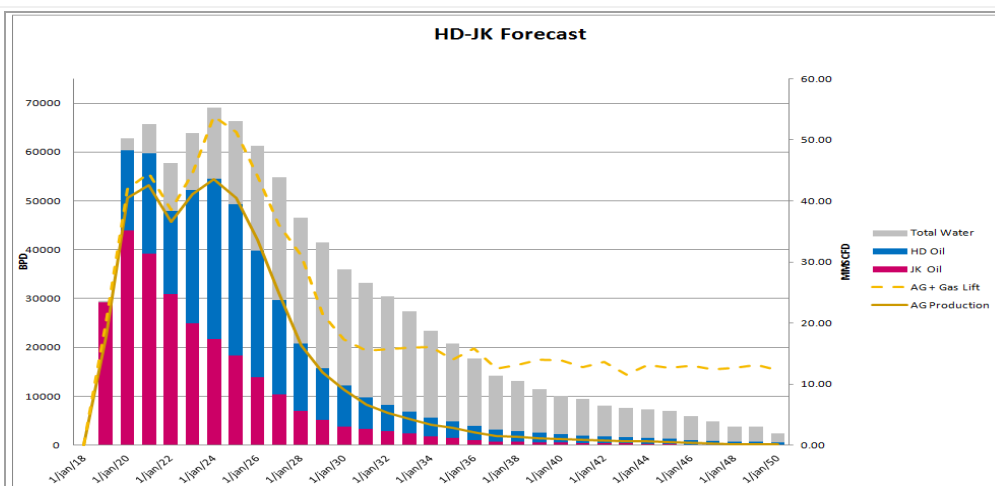


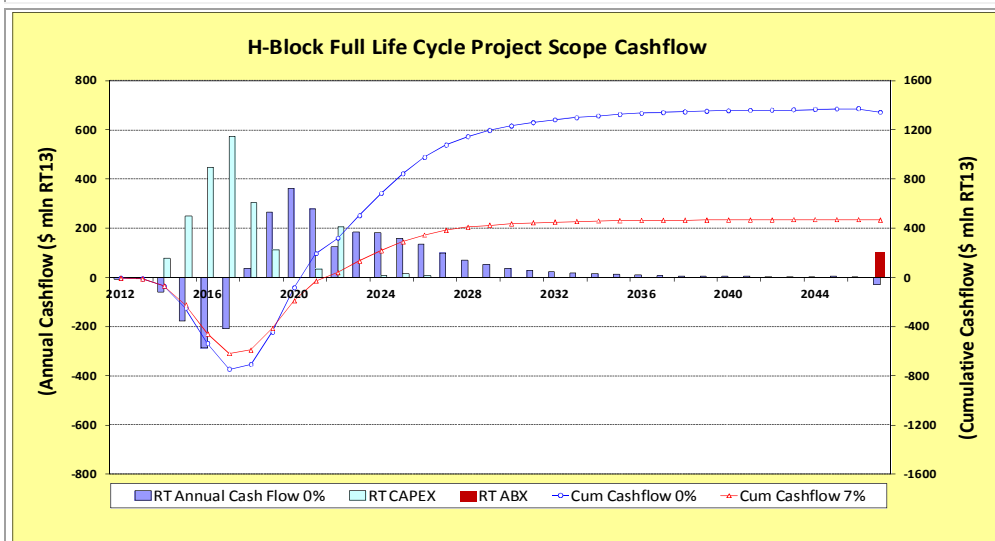
## Group Investment Proposal (GIP)

