Hawaii Refinery Task Force Meeting #4

Final Report on Refinery Closure

April 9, 2014
Context and Objectives

- This is the third and final report of the Hawaii Refinery Task Force

- *Initial Report* was issued in June 2013
  - Focused on assessing impacts of the potential closure of Tesoro’s Kapolei refinery

- *Interim Report* was issued in November 2013
  - Challenges to the sustainability of ongoing refinery operations in Hawaii
  - Options to address challenges and mitigate impacts of potential refinery closures

- *Final Report* builds on these two earlier studies and provides recommendations on specific transitional measures needed through 2020
Outline of Presentation

- Updated Fossil Fuel Demand Estimates
- Transitional Measures Needed through 2020
  - Enhance Fuel Infrastructure Flexibility
  - Manage Regulatory Issues
- Conclusion and Wrap Up
FOSSIL FUEL DEMAND ESTIMATES

Power Sector Demand Changes by 2020

- **HCEI Impacts on Power Sector**
  - HCEI goals being met in the power sector
    - Expected to continue through 2020
  - Significant progress across EE, distributed generation, and utility-scale renewables
    - RPS & EEPS targets being met/exceeded
  - Estimated to reduce petroleum product consumption by 18,500 b/d by 2020
    - 50% reduction from 2012 levels (35 TBD)

- **Potential Expansion of LNG**
  - *Final Report* discusses several alternative approaches being discussed in Hawaii
  - Full assessment of these alternatives is outside the scope of this study
  - Acceleration of LNG usage will increase potential for refinery closure
  - For purposes of the demand estimate, we assumed 300 b/d by 2020
Transportation Sector Demand Changes by 2020

- Transportation sector consumes more than 2x the fossil fuels of power sector
  - 74,400 b/d in 2012

- But only minimal demand reductions are expected from current trends
  - Only 3,600 b/d reduction by 2020 from CAFE, EV penetration, and biofuels
    - 5% reduction from 2012 levels
    - Jet fuel demand expected to increase 1.5% annually

- Should be a major focus of the next phase of HCEI
  - Reengage stakeholders
  - Update roadmap and set new goals
  - Commit to new action plans

### Fossil Fuel Demand Estimates

<table>
<thead>
<tr>
<th>Fuel</th>
<th>2012</th>
<th>2020P</th>
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</thead>
<tbody>
<tr>
<td>Jet Fuel</td>
<td>12,900</td>
<td>17,400</td>
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<tr>
<td>Gasoline</td>
<td>27,800</td>
<td>27,400</td>
</tr>
<tr>
<td>Distillate</td>
<td>24,000</td>
<td>24,000</td>
</tr>
<tr>
<td>Residual</td>
<td>10,700</td>
<td>10,700</td>
</tr>
<tr>
<td>Other*</td>
<td>16,700</td>
<td>16,700</td>
</tr>
</tbody>
</table>

* “Other” includes naphtha used by Hawaii Gas, asphalt, propane, refinery fuel use, etc.

- Transportation: 74,400 b/d
- Other: 16,700 b/d

- CAFE: -2,500 b/d
- Bio-Jet: -800 b/d
- EV/Biodiesel/LNG: -600 b/d
- Jet Fuel: +4,500 b/d
Ensure Continuity of Hawaii’s Fuel Supply

- Hawaii will remain heavily reliant on fossil fuels through 2020 and beyond
- Potential refinery closures would create additional stresses on fuel system
  - Refiners own/operate critical fuels infrastructure
  - Significant petroleum imports would be needed
  - Cost and quality risks for some consumers (e.g., KPLP, Hawaii Gas)
- Promote supply and price stability for consumers
  - Enable refiners to continue to operate effectively in Hawaii through 2020
  - Lay the groundwork for increased imports
  - Manage a smooth transition toward Hawaii’s future clean fuels ecosystem
- Two sets of recommendations:
  - Enhance Fuel Infrastructure Flexibility to increase resilience and enable imports
  - Manage Regulatory Issues which pose immediate challenges
Key Infrastructure Flexibility Issues

1. Access to Existing Infrastructure
2. Kalaeloa Barbers Point Harbor Planning
3. Fuel Reserve
5. Pier 51 Prioritization Process
6. Jones Act
7. Energy Assurance Plans
Access to Existing Infrastructure

- The state’s biggest vulnerability to potential refinery closures is the loss of access to critical infrastructure needed to import and distribute products—e.g., SPMs, storage tanks, and pipelines.

