Cross-Currents:

Iranian Oil and the U.S. Export Ban

June 23, 2015

Prepared for Sen. Lisa Murkowski

U.S. Senate Committee on Energy & Natural Resources

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Prepared by Majority Staff for Chairman Lisa Murkowski
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Summary

Legislation providing for congressional review of any agreement between Iran and the United States over the Iranian nuclear program was signed into law on May 22, 2015.[1] Such an agreement would certainly include lifting sanctions against Iran's oil sector, which plays an outsized role in the economy and on Tehran's balance sheet.[2] At the same time, legislation has been introduced to repeal statutory restrictions on the export of crude oil produced in the United States.[3]

The Obama administration has made numerous official statements on various aspects of these issues. On the one hand, it has assessed the impact of sanctions on Iran and the impact of lifting sanctions on global oil prices. On the other hand, it has examined the changing nature of America's global energy role and the potential for U.S. oil exports.

Connecting the dots between these matters leads to one inescapable conclusion: the U.S. should not lift sanctions on Iranian oil while maintaining its prohibition on exports of American oil.

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[1] PL 114-17, the Iran Nuclear Agreement Review Act: https://www.congress.gov/bill/114th-congress/house-bill/1191.
[2] Statement by the President on the Framework to Prevent Iran from Obtaining a Nuclear Weapon (April 2, 2015): https://www.whitehouse.gov/the-press-office/2015/04/02/statement-president-framework-prevent-iran-obtaining-nuclear-weapon.
[3] S. 1312, the Energy Supply and Distribution Act: https://www.congress.gov/bill/114th-congress/senate-bill/1312.

Background

The United States and its international partners maintain a robust regime of sanctions against Iran, affecting travel, financial dealings, trade, and much else.[4] Iran's petroleum sector was specifically targeted by these sanctions because of its outsized role in both the Iranian economy and Iranian government's budget. Coordinated sanctions between the U.S. and European Union were implemented in July 2012, following passage of tough sanctions provisions by the U.S. Congress in December 2011.[5] (See Appendix A.)

American diplomats aggressively encouraged countries around the world to reduce their imports from Iran during this period. Former Ambassador Carlos Pascual testified to the Senate Energy and Natural Resources Committee in March 2015:

> "To make those sanctions effective, the United States engaged China, India, Turkey, Japan, Korea and other major [oil] importers to curtail imports and diversify sources."[6]

These reductions in oil exports significantly impacted the Iranian economy and its government. Treasury Secretary Jack Lew stated in September 2012:

> "Sanctions have hit Iran's oil sector – by far its most important industry – hard over the past year. Historically, oil exports comprised 80 percent of the Iranian government's foreign exchange earnings and provided about two-thirds of its budget revenue. Last year, Iran exported approximately 2.4 million barrels of oil per day to about 20 countries, making it the third largest oil exporter in the world, and earning it about $100 billion from oil sales. As a result of actions taken since the beginning of this year, Iran's crude exports have plummeted to approximately one million barrels per day, a dramatic 55 percent decrease. This decrease in exports is costing Iran up to $5 billion a month, forcing the Iranian government to cut its budget because of a lack of revenue."[7]

In November 2013, the P5+1 countries (i.e., the United States, United Kingdom, France, Russia, China, and Germany) and Iran announced they had agreed upon the Joint Plan of Action (JPOA or JPA). This agreement provided for limited sanctions relief while negotiations proceeded. Wendy Sherman, Under Secretary for Political Affairs at the State Department testified in December 2013:

> "[The United States] will hold steady Iran's exports of crude oil at levels that are down over 60 percent since 2011. This means that Iran will continue to lose $4-5

[4] For further information, see the Department of Treasury: http://www.treasury.gov/resource-center/sanctions/Programs/pages/iran.aspx.
[5] P.L. 112-81, the National Defense Authorization Act for Fiscal Year 2012: https://www.congress.gov/bill/112th-congress/house-bill/1540.
[6] Testimony, U.S. Senate Committee on Energy and Natural Resources (March 19, 2015): http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=4c054551-8357-46fd-95e3-1eee2686aee1.
[7] http://www.treasury.gov/press-center/press-releases/Pages/tg1706.aspx.

> billion per month while the JPA is in effect compared to 2011. Let me be clear, however. We will not allow Iran's exports to increase and we will continue collaboration with our international partners to ensure that they understand that any increases in Iranian oil purchases – or any new purchases of Iranian oil – remain subject to sanctions."[8]

The JPOA was implemented in January 2014. The administration conducted several briefings and issued guidance documents to explain the details of the agreement. One fact sheet released by the State Department succinctly noted the impact on Iran's oil exports:

> "The sanctions relief also pauses efforts to further reduce Iran's crude oil exports, enabling the current importers of Iranian crude oil – China, Japan, South Korea, India, Turkey, and Taiwan – to maintain purchases at current average levels during the JPOA period. (The purchase of Iranian crude oil by entities in jurisdictions outside of China, Japan, South Korea, India, Turkey, and Taiwan remains sanctionable under U.S. law.)"[9]

The practical effect of the JPOA was to limit Iranian oil shipments to approximately 1.0-1.1 million barrels per day for the duration of the negotiations.[10] (See Appendix B.) The JPOA was extended in July 2014 for another four months until November, and then extended again until the end of June 2015 while negotiations continue.

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[8] http://www.state.gov/p/us/rm/2013/218639.htm.

[9] State Department, "Overview of Temporary Suspension of Certain U.S. Sanctions Pursuant to the Initial Understanding Between the P5+1 and Iran" (January 20, 2014): http://www.state.gov/r/pa/prs/ps/2014/01/220046.htm.

[10] Numerous press reports during the renewal period suggested that the 1.0-1.1 million barrels per day limit was breached, based on monthly shipping reporting and other information. Data from the International Energy Agency support this assertion. The administration has maintained that these volumes should be averaged over the JPOA period, however, suggesting that an increase in exports in one month could be offset by a decrease in exports in another. The administration has also insisted that only crude oil, not condensate, should be counted towards the monthly totals, and shipments from Iran to Syria should also be excluded because Syria does not pay cash for these barrels. When these adjustments are made to the data, the JPOA limit is generally not breached. For further information, see the testimony of Amos J. Hochstein, then-Deputy Assistant Secretary for Energy Diplomacy at the State Department, at a hearing before the Subcommittee on the Middle East and North Africa, U.S. House of Representatives Committee on Foreign Affairs (June 11, 214): http://www.gpo.gov/fdsys/pkg/CHRG-113hhrg88289/pdf/CHRG-113hhrg88289.pdf. See also a press briefing by the State Department on July 17, 2014: http://www.state.gov/r/pa/prs/dpb/2014/07/229431.htm.

