country and has always held, by far, the most potential for future discoveries. Scattered lease sales have been conducted in NPR-A, which the United States Geological Survey estimates may contain nearly 900 million barrels of oil and just under 53 trillion cubic feet of natural gas.[4]

See Appendix D for additional background information.



NPR-A and the North Slope Oil and Gas Activity (Source: BLM)

[4] http://pubs.usgs.gov/fs/2010/3102/pdf/FS10-3102.pdf.

Oil Exports from Cook Inlet

In 1975, the United States effectively banned the export of domestic crude oil.[5] This general prohibition on exportation included oil produced in Alaska. However, the President retained broad power to authorize exports on a selective basis in the national interest. In 1985, the Commerce Department and an interagency group determined that exports of crude oil from Alaska's Cook Inlet would be in the national interest. The final rule stated:

> "Without further development of Cook Inlet resources, it is estimated that no more than 20,000 barrels per day may be available for export and most likely only 4,000 to 5,000 barrels per day of state royalty oil may be exported. This quantity would require only a few vessel sailings a year and would have a minimal impact on the shipping industry."

See Appendix E for additional background information.

Oil and Gas Pipelines in Cook Inlet (Source: DOI/MMS)

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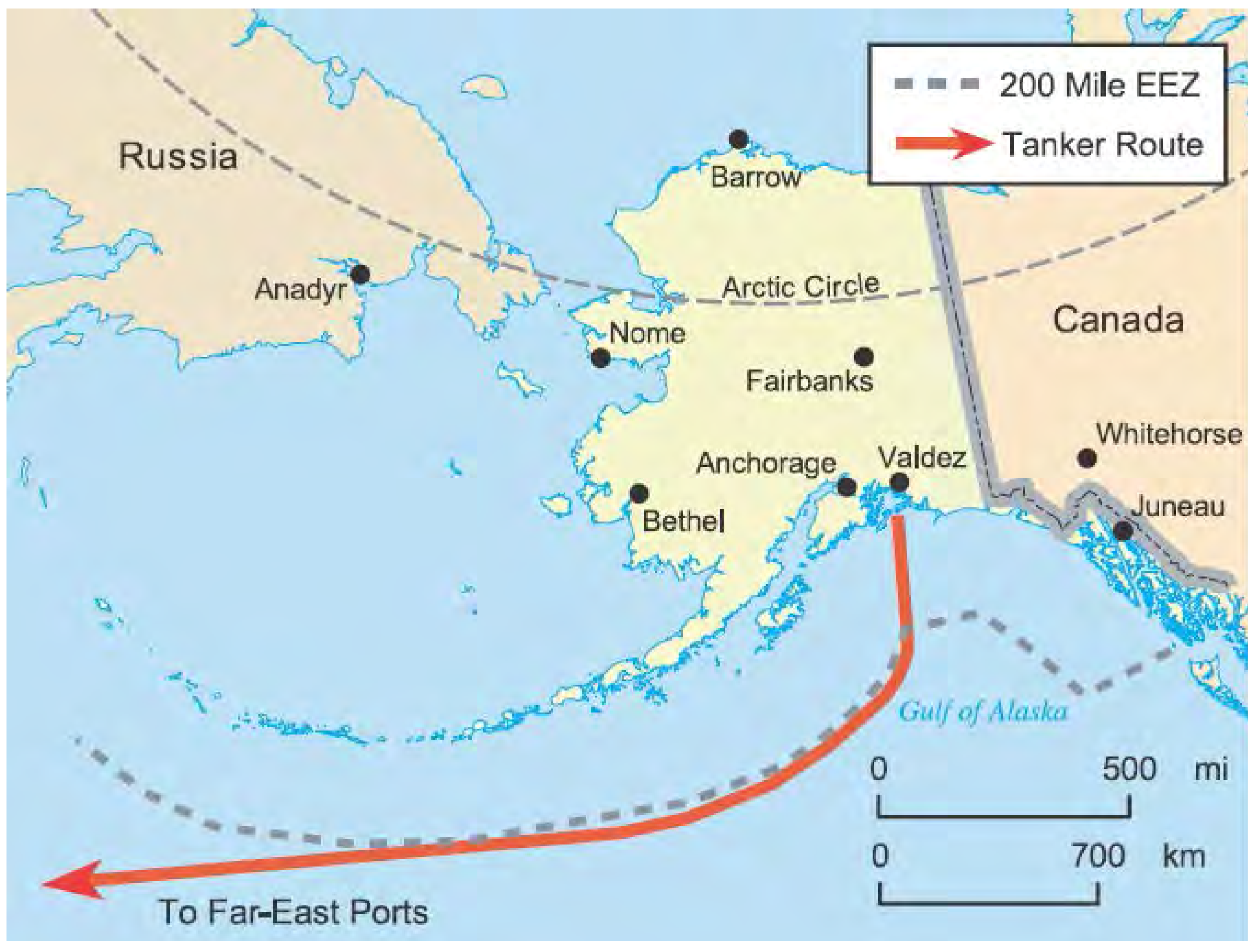
[5] The general prohibitions were repealed in December 2015.

Oil Exports from TAPS

In 1988, Canada and the United States signed a free trade agreement. Later that year, President Reagan determined that 50,000 barrels per day of Alaskan crude oil shipped through the Trans-Alaska Pipeline System could be exported to Canada. Further, following the passage of Public Law 104-58, President Clinton determined that unlimited exports of oil shipped through TAPS could be exported anywhere in the world. Until the general prohibitions were repealed in December 2015, Alaska remained the only state that could export crude oil beyond Canada.

See Appendices F and G for additional background information.



Tanker Routes for Exports to the Far East (Source: BLM)

Renewable Fuel Standard

The Congressional Research Service writes: "The Renewable Fuel Standard (RFS)—established by the Energy Policy Act of 2005 (P.L. 109-58; EPAct05) and expanded in 2007 by the Energy Independence and Security Act (P.L. 110-140; EISA)—mandates that U.S. transportation fuel contain a minimum volume of biofuel. The statute exempts noncontiguous states and territories, but allows them to opt in." Hawaii elected to opt in, but Alaska did not. The rationale for the exemption was, and remains, that biofuel is not generally produced in Alaska and that it is logistically difficult to transport the volumes that would be needed from the Lower 48 to the State's small isolated network of refiners.

See Appendix H for additional background information.

Refineries in Alaska (Source: EIA)[6]

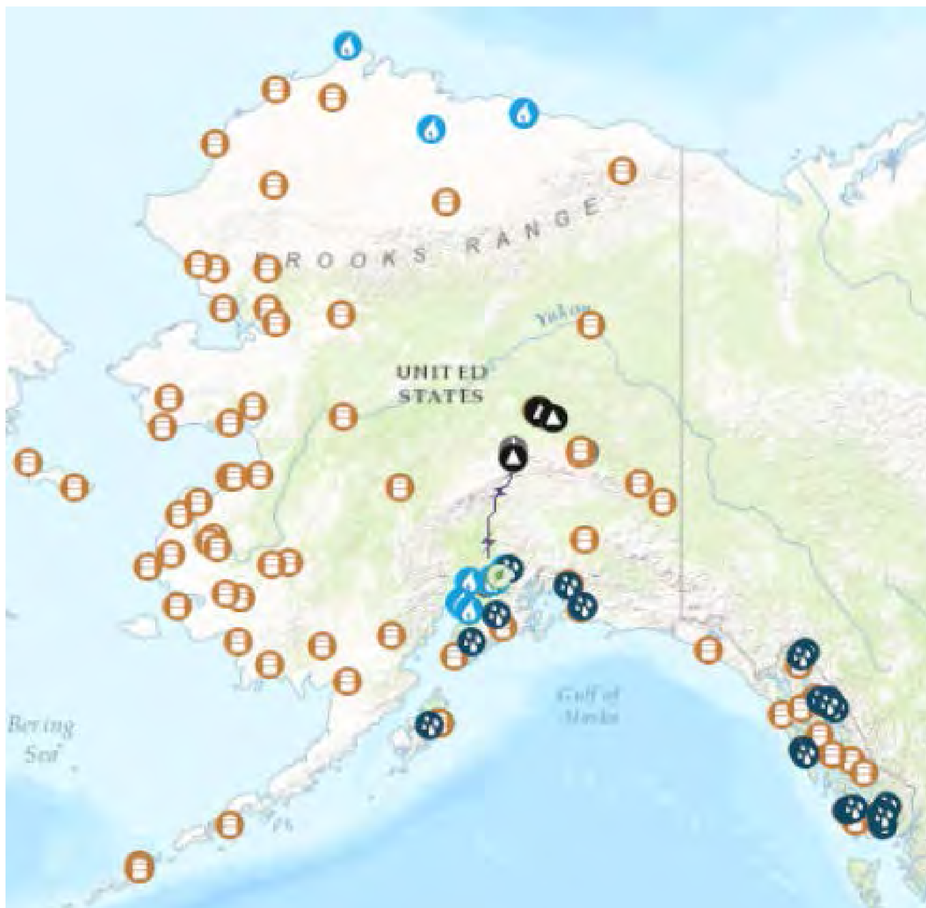
[6] A refinery at North Pole closed in 2014.

FERC Authority

The Federal Energy Regulatory Commission regulates interstate electric transmission and wholesale sales. FERC does not have public utility-related authority in Hawaii and Alaska, due to the "electrical isolation" of those states.[7] The EIA explains:

> "The electricity infrastructure in Alaska differs from that in the Lower 48 states in that Alaskans are not linked to large, interconnected grids through transmission and distribution lines. Although an interconnected grid called the Railbelt exists in the more populated areas from Fairbanks to south of Anchorage, even that grid is isolated from the electric grids in Canada and the Lower 48 states. Most of the state's rural communities have no grid access and rely on consumer-owned electric cooperatives for their power, and many of those rural power providers use diesel electricity generators. This diesel use contributed to Alaska's ranking second only to Hawaii in the per capita generation of electric power from petroleum liquids."[8]

See Appendix I for additional background information.



