CITY OF LONG BEACH

**Memorandum**

Date: October 25, 2021

To: Thomas B. Modica, City Manager

From: Bob Dowell, Director of Energy Resources
Kevin Riper, Director of Financial Management

For: Mayor and Members of the City Council

Subject: **Reducing Reliance on City Revenue from Oil Production**

On September 8, 2020, the City Council directed the City Manager and all appropriate departments to report back on the City's dependence on oil production, to transition to cleaner energy and more sustainable funding models, and to develop long-term alternative funding plans for critical programs, services, and obligations currently dependent on oil revenues. This memorandum provides a response to this request.

The City receives substantial revenue related to the City's oil production for wells in which it has a financial interest. This memorandum provides background on the revenue that the City receives, discusses approaches to reducing the City's reliance on oil revenues, and outlines steps that staff will be taking unless the City Council directs staff to different steps and actions.

Oil is a natural but finite natural resource. The City has oil reserves that are developed through the drilling of wells. The oil that is produced is sold for the benefit of the State, the City, and other mineral interest owners. The City's oil wells do not utilize hydraulic fracturing stimulation treatments at any time in their lifecycle. Through an oil field contractor, the City injects water into the wells to manage subsidence and enhance oil extraction. The City ensures its contractor follows all regulations and that no adverse conditions arise due to its oil operations.

Oil revenue for the City is produced through three primary sources: (1) a barrel tax, used to fund General Fund type operations; (2) revenue from the sale of produced oil that benefits the Tidelands and General Fund; and, (3) a fee placed on oil production costs that benefits the General Fund. In FY 20, $18.9 million in oil revenue was available for City services. Of the $18.9 million, about $8.6 million was for Tidelands Operations, with the remaining $10.3 million used for General Fund services. It is noted that the Uplands Oil Fund receives oil revenues, but those revenues are used to directly benefit the General Fund. About $26 million was received in the Uplands Oil Fund, but $7 million of that was used to fund the cost of oil field abandonment. Oil revenue can vary significantly from year to year, primarily because the oil price is often very volatile. The table on the next page shows the components of FY 20 actual revenue for oil operations. During FY 20, the average price of oil was about $45 per barrel. In FY 22, Measure US adds a new barrel tax, estimated to generate another $1.3 million in oil revenue in FY 22.

**Annual Oil-Related Revenue (FY 20 Actual)**

| Tax | Revenue (in $ mil) | Comments |
|---|---|---|
| Oil Barrel Tax General – 15 cents/bbl | 1.4 | Used to support general services |
| Oil Barrel Tax Special – 15 cents/bbl | - | Effective 10/1/21 and with $1.3M est. revenue in FY 22. For climate change adaptation, community health, and youth services |
| Oil Barrel Tax for Police and Fire – 33 cents/bbl | 3.0 | Currently used to support police and fire positions |
| Uplands Oil – Oil sales and Admin Charges for Oil – For General use | 5.9 | Net of oil field abandonment of $1.3M |
| **Sub-total General Use** | **10.3** | |
| Tidelands Oil Revenue | 8.6 | Net of oil field abandonment of $5.7M |
| **Total Revenue** | **18.9** | Does not include property tax and Utility Users Tax (UUT) |

Oil revenues have a long history of funding significant improvements to Long Beach's waterfront in the Tidelands area. However, the price of oil and the associated revenues to the City typically go through boom-and-bust periods. In fact, in April 2020, the oil price was negative for a short time, a historic moment for the commodity. Until 2010, when Measure D was adopted, the Harbor Commission controlled how oil revenues were spent in the Harbor District. Measure D transferred control over Harbor District oil revenues from the Harbor Commission to the City Council. For a time after the transfer, oil prices were close to $100 per barrel. At this price level, the City was able to develop an aggressive capital improvement program. In 2015, the oil prices dropped significantly, culminating in a prioritization effort that led to a five-year capital improvement program (CIP), investing $95 million in 35 priority projects. Oil revenue has provided funding for many projects, including the Belmont Pool, the Naples Seawalls, the bike path, the Convention Center, playgrounds, and the new beach concession stands, among many others. The Tidelands oil revenues represent a significant portion of the Tidelands Operating Fund's revenues available for both operating and capital (infrastructure) funding purposes. The oil revenues are also crucial to helping to fund General Fund operations, particularly in these challenging budget years. A significant portion of the non-Tidelands oil revenues directly funds public safety.