The Impact of Imposing Sanctions

Administration officials routinely highlight the effect the sanctions regime has had on Iran's petroleum sector and wider economy.[11] David S. Cohen, then-Under Secretary for Terrorism and Financial Intelligence at the Treasury Department, testified to the Senate Foreign Relations Committee in January 2015:

> "[Our] sanctions have caused Iran's oil exports to drop almost 60 percent, from approximately 2.5 million barrels per day in 2012 to approximately 1.1 million today. Because of this dramatic decline in sales, in 2014 alone our oil sanctions deprived Iran of over $40 billion, which is well over twice the total estimated value to Iran of the limited sanctions relief in the JPOA – and that is money Iran can never recover, because it represents sales that were not made. Altogether, since 2012, our oil sanctions have denied Iran access to more than $200 billion in lost exports and funds it cannot freely use."[12]

Administration officials have opposed additional sanctions on Iran during the JPOA period. They argue that such sanctions would threaten the negotiations and make it more difficult to enforce the sanctions already in place. President Obama stated in January 2015:

> "[Iran] would be able to maintain that the reason that they ended negotiations was because the United States was operating in bad faith and blew up the deal, and there would be some sympathy to that view around the world – which means that the sanctions that we have in place now would potentially fray, because imposing these sanctions are a hardship on a number of countries around the world. ***They would love to be able to buy Iranian oil***. And the reason that they've hung in there, despite it being against their economic interest, is because we have shown that we are credibly trying to solve this problem and avert some sort of military showdown."[13] [emphasis added]

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[11] See, for example, the remarks of Susan Rice, National Security Advisor, delivered at AIPAC (March 2, 2015):https://www.whitehouse.gov/the-press-office/2015/03/02/remarks-prepared-delivery-aipac-annual-meeting-national-security-advisor.

[12] Testimony, U.S. Senate Committee on Foreign Relations (January 21, 2015): http://www.foreign.senate.gov/imo/media/doc/Cohen_Testimony1.pdf.

[13] Remarks, East Room of the White House (January 16, 2015): https://www.whitehouse.gov/the-press-office/2015/01/16/remarks-president-obama-and-prime-minister-cameron-united-kingdom-joint-.

The Impact of Lifting Sanctions

Any "nuclear deal" with Iran is certain to include lifting the sanctions against its oil sector. Questions persist about the pace of easing the sanctions. Estimates of the impact that Iranian oil might have on global markets also vary widely.[14] (See Appendix C.) The Energy Information Administration (EIA) reported in its *Short-Term Energy Outlook* in April 2015:

> "EIA believes that Iran has the technical capability to ramp up crude oil production by at least 700,000 bbl/d by at least the end of 2016, of which 600,000 bbl/d represents capacity that was previously shut in and 100,000 bbl/d is new capacity...Iran is believed to hold at least 30 million barrels in storage. It is possible that Iran will attempt to move oil out of storage more quickly sometime during the second half of 2015 in preparation to increase production if discussions on sanctions show progress. As a result, the global market may see incremental increases in Iran's crude oil exports before seeing a substantial increase to Iran's production, but the pace at which oil in storage could be withdrawn is uncertain." [15]

Adam Sieminski, the administrator of EIA, testified to the Senate Energy and Natural Resources Committee in April 2015 that the combination of exports-from-storage and new production would yield approximately one million barrels per day of new volumes entering the global market. Sieminski stated:

> "It's really hard to see right now, Senator [Murkowski], how that could be absorbed without causing either other production to go down or the price to go down."[16]

The EIA estimated that Brent, the global oil benchmark, would decline by $5-15 per barrel in 2016 if additional volumes of Iranian oil were sold into the global market as a result of sanctions being lifted.

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[14] See Angelina Rascouet and Hashem Kalantari, "Iran Can Add Million Barrels a Day of Oil If Sanctions Halt," Bloomberg: http://www.bloomberg.com/news/articles/2015-03-16/iran-can-add-million-barrels-a-day-of-oil-if-sanctions-are-ended; Clifford Krauss, "Iran Deal May Be Slow to Affect Oil Sector," *New York Times* (April 2, 2015): http://www.nytimes.com/2015/04/03/business/international/iran-deal-may-be-slow-to-affect-oil.html; Benoît Faucon and Bill Spindle, "Sanctions Aren't Only block for Western oil Companies Eyeing Iran," *Wall Street Journal* (April 2, 2015): http://www.wsj.com/articles/sanctions-arent-only-block-for-western-oil-companies-eyeing-iran-1428005658.

[15] EIA, *Short-Term Energy Outlook* (April 2015): http://www.eia.gov/forecasts/steo/archives/apr15.pdf.

[16] Testimony, U.S. Senate Committee on Energy and Natural Resources (April 16, 2015): http://www.energy.senate.gov/public/index.cfm/2015/4/hearing-on-the-energy-information-administration.

America's Global Energy Role

The administration has trumpeted the technological and economic revolution underway in the U.S. energy market. The Council of Economic Advisers reported:

> "U.S. crude oil production has expanded dramatically since 2008. Technological innovations in horizontal drilling, hydraulic fracturing, and seismic imaging have led to a surge in domestic production from an average of about 5 million barrels per day in 2008 to more than 7 million barrels per day in 2013."[17]

The President's National Security Strategy hinted at the multifaceted utility of American energy across the globe:

> "The United States is now the world leader in oil and gas production. America's energy revival is not only good for growth, it offers new buffers against the coercive use of energy by some and new opportunities for helping others transition to low-carbon economies…Increasing global access to reliable and affordable energy is one of the most powerful ways to support social and economic development and to help build new markets for U.S. technology and investment."[18]

The Quadrennial Energy Review concurred, in more narrow terms:

> "Growth in oil production has enabled the United States to act as a stabilizing factor in the world market by offsetting large sustained supply outages in the Middle East and North Africa and, more recently, contributing to a supply surplus that has reduced oil prices to levels not seen since March 2009."[19]

It is important to recognize that rising U.S. oil production allowed sanctions against Iran to unfold successfully. Tom Donilon, who served as President Obama's National Security Adviser from 2010 to 2013, stated in January 2015:

> "Our energy outlook reduces our vulnerability to market disruptions and price shocks. It gives us greater latitude to support allies, and more options to deal with our adversaries. The success of our Iran sanctions effort, for example, was made possible because we were confident that increased American supply enabled the removal of one million barrels of Iranian oil from the market each day, without increasing gasoline costs to U.S. consumers. It was the bite of those sanctions that ultimately brought the Iranians to the negotiating table."[20]

[17] Council of Economic Advisers, *Economic Report of the President* (February 2015): http://www.whitehouse.gov/sites/default/files/docs/cea_2015_erp_complete.pdf, p. 263.
[18] The White House, *National Security Strategy of the United States* (February 2015): https://www.whitehouse.gov/sites/default/files/docs/2015_national_security_strategy.pdf, p. 16.
[19] Department of Energy, *Quadrennial Energy Review* (April 2015): http://energy.gov/sites/prod/files/2015/05/f22/QER%20Full%20Report_0.pdf, p. 4-4.
[20] Remarks, Center on Global Energy Policy, Columbia University (January 21, 2015).