Alaska's Electricity System (Source: EIA)

[7] http://www.ferc.gov/about/ferc-does/ferc101.pdf, p. 12.
[8] http://www.eia.gov/state/analysis.cfm?sid=AK.

Conclusion

The federal government has implemented energy policies that treat Alaska in exceptional ways. Sometimes this has involved exempting the State from certain nationwide mandates, while in other cases Alaska has been conferred exclusive opportunities. As the North American energy renaissance prompts a broad modernization of U.S. energy policy, Alaska may continue to deserve such special status in other areas.

Acknowledgments

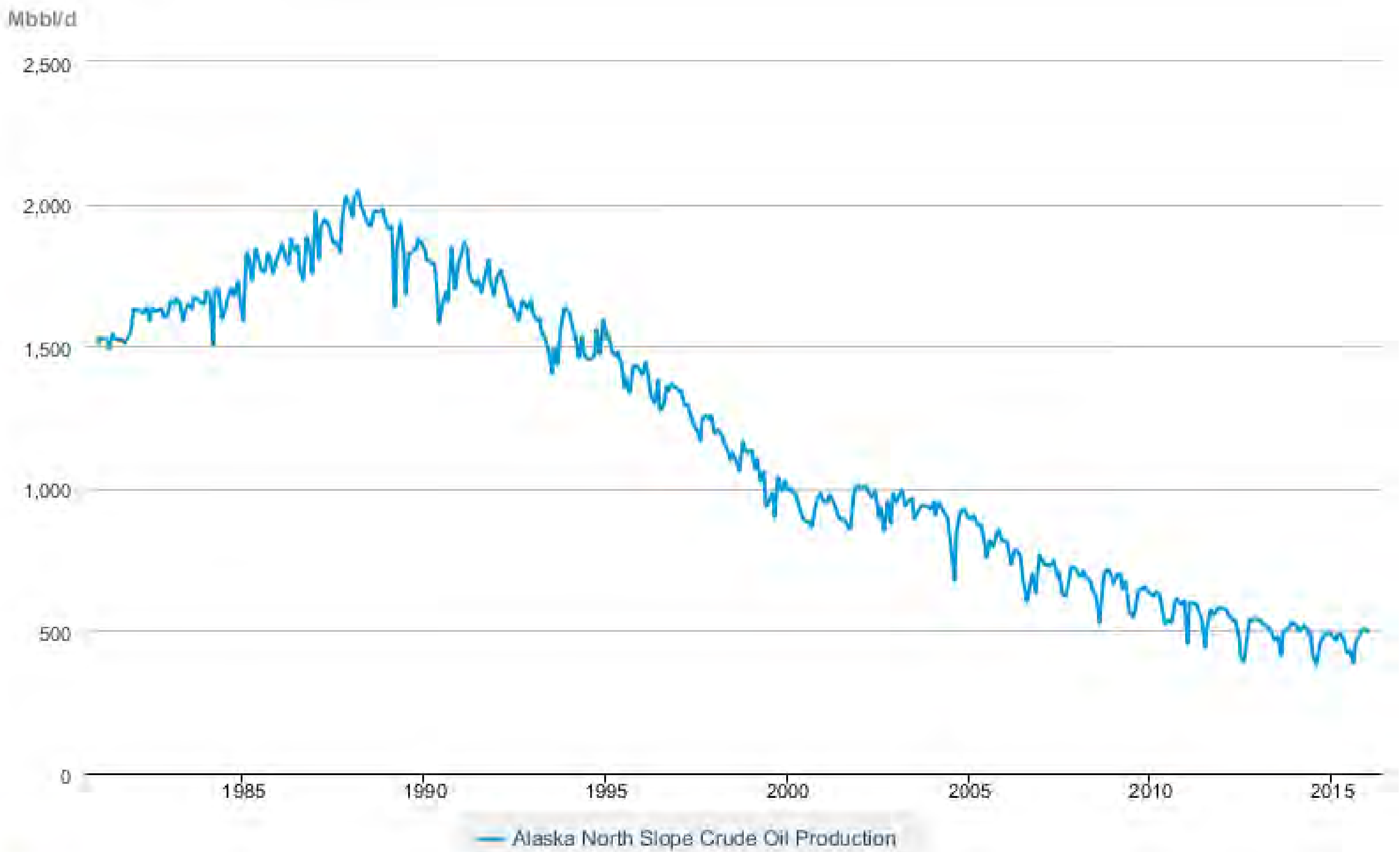
Staff wish to thank the Congressional Research Service for its assistance with this report. The cover image is of the Trans-Alaska Pipeline in the northern Brooks Range.[9]

[9] Dave Houseknecht (June 20, 2007): http://gallery.usgs.gov/photos/03_08_2010_bFVi0MLyx6_03_08_2010_16#.Vwal83q_aao. .

APPENDIX A:

TAPS and North Slope Production

Crude Oil Production



eia Source: U.S. Energy Information Administration

APPENDIX B:
Kenai LNG

Congressional Research Service
Informing the legislative debate since 1914

MEMORANDUM

To: Senate Energy and Natural Resources Committee
Attention: Tristan Abbey

From: Michael Ratner, Specialist in Energy Policy

Subject: **Kenai LNG export orders**

As you requested, below is a table in chronological order of export orders related to the Kenai LNG facility in Alaska.

Table 1. Department of Energy Export Orders Related to Kenai LNG

Order	Order #	Date
Order granting blanket authorization to export liquefied natural gas by vessel from the Kenai LNG facility near Kenai, Alaska, and vacating prior export authorization	3784	February 8, 2016
Order granting blanket authorization to export liquefied natural gas by vessel from the Kenai LNG facility near Kenai, Alaska to non-free trade agreement nations	3418	April 14, 2014
Order granting blanket authorization to export liquefied natural gas by vessel from the Kenai LNG facility to free trade agreement nations	3392	February 19, 2014
Order granting authorization to export liquefied natural gas from Alaska	2860	October 5, 2010
Order denying rehearing	2500-A	July 30, 2008
Order granting authorization to export liquefied natural gas from Alaska	2500	June 3, 2008
Order amending authority to export to reflect name change	261-G, 1473-A, 1580-A	January 30, 2008
Order amending authorization to export liquefied natural gas from Alaska	261-F	June 20, 2000
Order granting blanket authorization to export liquefied natural gas from Alaska	1580	April 10, 2000
Order extending authorization to export liquefied natural gas from Alaska	1473	April 2, 1999
Order dismissing complaint	261-E	July 18, 1997
Order amending authorization to export liquefied natural gas	261-D	March 2, 1995
Order granting blanket authorization to export liquefied natural gas	786	March 17, 1993
Order amending authorization to export liquefied natural gas to Japan	261-C	July 15, 1992
Order transferring authorization to export liquefied natural gas	261-B	December 19, 1991

Order	Order #	Date
Order amending authorization to export liquefied natural gas to Japan	261-A	June 18, 1991
Order amending authorization to export liquefied natural gas to Japan	261	July 28, 1988
Order amending authorization to export liquefied natural gas	206	November 16, 1987
Order transferring the LNG export authorization of Phillips Petroleum Company to Phillips 66 Natural Gas Company	49-A	April 3, 1986
Order amending authorization of Phillips Petroleum Company and Marathon Oil Company to export LNG from Alaska	49	December 14, 1982
Order authorizing exportation of liquefied natural gas and dismissing application for permit	37 FPC 777	April 19, 1967

Source: Department of Energy

APPENDIX C:
Alaska LNG

Congressional Research Service
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MEMORANDUM

To: Senate Energy & Natural Resources Committee
Attention: Tristan Abbey

From: Michael Ratner, Specialist in Energy Policy

Subject: **Differentiating Alaska natural gas exports**

This memorandum responds to your request for information regarding liquefied natural gas (LNG) projects for export in the state of Alaska and how they are treated differently by the Department of Energy's (DOE) Office of Fossil Energy (DOE/FE). If you have any questions or would like to discuss the details of this memorandum please do not hesitate to contact me.

DOE's LNG Exports Determinations and Alaska

DOE/FE has statutory responsibility, through Section 3 of the Natural Gas Act (NGA), to permit the export of natural gas from the United States. Exports to countries with which the United States has a free trade agreement (FTA) are deemed consistent with the public interest and authorization is granted without modification or delay. Exports to non-FTA countries require DOE/FE to make a public interest determination. If DOE/FE finds that the exports are not consistent with the public interest, then authorization is denied. This determination cannot be waived.

As part of its due diligence in response to the large number of applications to export U.S. produced natural gas it received, DOE/FE commissioned two studies regarding LNG exports from the lower-48 states. The studies examined the effects of LNG exports on domestic natural gas prices and the U.S. economy. Neither study included exports from Alaska, in part because no new projects to export natural gas from Alaska were proposed at the time, but also because Alaskan natural gas exports are viewed as unlikely to affect prices and the economy in the lower-48 states. Subsequent DOE/FE studies took the same approach to Alaskan LNG exports. Since those initial studies, the Alaska LNG project (see below "The Alaska LNG Project") has been proposed and treated separately from DOE/FE's analysis of the market implications of natural gas exports from the lower-48 states. The potential export volumes from the Alaska LNG projects are not included in the cumulative economic effects or other effects that DOE is evaluating for projects in the lower-48 states.

