

Writer (sign): Approved (sign):	<b>Inspection Report</b>	Rev. date: Rev. no: Date Created :
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**Owner:**  
**Owner representative:**

**Vessel:**  
**Type:**

**Inspection date:** 3<sup>rd</sup> apr'17 (09.00-17.00 hrs) Singapore Anchorage via launch boat @ West Coast Pier

**Inspection objective:**

To upgrade the traditional lighting to the green LED lighting from the range of SOP's product.

**Findings :**



**15 Sets - 500W Halogen Floodlight with R7S to be upgrade to 56W SOP LED 1 Modular Floodlight**

- **Saving up to 89% energy with the ROI <10 months**
- **Long service life at 50,000 hours @ 50° C operating temperature.**
- **Minimum maintenance - no bulb to be replaced**
- **Vibration resistance and EMC Compliance**

**Fluorescent Water Tight Light – 58 sets**  
2 x18 W, 220V / 60 Hz, IP 56



**Fluorescent Ceiling Light – 26 sets**  
2 x 18 W, 220V / 60 Hz



In Total = **84 sets**. Hence, **2 feet Fluorescent tube 18W = 84 x 2 = 168 pcs**

**168 pcs** of 18 W Fluorescent Tube to be upgrade to 12.5W SOP LED Linear Lamp

- **Saving up to 48 % energy with the ROI <16 months**
- **Long service life at 50,000 hours @ 65° C operating temperature.**
- **Minimum maintenance - no bulb to be replaced**
- **Vibration resistance and EMC Compliance**

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### Comparison between 500W Halogen Floodlight & 56 W SOP LED Floodlight

Operating Hours	500W Halogen			SOP LED 1 Modular series			Savings	
	No of Lamp	Power	kWh/year	No of Lamp	Power	kWh/year	kWh/year	%
12 hrs	15	500	32,850	15	56	3,679	29,171	89%

Modular Floodlight IP 66		SGD	SGD
Type	Description	Unit price	Quantity Total price
	<b>1 Module Floodlight</b>		
MFLC15C0A4 (1M)	56W,5000K, 52000lm, 220-240VAC, 120°, IP66	*322.00	15 *4,830.00
<b>Sub total for Floodlight</b>			<b>*4,830.00</b>

### Summary SOP LED Floodlight vs Halogen Floodlight

	Conventional Lamps	LED Luminaires
Total Energy Consumption (kWh) Per year	32,850	3,679
Unit rate (S\$/kWh)	SGD 0.15	
Total Energy Cost per year	SGD 4,927.50	SGD 551.88
Energy Saving for LED Luminaire per Year	SGD 4,375.62	
Cost of LED Luminaire	<b>*SGD 4,830.00</b>	
Payback (Months)	13.25	
Years	1.10	

\*List price used. Price varies for projects

#### Key Benefit:

- Saving up to 89% energy with the ROI <10 months
- Vibration resistance and EMC Compliance
- Minimum maintenance - no bulb to be replaced
- Above energy calculation is based on 12 hours operation of light

### Comparison between 18W Fluorescent Tube & 12.5 W SOP LED Linear Lamp

Operating Hours	T8 Fluorescent Tube (2 x 18W)			SOP LED Linear Module (2 x 12.5W)			Savings	
	No of Lamp	Power	kWh/year	No of Lamp	Power	kWh/year	kWh/year	%
24 hrs	168	24	35,320	168	12.5	18,396	16,924	48%

LED Linear module		SGD	SGD
Type	Description	Unit price	Quantity Total price
	<b>ACIC Linear Module</b>		
ALA21250	12.5 W, 5000K, >10000lm, 220-240VAC	*68.00	168 *11,424.00
<b>Sub total for LED ACIC Linear Module</b>			<b>*11,424.00</b>

### Summary SOP LED Linear Module vs Traditional Fluorescent Light

	Conventional Lamps	LED Luminaires
Total Energy Consumption (kWh) Per year	35,320	18,396
Unit rate (S\$/kWh)	SGD 0.15	
Total Energy Cost per year	SGD 5,298.05	SGD 2,759.40
Energy Saving for LED Luminaire per Year	SGD 2,538.65	
Cost of LED Luminaire	<b>*SGD 11,424.00</b>	
Payback (Months)	54	
Years	4.50	





