

Committees:	Dates:
Corporate Projects Board - for decision	06 October 2021
Port Health & Environmental Services Committee	Delegated Authority
Projects Sub - for decision	20 October 2021
Subject: Replacement of the Lady Aileen's engines. Unique Project Identifier: 12304	Gateway 1-4 Project Proposal & Options Appraisal Regular
Report of: Executive Director Environment Report Author: Gavin Stedman, Director of Port Health & Public Protection	For Decision
<h1>PUBLIC</h1>	

Recommendations

<p>1. Approval track, next steps and requested decisions</p>	<p>Project Description: Replacement of the Lady Aileen's engines.</p> <p>Funding Source: £350,000 Carry forward request submitted as part of the Departmental revenue underspend in 2020/21. This has been approved by the Chamberlain and RASC.</p> <p>Next Gateway: Gateway 5 – Authority to start work (Regular)</p> <p>Next Steps: A decision to proceed with recommended option to replace existing engines with the latest technology that is compliant with the current regulations.</p> <p>Requested Decisions:</p> <ol style="list-style-type: none"> 1. That budget of £1,000 is approved for Port Health & Public Protection to reach the next Gateway; 2. Note the total estimated cost of the project at £301,000 (excluding risk); 3. That a Costed Risk Provision of £50,000 is noted for the project and further details will be brought back at Gateway 5.
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	4. That Option 2 is approved: Replace engines with new Tier 3 IMO approved engines, which meet the latest regulations.												
2. Resource requirements to reach next Gateway	<p><i>For recommended option 2:</i></p> <table border="1"> <thead> <tr> <th>Item</th> <th>Reason</th> <th>Funds/ Source of Funding</th> <th>Cost (£)</th> </tr> </thead> <tbody> <tr> <td>Staff costs</td> <td>Project Management & procurement / appointment and briefings.</td> <td>Local Risk</td> <td>£1,000</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>£1,000</td> </tr> </tbody> </table> <p>Costed Risk Provision requested for this Gateway: Nil.</p>	Item	Reason	Funds/ Source of Funding	Cost (£)	Staff costs	Project Management & procurement / appointment and briefings.	Local Risk	£1,000	Total			£1,000
Item	Reason	Funds/ Source of Funding	Cost (£)										
Staff costs	Project Management & procurement / appointment and briefings.	Local Risk	£1,000										
Total			£1,000										
3. Governance arrangements	<p><i>State the Service Committee responsible:</i></p> <p>Port Health & Environmental Services Committee</p> <p><i>Name of Senior Responsible Officer and their role:</i></p> <p>Gavin Stedman – Port Health & Public Protection Director.</p> <p>Stuart Smith, Launch Service Manager will act as project manager</p> <p>No project board is required as responsibility lies with the Department.</p>												

Project Summary

4. Context	<ol style="list-style-type: none"> 1. Markets and Consumer Protection have a number of vessels, which enables them to undertake their duties on the River Thames, covering an area from Teddington Lock to the Outer Thames Estuary. 2. The use of fully functioning vessels is integral to the discharge of the City's duties in its capacity as London Port Health Authority. 3. This includes statutory work associated with infectious disease control, ship hygiene inspections, water sampling and shellfish sampling etc. and non-statutory work, including ceremonial activities.
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	<ol style="list-style-type: none"> 4. The vessels are managed and maintained by the Launch Service. 5. Two vessels are required meet the service demands. These are moored either side of the Thames Barrier at Charlton and Gravesend. This allows the service to effectively cover the 94 miles of the tidal River Thames that the service is responsible for. Due to the distances, the service could not effectively operate with one launch without an impact on service delivery. 6. The Lady Aileen is over 20 years old, with the engines being of an older design. They are maintained in-house and regularly inspected by the Maritime and Coastal Agency (MCA). 7. The hull of the Lady Aileen has been assessed by the MCA as being in good order. However, the engines are deteriorating rapidly with the problem of parts no longer being available.
<p>5. Brief description of project</p>	<ol style="list-style-type: none"> 1. There are a number of options from replacing the vessel, installing new 'state-of-the-art' engines or installing new 'old technology' engines. 2. Due to their age, performance data is not available for the current engines. However, the recommended option would provide new engines that would be lighter, more powerful and consequently will be more fuel efficient and less polluting. This is a good opportunity to ensure that our fleet is as environmentally friendly as possible. 3. The removal of the old engines and installation of the new engines would be undertaken by the procured supplier. There is a need for the supplier to be within reasonable travelling distance to allow the Launch Service (Management and Engineer) to project manage the work, understand the fit for future local maintenance and when back in the water to undertake any snagging. 4. Work will be planned around the Lady Aileen being out of commission during the works. The works will be planned for the quieter time of the year; when the vessel is usually lifted out of the water for surveying, maintenance and minor repair. Work plans will be front loaded to ensure that the Launch Service is ahead of its statutory duties. During this period, there will be careful planning of the Londinium III's schedule to ensure that essential duties are maintained. This is only viable for a short period and will include additional working hours for staff to be taken as TOIL.