The Kenai LNG Terminal: The Only Operating U.S. LNG Export Terminal

Since 1969, Alaska has been the only U.S. state to export natural gas in liquefied form (LNG).[1] The Kenai LNG facility in Nikiski, AK operated continuously from 1969 to 2011, when production of natural gas in

[1] See order by the Federal Power Commission authorizing the exports from the Kenai LNG terminal, https://www.ferc.gov/industries/gas/indus-act/angtp/37fpc777.pdf.

the Cook Inlet of Alaska declined too much to keep the facility operating. Subsequent discoveries prompted the owner and operator of the facility, ConocoPhillips, to reopen the terminal in 2012. On March 31, 2013, the export license for the terminal expired. A new request to export was submitted by ConocoPhillips to DOE/FE for a short-term license (two-years), which was granted in April, 2014. The company subsequently applied again for an extension in September 2015, in advance of the expiration of its previous permit in April 2016. The company received its authorization on February 8, 2016. The current DOE/FE authorization, Order No. 3784, grants ConocoPhillips a new license to export LNG from its Kenai facility beginning February 19, 2016 and terminating on February 18, 2018.

The Alaska LNG Project: Bringing North Slope Natural Gas to Market

The Alaska LNG project submitted its application to export natural gas to countries with which the United States does not have an FTA on July 18, 2014.[2] In Order No. 3643, DOE/FE issued a conditional order granting the project approval to export natural gas to non-FTA countries.[3] In the order DOE/FE makes multiple references to Alaskan natural gas exports being different than those from the lower-48 states. In its conclusion, DOE/FE recognizes that "export facilities located in Alaska may present different considerations."[4] The Alaska LNG project includes an 800-mile pipeline to transport natural gas from the North Slope to its proposed liquefaction facility in Nikiski (not the existing terminal). According to DOE/FE, because of this distance it views the natural gas intended for export as stranded and that it would not otherwise come to market. According to DOE/FE, the added cost of the pipeline to the project necessitated a conditional authorization for the Alaska LNG project, something it stopped issuing for projects in the lower-48 states. In examining domestic and regional supply, DOE/FE concluded that its "focus in this proceeding is regional."[5]

In addition to the Natural Gas Act, natural gas exports from Alaska's North Slope, which is where the Alaska LNG project would source its natural gas, are subject to the Alaska Natural Gas Transportation Act (ANGTA) of 1976 (P.L. 94-586). Section 12 of the law stipulates that "before any Alaska natural gas in excess of 1,000 Mcf [thousand cubic feet] per day may be exported to any nation other than Canada or Mexico, the President must make and publish an express finding that such exports will not diminish the total quantity or quality nor increase the total price of energy available to the United States." Both the NGA and the ANGTA apply to North Slope natural gas exports. In 1988, President Reagan made a determination that exports of Alaska natural gas from the original Kenai terminal would satisfy the ANGTA requirement based in part on the price of natural gas at the time and the supply. Similar conditions would seem to apply now to the new Nikiski project.

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[2] U.S. Department of Energy, Office of Fossil Energy, *Order Conditionally Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Proposed Alaska LNG Terminal in Nikiski, Alaska, to Non-Free Trade Agreement Nations*, FE Docket No. 14-96-LNG, Washington, DC, May 28, 2015, p. 5, http://energy.gov/sites/prod/files/2015/07/f24/ord3643.pdf.

[3] When DOE/FE changed its procedures for evaluating U.S. LNG exports and eliminated its conditional approvals for projects, it retained its right to issue conditional approvals for projects in Alaska, and did issue a conditional approval for the Alaska LNG project. See http://energy.gov/sites/prod/files/2014/08/f18/FR%20Procedures%20LNG%20Exports%2008_15_14.pdf for the procedural changes.

[4] DOE/FE Docket No. 14-96-LNG, page 30.

[5] DOE/FE Docket No. 14-96-LNG, page 33.

Table 1. Documents Distinguishing Alaskan Natural Gas Exports

Newest to Oldest

Description	Order	Date	Excerpt/Comment
Order granting blanket authorization to export liquefied natural gas by vessel from the Kenai LNG facility near Kenai, Alaska, and vacating prior export authorization[a]	3784	February 8, 2016	"In particular, we (DOE/FE) find that the proposed exports of natural gas are not needed to meet regional demand in the Cook Inlet, Alaska area during the two-year period of this authorization. For these and other reasons discussed below, we grant CPANGC's Application."[b]
Order conditionally granting long-term, multi-contract authorization to export liquefied natural gas by vessel from the proposed Alaska LNG terminal in Nikiski, Alaska, to non-free trade agreement nations[c]	3643	May 28, 2015	"No intervenor challenged this assertion [that the question of general domestic or national need was not relevant], and DOE/FE concurs in it."[d]
Order granting long-term multi-contract authorization to export liquefied natural gas by vessel from the proposed Alaska LNG project in the Nikiski area of the Kenai Peninsula, Alaska, to free trade agreement nations[C]	3554	November 21, 2014	"As to the 12-year period for the commencement of export operations, Alaska LNG notes that construction of the Project will take place in challenging Arctic conditions. Alaska LNG also highlights the complexity and expansive scope of the Project, which it anticipates will lengthen the environmental review and permitting timelines under the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq."[e] DOE/FE granted the 12 year period to begin operations.
Order conditionally granting long-term multi-contract authorization to export liquefied natural gas by vessel from the Freeport LNG terminal on Quintana Island, Texas to non-free trade agreement nations	3282	May 17, 2013	Because there is no natural gas pipeline interconnection between Alaska and the lower 48 states, those LNG export markets generally are viewed as distinct.[f]
Report: *Effect of Increased Natural Gas Exports on Domestic Energy Markets* by the U.S. Energy Information Administration		January 2012	EIA assumed that an Alaska pipeline, which would transport Alaskan produced natural gas into the lower-48 United States, would not be built during the forecast period in any of the cases in order to isolate the lower-48 United States supply response. Due to this restriction, both the *AEO [Annual Energy Outlook] 2011* High Economic Growth and Low Shale EUR [estimated ultimate recovery] cases were rerun, as those cases had the Alaska pipeline entering service during the projection period in the published *AEO2011*.[g]
Order granting authorization to export liquefied natural gas from Alaska[a]	2860	October 5, 2010	"The standard of review in Order No. 2500, as here, is whether the proposed export is inconsistent with the public interest and, in particular, whether there is a shortage of natural gas supplies in the local Southeastern Alaska market such that local needs for natural gas cannot be met..."[h]

Description	Order	Date	Excerpt/Comment
Order granting authorization to export liquefied natural gas from Alaska[a]	2500	June 3, 2008	"On balance, we [DOE/FE] find that local interests are well served by a grant of the requested authorization because the continued operation of the Applicant's liquefaction plant provides significant benefits to the local economy."[i]
Order extending authorization to export liquefied natural gas from Alaska[a]	1473	April 2, 1999	DOE/FE authorized the extension of exports from Alaska, it evaluated the impact of the exports on a regional basis and did not mention the effect on prices in the lower-48 states.[j]

Source: U.S. Department of Energy and U.S. Energy Information Administration.

Notes:

a. Refers to the existing Kenai LNG terminal.

b. p. 2, http://www.energy.gov/sites/prod/files/2016/02/f29/ord3784.pdf.

c. Refers to the proposed terminal in Nikiski.

d. p. 5, http://energy.gov/sites/prod/files/2015/07/f24/ord3643.pdf.

e. p. 6, http://energy.gov/sites/prod/files/2014/11/f19/ord3554%20fta.pdf.

f. pp. 13-14, http://energy.gov/sites/prod/files/2013/05/f0/ord3282.pdf.

g. p. 3. This study was commissioned by DOE's Office of Fossil Energy as part of their statutory requirements to determine if natural gas exports to non-FTA countries are in the public interest.

h. p. 16, http://www.fossil.energy.gov/programs/gasregulation/authorizations/Orders_Issued_2010/ord2860.pdf.

i. p. 57, http://ferc.gov/industries/gas/indus-act/angtp/doe2500.pdf.

j. http://www.fossil.energy.gov/programs/gasregulation/authorizations/orders/ord1473.pdf.

APPENDIX D:
National Petroleum Reserve-Alaska

MEMORANDUM

To: Senate Committee on Energy and Natural Resources
Attention: Tristan Abbey

From: Marc Humphries, Specialist in Energy Policy

Subject: **Brief History and Status of the Former Naval Petroleum Reserves**

You requested a memorandum on a brief history and status of the former Naval Petroleum Reserves (NPR) beginning with the Naval Petroleum Reserves Production Act of 1976 (P.L. 94-258). The 1976 Act placed the reserves within a production framework rather than for conservation, e.g., the 1976 Act authorized full commercial development of the reserves. The reserves were primarily transferred to and managed by the newly established Department of Energy (DOE) in 1977. There were seven reserves listed under the 1976 Act. No maps of the NPRs are included in this memo, because they were either non-authoritative or inadequate, with the exception of the NPR-A map.

Former NPR's:

NPR-1 Elk Hills

Elk Hills is located in Kern County, near Bakersfield, California, and was one of the largest oil fields in the United States. The DOE was directed to sell off the asset by the Defense Authorization Act of 1996 (P.L. 104-106). NPR-1 was privatized in 1998. Occidental Petroleum Company (OXY) purchased it for $3.65 billion. The Elk Hills oil field had been in production since 1976. At its peak in 1981, Elk Hills produced 181,000 barrels per day. OXY continues to produce oil and gas at its Elk Hills operation.

NPR-2 Buena Vista

NPR-2 is also in Kern County, California, about 30 miles southwest of Bakersfield. The property was transferred from the Department of Defense (DOD) to DOE following the 1976 Act, then, under the Energy Policy Act of 2005, the property was transferred to the Department of the Interior (DOI). Some of the lands were conveyed to the city of Taft, California. The Bureau of Land Management (BLM) [1] held oil and gas lease sales beginning in 2006 -- the first in about 80 years. The field is currently near exhaustion.

[1] The BLM, an agency within the Department of the Interior, administers the oil and gas leasing program on federal lands, among other things.