There are other significant revenues associated with oil production, such as property tax and UUT. These other revenues total several millions of dollars annually. Those revenues are not easily isolated as they are included in the overall General Fund UUT and property tax revenues and were not included in the above numbers.

Long Beach is already significantly reducing its reliance on revenue from oil production, and this will continue until revenues become insignificant or end, currently planned for around 2035. This reduced reliance and eventually, elimination of oil revenues, is happening due to natural production declines and is expected to continue until about 2035, when it is projected that the oil field may generally cease production for economic reasons. This is expected to be a sufficient timeframe to end the City's reliance on oil revenues. The timeframe allows the City to fund the remaining high cost of oil field abandonment. It also provides time to make revenue and expense adjustments to both the General Fund and Tidelands Operating Fund to offset declining and eventually ending oil revenue. Over the next 15 years (or whenever oil revenue

ends), oil revenues must be enough to fund the cost of future oil field abandonment. Otherwise, the multi-million-dollar cost may need to be funded by other sources such as diversion of other non-oil Tidelands revenues. Any actions by the State to reduce or stop oil production before 2035 may also have an additional adverse impact on City oil production over time and may result in less time to adjust to lower oil revenue or a need to increase annual funding to the oil abandonment fund.

The Governor recently announced plans to phase out oil extraction in California. The California Air Resources Board (CARB) has been tasked with evaluating how to phase oil extraction by the year 2045. CARB will evaluate economic, environmental, and health benefits and effects of eliminating oil extraction. Phasing out oil extraction becomes a part of California's blueprint to achieve economy-wide carbon neutrality by 2045. As was stated in the previous paragraph, the City has a goal of fully funding oil field abandonment by 2035, which prepares to the City to support the Governor's climate goals.

The City is already effectively decreasing and eliminating its dependence on oil revenue. This is happening naturally as oil production for the City's oil wells inherently lose about 6 percent of its production each year. The estimated 6 percent decline is based on past performance and does not account for potential regulatory changes or market conditions that could increase the oil production decline rate. As a result, the economic life of the oil field is currently assumed to end in about 2035, although it may be longer or shorter. The natural reduction in production is somewhat offset by further developing and drilling new wells if oil prices are high enough to encourage new oil field development. Oil revenue from the General Fund barrel tax is decreasing annually in line with the 6 percent reduction expectations and the same decline will happen with the new Measure US barrel tax revenue. Oil revenue for Tidelands and Uplands is greatly affected by the price of oil, and that has somewhat masked the impact of production declines. In any event, the City is planning that oil revenue ends in 2035 and has implemented a plan to fund oil field abandonment costs by then.

The attached memorandum from the Energy Resources Department on oil field abandonment provides additional information on this topic. The memorandum indicates that the current annual oil field abandonment funding level may be adequate if oil field production ends in 2035. The City has an estimated $81 to $146 million liability for oil field abandonment. At the current rate of setting funds aside, the City will generate enough to fund the $81 million by 2035. If the liability is closer to $146 million, substantially higher contributions to the abandonment fund and/or a longer life for the oil field may be needed to avoid a potential major unfunded liability, potentially requiring the use of non-oil Tidelands revenue to fund oil field abandonment. Energy Resources is working with the City Attorney's Office to ascertain whether other actions need to be taken to resolve potential oil field liability issues or whether the funding level needs to be increased.