6. Consequences if project not approved	<ol style="list-style-type: none"> 1. The High-Level Business Plan makes reference to supporting business recover from the COVID-19 pandemic, which includes infectious disease control, food hygiene (floating restaurants etc.) and ship hygiene (including cruise, container and other vessels). 2. The Launches have a key role in our strategic commitment relating to the Climate Action Strategy (relating to limiting the introduction and spread of diseases and pests). 3. The service is also expected to meet its statutory obligations in relation to shellfish sampling, infectious disease control, food hygiene, ship sanitation and nuisance.
7. SMART project objectives	<ol style="list-style-type: none"> 1. Upgrade of engines or purchase of a new vessel to allow the service to meet its statutory duties; shellfish sampling, infectious disease control, food hygiene, ship sanitation and nuisance. 2. The vessel will be more efficient and environmentally friendly. However, as the current engines are over 20 years so old there is no emissions data available that would allow comparison. 3. Reduced operational costs and provide a long-term solution
8. Key benefits	<ol style="list-style-type: none"> 1. Able to meet statutory obligations relating to shellfish sampling, infectious disease control, food hygiene, ship sanitation and nuisance. Support COVID-19 recovery and Climate Action Strategy commitments. 2. The use of the latest technology, thus reducing emissions and increase efficiency. 3. Operational cost saving on fuel and maintenance.
9. Project category	2. Statutory
10. Project priority	A. Essential
11. Notable exclusions	<ol style="list-style-type: none"> 1. This does not include additional works to the vessel, which may only be identified when the vessel is lifted out of the water. Regular checks are required by the Maritime and Coastal Agency to ensure sea worthiness.

Options Appraisal

<p>12. Overview of options</p>	<ol style="list-style-type: none"> 1. Engine rebuild, but old technology and the engines are now obsolete. Estimated cost: £250,000 2. Replace engines with Tier 3 IMO approved engines, Would expect to get 40% fuel savings with new engines. Estimated cost: £300,000. This option is recommended as it provides the best balance between cost and environmental improvement, whilst reducing operating costs. 3. Replacement vessel (traditional power supply): Estimated cost £1,750,000. 4. Replacement vessel (hybrid-electric): Not feasible to undertake the variety of duties, times and distances travelled
<p>13. Risk</p>	<p>Overall project risk: Medium</p> <p>Retro fitting new engines in to an old hull may require alterations to the vessels structure, which have been assumed in the estimated costs.</p> <p>Engines will need to be ordered and will take time to deliver.</p> <p>Rewiring, new cabling, dials, hoses etc. will be required, which could take longer than expected.</p> <p>New engines will take a time to run in and for faults to appear, be identified and be rectified. Ongoing maintenance will be important, especially in the first year.</p> <p>For option 2, a Costed Risk Provision for the entire project is estimated to be £50,000 for unforeseen works and alterations.</p> <p>Additional works to the vessel, which may only be identified when the vessel is lifted out of the water, will be funded through local risk budgets.</p> <p>Further information available within the Risk Register (Appendix 2) and Options Appraisal.</p>

Resource Implications

<p>14. Total estimated cost</p>	<p>For recommended option 2</p> <p>Total estimated cost (excluding risk): £300,000</p> <p>Total estimated cost (including risk): £350,000</p>	
<p>15. Funding strategy</p>	<p>Is funding confirmed:</p> <p>All funding fully guaranteed</p>	<p>Who is providing funding:</p> <p>Internal - Funded wholly by City's own resource</p>

Recommended option

Funds/Sources of Funding	Cost (£)
£350,000 Carry forward request submitted as part of the Departmental revenue underspend in 2020/21. This has been approved by the Chamberlain and RASC.	£350,000
Total	£350,000

Appendices

Appendix 1	Project Briefing
Appendix 2	Risk Register
Appendix 3	PT3 Procurement Options Report: Services and Goods
Appendix 4	PT2 Procurement Form

Contact

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Options appraisal table.