NPR-3 Teapot Dome

NPR-3 is located about 25 miles north of Casper, Wyoming. After the 1976 Act, the DOE retained operation of NPR-3 (Teapot Dome), operating a small stripper well and the Rocky Mountain Oilfield Testing Center (RMOTC) until its recent sale to Stranded Oil Resources Corporation on January 30, 2015. The DOE announced its intent to sell the NPR-3 in July 2013. The RMOTC used NPR-3 as a commercial testing ground for new technology and processes for petroleum production.

NPR-4 Alaska

The Naval Petroleum Reserve-Alaska, (NPR-A), located in northwest Alaska, was renamed the National Petroleum Reserve-Alaska and transferred to the DOI following the 1976 Act. The BLM held lease sales in the northeast planning area of the reserve in 1999, 2002, and 2010 and held lease sales in the northwest planning area in 2004 and 2006. In 2008 and 2011, tracts were offered in the northeast and northwest areas. On February 13, 2015, the BLM reached a Record of Decision on a development alternative that would allow the Greater Moose's Tooth One (GMT1) oil and gas project to move forward, potentially reaching production in the far eastern section of the reserve. The GMT1 site would be the first producer in the NPR-A.

In 2012, the Secretary of the Interior (Ken Salazar) announced his decision, based on a multi-year planning process and the Final Integrated Activity Plan/Environmental Impact Statement, to limit oil and gas development to about 12 million acres (or 72% of the reserve's estimated recoverable oil and gas) of the 23 million acre reserve.

Naval Oil Shale Reserve-1 Colorado (NOSR-1) (top of the Roan Plateau) and Naval Oil Shale Reserve-3 Colorado (NOSR-3) (base of the Roan Plateau)

The NOSRs 1 and 3, located in western Colorado near the city of Rifle, were transferred from DOE to the DOI in 1997 under the National Defense Authorization Act of 1997 (P.L. 105-85). Properties were transferred for the purpose of developing their commercial potential within the multiple-use planning framework for federal land use. The Roan Plateau was included in the BLM Resource Management Plan (RMP) in 1984 and within the Roan Plateau Planning Area. Oil and gas lease sales were held beginning in 2008, but currently there is no production in the former NOSR-1 (top of the Roan Plateau). Development was halted as a result of a court challenge. As part of the settlement, the BLM is required to complete a new Environmental Impact Statement which would analyze and possibly adopt the Roan Plateau Settlement.

Several natural gas wells were developed by DOE in the former NOSR-3. Currently, there is significant oil and gas production in the former NOSR-3 (base of the Roan Plateau). The Anvil Points Oil Shale R&D facility which was established at NOSR-3 was decommissioned between 1985-1987.

Naval Oil Shale Reserve-2 Utah (NOSR-2)

The DOE transferred NOSR-2 to the Northern Ute Indian Tribe in 2000. Plans for development are uncertain as a search did not uncover anything specific to the former NOSR site.

APPENDIX E:
Oil Exports from Cook Inlet

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MEMORANDUM

To: Senate Committee on Energy and Natural Resources
Attention: Tristan Abbey

From: Paul Parfomak, Specialist in Energy Policy

Subject: **Cook Inlet Oil Exports**

This memorandum responds to your request for a brief historical overview of oil exports from Cook Inlet, Alaska.[1] Please let me know if you have additional questions.

Oil Exports from Cook Inlet

Prior to passage of the Consolidated Appropriations Act, 2016 (P.L. 114-113), which generally lifts restrictions on marketing and selling U.S. crude oil to international buyers,[2] exports of Alaskan crude oil other than those passing through the Trans Alaska Pipeline System (TAPS) were subject to restrictions under the Energy Policy and Conservation Act of 1975 (P.L. 94-163, EPCA). This act required the President to promulgate a rule prohibiting the export of domestic crude oil, generally, but allowed exemptions for exports which the President determines to be consistent with the national interest and the purposes of the act (§103(b)) as further detailed in the **Appendix**. Responsibility for implementing EPCA was delegated by the President to the Secretary of Commerce. Therefore, crude oil export licenses under EPCA were issued by the Bureau of Industry and Security (BIS) within the Department of Commerce.

On November 6, 1985, the Secretary of Commerce determined that the export of crude oil from Alaska's Cook Inlet was consistent with the national interest and the purposes of EPCA. The exemption was granted in part due to the efforts of Alaska's congressional delegation and others to persuade the Reagan Administration that increased oil revenues would spur greater oil development in Alaska in the face of declining production.[3] Crude oil production from Cook Inlet state waters at that time was around 40,000 barrels per day (bbl/d), but was declining approximately 15% per year due to a lack of new investment by incumbent oil producers (**Figure 1**).[4]

[1] A more expansive discussion of Alaskan energy exports is available in CRS Report R43753, *U.S. Exports of Crude Oil and Natural Gas: The Case of Alaska*, by Paul W. Parfomak and Ian F. Fergusson.

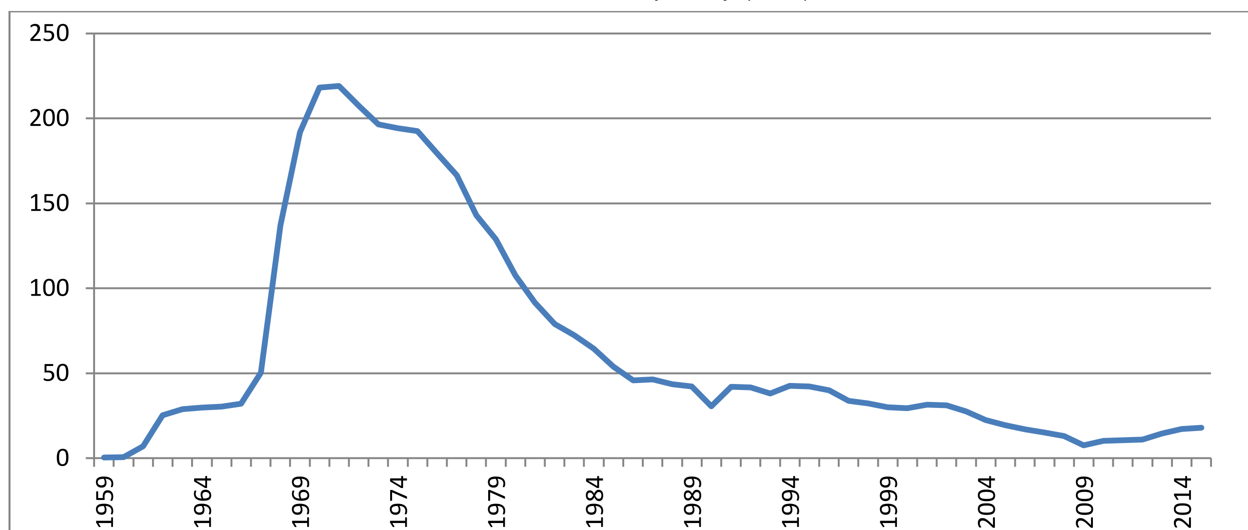
[2] For further discussion of the act, see CRS Report R44403, *Crude Oil Exports and Related Provisions in P.L. 114-113: In Brief,* by Philip Brown, John Frittelli, and Molly F. Sherlcok.

[3] Resource Development Council, Inc., "Cook Inlet Oil," *Resource Review*, newsletter, Anchorage, AK, November 1985.

[4] Department of Commerce, International Trade Administration, "Exports of Crude Oil Derived from Alaska's Cook Inlet," 51 *Federal Register* 20252, June 4, 1986.

Figure 1. Cook Inlet Crude Oil and NGL Production

Thousand barrels per day (bbl/d)



Sources: Alaska Department of Natural Resources, "Royalty Production," web page, April 6, 2016, http://dog.dnr.alaska.gov/Royalty/Production.htm; Alaska Department of Revenue, Tax Division, "Alaska Oil Production," November 8, 2013, http://www.tax.alaska.gov/sourcesbook/AlaskaProduction.pdf.

Note: NGL = natural gas liquids. NGL exports have not been subject to export restrictions.

In his national interest determination, the Secretary of Commerce addressed Cook Inlet crude oil development.

> The benefits that will ensue from these exports include increased incentives for investment in the exploration and development of domestic crude oil, transportation efficiencies, and material enhancements to the energy security of our allies. This initiative will also encourage other countries to remove trade barriers to U.S. goods and services. It does not affect our energy security as we retain the flexibility to react to changes in the world's available oil supply.[5]

BIS license policy for Cook Inlet crude oil exports in the *Code of Federal Regulations* stated:

> **Exports from Alaska's Cook Inlet.** The licensing policy is to approve applications for exports of crude oil that was derived from the state-owned submerged lands of Alaska's Cook Inlet and has not been, or will not be, transported by a pipeline over a federal right-of-way subject to the [Mineral Leasing Act] or the Trans-Alaska Pipeline Authorization Act.[6]

The *Federal Register* notice stated that BIS export licenses issued under these regulations will have a term no longer than one year and are subject to revocation "if there is serious interruption to available U.S. oil supplies."[7] According to the BIS, the agency approved a total of six licenses for the export of Cook Inlet oil in fiscal years 1986, 1987 (2), 1989 (2), and 1990.[8]

The state of Alaska receives royalties of approximately 12.5% of the oil and natural gas produced from its leases. These royalties may be taken as a share of the physical commodity—royalties "in-kind" (RIK)—or as a share of commodity value. According to the Alaska Department of Natural Resources, the state

[5] Ibid.

[6] 15 C.F.R 754.2 (d).

[7] Department of Commerce, "Exports of Crude Oil Derived from Alaska's Cook Inlet," 50 *Federal Register* 52798, December 26, 1985.