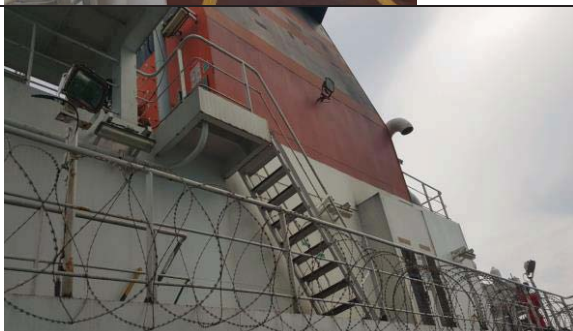
\*List price used. Price varies for projects

#### Key Benefit:

- Saving up to 48% energy with the ROI <16 months
- Long service life at 50,000 hours @ 65° C operating temperature.
- Vibration resistance and EMC Compliance
- Above energy calculation is based on 24 hours operation of light






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**Location of Light**






SN	Location	PICTURES
1	<p>Poop Deck (Starboard) 5 pcs of Water tight light</p>	
2	<p>Poop Deck (AFT) 3 pcs of Water tight light</p>	
3	<p>Poop Deck (Port) 5 pcs of Water tight light</p>	
4	<p>Poop Deck (FWD) 4 pcs of Water tight light</p>	
5	<p>2<sup>nd</sup> Floor Poop Deck (AFT) 3 pcs of Water tight light 2 pcs of Flood light</p>	



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<p>6</p>	<p>2<sup>nd</sup> Floor Bridge (Port) 5 pcs of Water tight light 1 pcs of Flood light</p>	
<p>7</p>	<p>2<sup>nd</sup> Floor Bridge (Mid Deck) 3 pcs of Water tight light</p>	
<p>8</p>	<p>2<sup>nd</sup> Floor Bridge (Starboard) 5 pcs of Water tight light 1 pcs of Flood light</p>	
<p>9</p>	<p>2<sup>nd</sup> Floor Bridge (Nitrogen Gen Room) 4 pcs of Water tight light</p>	
<p>10</p>	<p>2<sup>nd</sup> Floor Bridge (Emergency Gen Room) 4 pcs of Water tight light</p>	

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<p>11</p>	<p>3<sup>rd</sup> Floor Bridge (Mid Deck) 4 pcs of Water tight light (Ex-proof)</p>	
<p>12</p>	<p>3<sup>rd</sup> Floor Bridge (Starboard) 2 pcs of Water tight light 1 pcs of Flood light</p>	
<p>13</p>	<p>3<sup>rd</sup> Floor Bridge (Port) 2 pcs of Water tight light 1 pcs of Flood light</p>	
<p>14</p>	<p>3<sup>rd</sup> Floor Bridge (AFT) 1 pcs of Flood light</p>	
<p>15</p>	<p>4<sup>th</sup> Floor Bridge Primary muster station (Mid Deck) 3 pcs of Water tight light</p>	



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<p>16</p>	<p>4<sup>th</sup> Floor Bridge Primary muster station (Port) 3 pcs of Water tight light 2 pcs of Flood light</p>	
<p>17</p>	<p>4<sup>th</sup> Floor Bridge Primary muster station (Starboard) 3 pcs of Water tight light 2 pcs of Flood light</p>	
<p>18</p>	<p>4<sup>th</sup> Floor Bridge Primary muster station (FWD) 2 pcs of Flood light</p>	
<p>19</p>	<p>5<sup>th</sup> Floor Bridge (AFT) 2 pcs of Flood light</p>	
<p>20</p>	<p>Engine Control Room &amp; Engineer Officer room 12 pcs &amp; 4 pcs of Water tight light</p>	

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<p>20</p>	<p>HYDR P/P Room Store (517) 2 pcs of Water tight light</p>	
<p>21</p>	<p>HVAC (520) 2 pcs of Water tight light</p>	
<p>22</p>	<p>Mess Room 4 pcs of Water tight light</p>	
<p>23</p>	<p>Cargo Control Room 4 pcs of Water tight light</p>	<p style="text-align: center;">No Picture</p>
<p>24</p>	<p>Changing Room 2 pcs of Water tight light</p>	