The Potential for U.S. Oil Exports

The United States is the only advanced nation that prohibits exports of domestically produced crude oil.[21] Executive action by previous presidents has created several exceptions to the general prohibition, allowing exports from California (of a certain quality and volume), from Alaska, and to Canada.[22] The President retains the authority to allow oil exports to virtually any country without any change to existing law.[23] Swaps and exchanges with other countries are also permissible.[24]

The EIA has undertaken an "ongoing and dynamic" analysis of various aspects of the debate over crude oil exports. The independent statistical agency has found that the vast majority of new oil production in the U.S. has been of a light quality (measured in terms of "gravity" or density).[25] This fact has certain implications for U.S. refineries, which are geared primarily towards processing heavier oil.[26] The EIA also determined that domestic gasoline prices are linked to the Brent global benchmark price for crude oil, not the domestic West Texas Intermediate benchmark.[27]

The Secretary of Energy testified that the conclusion of EIA's analysis was that U.S. oil exports would not raise domestic prices of gasoline:

> "I will just mention one [analysis] that the EIA did and published around impacts on gasoline prices. And their conclusion was, probably none to possibly minor decreases in domestic prices largely because the gasoline price is indexed more to the Brent benchmark."[28]

American crude oil and condensate are not perfect replacements for Iranian volumes. There are differences at the chemical level in terms of gravity and sulfur content, for example. (See Appendix D.) However, U.S. shipments of certain grades could be competitive under the right economic conditions.

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[21] See *A Ban for One: The Outdated Prohibition on U.S. Oil Exports in Global Context* (June 26, 2014): http://1.usa.gov/1iNfofu.
[22] See *Past is Precedent: Executive Power to Authorize Crude Oil Exports* (March 3, 2014): http://1.usa.gov/WJ3JnE.
[23] See *Rendering Vital Assistance: Allowing Oil Shipments to U.S. Allies* (June 9, 2015): http://1.usa.gov/1QIS8KS.
[24] See *Crude Pro Quo: The Use of Oil Exchanges to Increase Efficiency* (May 22, 2014): http://1.usa.gov/1nUEA1K.
[25] EIA, *U.S. Crude Oil Production to 2025: Updated Projection of Crude Types* (May 28, 2015): http://www.eia.gov/analysis/petroleum/crudetypes/pdf/crudetypes.pdf.
[26] EIA, *Implications of Increasing Light Tight Oil Production for U.S. Refining* (May 5, 2015): http://www.eia.gov/analysis/studies/petroleum/morelto/pdf/lightoilprod.pdf.
[27] EIA, *What Drives U.S. Gasoline Prices?* (October 2014): http://www.eia.gov/analysis/studies/gasoline/pdf/gasolinepricestudy.pdf.
[28] Testimony, U.S. Senate Committee on Energy and Natural Resources (February 12, 2015): http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=5568eb52-fea5-409a-b037-c8e85cc657ec.

Conclusion

The specter of an agreement with Iran over its nuclear program has brought to the fore a great geopolitical irony: lifting sanctions will boost Iranian oil exports at a time when federal law and regulations generally prohibit American oil exports. In the absence of congressional action or the use of existing authorities by the President, such a shift in would grant Iranian oil producers access to global markets but deny it to American producers. When those sanctions are lifted, the rise in global supply will put downward pressure on global prices. The net effect will be to negatively impact oil production in the United States, the domestic benchmarks for which are discounted from the global benchmark. In short, the general prohibition on exporting domestic crude oil amounts to a de facto sanctions regime against U.S. producers. Lifting sanctions against Iran without also lifting the ban on U.S. exports will allow Iran to compete in markets largely inaccessible to American companies.

Acknowledgments

Staff wish to thank the Congressional Research Service for its assistance with this report. The cover image is of sailors from the USS Rushmore operating near offshore oil platforms in the Persian Gulf.[29]

[29] Drew Williams, US Navy (July 20, 2007): http://www.defense.gov/Photos/newsphoto.aspx?newsphotoid=9370.

APPENDIX A:
CRS Memo Re: Sanctions on Iran's Oil Sector

Congressional Research Service
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MEMORANDUM

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

From: Dianne E Rennack
Specialist in Foreign Policy Legislation

Subject: **Iran's Oil Exports: Restrictions in U.S. Law**

This memorandum responds to your request for an identification of U.S. laws that seek to target and reduce Iran's oil exports. The following information is culled from CRS Report R43311, *Iran: U.S. Economic Sanctions and the Authority to Lift Restrictions*, which assesses the entirety of current U.S. law that authorizes or requires the imposition of economic sanctions on Iran.

Table 1 lists the provisions of law, leading with appropriations and then authorizations in order of enactment, that impose economic sanctions affecting, directly and indirectly, Iran's ability to export its oil. Though the laws are shown in order of enactment, provisions in the Iran Sanctions Act of 1996 and the National Defense Authorization Act of Fiscal Year 2012 form the core of U.S. policy toward those engaged in developing and exporting Iran's oil. The table does not include provisions of law that state a sense of the Congress that the President should pursue a policy of reducing Iran's oil exports or provisions that require reports on Iran's oil exports.

Table 2 includes executive orders directly related to investment in or export of Iran's oil that the President has issued under authorities granted his office in the National Emergencies Act and the International Emergency Economic Powers Act.

Both tables include executive branch determinations, to date, to waive sanctions related to third countries reducing their Iranian crude oil purchases.

Table 1. Economic Sanctions Currently Imposed That Affect Iran's Oil Exports

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
FOREIGN AID APPROPRIATIONS				
Sec. 7041(b), **Foreign Operations Appropriations** (Div. J, P.L. 113-235; 128 Stat. 2130) [continues restrictions stated in sec. 7041(c), P.L. 112-74 (125 Stat. 1224)]	Nuclear nonproliferation	Prohibits U.S. Export-Import Bank from providing financing "to any person that is subject to sanctions under" Sec. 5(a)(2) or (3) of the Iran Sanctions Act of 1996—those under sanctions for engaging in production or export to Iran of refined petroleum products.	Statutory requirement	No waiver, though those sanctioned under Sec. 5(a)(2) and (3), Iran Sanctions Act of 1996, are subject to change. See below.
IRAN SANCTIONS ACT OF 1996 (ISA 1996)[1]				
(P.L. 104-172; 50 U.S.C. 1701 note; as amended; Act sunsets effective December 31, 2016 (Sec. 13(b))				
Sec. 5(a), Sec, 6	Nonproliferation Anti-terrorism	Sec. 5(a) identifies developing Iran's energy sector as behavior to be investigated and cause for sanctions: —investing in Iran's petroleum resources; —providing to Iran goods, services, technology, information, or support relating to production of refined petroleum products; —trades in, facilitates, or finances Iran's refined petroleum products; —joint ventures with the Government of Iran to develop refined petroleum resources; —supporting Iran's development of petroleum products; —supporting Iran's development of petrochemical products; —transporting crude oil from Iran; and —concealing Iran origin of petroleum products in the course of transporting such products. President may choose among the	President imposes, based on investigation (Sec. 4(e)). Generally, imposed for a period of 2 years (Sec. 9(b)). President may delay imposition of sanctions for up to 90 days in order to initiate consultations with foreign government of jurisdiction (Sec. 9(a)).	The President may waive, case-by-case, for 6 months and for further 6-12 months depending on circumstances, for a foreign national if he finds it "vital to the national security interests" and notifies the Committees on Finance, Banking, Foreign Relations. Foreign Affairs, Ways and Means, Financial Services, 30 days in advance (Sec. 4(c)). The President may waive for 12 months if the targeted person is subject to a government cooperating with U.S. in multilateral nonproliferation efforts relating to Iran, it is vital to national security interests, and he notifies Congress 30 days in advance. The President may cancel an investigation (precursor to imposing sanctions) if he determines the person is no longer engaged in objectionable behavior and has credible assurances such behavior will not occur in the future (Sec. 4(e)).