[8] Bureau of Industry and Security, personal communication, September 8, 2014.

began exporting its RIK oil from the Cook Inlet to Taiwan in 1987. Exports to Taiwan continued through a series of one-year competitive auctions until 1991, when the last contracted deliveries were stopped under *force majeure* following the eruption of the Mount Redoubt volcano, which disrupted oil operations in the Cook Inlet area.[9] The total volume of RIK Cook Inlet crude oil exported to Taiwan between 1987 and 1991 was 3,587,088 barrels.[10] These exports never resumed. The exports by the state of Alaska correspond with the BIS licenses issued and appear to account for all oil exports from Cook Inlet. As **Figure 1** shows, while Cook Inlet exports may have temporarily increased crude production, they did little to reverse the long-term decline of crude oil production in the region. Today, nearly all crude oil produced in Cook Inlet is supplied to a refinery near the city of Kenai, AK, which produces most of Alaska's gasoline as well as other fuels.[11]

[9] Alaska Department of Natural Resources, *Division of Oil and Gas 2009 Annual Report*, May 2010, p. 36, http://dog.dnr.alaska.gov/Publications/Documents/AnnualReports/Section2_2009.pdf.

[10] Ibid., Table II.8.

[11] Alaska Oil and Gas Association, "AOGA Fact Sheet: Cook Inlet Oil & Gas Production," April 2015, p. 3.

Appendix: Prior Statutory Limits on Cook Inlet Exports

Energy Policy and Conservation Act of 1975 (P.L. 94-163 §103)

DOMESTIC USE OF ENERGY SUPPLIES AND RELATED MATERIALS AND EQUIPMENT

SEC. 103. (a) The President may, by rule, under such terms and conditions as he determines to be appropriate and necessary to carry out the purposes of this Act, restrict exports of—

(1) coal, petroleum products, natural gas, or petrochemical feedstocks, and

(2) supplies of materials or equipment which he determines to be necessary (A) to maintain or further exploration, production, refining, or transportation of energy supplies, or (B) for the construction or maintenance of energy facilities within the United States.

(b) (1) The President shall exercise the authority provided for in Exemption, subsection (a) to promulgate a rule prohibiting the export of crude oil and natural gas produced in the United States, except that the President may, pursuant to paragraph (2), exempt from such prohibition such crude oil or natural gas exports which he determines to be consistent with the national interest and the purposes of this Act.

(2) Exemptions from any rule prohibiting crude oil or natural gas exports shall be included in such rule or provided for in an amendment thereto and may be based on the purpose for export, class of seller or purchaser, country of destination, or any other reasonable classification or basis as the President determines to be appropriate and consistent with the national interest and the purposes of this Act.

(c) In order to implement any rule promulgated under subsection (a) of this section, the President may request and, if so, the Secretary of Commerce shall, pursuant to the procedures established by the Export Administration Act of 1969 (but without regard to the phrase "and to reduce the serious inflationary impact of foreign demand" in section 3(2)(A) of such Act), impose such restrictions as specified in any rule under subsection (a) on exports of coal, petroleum products, natural gas, or petrochemical feedstocks, and such supplies of materials and equipment.

(d) Any finding by the President pursuant to subsection (a) or (b) and any action taken by the Secretary of Commerce pursuant thereto shall take into account the national interest as related to the need to leave uninterrupted or unimpaired—

(1) exchanges in similar quantity for convenience or increased efficiency of transportation with persons or the government of a foreign state,

(2) temporary exports for convenience or increased efficiency of transportation across parts of an adjacent foreign state which exports reenter the United States, and

(3) the historical trading relations of the United States with Canada and Mexico....

APPENDIX F:
TAPS/Canada Oil Exports

MEMORANDUM

To: Senate Committee on Energy and Natural Resources
Attention: Tristan Abbey

From: Paul Parfomak, Specialist in Energy Policy

Subject: **Alaska Oil Exports to Canada Under Free Trade Agreements**

This memorandum responds to your request for a brief historical overview of oil exports from Alaska to Canada under free trade agreements.[1] Please let me know if you have additional questions.

Alaska Oil Exports under USCFTA and NAFTA

The United States-Canada Free-Trade Agreement Implementation Act of 1988 (USCFTA)[2] authorized exports of up to 50,000 barrels per day (bbl/d)[3] of Trans Alaska Pipeline System (TAPS) crude oil to Canada—as provided for in the agreement[4]—subject to certain presidential findings and on condition that the oil be shipped on U.S.-flagged tankers from the lower 48 states and consumed in Canada.[5] It appears that access to TAPS oil was a Canadian request, based on the needs of Vancouver refineries. Canada sought this reciprocal access for its acquiescence to essentially guarantee a supply of oil and gas to the United States under the USCFTA energy chapter. It was noted that 50,000 bbl/d was only 2-3% of total Alaskan daily output in 1988.[6] To implement this provision of the agreement, on December 31, 1988, President Reagan issued a finding that crude oil exports under USCFTA were in the national interest.[7] According to the Alaska Department of Natural Resources, however, there were no shipments of TAPS crude to Canada under this authorization.[8]

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[1] A more expansive discussion of Alaskan energy exports is available in CRS Report R43753, *U.S. Exports of Crude Oil and Natural Gas: The Case of Alaska*, by Paul W. Parfomak and Ian F. Fergusson.

[2] P.L. 100-449 §305(a).

[3] While an explanation of the precise figure of 50,000 bbl/d may be lost to history, it appears to have been related to the refinery capacity in Vancouver where it was presumed by Alaska officials the oil would be shipped.

[4] USCFTA, Annex 902.5(3)

[5] P.L. 100-449 §305(a).

[6] "Energy: Free Trade with Canada," Hearings before the Subcommittee on Energy and Power, Committee on Energy and Commerce, March 1, 1988, Serial No. 100-179. p. 4.

[7] President Ronald Reagan, "Presidential Findings Regarding the Export of Alaskan Crude Oil to Canada," December 31, 1988.

[8] Alaska Department of Natural Resources, personal communication, September 18, 2014.

The TAPS oil export provisions of the USCFTA were incorporated by reference in the North American Free Trade Agreement (NAFTA), which went into effect on January 1, 1994.[9] However, the regulatory record raises the question of whether the 1996 determination allowing unlimited exports from TAPS was in conflict with the earlier 1988 determination with regard to Canada. It could be argued that—as the superseding language—the 1996 determination did extend to Canada as the language is not country specific. Nonetheless, the 1988 determination capping the amount at 50,000 bbl/d was also still reflected in the BIS export regulations. Because Canada apparently never imported U.S. crude oil under the specific provisions related to TAPS it is unclear whether the two seemingly different allowances represented an oversight in regulatory codification or the licensing policy at the time.

Lifting of U.S. Crude Oil Export Restrictions

On December 18, 2015, Congress passed the Consolidated Appropriations Act, 2016 (H.R. 2029), which was signed by the President and became P.L. 114-113.[10] Included in P.L. 114-113 is a provision that repeals Section 103 of the Energy Policy and Conservation Act of 1975 (EPCA; P.L. 94-163), which directs the President to promulgate a rule prohibiting crude oil exports. P.L. 114-113 also includes a "savings clause" and a list of exceptions that maintain and provide the President with authority to restrict exports under certain circumstances. Enactment of P.L. 114-113 allows U.S. crude oil to be marketed and sold to international buyers and concludes a nearly two-year debate about the varied and multi-dimensional considerations associated with allowing the export of crude oil produced in the United States. Passage of P.L. 114-113 appears to have removed any USCFTA or NAFTA restrictions on TAPS oil export from Alaska to Canada. However, CRS is not aware of any crude oil shipments from TAPS to Canada since the act was passed.

[9] NAFTA, Annex 608.2

[10] For further discussion, see CRS Report R44403, *Crude Oil Exports and Related Provisions in P.L. 114-113: In Brief,* by Philip Brown, John Frittelli, and Molly F. Sherlcok.

APPENDIX G:
Oil Exports from TAPS

Congressional
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MEMORANDUM

To: Senate Committee on Energy and Natural Resources
Attention: Tristan Abbey

From: Paul Parfomak, Specialist in Energy Policy

Subject: **Alaska North Slope Oil Exports**

This memorandum responds to your request for a brief historical overview of oil exports from Alaska's North Slope.[1] Please let me know if you have additional questions.

North Slope Oil Exports

The export of crude oil from Alaska's North Slope (ANS) has been an issue for Congress since the authorization of the Trans Alaska Pipeline System (TAPS) in 1973. The Trans Alaska Pipeline Authorization Act[2] specified that oil shipped through the pipeline could be exported internationally, but only under restrictive conditions (detailed in the **Appendix**) including a finding by the President that such exports would be in the national interest. These conditions were reaffirmed in the Export Administration Act of 1979.[3] In effect, the conditions amounted to a ban on TAPS oil exports.

TAPS was completed in 1977; initial oil shipments were flowing by year-end. With continued oilfield development on the North Slope, production climbed steadily for 10 years, peaking at nearly 2 million barrels per day (bbl/d) in 1988 (**Figure 1**). Much of the North Slope crude was shipped to California for refining, which was the nation's third-largest oil producer at the time.