- While refinery assets would very likely be purchased and operated by other parties, this outcome is not guaranteed.

- The state should explore options to ensure continued access:
  - Working with both refiners to develop mutually agreed “exit strategies” or contingency plans; e.g., agreements to continue operating their importing, storage, distribution, and marketing businesses until other buyers are identified.
  - Examining other options the State may have by law to sustain the operation of the assets (e.g., importing, storage, distribution, and marketing) until a buyer is found.
ENHANCE FUEL INFRASTRUCTURE FLEXIBILITY

Kalaeloa Barbers Point Harbor Planning

- If one or both refineries close, imports at KBPH will increase
  - Particularly for products such as naphtha and propane

- The KBPH study team is wisely assuming a higher traffic outlook for these products in its ongoing planning and design activities
  - The KBPH study team should continue to work closely with the State Energy Office as the harbor plan develops to finalize closure scenarios in its planning

- The new fuel pier should include capacity to unload propane vessels, which would need to increase in the event of refinery closures
Fuel Reserve

- Under an import-based fuel supply, the Hawaii supply chain will extend a great distance—to Asian or mainland markets, or even further.

- This will affect the state’s ability to quickly procure fuels to respond to emergency situations that might occur.

- In the event of refinery closures, Hawaii may benefit from creating a modest fuel reserve for gasoline and diesel fuel for transportation.
  - Lease storage capacity
  - Purchase a certain amount of fuel to be held as reserve (e.g. 200,000 barrels)
  - Establish criteria for specific situations that would permit the release of the reserve, such as providing fuel to first responders following emergencies or natural disasters.

- Further investigation is warranted to determine the appropriate fuel types, size, placement, and ownership options for any new fuel storage facilities.
ENHANCE FUEL INFRASTRUCTURE FLEXIBILITY

Hawaii Gasoline Specification

- House Bill 1938 was introduced January 21, 2014 by Representative Chris Lee
  - Would replace Hawaii’s outdated gasoline specifications which don’t account for ethanol mandates in gasoline

- As of March 2014, the bill has crossed from the House to the Senate, and was approved in Senate committees March 27th
  - Appears to be on a path toward being enacted

- Updating the gasoline specifications will help position Hawaii to meet potential gasoline import needs more cost effectively

- The bill should be adopted, or rules should be immediately promulgated by the Hawaii Department of Agriculture
Pier 51 Prioritization Process

- Honolulu International Airport demands currently require at least one cargo per month of jet fuel offloading at Pier 51A.

- This could increase to 3-4 cargoes per month with both refineries closed.

- Given expected bottlenecks, DOT–Harbors should work with HFFC and the container industry to establish a delivery prioritization process.
  - In cases where the outlook for jet fuel inventory could threaten fueling of jets, HFFC would demonstrate the impact based on cargo schedules, and DOT–Harbors would be able to provide jet cargo berthing priority.
Jones Act

- Stakeholders have raised the possibility of waiving the Jones Act requirement to use only U.S.-owned and operated vessels to deliver domestically produced fuels to Hawaii
  - Allowing foreign flag vessels would lower the cost of importing fuels in a situation where one or both of Hawaii’s refineries have closed

- The approval of such a waiver would be challenging

- Nevertheless, the state should be positioned to prepare a request for a blanket waiver of the Jones Act for a fixed period of time after the closure of one or both refineries to help maintain supply assurance

- Several Hawaii legislators are already collaborating with colleagues in Guam, Puerto Rico, and Alaska to seek relief from the Jones Act impact on the cost of living in Hawaii
Energy Assurance Plans (EAP)

- Hawaii’s EAP, updated in 2013 with federal funding, is a planning tool to enable the state to respond quickly and effectively to energy emergencies.

- Since the EAP was last updated, Hawaii has increased renewable fuel sources significantly, and now faces a possible shift to an import-based fuels supply should refinery closures occur.