Delete option numbers as appropriate

	Option 1	Option 2 (approved)	Option 3	Option 4
1. Brief description	Engine rebuild.	New engines	Replacement vessel (traditional power supply)	Replacement vessel (hybrid-electric)
2. Scope and exclusions	<ul style="list-style-type: none"> Remove and rebuild existing engines with new off the shelf or engineered components. Including sundries such as oil and filters. Excluding any works to the hull, drive shaft, propeller of the vessel. 	<ul style="list-style-type: none"> Remove existing engines. Replace with the latest Tier 3 IMO approved engines. Replace all associated electrics, gauges and dials etc. Including sundries such as oil and filters. Excluding any works to the hull, drive shaft, propeller of the vessel. 	<ul style="list-style-type: none"> Sell current vessel Replace with a new vessel to the latest standards. Designed to meet the needs of the service. 	<ul style="list-style-type: none"> Not feasible to undertake the variety of duties, times and distances travelled.
Project Planning				
3. Programme and key dates	<ul style="list-style-type: none"> Commission work: Dec 21 Order parts: within 1 month delivery or 	<ul style="list-style-type: none"> Commission work: Dec 21 Order engines: within 1 month delivery 4-6 months 	<ul style="list-style-type: none"> Commission work: Dec 21 Order new vessel: within 3 months. 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
	<p>engineered 1-4 months</p> <ul style="list-style-type: none"> Remove and strip down engines: 1 month to coincide with arrival of new parts Refit engines: 1 month Snagging: 1 month Ongoing maintenance: 6 months, then annually. 	<ul style="list-style-type: none"> Fit new engines: 4-6 months Snagging: 1 month Estimated completion Dec 22. Therefore Gateway 6 report January 23. Ongoing maintenance: 6 months, then annually. 	<ul style="list-style-type: none"> Arrival of new vessel: 6-12 months depending on availability and final specification. Snagging: 1 month Ongoing maintenance: 6 months, then annually. 	
4. Risk implications	<ul style="list-style-type: none"> Medium Obsolete engines and parts may be difficult to source or have to be specifically made. Rebuilt engines will take time to run in and for faults to appear, be 	<ul style="list-style-type: none"> Medium Retro fitting new engines in to an old hull may require alterations to the vessels structure, which have been estimated in the estimated costs. 	<ul style="list-style-type: none"> Low Sourcing, specifying and building a new vessel can take a long time. Costs can also increase with every modification. 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
	identified and be rectified.	<ul style="list-style-type: none"> Engines will need to be ordered and will take time to deliver. Rewiring, new cabling, dials, hoses etc. will be required, which could take longer than expected. New engines will take a time to run in and for faults to appear, be identified and be rectified. Further information available within the Risk Register (Appendix 2). 	<ul style="list-style-type: none"> A new vessel will take time to run in and for faults to appear, be identified and be rectified. 	
5. Benefits	<ul style="list-style-type: none"> Cheapest and simplest option. 	<ul style="list-style-type: none"> Latest engine technology. Lighter and more powerful and therefore more fuel efficient. 	<ul style="list-style-type: none"> Latest technology. Purpose built to the latest standards Lighter and more powerful and therefore more fuel efficient. 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
6. Disbenefits	<ul style="list-style-type: none"> • Old technology • Engines obsolete • May not be able to obtain parts 	<ul style="list-style-type: none"> • Using existing hull, although this is in good order. 	<ul style="list-style-type: none"> • Most expensive option • Longer time scales 	Not taken forward
7. Stakeholders and consultees	<ol style="list-style-type: none"> 1. Launch Service 2. Procurement 3. Chamberlains 4. Remembrancer 	<ol style="list-style-type: none"> 1. Launch Service 2. Procurement 3. Chamberlains 4. Remembrancer 	<ol style="list-style-type: none"> 1. Launch Service 2. Procurement 3. Chamberlains 4. Remembrancer 	Not taken forward
Resource Implications				
8. Total estimated cost	<p>Total estimated cost (excluding risk): £250,000.</p> <p>Less confident that these estimates will be met, as the engines are old and parts may need to be specifically sourced or made.</p> <p>Total estimated costs (inc. costed risk provision): £300,000</p>	<p>Total estimated cost (excluding risk): £300,000.</p> <p>Confident that these estimates will be met, subject to the stated exclusions.</p> <p>Total estimated costs (inc. costed risk provision): £350,000</p>	<p>Total estimated cost (excluding risk): £1,750,000.</p> <p>Confident that these estimates will be met, as this is a new specifically designed vessel.</p>	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
9. Funding strategy	<ul style="list-style-type: none"> £1,000 staffing costs from local budget. £250,000 carry forward. £50,000 Costed risk provision. 	<ul style="list-style-type: none"> £1,000 staffing costs from local budget. £300,000 carry forward. £50,000 Costed risk provision, that has also been approved from 20/21 carryover. . 	<ul style="list-style-type: none"> £1,000 staffing costs from local budget. £300,000 carry forward. £50,000 costed risk provision £125,000 sale of Lady Aileen £1,325,000 capital bid, which is unlikely due to the current financial pressures. 	Not taken forward