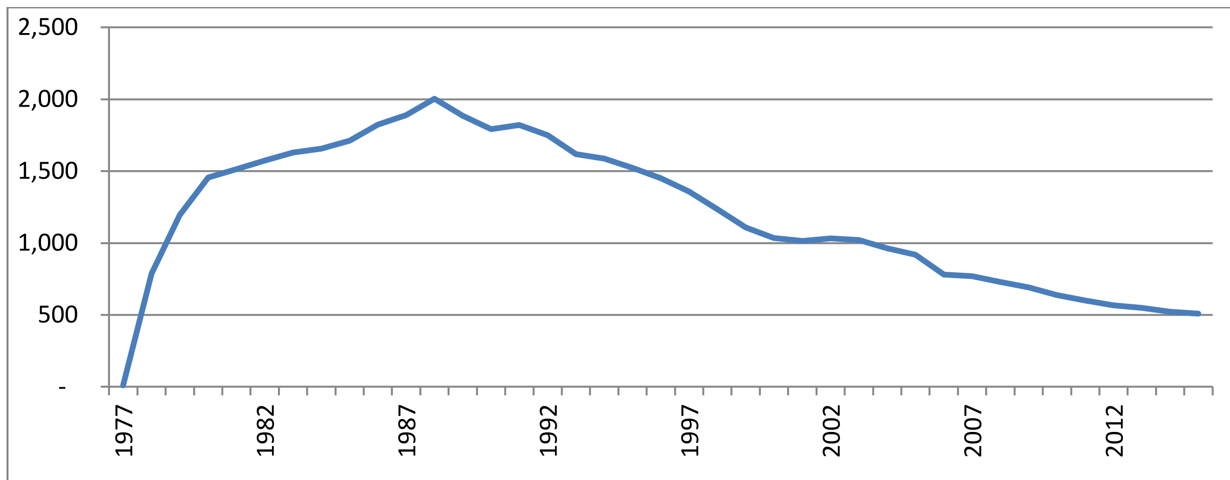
[1] A more expansive discussion of Alaskan energy exports is available in CRS Report R43753, *U.S. Exports of Crude Oil and Natural Gas: The Case of Alaska*, by Paul W. Parfomak and Ian F. Fergusson.

[2] P.L. 93-153, 43 U.S.C. §§1651 et seq.

[3] P.L. 108-458 §7(d).

Figure 1. Alaska North Slope Crude Oil Production

Thousand barrels per day (bbl/d)



Sources: Alaska Department of Natural Resources, "Royalty Production," web page, April 6, 2016, http://dog.dnr.alaska.gov/Royalty/Production.htm; Alaska Department of Revenue, Tax Division, "Alaska Oil Production," November 8, 2013, http://www.tax.alaska.gov/sourcesbook/AlaskaProduction.pdf..

The United States-Canada Free-Trade Agreement Implementation Act of 1988 (USCFTA)[4] authorized exports of up to 50,000 bbl/d[5] of TAPS crude oil to Canada—as provided for in the agreement[6]—subject to certain presidential findings and on condition that the oil be shipped on U.S.-flagged tankers from the lower 48 states and consumed in Canada.[7] It appears that access to TAPS oil was a Canadian request, based on the needs of Vancouver refineries. Lacking access to TAPS crude, Canadian refiners on the west coast had to source their oil feedstock from more expensive Asian or Middle Eastern suppliers. Canada sought this reciprocal access for its acquiescence to essentially guarantee a supply of oil and gas to the United States under the USCFTA energy chapter. It was noted that 50,000 bbl/d was only 2-3% of total Alaskan daily output in 1988.[8] To implement this provision of the agreement, on December 31, 1988, President Reagan issued a finding that crude oil exports under USCFTA were in the national interest.[9] According to the Alaska Department of Natural Resources (ADNR), however, there were no shipments of TAPS crude to Canada under this authorization.[10]

In the mid-1990s, high volumes of Alaskan oil could be shipped economically only to the four western states.[11] This resulted in locally falling oil prices and constrained domestic production.[12] As California prices fell below world prices, there were complaints from West Coast oil producers, industry analysts,

[4] P.L. 100-449 §305(a).

[5] While an explanation of the precise figure of 50,000 bbl/d may be lost to history, it appears to have been related to the refinery capacity in Vancouver where it was presumed by Alaska officials the oil would be shipped.

[6] USCFTA, Annex 902.5(3)

[7] P.L. 100-449 §305(a).

[8] "Energy: Free Trade with Canada," Hearings before the Subcommittee on Energy and Power, Committee on Energy and Commerce, March 1, 1988, Serial No. 100-179. p. 4.

[9] President Ronald Reagan, "Presidential Findings Regarding the Export of Alaskan Crude Oil to Canada," December 31, 1988.

[10] Alaska Department of Natural Resources, personal communication, September 18, 2014.

[11] Very minor amounts also went through the Panama Canal to U.S. refineries on the Gulf of Mexico.

[12] See, for example: Samuel A. Van Vactor, "Time to End the Alaskan Oil Export Ban," Cato Policy Analysis No. 227, Cato Institute, May 18, 1995, http://www.cato.org/pubs/pas/pa-227 html.

and public officials about what they perceived to be artificially depressed prices. Some also pointed to the underutilization of tankers built to carry North Slope crude, and the resulting negative impacts on marine employment, shipbuilding and repair, and the availability of tankers for national defense.[13]

Early efforts to achieve remedial action failed until 1995, when low world oil prices and a supportive Department of Energy (DOE) coincided with renewed legislative efforts in both Houses of Congress. A June 1994 DOE study, *Exporting Alaskan North Slope Crude Oil—Benefits and Costs*, concluded that permitting the export of Alaska crude would be beneficial to the U.S. economy.

> First, lifting the ban would expand the markets in which ANS oil can be sold, thereby increasing its value. ANS oil producers, the States of California and Alaska, and some of their local governments all would benefit from increased revenues. Permitting exports also would generate new economic activity and employment in California and Alaska. The study concludes that these economic benefits would be achieved without increasing gasoline prices (either in California or in the nation as a whole).[14]

Increased producer revenues would be the result of access to a broader market as well as transportation savings from avoiding the Panama Canal to reach U.S. ports in the Gulf of Mexico. In addition, DOE predicted that higher prices at the wellhead would result in 100,000 bbl/d more output from Alaska and California than would be the case with continued export restriction. Higher North Slope production, in turn, would generate additional income to the federal government due to oil sales from federally owned reserves and royalties on federal leases. Royalty revenues to the state of Alaska would likewise increase.

Original opposition to the export of crude oil from TAPS was driven in part by representatives of the U.S. maritime industry, who viewed Alaskan oil development as an opportunity to enlarge the U.S.-flagged coastal tanker fleet under the Merchant Marine Act of 1920 (the Jones Act).[15] The Jones Act requires shipments between U.S. ports to be carried on U.S.-flagged vessels. More recent opponents of exports from TAPS argued that such exports would increase U.S. dependence upon foreign oil supplies, raise gasoline prices, and lead to job losses at West Coast refineries no longer being supplied with Alaskan oil. Some opponents also expressed concerns about potential oil spills (in light of the *Exxon Valdez* spill) or linked TAPS oil exports to potential oil exploration in Alaska's Arctic National Wildlife Refuge, an environmentally sensitive area they wished to protect from development.[16]

Notwithstanding the arguments of opponents, and with substantial projected economic benefits (and little administrative cost), bills to repeal the effective export ban in the 104th Congress (H.R. 70 and S. 395) passed by large margins, 324-77 and 74-25 respectively.[17] President Clinton signed the Trans-Alaska Pipeline Amendment Act (P.L. 104-58) in November 1995. The act provides that oil transported through TAPS may be exported unless the President finds, after considering specified criteria, that exports are not in the national interest.[18]

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[13] U.S. Congress, House Committee on Resources, *Exports of Alaskan North Slope Oil*, To Accompany H.R. 70, 104th Cong., 1st sess., June 15, 1995, H.Rept. 104-139 (Washington: GPO, 1995).

[14] Department of Energy, *Exporting Alaskan North Slope Crude Oil—Benefits and Costs*, June 1994, p. 1.

[15] Samuel A. Van Vactor, May 18, 1995. For further discussion see CRS Report R43653, *Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues*, by John Frittelli.

[16] "Alaska Oil Export Ban Lifted," *CQ Almanac, 1995*, 51st ed., pp. 5-25-5-26, 1996.

[17] While the export ban was under debate in 1995, the United States was already exporting nearly 900,000 bbl/d of petroleum products—28% in the form of petroleum coke, which is used in making steel. Other exports were cross-border exchanges of refined products, as well as some crude, with Canada and Mexico. Trade in petroleum coke plus exports to Canada and Mexico accounted for 69% of all U.S. oil exports at the time.

[18] Trans-Alaska Pipeline Amendment Act of 1995, P.L. 104-58, 30 U.S.C. §185(s).

To address the economic and environmental issues associated with TAPS oil exports, the National Economic Council, the Council on Environmental Quality, and the Department of Commerce's Bureau of Export Administration coordinated an interagency review. The review—which included extensive public hearings, review of public comments, and analytical evaluation—concluded that TAPS exports would not likely pose a significant impact to the economy or the environment.[19] Subsequently, on April 28, 1996, President Clinton issued a national interest determination authorizing North Slope oil exports. The President's determination stated that such exports

> will not diminish the total quantity or quality of petroleum available to the United States; and are not likely to cause sustained material oil supply shortages or sustained oil price increases significantly above world market levels that would cause sustained material adverse employment effects in the United States or that would cause substantial harm to consumers.... I have also ... concluded that exports of such crude oil will not pose significant risks to the environment if certain terms and conditions are met.[20]

The oil export authorization included several conditions related to tanker shipping routes, inspections, and ballast exchange intended to mitigate environmental risk.

With the crude oil export restrictions lifted, TAPS exports totaling 36,000 bbl/d began in 1996; they grew to 66,500 bbl/d in 1997, dipped to 52,900 bbl/d in 1998, and rose again to a high of 74,000 bbl/d in 1999—about 7% of North Slope production that year. According to the Energy Information Administration (EIA), Alaskan crude oil exports between 1996 and 2004 were shipped to South Korea (48%), Japan (26%), China (17%), and Taiwan (9%).[21] TAPS exports ceased temporarily in May 2000 as West Coast buyers had to pay more to compete with foreign buyers for Alaskan oil. An additional cargo was shipped to China in 2004 aboard a tanker reportedly en route to Asia for repairs.[22] TAPS exports resumed with two shipments of crude oil in October 2014 and May 2015 bound for a refinery in South Korea.[23]

Viewed relative to total domestic refinery input of 14.8 million bbl/d,[24] TAPS crude oil exports at their peak in 1999 amounted to the equivalent of half of one percent of U.S. refinery demand. In absolute terms, these export volumes were not viewed by market analysts as particularly significant. In a July 1999 report, the General Accounting Office (GAO)[25] concluded that lifting the North Slope oil export effective ban raised the relative prices of North Slope and comparable California oils between $0.98 and $1.30 per barrel above what they would have been with the effective ban in place, but that the price increases did not have an observable effect on North Slope or California oil production. (It is possible that production could have been lower without the incremental demand for exports.) The GAO also concluded that lifting the export ban increased costs for some refiners but had limited effects on consumers and the oil-shipping industry on the West Coast.[26]

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[19] Department of Commerce, Bureau of Export Administration, "Exports of Alaskan North Slope Crude Oil; Establishment of License Exception TAPS," 61 *Federal Register* 27255, May 31, 1996.