[1] The State Department published a current and complete list of 16 entities subject to sanctions under the ISA 1996 as of March 4, 2015. See Department of State Public Notice 9061 of March 4, 2015 (80 *Federal Register* 12544; March 9, 2015).

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
		following twelve penalties, and is required to impose at least five (Sec. 6): —deny Export-Import Bank program funds; —deny export licenses; —prohibit loans from U.S. financial institutions; —prohibit targeted financial institutions being designated as a primary dealer or a repository of government funds; —deny U.S. government procurement contracts; —limit or prohibit foreign exchange transactions; —limit or prohibit transactions with banks under U.S. jurisdiction; —prohibit transactions related to U.S.-based property; —prohibit investments in equity of a targeted entity; —deny visas to, or expel, any person who holds a position or controlling interest in a targeted entity; —impose any of the above on a targeted entity's principal executive officers; and —economic restrictions drawing from IEEPA authorities (see below).		The President may not apply sanctions if transaction: —meets an existing contract requirement; —is completed by a sole source supplier; or —is "essential to the national security under defense coproduction agreements"; —is specifically designated under certain trade laws; —complies with existing contracts and pertains to spare parts, component parts, servicing and maintenance, or information and technology relating to essential U.S. products, or medicine, medical supplies or humanitarian items (Sec. 5(f)). The requirement to impose sanctions under Sec. 5(a) has no force or effect if the President determines Iran: —has ceased programs relating to nuclear weapons, chemical and biological weapons, ballistic missiles; —is no longer designated as a state supporter of acts of international terrorism; and —"poses no significant threat to United States national security, interests, or allies." (Sec. 8). President may lift sanctions if he determines behavior has changed (Sec. 9(b)(2)). President may waive sanctions if he determines it is "essential to national security interests" to do so (Sec. 9(c)). President may delay imposition of sanctions expanded by amendments in the Comprehensive Iran Sanctions, Accountability, and Divestment Act (CISADA), relating to development and export of refined petroleum products, for up to 180 days, and in additional 180-day increments, if President

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				certifies objectionable activities are being curtailed (CISADA, Sec. 102(h)). **State Department Public Notice 8610 of January 22, 2014** (79 F.R. 4522) (Guidance of January 20, 2014) waives Sec. 5(a)(7) as it applies to National Iranian Oil Company (NIOC) and the National Iranian Tanker Company (NITC) for oil trade with China, India, Japan, South Korea, Taiwan, and Turkey, with conditions (vital to national security interests). Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). See also **State Department Public Notice 8985 of December 10, 2014** (79 F.R. 78551); and **State Department Public Notice 9163 (May 15, 2015)** (80 F.R. 32193).

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
IRAN FREEDOM SUPPORT ACT (IFSA)				
(P.L. 109-293; 50 U.S.C. 1701 note)				
Sec. 101	Democracy promotion General foreign policy reasons	Makes permanent the restrictions the President imposed under IEEPA/NEA authorities in Executive Order 12957, which: —prohibits any U.S. person from entering into a contract or financing or guaranteeing performance under a contract relating to petroleum resource development in Iran; and Executive Order 12959, which: —prohibits any U.S. person from investing in Iran; and Executive Order 13059, which: —prohibits any U.S. person from exporting where the end-user is Iran or the Government of Iran; —prohibits any U.S. person from investing in Iran; —prohibits any U.S. person from engaging in transactions or financing related to Iran-origin goods or services.	Statutory requirement	President may terminate the sanctions if he notifies Congress 15 days in advance, unless "exigent circumstances" warrant terminating the restrictions without notice, in which case Congress shall be notified within 3 days after termination.
COMPREHENSIVE IRAN SANCTIONS, ACCOUNTABILITY, AND DIVESTMENT ACT OF 2010 (CISADA)				
(P.L. 111-195; 22 U.S.C. 8501 *et seq.*; as amended)				
Sec. 104(c)(4) (22 U.S.C. 8513(c)(4))	Anti-money laundering Anti-terrorism (financing) Nonproliferation	Subjects National Iranian Oil Company (NIOC) and National Iranian Tanker Company (NITC) to IEEPA-authorized economic restrictions, promulgated by the Secretary of the Treasury under Sec. 104(c) (above) if found to be affiliated with the Iranian Revolutionary Guard Corps (IRGC).	Requires Secretary of the Treasury determination	Secretary of the Treasury may waive if he finds it "necessary to the national interest" to do so (subsec. (f)). If the country of primary jurisdiction is exempted under Sec. 1245, National Defense Authorization Act, 2012 (NDAA'12), that exemption extends to financial entities engaged in transactions with NIOC and NITC (Sec. 104(c)(4)(C)). Most of CISADA, including sanctions under this section, ceases to be effective when President removes Iran's designation as a sponsor of acts of international terrorism and

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				that country has ceased its pursuit of WMD (Sec. 401; 22 U.S.C. 8551).

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2012 (NDAA 2012)

(Sec. 1245 of P.L. 112-81; 22 U.S.C. 8513a; as amended)

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
Sec. 1245	Anti-money laundering	Designates Iran's financial sector, including its Central Bank, as a "primary money laundering concern." —Requires the President to block and prohibit all transactions of any Iranian financial institution under U.S. jurisdiction. —Requires the President to prohibit opening of correspondent and payable-through accounts for any institution that conducts transactions for the Central Bank of Iran. —Authorizes the President to impose IEEPA-based sanctions.	Statutory requirement	President may delay imposition of sanctions if government of primary jurisdiction reduces its crude oil purchases from Iran. Renewable every 180 days. President may waive imposition if he finds it "in the national security interest of the United States" to do so. Sanctions under this section cease to be effective 30 days after President certifies and removes Iran's designation as a sponsor of acts of international terrorism and that country has ceased its pursuit of WMD (Sec. 401, CISADA; 22 U.S.C. 8551) (Sec. 605; 22 U.S.C. 8785) (Sec. 1245(i)). **State Department Public Notice 8610 of January 22, 2014** (79 F.R. 4522) (Guidance of January 20, 2014) waives Sec. 1245 for foreign financial institutions under the primary jurisdiction of China, India, Japan, South Korea, the authorities on Taiwan, and Turkey, subject to conditions. Also waived for "foreign financial institutions under the primary jurisdiction of Switzerland that are notified directly in writing by the U.S. Government, to the extent necessary for such foreign financial institutions to engage in financial transactions with the Central Bank of Iran in connection with the repatriation of revenues and the establishment of a financial channel as specifically provided for in the Joint Plan of Action of November 24, 2013." Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). See also **State**