In 2015, oil fields in Long Beach produced more than 13 million barrels of crude oil, representing significant greenhouse gas (GHG) emissions.[1] The draft Climate Action and Adaptation Plan (CAAP) 2030 Reduction Target Pathway includes an action to decrease oil

[1] The 13.3 million barrels of crude oil and 5.1 million Mcf of natural gas extracted in Long Beach in 2015 generated an estimated 8.3 million MT $CO_2e$ in lifecycle emissions. This is 2.7 times greater than the City's 2015 production-based inventory.

production by 20 percent below 2018 production volumes by 2030. As indicated in the draft CAAP, the City's long-term strategy to address oil and gas lifecycle emissions will need to be multi-pronged and collaborative. The strategy will need to include local action to replace fossil fuel consumption in Long Beach with clean electricity and other renewable energy sources; supporting efforts that minimize global demand for the types of oil and gas resources extracted in the city, which would lead to a reduction in local oil and gas extraction; and investments in future carbon capture technology. In the long term, to maximize carbon emission reductions, the draft CAAP underscores that the City must explore ways to decrease, and eventually phase out, local oil and gas extraction.

**Actions and Alternatives**

The City is on track to end its dependence on oil revenues over a relatively short timeframe, but one that is long enough to help the City avoid extraordinary costs or service disruptions from a more abrupt transition. The current set of actions and staff's recommendation are listed below along with other more aggressive steps that the City could take.

Current Program to End Oil Reliance by around 2035 (Staff Recommendation)

- Oil revenues are impacted by the natural decline in oil production of about 6 percent a year, although new oil well development can put in temporary bumps to that decline. The end of oil field life is assumed to be about 2035.
- Adjust other revenues and reduce expenditures annually as necessary over the remaining oil field life considering the reduced and ultimate end of oil revenue.
- Maintain appropriate funding of oil field abandonment to take into account both any updated liability amounts and end-of-oil field timeframe projections.
- Invest a portion of Measure US oil funds into climate adaptation strategies identified in the CAAP.

Possible More-Aggressive Oil Reliance Reduction Actions (Examples)

- Reduce use of oil revenues by reducing funding of normal City operations and capital (General Fund and Tidelands) by diverting the revenue to non-normal purposes such as:
    - Faster funding of oil field abandonment (and associated reduction of City risk) – will likely require a reduction in General Fund and Tidelands operations.
    - Funding of one-time (not operational) CAAP costs, including the potential of finding ways to extend the life of the City's Southeast Resource Recovery Facility (SERRF) facility, which is an environmentally friendlier way to dispose of residential and commercial waste compared to landfilling of the same waste.
    - Funding of one-time uses that do not create a direct or implicit reliance on ongoing oil revenue.
- Reduce the use of oil revenue by reducing only operating expenditures (General Fund and Tidelands) and direct that funding to one-time General Fund or Tidelands items such as capital needs (only partially reduces dependence).

- Avoiding the issuance of any new Tidelands debt as it is inherently supported by oil revenue and therefore debt increases dependence on oil revenue.

Most Aggressive Oil Reliance Reduction Actions (Examples)

- Reduce the City's oil barrel taxes. This would reduce City oil revenues and its dependence on oil, would not impact funding of oil field abandonment, and would probably not significantly impact oil production.
- Unilaterally direct a reduction in City oil field production. This would reduce City oil revenue, potentially create a significant City liability for oil field abandonment funding and may have other significant unintended financial consequences by impacting the revenues to others with oil ownership. As a result, it may not be financially feasible.