[20] President William J. Clinton, Memorandum to the Secretary of Commerce and the Secretary of Energy, April 28, 1996.

[21] Energy Information Administration, "How Much Oil Is Produced in Alaska and Where Does It Go?," web page, June 26, 2014, http://www.eia.gov/tools/faqs/faq.cfm?id=35&t=6

[22] Warren Cornwall, "Where Would ANWR Oil Go?" *The Seattle Times*, April 19, 2005.

[23] Jacob Gronholt-Pedersen and Liz Hampton, "Traders Eye Alaskan Oil Exports to Asia as Shipping Ban Ended," Reuters, January 8, 2016.

[24] Energy Information Administration, "U.S Refinery and Blender Net Input of Crude Oil," web page, September 29, 2014, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRRIUS1&f=A.

[25] Now called the Government Accountability Office.

[26] General Accounting Office, *Alaskan North Slope Oil: Limited Effects of Lifting Export Ban on Oil and Shipping Industries and Consumers*, GAO/RCED-99-191, July 1999.

Appendix: Statutory Limits on TAPS Oil Exports

Trans Alaska Pipeline Authorization Act of 1973 (P.L. 93-153 §101)

Limitations on Export

(u) Any domestically produced crude oil transported by pipeline over rights-of-way granted pursuant to section 28 of the Mineral Leasing Act of 1920, except such crude oil which is either exchanged in similar quantity for convenience or increased efficiency of transportation with persons or the government of an adjacent foreign state, or which is temporarily exported for convenience or increased efficiency of transportation across parts of an adjacent foreign state and reenters the United States, shall be subject to all of the limitations and licensing requirements of the Export Administration Act of 1969 (Act of December 30, 1969; 83 Stat. 841) and, in addition, before any crude oil subject to this section may be exported under the limitations and licensing requirements and penalty and enforcement provisions of the Export Administration Act of 1969 the President must make and publish an express finding that such exports will not diminish the total quantity or quality of petroleum available to the United States, and are in the national interest and are in accord with the provisions of the Export Administration Act of 1969: *Provided*, That the President shall submit reports to the Congress containing findings made under this section, and after the date of receipt of such report Congress shall have a period of sixty calendar days, thirty days of which Congress must have been in session, to consider whether exports under the terms of this section are in the national interest. If the Congress within this time period passes a concurrent resolution of disapproval stating disagreement with the President's finding concerning the national interest, further exports made pursuant to the aforementioned Presidential findings shall cease. (P.L. 93-153 § 101)

Export Administration Act of 1979 (P.L. 108-458 §7(d))

(d) DOMESTICALLY PRODUCED CRUDE OIL.—(1) Notwithstanding any other provision of this Act and notwithstanding subsection (u) of section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), no domestically produced crude oil transported by pipeline over right-of-way granted pursuant to section 203 of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1652) (except any such crude oil which (A) is exported to an adjacent foreign country to be refined and consumed therein in exchange for the same quantity of crude oil being exported from that country to the United States; such exchange must result through convenience or increased efficiency of transportation in lower prices for consumers of petroleum products in the United States as described in paragraph (2)(A)(ii) of this subsection, (B) is temporarily exported for convenience or increased efficiency of transportation across parts of an adjacent foreign country and reenters the United States, or (C) is transported to Canada, to be consumed therein, in amounts not to exceed an annual average of 50,000 barrels per day, in addition to exports under subparagraphs (A) and (B), except that any ocean transportation of such oil shall be by vessels documented under section 12106 of title 46, United States Code) may be exported from the United States, or any of its territories and possessions, subject to paragraph (2) of this subsection.

(2) Crude oil subject to the prohibition contained in paragraph (1) may be exported only if—

(A) the President so recommends to the Congress after making and publishing express findings that exports of such crude oil, including exchanges—

(i) will not diminish the total quantity or quality of petroleum refined within, stored within, or legally committed to be transported to and sold within the United States;

(ii) will, within 3 months following the initiation of such exports or exchanges, result in (I) acquisition costs to the refiners which purchase the imported crude oil being lower than the acquisition costs such refiners would have to pay for the domestically produced oil in the absence of such an export or exchange, and (II) not less than 75 percent of such

savings in costs being reflected in wholesale and retail prices of products refined from such imported crude oil;

(iii) will be made only pursuant to contracts which may be terminated if the crude oil suppliers of the United States are interrupted, threatened, or diminished;

(iv) are clearly necessary to protect the national interest; and

(v) are in accordance with the provisions of this Act; and

(B) the President includes such findings in his recommendation to the Congress and the Congress, within 60 days after receiving that recommendation, agrees to a joint resolution which approves such exports on the basis of those findings, and which is thereafter enacted into law.

(3) Notwithstanding any other provision of this section or any other provision of law, including subsection (u) of section 28 of the Mineral Leasing Act of 1920, the President may export oil to any country pursuant to a bilateral international oil supply agreement entered into by the United States with such nation before June 25, 1979, or to any country pursuant to the International Emergency Oil Sharing Plan of the International Energy Agency.

Trans-Alaska Pipeline Amendment Act of 1995 (P.L. 104-58 §202)

(f) Exports of Alaskan North Slope Oil—

(1) Subject to paragraphs (2) through (6), of this subsection and notwithstanding any other provision of law (including any regulation), any oil transported by pipeline over right-of-way granted pursuant to this section may be exported after October 31, 1995 unless the President finds that exportation of this oil is not in the national interest. In evaluating whether the proposed exportation is in the national interest, the President—

(A) shall determine whether the proposed exportation would diminish the total quantity or quality of petroleum available to the United States;

(B) shall conduct and complete an appropriate environmental review of the proposed exportation, including consideration of appropriate measures to mitigate any potential adverse effect on the environment, within four months after the date of enactment of this subsection; and

(C) shall consider, after consultation with the Attorney General and Secretary of Commerce, whether anticompetitive activity by a person exporting crude oil under authority of this subsection is likely to cause sustained material crude oil supply shortages or sustained crude oil prices significantly above world market levels for independent refiners that would cause sustained material adverse employment effects in the United States.

The President shall make his national interest determination within five months after the date of enactment of this subsection or 30 days after completion of the environmental review, whichever is earlier. The President may make his determination subject to such terms and conditions (other than a volume limitation) as are necessary or appropriate to ensure that the exportation is consistent with the national interest.

(2) Except in the case of oil exported to a country pursuant to a bilateral international oil supply agreement entered into by the United States with the country before June 25, 1979, or to a country pursuant to the International Emergency Oil Sharing Plan of the International Energy Agency, any oil transported by pipeline over right-of-way granted pursuant to this section, shall, when exported, be transported by a vessel documented under the laws of the United States and owned by a citizen of the United States (as determined in accordance with section 2 of the Shipping Act, 1916 (46 U.S.C. App. 802)).

(3) Nothing in this subsection shall restrict the authority of the President under the Constitution, the International Emergency Economic Powers Act (50 U.S.C. 1701 et seq.), or the National Emergencies Act (50 U.S.C. 1601 et seq.) to prohibit exportation of the oil.

(4) The Secretary of Commerce shall issue any rules necessary for implementation, including any licensing requirements and conditions, of the President’s national interest determination within 30 days of the date of such determination by the President. The Secretary of Commerce shall consult with the Secretary of Energy in administering the provisions of this subsection.

(5) If the Secretary of Commerce finds that anticompetitive activity by a person exporting crude oil under authority of this subsection has caused sustained material crude oil supply shortages or sustained crude oil prices significantly above world market levels and further finds that these supply shortages or price increases have caused sustained material adverse employment effects in the United States, the Secretary of Commerce may recommend to the President who may take appropriate action against such person, which may include modification or revocation of the authorization to export crude oil.

(6) Administrative action with respect to an authorization under this subsection is not subject to sections 551 and 553 through 559 of title 5, United States Code.

APPENDIX H:
Renewable Fuel Standard

Congressional Research Service
Informing the legislative debate since 1914

MEMORANDUM

To: Senate Committee on Energy and Natural Resources
Attention: Tristan Abbey

From: Kelsi Bracmort, Specialist in Agricultural Conservation and Natural Resources Policy

Subject: **The Renewable Fuel Standard: Alaska's Exemption**

This memorandum responds to your request for information about Alaska's exemption from the RFS. More specifically, the memorandum provides information on the origination of the exemption, and the arguments made at the time of enactment for and against this exemption.

For additional information or follow up questions, please contact Kelsi Bracmort at 7-7283 (kbracmort@crs.loc.gov).[1]

Exemption from the Renewable Fuel Standard

The Renewable Fuel Standard (RFS)—established by the Energy Policy Act of 2005 (P.L. 109-58; EPAct05) and expanded in 2007 by the Energy Independence and Security Act (P.L. 110-140; EISA)—mandates that U.S. transportation fuel contain a minimum volume of biofuel.[2] The statute exempts noncontiguous states and territories, but allows them to opt in.[3] The statutory language for the exemption originates from the 108th Congress, when during a Senate Environment and Public Works Committee markup for S. 791, Senator Murkowski offered an amendment by voice vote that would exempt Alaska and Hawaii from ethanol requirements due to the high costs of fuel transportation.[4] The amendment was opposed by some, including both Senators from California.[5] Then, in the 109th Congress, during Senate

[1] Reference material for this memorandum was obtained by Laura Hanson, CRS Senior Research Librarian.