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				Department Public Notice 8985 of December 10, 2014 (79 F.R. 78551). **State Department Public Notice 8594 of January 15, 2014** (79 F.R. 2746), the Secretary of State determined, that as of November 29, 2013, India, Malaysia, China, South Korea, Singapore, South Africa, Sri Lanka, Taiwan, and Turkey are exempted from restriction for Iran oil trade. Supersedes a similar determination of June 5, 2013. **State Department Public Notice of June 10, 2015** (80 F.R. 33006) extended exemption for Malaysia and Singapore. **State Department Public Notice 8963 of November 28, 2014** (79 F.R. 72054) extended exemption for Malaysia, Singapore, and South Africa. Supersedes a similar determination in **Public Notice 8753 of May 27, 2014** (79 F.R. 32011). **State Department Public Notice 8678 of March 25, 2014** (79 F.R. 18382), the Secretary of State determined, that as of March 4, 2014, Belgium, the Czech Republic, France, Germany, Greece, Italy, Netherlands, Poland, Spain, and the United Kingdom are exempted from restriction for Iran oil trade. Extended for these "EU10" by **Public Notice 8865 of August 29, 2014** (79 F.R. 54342). Extended for these "EU10" and for Sri Lanka (see Public Notice 8753, above), by **Public Notice 9046 of February 19, 2015** (80 F.R. 10563).

IRAN THREAT REDUCTION AND SYRIA HUMAN RIGHTS ACT OF 2012 (ITRSHRA)

(P.L. 112-158; 22 U.S.C. 8701 et seq.)

Sec. 212 (22 U.S.C. 8722)	Nonproliferation Anti-terrorism	President imposes IEEPA- and Iran Sanctions Act- (ISA) based sanctions (see above) on any person he determines has	Statutory requirement	President may terminate if objectionable activity has ceased. Most of ITR, including sanctions under this section, ceases to be

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
		provided underwriting services or insurance for NIOC or NITC.		effective when President removes Iran's designation as a sponsor of acts of international terrorism and that country has ceased its pursuit of WMD (Sec. 401, CISADA; 22 U.S.C. 8551) (Sec. 605; 22 U.S.C. 8785).

IRAN FREEDOM AND COUNTER-PROLIFERATION ACT OF 2012 (IFCA)

(Title XII, subtitle D, of National Defense Authorization Act for Fiscal Year 2013; **NDAA 2013**; P.L. 112-239; 22 U.S.C. 8801 *et seq.*)

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
Sec. 1244 (22 U.S.C. 8803)	Nonproliferation	Designates entities that operate Iran's ports, and entities in energy, shipping, and shipbuilding, including NITC, IRISL, and NIOC, and their affiliates, as "entities of proliferation concern." Requires the President to block transactions and interests in property under U.S. jurisdiction of such entities. Requires the President to impose ISA-based sanctions on any person who knowingly engages in trade related to energy, shipping, or shipbuilding sectors of Iran.	Statutory requirement	Humanitarian-related transactions are exempted. President may exempt transactions related to Afghanistan reconstruction and development, if he determines it in the national interest to do so. President may exempt application to those countries exempted from NDAA'12 requirements (see above). Some aspects of trade in natural gas are exempted. President may waive for 180 days if he finds it "vital to the national security of the United States" to do so. **State Department Public Notice 8610 of January 22, 2014** (79 F.R. 4522) (Guidance of January 20, 2014) waives Sec. 1244(c)(1) for —Transactions by non-U.S. persons for the export from Iran of petrochemical products and associated services, with exceptions; —Transactions by non-U.S. persons for Iran oil exports to China, India, Japan, South Korea, Taiwan, and Turkey, with exceptions; and —Transactions unrelated to oil. The above is extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). See also **State Department Public Notice 8985 of December**

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				10, 2014 (79 F.R. 78551). **State Department Public Notice 8809 of July 28, 2014** (79 F.R. 45228) waives Sec. 1244(c), (d), Sec. 1245(a), (c), Sec. 1246, and Sec. 1247(a) for certain transactions. **State Department Public Notice 9095 of April 16, 2015** (80 F.R. 20552) waives Sec. 1244(d)(1) for certain transactions for four groups of foreign countries, each with a different set of conditions: (1) China, India, Japan, South Korea, Taiwan, and Turkey; (2) Switzerland; (3) Oman; and (4) South Africa. **State Department Public Notice 9163 (May 15, 2015)** (80 F.R. 32193) extended these. **State Department Public Notice 9163 (May 15, 2015)** (80 F.R. 32193) waives Sec. 1244(c)(1), Sec. 1246(a), and Sec. 1247(a) for certain transactions relating to petrochemical products.
Sec. 1245 (22 U.S.C. 8804)	Nonproliferation	Requires the President to impose ISA-based sanctions on any person who knowingly engages in trade related to precious metal, or material used in energy, shipping, or shipbuilding, if controlled by IRGC or other sanctioned entity.	Statutory requirement	President may exempt those he determines are exercising "due diligence" to comply with restrictions. President may waive for 180 days, and may renew that waiver in 6-month increments, if he finds it "vital to the national security of the United States" to do so. **State Department Public Notice 8809 of July 28, 2014** (79 F.R. 45228) waives Sec. 1244(c), (d), Sec. 1245(a), (c), Sec. 1246, and Sec. 1247(a) for certain transactions.
Sec. 1246 (22 U.S.C. 8805)	Nonproliferation	Requires the President to impose ISA-based sanctions on any person who knowingly provides underwriting or insurance services to any sanctioned entity with respect to Iran.	Statutory requirement	Humanitarian-related transactions are exempted. President may exempt those he determines are exercising "due diligence" to comply with restrictions. President may waive for 180 days, and may renew that waiver

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				in 6-month increments, if he finds it "vital to the national security of the United States" to do so. **State Department Public Notice 8610 of January 22, 2014** (79 F.R. 4522) (Guidance of January 20, 2014) waives Sec. 1246(a) for —Transactions by non-U.S. persons related to oil exports to China, India, Japan, South Korea, Taiwan, and Turkey, with exceptions; —Transactions by non-U.S. persons in connection with export of Iran petrochemical products, with exceptions; and —Transactions unrelated to oil. The above is extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). See also **State Department Public Notice 8985 of December 10, 2014** (79 F.R. 78551). **State Department Public Notice 8809 of July 28, 2014** (79 F.R. 45228) waives Sec. 1244(c), (d), Sec. 1245(a), (c), Sec. 1246, and Sec. 1247(a) for certain transactions. **State Department Public Notice 9163 (May 15, 2015)** (80 F.R. 32193) waives Sec. 1244(c)(1), Sec. 1246(a), and Sec. 1247(a) for certain transactions relating to petrochemical products.
Sec. 1247 (22 U.S.C. 8806)	Nonproliferation	Requires the President to prohibit any correspondent or payable-through account by a foreign financial institution that is found to facilitate a "significant financial transaction" on behalf of any Iranian Specially Designated National (SDN).	Statutory requirement	Humanitarian-related transactions are exempted. President may exempt application to those countries exempted from NDAA'12 requirements (see above). President may waive for 180 days, and may renew that waiver in 6-month increments, if he finds it "vital to the national security of the United States" to do so.