10. Estimated capital value/return	<ul style="list-style-type: none"> £125,000 if vessel is sold, diminishing overtime. 	<ul style="list-style-type: none"> £150,000 if vessel is sold with new engines, diminishing over time. 	<ul style="list-style-type: none"> £1,750,000 if vessel sold, but would diminish over time. 	Not taken forward
11. Ongoing revenue implications	<ul style="list-style-type: none"> Ongoing running, service and maintenance costs are part of the local risk budget. 	<ul style="list-style-type: none"> Ongoing running, service and maintenance costs are part of the local risk budget. £50k is allocated for the maintenance of all Launch Service vehicles. 	<ul style="list-style-type: none"> Ongoing running, service and maintenance costs are part of the local risk budget. 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
12. Investment appraisal	<ol style="list-style-type: none"> 1. Shortest lifespan 2. Lowest costs 3. Highest environmental impact. 	<ol style="list-style-type: none"> 1. 20 year lifespan. Middle. 2. Low cost. (marginally more than option 1). 3. More environmentally friendly. 	<ol style="list-style-type: none"> 1. 30 year+ lifespan 2. Highest cost. 3. Most environmentally friendly option. 	Not taken forward
4. Affordability	<ul style="list-style-type: none"> • Fully funded through carry forward. 	<ul style="list-style-type: none"> • Fully funded through carry forward. 	<ul style="list-style-type: none"> • Part funded through carry forward and the sale of the Lady Aileen, but substantial funding would still be needed for this option. 	Not taken forward
5. Procurement strategy/Route to Market	<ul style="list-style-type: none"> • Very few suppliers in the UK, especially within a reasonable distance. Haulage costs expensive and the need to regular visits during the first year 	<ul style="list-style-type: none"> • Very few suppliers in the UK, especially within a reasonable distance. Haulage costs expensive and the need to regular visits during the first year 	<ul style="list-style-type: none"> • Very few suppliers in the UK, especially within a reasonable distance. • Quotes for the work from boatyards based on price 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
	<ul style="list-style-type: none"> Quotes for the works from boatyards based on price and availability of parts. 	<ul style="list-style-type: none"> Quotes for the works from boatyards based on price and engines that can be supplied. 	available craft and adaptations required.	
6. Legal implications	<ul style="list-style-type: none"> The use of fully functioning vessels is integral to the discharge of the City's statutory functions in its capacity as London Port Health Authority. These functions include infectious disease control, shellfish sampling, ship sanitation, noise etc. 	<ul style="list-style-type: none"> The use of fully functioning vessels is integral to the discharge of the City's statutory functions in its capacity as London Port Health Authority. These functions include infectious disease control, shellfish sampling, ship sanitation, noise etc. 	<ul style="list-style-type: none"> The use of fully functioning vessels is integral to the discharge of the City's statutory functions in its capacity as London Port Health Authority. These functions include infectious disease control, shellfish sampling, ship sanitation, noise etc. 	Not taken forward
7. Corporate property implications	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	Not taken forward
8. Traffic implications	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	Not taken forward

	<i>Option 1</i>	<i>Option 2 (approved)</i>	<i>Option 3</i>	<i>Option 4</i>
9. Sustainability and energy implications	<ul style="list-style-type: none"> Old technology and will not be as environmentally friendly as the other two options. 	<ul style="list-style-type: none"> New engines would be lighter, more powerful and consequently will be more fuel efficient and less polluting. This is a good opportunity to ensure that our fleet is as environmentally friendly as possible. 	<ul style="list-style-type: none"> A new vessel would be lighter, more powerful and consequently will be more fuel efficient and less polluting. This is a good opportunity to ensure that our fleet is as environmentally friendly as possible. 	Not taken forward
10. IS implications	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	Not taken forward
11. Equality Impact Assessment	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken 	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken 	<ul style="list-style-type: none"> An equality impact assessment will not be undertaken 	Not taken forward
12. Data Protection Impact Assessment	<ul style="list-style-type: none"> The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken 	<ul style="list-style-type: none"> The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken 	<ul style="list-style-type: none"> The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken 	Not taken forward
13. Recommendation	Not recommended	Recommended	Not recommended	Not recommended