[2] For more information on the RFS, see CRS Report R43325, *The Renewable Fuel Standard (RFS): In Brief.*

[3] 42 USC 7545 (o)(2)(A)(ii). For instance, Hawaii petitioned EPA on June 22, 2007, to opt in to the RFS program, and EPA approved its request on July 30, 2007. U.S. Environmental Protection Agency, "Renewable Fuel Standard Under Section 211(o) of the Clean Air Act as Amended by the Energy Policy Act of 2005," 72 *Federal Register* 66172, November 27, 2007. See the attached petition and the approval letter provided by the Environmental Protection Agency (EPA) to CRS on March 17, 2016.

[4] U.S. Congress, Senate Committee on Environment and Public Works, *Reliable Fuels Act*, Report 108-57, 108th Cong., 1st sess., June 3, 2003, p. 22. CRS found no statement in official sources quoting Senator Murkowski herself discussing the amendment. Local press reported that Senator Murkowski said the following, "... the ethanol requirement would make Alaska gas more expensive by 2 to 5 cents per gallon. And she said it is impractical, given the state's remoteness, to add ethanol." "Senator Murkowski gets ethanol exemption for Alaska," The Associated Press State & Local Wire, April 13, 2003.

[5] "[Senator Boxer] I am also opposed to the amendment added during Committee consideration of the bill to exempt from the ethanol mandate two States, Alaska and Hawaii. We have had no explanation of why an exemption is needed for Alaska and Hawaii and not for other States except some vague claims that the transportation costs will be too high and that these areas do not need ethanol to meet Clean Air Act requirements. However, these same arguments apply to many areas of the county, including (continued...)

consideration of H.R. 6 (the enacted bill of EPAct 2005) an amendment was added in the Senate with language exempting noncontiguous states and territories.[6] That language was then retained in conference. For EISA, the exemption language first appeared in H.R. 6 (110th Congress; the enacted bill) during Senate consideration.[7] Following passage, subsequent versions of the bill retained the exemption.

Argument For and Against the RFS Exemption Language

Congress debated several aspects of the RFS before voting on it, including whether certain states should be exempt from the program. The impetus for this state exemption dialogue was that the majority of the renewable fuel considered to be eligible for the RFS (i.e., corn ethanol)—past and future—is produced in the Midwest, away from major distribution and use centers along the east and west coasts (i.e., midwest state production versus coastal state consumption). Arguments stemmed primarily from economic and transportation concerns. For instance, some were concerned that fuel prices could spike if transport of the renewable fuel from its point of production to the point of consumption took too long.[8] Additionally, there were concerns about the high cost of transporting ethanol. Moreover, some argued that the RFS would increase gas prices in non-corn growing states, essentially becoming a "hidden gas tax."[9] The chemical composition of ethanol prevents it from being transported using existing gasoline pipeline infrastructure. Ethanol is mostly transported by rail car, followed by trucks and barges. Others were concerned that the mandate could give an economic boost to ethanol producers in corn-growing states without giving the same boost to non-corn growing states.[10] Various amendments regarding state participation were

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my State of California. My State also will face high shipping and transportation costs. Also, as noted in EPA's 1999 Blue Ribbon Panel Report on Oxygenates in Gasoline, California does not need ethanol to meet its Clean Air Act requirements.

It has also been argued that the waiver is needed because Alaska and Hawaii do not need as much ethanol as they will be required to use. Again, the same argument can be made for other States. And when those States have raised this concern, the authors of the bill respond by pointing out that the bill gives States credits that they can sell to other States that may need them, thus generating revenue for their States. If this argument is good for some States, it should also be good for all States.

If the costs of implementation and the need for ethanol in a State are to be factors in determining whether the mandate should apply, they should be factors in making a similar determination for all States, not just two. Further, although Alaska and Hawaii would no longer be required to use renewable fuels under this provision, the amount of the national mandate has not decreased accordingly. The mandate in this bill was designed taking all States into account, including Alaska and Hawaii. Now that Alaska and Hawaii are exempt from the mandate, other States will be forced to use greater amounts of ethanol to meet the overall renewable fuels requirements.

This is an unfair and unnecessary exemption for two States, and I oppose it."

U.S. Congress, Senate Committee on Environment and Public Works, *Reliable Fuels Act*, Report 108-57, 108th Cong., 1st sess., June 3, 2003, p. 41;

"[Senator Feinstein] In the Environment and Public Works Committee, Senator Murkowski offered an amendment to the ethanol mandate to exempt Alaska and Hawaii from the requirement because, first, Alaska and Hawaii are a great distance from the Midwest, where 99 percent of the ethanol is produced in the United States; secondly, families and businesses in Alaska and Hawaii would have to pay exorbitant costs for ethanol to be shipped to these States and blended into their gasoline.

I have the same concerns about increased fuel costs to families and businesses in California if the ethanol mandate becomes law. I am sure other Senators up and down the east and west coasts have the same concerns I do."

149 Cong Rec S7200. Senate Amdts. 843 and 844 to SA 539 – Energy Policy Act of 2003, June 3, 2003, p. S7205.

[6] 109th Congress, HR 6 - Senate Engrossed Amendment, June 28, 2005, p. 143.

[7] 110th Congress, HR 6 - Senate Engrossed Amendment, June 21, 2007, p. 12.

[8] "Ethanol imports from other regions are vital. However, any potential price spike could be exacerbated if it takes too long for supplies from out-of-State (primarily the Midwest, where virtually all of the production capacity is located)." Senator Feinstein; 149 Cong Rec S7200. Senate Amdts. 843 and 844 to SA 539 – Energy Policy Act of 2003.

[9] "Senate Postpones Votes on Ethanol Mandate in Energy Bill," *CQ Today*, May 8, 2003; "East, West Coast Lawmakers to Fight Ethanol Amendment to Energy Measure," *CQ Today*, May 9, 2003.

[10] This led to the adoption of an amendment by Senator Boxer that provided a higher incentive to ethanol produced from non-
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introduced but not adopted, including an amendment that would require only the midwestern states to participate.[11]

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corn feedstock. "Senate Unable to Take Significant Step with Bill," *Platts Inside Energy*, June 9, 2003.

[11] S.Amdt. 844 (108th Congress); S.Amdt. 851 (108th Congress); S.Amdt. 853 (108th Congress).

APPENDIX I:
FERC Authority

MEMORANDUM

To: Senate Energy and Natural Resources Committee
Attention: Tristan Abbey

From: Adam Vann, Legislative Attorney

Subject: **Federal Energy Regulatory Commission (FERC) Jurisdiction over Electricity Transmission and Retail Sales in Alaska**

You have asked us for an explanation as to why FERC does not regulate electricity transmission and wholesale sales in the State of Alaska. This memorandum explains that the Federal Power Act (FPA), the law from which FERC derives its jurisdiction over electricity transmission and wholesale sales, covers such transmission and sale only to the extent that it is "in interstate commerce," and that transmission and sales in the State of Alaska have been deemed not to be in interstate commerce.

Part II of the FPA governs the regulation of electric utility companies engaged in interstate commerce, and is the source of FERC's electricity jurisdiction.[1] Section 201(b)(1) provides that Part II applies "to the transmission of electric energy in interstate commerce and to the sale of electric energy at wholesale in interstate commerce, but ... shall not apply to any other sale of electric energy..."[2] This limitation on the reach of the FPA, and thus the federal role in regulation of the electric energy industry, is a product of the longstanding division of roles in the regulation of utilities between the federal and state governments, as well as the understanding of the reach of Congress pursuant to Article I Section 8 of the U.S. Constitution at the time of the enactment of the FPA.

The reach of the FPA, and thus of FERC, under Section 201(b)(1) extends beyond transmission of electric energy across state lines or wholesale sales of electric energy between parties in different states to include transactions where the facilities employed are "interconnected and capable of transmitting [electric] energy across the State boundary, even though the contracting parties and the electrical pathway between them are within one State."[3] However this jurisdiction does not extend to transmission and retail sales that take place entirely within a single state,

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[1] Part II of the FPA initially assigned regulatory responsibility to the Federal Power Commission. In 1977, the Federal Power Commission was dissolved and its responsibilities were transferred to the Department of Energy (DOE) as well as the Federal Energy Regulatory Commission (FERC), an independent agency operating within DOE, pursuant to the Department of Energy Organization Act (P.L. 95-91). Title IV of that Act assigned administrative duties under Part II of the FPA to FERC.

[2] 16 U.S.C. §824(b)(1).

[3] *Florida Power & Light Company*, 29 FERC ¶61,140 at 61,291-92 (1984).

using facilities that do not interconnect with those of another state. This situation is the case with Alaska and Hawaii. Because these states do not share a border with any other states, their electricity transmission facilities are not interconnected with those found in other states or capable of transmitting electric energy across state boundaries. As a result, FERC does not have jurisdiction over electricity transmission and retail sales in Alaska. FERC has confirmed this lack of jurisdiction.[4]

[4] *See* Promoting Wholesale Competition Through Open-Access Non-Discriminatory Transmission Services by Public Utilities and Transmitting Utilities, Order No. 888, FERC Stats. & Regs. ¶31,036 at n 541 (1996) ("Section 201(b)(1) specifically exempts from Commission jurisdiction facilities used for transmission in intrastate commerce and transmission of electric energy consumed wholly by the transmitter. As a result, we have no jurisdiction over retail wheeling that occurs in Alaska, Hawaii and the Electric Reliability Council (ERCOT) portion of Texas since transactions in those areas are intrastate").