Statutory Basis	Rationale	Restriction	Authority To Impose	Authority To Lift or Waive
				State Department Public Notice 8610 of January 22, 2014 (79 F.R. 4522) (Guidance of January 20, 2014) waives Sec. 1247(a) for —Transactions by foreign financial institutions related to oil exports to China, India, Japan, South Korea, Taiwan, and Turkey; —Transactions by foreign financial institutions related to export of petrochemical products, with exceptions; and —Transactions unrelated to oil. The above is extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). See also **State Department Public Notice 8985 of December 10, 2014** (79 F.R. 78551). **State Department Public Notice 8809 of July 28, 2014** (79 F.R. 45228) waives Sec. 1244(c), (d), Sec. 1245(a), (c), Sec. 1246, and Sec. 1247(a) for certain transactions. **State Department Public Notice 9163 (May 15, 2015)** (80 F.R. 32193) waives Sec. 1244(c)(1), Sec. 1246(a), and Sec. 1247(a) for certain transactions relating to petrochemical products.

Table 2. Executive Orders Issued to Meet Statutory Requirements To Impose Economic Sanctions on Iran: Orders Related to Iran's Oil Exports

Executive Order	Underlying Statute	Restriction	Authority To Lift or Waive
E.O. 12957 (March 15, 1995)	IEEPA / NEA	*Declares a national emergency exists relating to Iran's proliferation activities*; prohibits persons under U.S. jurisdiction from entering into certain transactions with respect to Iranian petroleum resources. Secretaries of the Treasury and State administer.	President Sec. 101(a), IFSA, codifies this EO. The President must notify Congress 15 days in advance of its termination, unless exigent circumstances justify acting first. The President continued the national emergency declared in E.O. 12957 in a notice of March 11, 2015 (80 F.R. 13471).
E.O. 12959 (May 6, 1995)	IEEPA / NEA ISDC '85	Expands national emergency set forth in E.O. 12957; prohibits entering into new investment. Secretaries of the Treasury and State administer.	President Sec. 101(a), IFSA, codifies this EO. The President must notify Congress 15 days in advance of its termination, unless exigent circumstances justify acting first.
E.O. 13059 (August 19, 1997)	IEEPA / NEA ISDC '85	Clarifies steps taken in E.O. 12957 and E.O. 12959; prohibits most imports from Iran, exports to Iran, new investment, transactions relating to Iran-origin goods regardless of their location Secretaries of the Treasury and State administer.	President Sec. 101(a), IFSA, codifies this EO. The President must notify Congress 15 days in advance of its termination, unless exigent circumstances justify acting first.
E.O. 13590 (November 20, 2011)	IEEPA / NEA	Expands national emergency set forth in E.O. 12957; blocks property of those who trade in goods, services, technology, or support for Iran's energy and petrochemical sectors. Prohibits Ex-Im Bank from entering into transactions with sanctioned person. Requires Federal Reserve to deny goods and services. Prohibits U.S. financial institutions from making most loans or credits. Secretaries of State, the Treasury, and Commerce, the U.S. Trade Representative (USTR), Chairman of Federal Reserve Board, and President of Ex-Im Bank, administer.	President
E.O. 13622 (July 30, 2012)	IEEPA / NEA NDAA '12	Expands national emergency set forth in E.O. 12957; authorizes sanctions on foreign financial institutions that finance activities with NIOC, NICO. Prohibits correspondent and payable-through accounts. Prohibits Ex-Im financing, designation as a primary dealer of U.S. debt instruments, access to U.S. financial institutions. Blocks property, denies imports and exports. The President, and Secretaries of the Treasury, State, and Commerce, the USTR, Chairman of Federal Reserve Board, and President of Ex-Im Bank, administer.	President **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose correspondent or payable-through account sanctions under section 1(a)(i)-(ii) of E.O. 13622 ... with respect to foreign financial institutions" that facilitate export of petroleum and related products from Iran to China, India, Japan, South Korea, Taiwan, or Turkey. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose correspondent or payable-through account sanctions under section 1(a)(iii) of E.O.

Executive Order	Underlying Statute	Restriction	Authority To Lift or Waive
			13622...on foreign financial institutions" that are not otherwise subject to sanctions. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose sanctions under section 2(a)(i) of E.O. 13622...on non-U.S. persons" who engage in transactions relating to export of petroleum and related products from Iran to China, India, Japan, South Korea, Taiwan, or Turkey. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose sanctions under section...2(a)(ii) of E.O. 13622...on non-U.S. persons not otherwise subject to" the Iran Transactions Sanctions Regime and engage in petrochemical exports transactions with specific Iranian entities. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose blocking sanctions under section 5(a) of E.O. 13622...with respect to non-U.S. persons" who facilitate export of petroleum and related products from Iran to China, India, Japan, South Korea, Taiwan, or Turkey. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141).
E.O. 13628 (October 9, 2012)	IEEPA / NEA ISA '96 CISADA ITRSHRA INA	Expands national emergency set forth in E.O. 12957; primarily implements ITRSHRA. Further prohibits U.S. financial institutions from making loans or credits, foreign exchange transactions, and transfers or credits between financial institutions. Blocks property of those who deal in equity or debt instruments of a sanctioned person. Prohibits imports, exports. Extends sanctions to other officers of sanctioned entities. Blocks property affiliated with human rights abusers, including those who limit freedom of expression. Denies access to certain financing tools, property, and imports, if one engaged in expansion of Iran's refined petroleum sector. Blocks entry into the United States of those who engage in certain human rights abuses.	President