- The state should continue to maintain and regularly update the existing EAP:
  - Ensure information and content remains current.
  - Update plan elements to maximize effectiveness.
  - Consider including sections on petroleum shortage supply management and waivers to temporarily suspend regulations in case of an emergency.
  - Promote coordination between DBEDT and other stakeholders in EAP development.
  - Ensure readiness through training, testing, and exercising, and incorporate lessons learned and best practices.
Overview of Regulatory Issues

Background:
- Several specific regulatory issues present imminent challenges to refiners
- Have the potential to accelerate closures, as compliance could entail substantial changes in demand for refinery products or refinery operating yields
- *Interim Report* suggested options to mitigate or delay the impact of these issues over the next few years without compromising the goals of the environmental regulations
- The State has been working with relevant federal entities to manage impacts/timing
- *Final Report* summarizes key changes since the *Interim Report* and proposes next steps and recommendations

Key Regulatory Issues:
1. Mercury and Air Toxics Standard (MATS)
2. Federal Tier 3 Gasoline Specification
3. State GHG Reduction Initiative
The Interim Report explained how the MATS standard may have been incorrectly established based on inaccurate test data.

On November 10, 2013, Governor Abercrombie sent a request to EPA Administrator Gina McCarthy requesting that the final EPA ruling for non-continental boilers be reviewed.
- EPA has not yet responded formally to this request.
- However, on March 20, 2014, officials from EPA Region IX headquarters in San Francisco informed the state that the request is under consideration.

HECO is also working with the refiners to determine if there is a suitable blend of diesel fuel and LSFO that could meet the existing EPA standard.

The Task Force recommends continued analysis of possible blending options and the impact on cost to refiners and consumers, as well as KPLP.
Federal Tier 3 Gasoline Specification

- The *Interim Report* identified concern that Hawaii refiners will be required to produce gasoline with 10 parts per million (ppm) sulfur by 2017 as part of the EPA’s proposed Tier 3 gasoline specification ruling.

- This could be a threat to the refineries, particularly Chevron, which has less reported hydrogen treating capacity to remove sulfur.

- On March 3, 2014, the EPA finalized the ruling requiring the lower levels of sulfur in gasoline by 2017, but it included an exemption from meeting the rule until 2020 for refiners who meet the defined category of “small” refiners:
  - Defined as refineries that processed under 75,000 b/d in 2012

- Chevron appears to meet this criterion and thus may be granted an exception for compliance until 2020; HIE does not believe they would qualify and may therefore need to comply by 2017.

- Refiners should communicate with the state to confirm their categorization and advise what steps may be needed to meet the 2017 or 2020 requirement:
  - Given the recent ruling and need for analysis, the State would request individual meetings with the refiners to discuss their plans by December 1, 2014.
**State GHG Reduction Initiative**

- Based on current trends and the planned progression of HCEI to further reduce electricity demand while increasing the share of renewable-based generation, Hawaii will likely be able to reduce GHG emissions 30% by 2020
  - This level of reductions is expected to exceed those required by Act 234
  - The state’s approach to GHG management should account for these major reductions

- It may be as effective, and less burdensome, to use the HCEI framework to continue to drive GHG emissions reductions, complemented by a rigorous monitoring process
  - Since the state has no guarantee that HCEI targets will continue to be met, emissions data should be monitored—using annual data tracked by EPA—to ensure sustained reductions
  - Additional rules could be promulgated to serve as a backstop in case expected targets are not met

- The Abercrombie Administration is taking these issues under consideration in making a final determination of the state GHG rules
  - Expected to take steps to reconcile with the projected GHG reductions from HCEI; and
  - Will align with its response to the federal rulemaking process on existing power plants (i.e., Clean Air Act Section 111d)
The Task Force has played an important role for the state, and it has met the timetable and objectives of the Governor’s Executive Order:

- The Task Force provided an *Initial Report* to the Governor within 60 days of the Tesoro refinery closure on the process to transition to an import-based supply.
- *Initial Report, Interim Report, and Final Report* collectively identify the impacts of changing refinery capacities and provide recommendations to manage the transition.
- HRTF has advised the Governor on numerous actions to improve the state’s ability to import products, align key infrastructure projects, and manage regulatory issues.

The Task Force’s service and input has been critical to the study process, and your support is greatly appreciated.

While the *Final Report* concludes the formal work of the Task Force, further action will be needed to help refine and implement recommendations.
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