**Next Steps**

Staff will be taking the following next steps unless otherwise directed by the City Council:

- Continue with the budgeting for FY 22 of oil revenue based on the natural decline in oil production, using the current end-of-life target of 2035 in alignment with the draft CAAP approved by the City Council.
- In future years, dedicate a substantial amount of oil revenue to fund abandonment of the oil field, in accordance with CalGEM regulations, the regulatory body governing the method of abandonment.
- Minimize reliance on funding operations from oil revenue by decreasing the use of barrel tax to fund General Fund operations using the normal decline of about 6 percent a year.
- A focus on not adding new operating expenses to the Tidelands Operating Fund and to focus any additional oil revenues above current operational needs on funding oil field abandonment and/or on one-time and capital needs as revenues permit.
- Not propose any increase in the City's barrel taxes to offset declining oil revenues (letting natural production declines take its course).
- Annually review oil field abandonment funding and adjust as appropriate to ensure adequate funding based on outstanding liability and any changes in the projected life of the oil field.
- Continue to look for alternatives to oil revenue.

If you have any questions, please contact Kevin Riper, Finance Director, at (562) 570-6427, or Bob Dowell, Energy Resources Director, at (562) 570-2001.

ATTACHMENT: FUNDING (WILMINGTON) OIL FIELD ABANDONMENT COSTS MEMO

CC: CHARLES PARKIN, CITY ATTORNEY
DOUGLAS P. HAUBERT, CITY PROSECUTOR
LAURA L. DOUD, CITY AUDITOR
LINDA F. TATUM, ASSISTANT CITY MANAGER
KEVIN JACKSON, DEPUTY CITY MANAGER
TERESA CHANDLER, DEPUTY CITY MANAGER
REBECCA GARNER, ADMINISTRATIVE DEPUTY CITY MANAGER
MONIQUE DE LA GARZA, CITY CLERK (REF. FILE #20-0831)
GRACE YOON, BUDGET MANAGER
DEPARTMENT HEADS

**ATTACHMENT**

CITY OF LONG BEACH

**ENERGY RESOURCES**
2400 EAST SPRING STREET • LONG BEACH, CA 90806
(562) 570-2000 • www.longbeach.gov

Date: May 27, 2021

To: John Gross, Interim Director, Financial Management

From: Bob Dowell, Director, Energy Resources

Subject: **Funding (Wilmington) Oil Field Abandonment Costs**

The cost of abandoning an oil field is a natural and essential part of the total cost of oil production. When the life of the oil field ends, there typically are many wells to abandon along with other costs associated with the complete abandonment of an oil field. Some wells are abandoned during the normal course of daily production operations and before the life of the oil field ends. When this happens in the Wilmington Oil Field today, the cost to abandon a well is paid by the City's oil operator, California Resources Corporation (CRC). The City's share of that well's abandonment cost is then deducted from any net revenues the City receives. For all the remaining wells and facilities that exist at the end of the Wilmington Oil Field's life, funding needs to be reserved by the City on an ongoing basis to pay for its share of the oil field's ultimate abandonment cost. If this is not done, the Tidelands Operating Fund and future residents may be burdened to pay for a large and potentially financially debilitating bond issue to provide the funding for the City's share of the Wilmington Oil Field abandonment.

The City's share of the Wilmington Oil Field abandonment expenses associated with its oil operations is a significant unfunded liability. This memo describes the current methodology and approach to reserving City funds for the Wilmington Oil Field abandonment when the oil field is no longer economically viable, or a decision is made to stop oil production.

## Methodology

In general, the approach recommended and used by the City's Energy Resources Department (ER) to fund the cost of the Wilmington Oil Field's eventual abandonment is to set aside enough funds annually for the future oil field abandonment. This set aside is an annual expense for operating the oil field. This is a standard and accepted approach for funding any costs that need to be paid in the future but help generate current revenues. The intent is to accumulate enough funds so that when the oil field is ultimately abandoned, no additional funds need to be set aside for the abandonment costs that will be incurred at that time.

In estimating the amount of funds needed to be set aside annually, it is assumed that full funding will be needed by the end of 2035. The Wilmington Oil Field may be economically viable after 2035, but the actual end of oil operations for the Wilmington Oil Field will depend on how the economics are impacted by future oil prices, industry regulations, and potential directions provided by the State of California (State) and the City Council. As a

result, 2035 is believed to be a reasonable conservative end of life assumption that considers the substantial uncertainties that surround the Wilmington Oil Field's oil production operations.