Executive Order	Underlying Statute	Restriction	Authority To Lift or Waive
		The President, and Secretaries of the Treasury, State, and Commerce, the USTR, Chairman of Federal Reserve Board, and President of Ex-Im Bank, administer.	
E.O. 13645 (June 3, 2013)	IEEPA / NEA CISADA IFCA INA	Expands national emergency set forth in E.O. 12957; imposes restrictions on foreign financial institutions engaged in transactions relating to, or maintaining accounts dominated by, Iran's currency (*rial*). Prohibits opening or maintaining U.S.-based payable-through correspondent accounts. Blocks property under U.S. jurisdiction. Imposes restrictions on those, including foreign financial institutions, found to be materially assisting in any way an Iran-related SDN. Imposes restrictions on those found to engage in transactions related to Iran's petroleum or related products. Requires the Secretary of State to impose restrictions on financing (Federal Reserve, Ex-Im Bank, commercial banks) on those found to engage in significant transactions related to Iran's automotive sector. Blocks property of those found to have engage in diversion of goods and services intended for the people of Iran The President, and Secretaries of the Treasury, State, Homeland Security, and Commerce, the USTR, Chairman of Federal Reserve Board, and President of Ex-Im Bank, administer.	President **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose blocking sanctions under section ... 2(a)(i)-(ii) of E.O. 13645 with respect to persons" who engage in various transactions related to petrochemical products. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose blocking sanctions under section...2(a)-(ii) of E.O. 13645...with respect to non-U.S. persons" who facilitate export of petroleum and related products from Iran to China, India, Japan, South Korea, Taiwan, or Turkey. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose correspondent or payable-through account sanctions under section...3(a)(i) of E.O. 13645...on foreign financial institutions" that are not otherwise subject to sanctions. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of January 20, 2014** (79 F.R. 5025): "The USG will not impose correspondent or payable-through account sanctions under section ...3(a)(i) of E.O. 13645...with respect to foreign financial institutions" that facilitate export of petroleum and related products from Iran to China, India, Japan, South Korea, Taiwan, or Turkey. Extended in **Guidance of July 21, 2014** (79 F.R. 45233). Further extended in **Guidance of November 25, 2014** (79 F.R. 73141). **Guidance of July 21, 2014** (79 F.R. 45233): "The USG will not impose sanctions described in sections 6 and 7 of E.O. 13645". Further extended in **Guidance of November 25, 2014** (79 F.R. 73141).

APPENDIX B:
CRS Memo Re: Iranian Crude Oil and Condensate Export Volumes

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MEMORANDUM

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

From: Phillip Brown, Specialist in Energy Policy

Subject: **Iran Crude Oil and Condensate Exports**

In response to your request for crude oil and condensate exports from Iran since January 2014, **Table 1** below summarizes monthly Iran crude oil and condensate export volumes, as reported by the International Energy Agency, during the period January 2014 through April 2015.

Table 1. Iran Exports of Crude Oil and Condensate: January 2014 to March 2015

Thousand Barrels per Day

	Jan 14	Feb 14	Mar 14	Apr 14	May 14	June 14
Crude Oil	1,108	1,276	1,200	1,208	1,168	1,038
Condensate	317	300	78	151	255	120
Total	1,425	1,576	1,278	1,359	1,423	1,158
	July 14	**Aug 14**	**Sept 14**	**Oct 14**	**Nov 14**	**Dec 14**
Crude Oil	1,003	884	1,149	931	1,038	1,221
Condensate	157	213	142	219	162	168
Total	1,160	1,097	1,291	1,150	1,200	1,389
	Jan 15	**Feb 15**	**Mar 15**	**Apr 15**		
Crude Oil	976	1,140	1,127	1,053		
Condensate	181	94	189	162		
Total	1,157	1,234	1,316	1,215		

Source: International Energy Agency, table prepared by CRS.

Notes: Numbers in the table are reported as provided by monthly IEA information. Numbers may not sum due to rounding. Reported crude oil and condensate numbers for previous months change from previous reporting periods. Monthly numbers may differ from previous versions of monthly IEA data.

APPENDIX C:
CRS Memo Re: Lifting Sanctions and Iranian Oil Exports

MEMORANDUM

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

From: Robert Pirog, Specialist in Energy Economics

Subject: **Iran Oil Exports**

This memorandum is written in response to your request for a summary of public and private sector estimates of how quickly Iran could increase its oil exports if sanctions against that country are lifted.[1] Significant uncertainties exist that could affect the accuracy of both public and private sector estimates. These include whether sanctions are lifted quickly, or in a phased approach, which sanctions, banking and finance, travel, insurance, and/or trade restrictions will be lifted first, agreement compliance and verification provisions, technical issues concerning how quickly oil can be moved out of storage, when/whether Iran can provide a business climate conducive to the return of international oil companies, and whether Iran can find customers for its oil in a world market that is currently in a state of over-supply.

Expansion of Iran's oil exports can be considered in terms of the sources and timing of oil available for export. In the near-term, any expansion of exports is likely to come from storage and expanding production from producing, or temporarily closed, wells. In the short-run, production from existing fields can be augmented more generally with the application of improved maintenance and technology. In the long-run, large investments, likely with the assistance of international oil companies, can be made to open new oil fields and substantially increase the production of known reserves.[2]

Public Sector

As of early April 2015, when it appeared that breakthrough progress was being made in nuclear talks with Iran, estimates of how quickly, and at what export level, Iran might be re-integrated into the world oil market began to become more widespread.

In the April 2015 *Short-Term Energy and Summer Fuels Outlook* (STEO), the Energy Information Administration (EIA) noted that Iran is believed to hold 30 million barrels of oil in storage and that technical capability was available inside Iran that might be capable of increasing production by 700,000

[1] Care should be exercised in using the estimates surveyed in this paper. CRS was unable to identify any analytical material supporting the oil export estimates summarized in this memorandum.

[2] While not precise definitions, for the purposes of this memorandum the near-term refers to a period from immediately after the lifting of sanctions to several months out. The short-run refers to the period up to one year, and the long-term refers to a period several years into the future. This approach is similar to that taken in economics where the market period, short-run, and long-run are used.

barrels per day (b/d) at least by the end of 2016.[3] It was noted in the STEO that how quickly, and at what rate, these quantities might reach the market depended on the provisions of a final agreement on Iran's nuclear activities. The EIA estimated that if quantities of this magnitude reached the market in 2016, EIA's baseline forecast for the 2016 crude oil price could be reduced by $5-$15 per barrel.[4] The EIA provided no estimate for long-run expansion of Iranian oil exports.

The International Energy Agency (IEA) found that Iran might, in theory, be able to begin exporting crude oil from supplies held in storage, estimated to be 30 million barrels, quickly. The IEA also reported that Iran might be able, in theory, to expand oil production by 600,000 b/d to 800,000 b/d over current production levels within months of sanctions being lifted.[5]

Private Sector

Opinion concerning Iran's ability to increase production and/or exports in the near-term varies. Michael Levi of the Council on Foreign Relations has been quoted as saying, "You want to know how many barrels will come out of Iran next week? Zero."[6] If Levi's comment refers to the current environment with sanctions still in place, he would seem to be correct. If Levi is referring to a period after sanctions are lifted, his view is pessimistic in the view of others.

Reuters reported that Iran is storing at least 30 million barrels of oil on Iranian owned supertankers.[7] Additional stored oil was reported to be in China.[8] Given that this oil is loaded on supertankers appropriate for oil export, it is likely that some, or all, of this oil could enter the export market in a near-term time perspective. It was also reported that Iranian Minister of Petroleum Bijan Zanganeh claimed that Iran could send 500,000 barrels of oil into the market immediately, or within one month after sanctions are lifted.[9]

In the short-run, based on difficult technical issues, energy analysts at Raymond James claimed that Iran would be unlikely to expand production by 500,000 b/d before the end of 2016.[10] Declaring, "That's just turning fields back on again," Robin Mills of Manaar Energy in Qatar asserted that Iran could increase exports by 800,000 b/d within a year. However, Mills was uncertain whether markets for the oil could be found for the oil given the general condition of over-supply.[11] Mr. Zanganeh, the Iranian Minister of Petroleum, felt that Iran could increase production by 1 million b/d within six or seven months and by 500,000 b/d in one or two months.