The Wilmington Oil Field's abandonment costs are estimated by ER. The total field abandonment cost has four major components:

- Well abandonment costs - For the estimate, ER uses the average cost to abandon a well today under current regulatory requirements and assumes that value for all remaining non-abandoned wells. The well abandonment cost is the most expensive component of the overall oil field abandonment liability.
- Pipeline and surface facility removal costs - ER hired a consultant to help estimate this cost.
- Remediation Costs - ER hired a consultant to estimate the cost of any environmental remediation necessary.
- Oil Island land mass removal costs - At this time, ER is assuming the City will repurpose the oil islands and there will not be a need to physically remove the oil islands.

ER has estimated the total abandonment cost for the Wilmington Oil Field at $1.148 billion and has allocated the costs to the various parties in accordance with contractual arrangements as shown below. The estimates are in today's dollars and do not include an inflation factor. ER updates the estimate for each component annually and uses current costs for that year.

**Estimated Wilmington Oil Field Abandonment Costs**

| Responsible Party ($ in millions) | Estimated Total Liability | Already Set Aside | Amount Still Needed |
|---|---|---|---|
| State of California | 909 | 300 | 609 |
| City of Long Beach | 124 | 43 | 81 |
| Townlot owners (misc. minor royalty owners) | 65 | 0 | 65 |
| CRC | 50 | 0 | 50 |
| Total | 1,148 | 343 | 805 |

The City's currently estimated abandonment liability of $124 million is allocated $103 million to Tidelands Operations Fund (TOF) and $21 million to Uplands Oil Fund (Uplands).

The largest cost component in the total estimated cost for the Wilmington Oil Field abandonment is the cost is associated with the well abandonments. ER estimates this cost based on current actual costs to abandon wells in the active field under existing regulatory requirements. However, ER believes that the cost to abandon wells in the future will be substantially less when oil operations cease and a contractor can focus on multiple well abandonments and not have ancillary costs associated with oil production or overhead. As a result, ER estimates that the anticipated efficiency savings in well

abandonment costs should offset the escalation factor applied to facility abandonment costs.

City Annual Funding Needs

For the past twenty plus years, the City has been reserving monies from TOF and Uplands for the future Wilmington Oil Field abandonment costs in an Oil Field Abandonment Reserve (Reserve). Through FY 19, the City has placed $43 million in the Reserve, $34 million from Tidelands and $9 million from Uplands. At current estimates, about $81 million remains to be collected ($124 million estimated cost/liability minus the $43 million already collected) for the City's share of the Wilmington Oil Field's estimated abandonment cost.

Figure 1 below shows projected net oil revenue in blue (at current production levels and oil price of $55/bbl), the required Reserve contribution (in red) and the reduction of the unfunded Reserve liability (green line). Under these assumptions, there will be little net oil revenue available for operations within a few years and in the last five years of the oil field life, nearly all the oil production net revenue will be needed for the City's oil field abandonment liability.