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[3] EIA estimated that the 700,000 b/d of oil production is divided between 600,000 b/d of shut-in capacity that could be brought back into production and 100,000 b/d of new production.

[4] The June 2015 STEO repeated the EIA position on Iran oil exports as described in the April 2015 STEO. The EIA has not included any change in baseline Iranian crude oil production in its short-term projections.

[5] International Energy Agency, "Oil Market Report," April 15, 2015, pp. 17-19.

[6] Clifford Krauss, "Iran Deal May Be Slow to Affect Oil Sector," New York Times, April 2, 2015.

[7] Jonathan Saul, Florence Tan, "Update 1-Iran Storing 30 Million Barrels of Oil at Sea," Reuters, March 15, 2015.

[8] It has been reported that Iran now holds 50 million barrels of oil products at sea as a result of a fire at the Dragon petrochemical plant in China. See, "Iran Storing 50 Million Barrels of Oil Products at Sea," Iran Daily, May 12, 2015.

[9] Payvand News of Iran, June 4, 2015, and Angelina Rascouet and Hashem Kalantari, "Iran Can Add Million Barrels a Day of Oil If Sanctions Halt," Bloomberg Business, March 17, 2015.

[10] Clifford Krauss, "Iran Deal May Be Slow to Affect Oil Sector," New York Times, April 2, 2015.

[11] Bill Spindle and Benoit Faucon, "Iran's Nuclear Deal Could Open Oil Flood," Wall Street Journal, March 16, 2015.

It is thought that long-run expansion of Iranian crude oil production and export would require the participation of western oil companies. It has been reported that Mr. Zanganeh declared that Iran was open to western oil companies participating in Iran's oil industry. However, given the long history of hostile relations between Iran and the United States and the many rounds of U.S.-imposed sanctions, the rapidity with which U.S. firms might set up operations in Iran after sanctions are lifted is open to question.[12]

Conclusion

Comments in the press concerning Iran's ability to expand its oil exports after the lifting of economic sanctions are likely conjectural. CRS has not found analytical work that supports or contradicts any estimates identified in this memorandum.

[12] Clifford Krauss, "Iran Deal May Be Slow to Affect Oil Sector," New York Times, April 2, 2015.

APPENDIX D:
CRS Memo Re: Iranian and U.S. Crude Oil and Condensate Assays

MEMORANDUM

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

From: Phillip Brown, Specialist in Energy Policy

Subject: **Iran and United States Crude Oil and Condensate Assays**

This memo responds to your request for Iran and United States crude oil and condensate assays. **Table 1** and **Table 2** below provide assays for Iran and United States crude oil and condensate information available to CRS.

Table 1. Iran Crude Oil and Condensate Assays

					Yield Volume %				
	Date	**API (degrees)**	**Sulfur Wt. %**	**TAN**	**LPG**	**Naphtha**	**Kerosene**	**Gasoil**	**Resid**
Daroud	2004	32.87	2.9	0.5	N/A	N/A	N/A	N/A	N/A
Faroozan	2013	31.33	2.4	0.37	0.65	20.46	13.4	24.4	41.09
Iran Heavy	2013	30.1	1.78	0.13	1.67	17.67	11.86	26.23	42.57
Iran Light	2013	33.09	1.33	0.09	1.93	20.09	12.98	26.38	38.62
Lavan Blend	2013	35.56	1.6	0.08	2.63	21.45	14.22	28.89	32.81
Nowruz	2013	20.24	4.23	1.26	0.67	12.54	9.29	20.06	57.46
Soroush	2013	18.58	3.99	0.2	0.39	7.27	5.81	18.18	68.35
Sirri	2013	33.26	1.78	0.02	2.63	21.1	13.62	27.64	35.03
South Pars Cond.	2002	58.4	0.26	N/A	7.0	49.0	23.0	19.0	2.0

Source: Energy Intelligence, *World Crude Oil Data*, accessed April 21, 2015.

Notes: Product yield information is as reported in the World Crude Oil Data database. Product yield represents the expected volume percent of certain oil products from initial distillation. Heavier distillation outputs (e.g., gasoil and resid) can be further processed using additional refinery processes in order to producer higher volumes of lighter fuel products (e.g., naphtha and kerosene). Some crude oil type yields do not sum to exactly 100, and it is assumed that this is the case due to rounding errors. TAN = Total Acid Number. Cond. = condensate. Wt. = weight. N/A = not available.

Table 2. U.S. Crude Oil and Condensate Assays

	Date	API (degrees)	Sulfur Wt. %	TAN	Yield Volume % LPG	Naphtha	Kerosene	Gasoil	Resid
Alaska North Slope	2014	31.5	0.9	0.24	3.1	25.39	8.92	22.75	39.84
Bakken	2014	42.1	0.1	<0.1	N/A	N/A	N/A	N/A	N/A
Eagle Ford	2011	47.7	0.1	0.03	N/A	N/A	N/A	N/A	N/A
Eagle Ford Cond.	2011	55.6	0.01	N/A	5.0	48.0	31.0	15.0	1.0
Heavy LA Sweet	2013	33.4	0.42	0.25	N/A	N/A	N/A	N/A	N/A
HOOPs Blend	2013	32.5	1.24	1	2.35	22.32	13.9	16.49	44.94
Light LA Sweet	2014	38.7	0.39	0.4	N/A	N/A	N/A	N/A	N/A
Mars Blend	2012	28.8	1.8	0.46	2.2	16.15	12.71	21.77	47.18
Poseidon	2009	29.7	1.65	0.41	2.51	16.44	12.82	22.32	46.22
Southern Green Canyon	2009	28.2	2.3	0.17	3.14	3.14	15.01	11.62	20.92
Thunder Horse	2014	31.9	0.99	0.09	1.73	19.46	14.6	16.39	47.82
West Texas Intermediate	2000	40.8	0.42	0.1	2.5	24.2	22.7	17.4	33.2
West Texas Sour	2000	31.7	1.28	N/A	1.2	19.8	15.2	26.3	37.6

Source: Energy Intelligence, *World Crude Oil Data*, accessed April 21, 2015.

Notes: Product yield information is as reported in the World Crude Oil Data database. Product yield represents the expected volume percent of certain oil products from initial distillation. Heavier distillation outputs (e.g., gasoil and resid) can be further processed using additional refinery processes in order to producer higher volumes of lighter fuel products (e.g., naphtha and kerosene). Some crude oil type yields do not sum to exactly 100, and it is assumed that this is the case due to rounding errors. TAN = Total Acid Number. Cond. = condensate. Wt. = weight. N/A = not available.