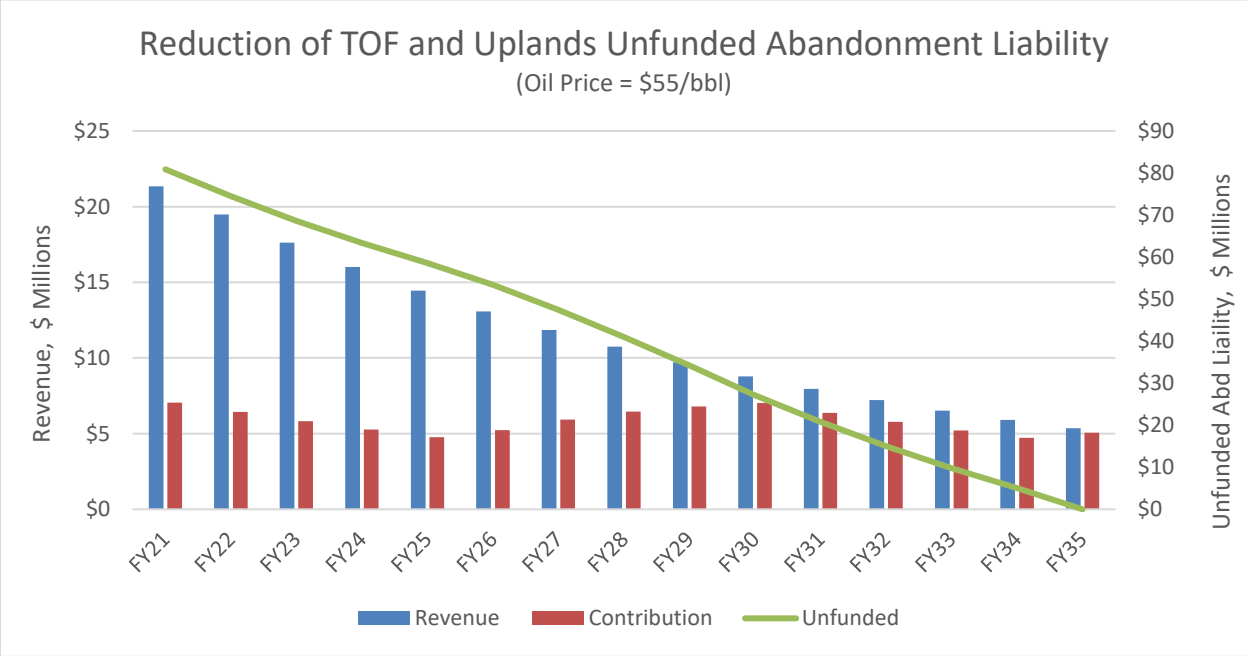


Figure 1

To assist with the Reserve funding, it may be appropriate to consider using any net oil revenue above $55 per barrel (or other amount that City Council may choose) to also be put in the Reserve (even if above the $7 million minimum contribution) to make additional contributions to the Reserve to protect for years when the oil price might be below the budgeted price and funding the Reserve will be challenging.

It is important to consider that the methodology reevaluates current costs each year. Costs typically go up with inflation. As a result, it is reasonably likely to assume that the $7 million annual contribution to the Reserve will increase each year. It is also possible that the assumption of lower well abandonment costs in the future due to the abandoning of many wells at one time after the field ends production may not be correct.

Other Unfunded Abandonment Liabilities and potential impacts on City Reserve Funding

The State has only set aside $300 million of the estimated $909 million cost for its share of the Wilmington Oil Field's abandonment. The State has also stopped contributing to its abandonment fund, even in these recent years of substantial State surpluses. If the State does not have enough money set aside when the Wilmington Oil Field is ultimately abandoned, the State may have to find ways to come up with the money and that may prove challenging. In any event, it is in the State's and the City's best interest that the State make contributions to its abandonment reserve with the intent of being fully funded by the end of 2035, presumably at about $50 million a year using the current estimating methodology.

The City's oil field operator, CRC, has liability for about $50 million of the Wilmington Oil Field's abandonment costs. The State requires CRC to secure a bond for their share of the abandonment liability.

More importantly, the numerous other owners of the Wilmington Oil Field, known as "Townlot" owners, have about $65 million of the total estimated abandonment liability. ER is working with the City Attorney's Office to explore options to assist the Townlot owners secure funding for their share of the abandonment liability.

Finally, while the methodology used by ER to calculate both the City's total abandonment liability and the annual Reserve contribution is currently reasonable, it has certain unavoidable weaknesses that may become more problematic as the years get closer to the actual Wilmington Oil Field abandonment and as net oil revenues continue to decrease. ER intends to review the methodology and approach over the next few years for potential improvement.