### Summary information

| Business unit and company                             | Shell Petroleum Development Company of Nigeria Limited (SPDC)   |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|---|---|---|--|---|------------------------------|---------------------------------------|-------------|--------------------------------------|--|---|------------------------------|---------------------------------------|--------------------|------|------|------|------|------|-------------------------|--------------------------|------|------|-----|-----|--|------|------|-----|-----|-----|--|------|-----|------|-----|-----|----------|-----|-----|-----|-----|-----|------|------|-----|------|------|------|---|-----|-----|------|------|-----|---|-----|-----|-----|------|------|--------------|-----|-----|-----|-----|-----|---------------------------------------|------|------|-----|-----|-----|-------------|------|------|-----|-----|-----|-------|-------|-------|-------|------|------|
| Group equity interest                                 | 100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Other shareholders/partners                           | H Block (comprising HD/JK Oil Development and HA/HB Gas development is currently operated under ‘sole risk ’ status, where the economic interests are NNPC (0%), Shell (77.14%), Total (10%) and NAOC (12.86%)  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Business or Function                                  | Upstream International (UI)   |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Amount  | The headline size is US\$177.5mln Shell Share under sole risk conditions, MOD 50/50 of which approval of US\$47.9mln (including 2012 spend of \$7.4mln on HD/JK) is hereby sought to progress HD/JK to FID by November 2014 and HA/HB to DG2 by December 2014.  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Project   | HD and JK Oil Development<br>HA and HB Gas Development  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Main commitments                                      | <table><tr><th>Description</th><th>Previously Approved Pre-FID IP(100%)</th><th>Previously Approved Pre-FID IP (Shell Share)</th><th>Expenditure prior to current Define phase (Shell Share)</th><th>This Proposal 2012-2014 100%</th><th>This Proposal 2012-2014 (Shell Share)</th></tr><tr><td>Project Management</td><td>26.5</td><td>20.4</td><td>48.0</td><td>15.4</td><td>11.9</td></tr><tr><td>Appraisal Well (HA-006)</td><td>36.6</td><td>28.2</td><td>41.0</td><td>0.0</td><td>0.0</td></tr><tr><td>Procure primary steel for wellhead jacket.</td><td>17.6</td><td>13.6</td><td>0.0</td><td>0.0</td><td>0.0</td></tr><tr><td>Concept Selection and Subsurface studies</td><td>10.1</td><td>7.8</td><td>16.5</td><td>5.5</td><td>4.2</td></tr><tr><td>Pre-FEED</td><td>0.0</td><td>0.0</td><td>0.0</td><td>3.3</td><td>2.6</td></tr><tr><td>FEED</td><td>12.3</td><td>9.5</td><td>13.6</td><td>14.2</td><td>11.0</td></tr><tr><td>Permits &amp; Consents, Geotech surveys &amp; ESHIA studies, Belema land acq and sandfilling.</td><td>0.7</td><td>0.5</td><td>10.2</td><td>10.6</td><td>8.2</td></tr><tr><td>DG 2 studies on HA/HB to DG2 (2013 -2014)</td><td>0.0</td><td>0.0</td><td>0.0</td><td>13.0</td><td>10.0</td></tr><tr><td>Bonny tie-in</td><td>0.4</td><td>0.3</td><td>0.0</td><td>0.0</td><td>0.0</td></tr><tr><td>Contingency (25%, except well at 10%)</td><td>20.5</td><td>15.8</td><td>0.0</td><td>0.0</td><td>0.0</td></tr><tr><td>Pre 2006 IP</td><td>43.4</td><td>33.5</td><td>0.0</td><td>0.0</td><td>0.0</td></tr><tr><td>Total</td><td>168.0</td><td>129.6</td><td>129.3</td><td>62.1</td><td>47.9</td></tr></table> |   |  |   |                              |                                       | Description | Previously Approved Pre-FID IP(100%) | Previously Approved Pre-FID IP (Shell Share) | Expenditure prior to current Define phase (Shell Share) | This Proposal 2012-2014 100% | This Proposal 2012-2014 (Shell Share) | Project Management | 26.5 | 20.4 | 48.0 | 15.4 | 11.9 | Appraisal Well (HA-006) | 36.6                     | 28.2 | 41.0 | 0.0 | 0.0 | Procure primary steel for wellhead jacket. | 17.6 | 13.6 | 0.0 | 0.0 | 0.0 | Concept Selection and Subsurface studies | 10.1 | 7.8 | 16.5 | 5.5 | 4.2 | Pre-FEED | 0.0 | 0.0 | 0.0 | 3.3 | 2.6 | FEED | 12.3 | 9.5 | 13.6 | 14.2 | 11.0 | Permits & Consents, Geotech surveys & ESHIA studies, Belema land acq and sandfilling. | 0.7 | 0.5 | 10.2 | 10.6 | 8.2 | DG 2 studies on HA/HB to DG2 (2013 -2014) | 0.0 | 0.0 | 0.0 | 13.0 | 10.0 | Bonny tie-in | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | Contingency (25%, except well at 10%) | 20.5 | 15.8 | 0.0 | 0.0 | 0.0 | Pre 2006 IP | 43.4 | 33.5 | 0.0 | 0.0 | 0.0 | Total | 168.0 | 129.6 | 129.3 | 62.1 | 47.9 |
|   | Description   | Previously Approved Pre-FID IP(100%)  | Previously Approved Pre-FID IP (Shell Share) | Expenditure prior to current Define phase (Shell Share) | This Proposal 2012-2014 100% | This Proposal 2012-2014 (Shell Share) |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Project Management  | 26.5  | 20.4   | 48.0  | 15.4                         | 11.9                                  |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Appraisal Well (HA-006)   | 36.6  | 28.2   | 41.0  | 0.0                          | 0.0                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Procure primary steel for wellhead jacket.  | 17.6  | 13.6   | 0.0   | 0.0                          | 0.0                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Concept Selection and Subsurface studies  | 10.1  | 7.8  | 16.5  | 5.5                          | 4.2                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Pre-FEED  | 0.0   | 0.0  | 0.0   | 3.3                          | 2.6                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | FEED  | 12.3  | 9.5  | 13.6  | 14.2                         | 11.0                                  |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Permits & Consents, Geotech surveys & ESHIA studies, Belema land acq and sandfilling.   | 0.7   | 0.5  | 10.2  | 10.6                         | 8.2                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | DG 2 studies on HA/HB to DG2 (2013 -2014)   | 0.0   | 0.0  | 0.0   | 13.0                         | 10.0                                  |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Bonny tie-in  | 0.4   | 0.3  | 0.0   | 0.0                          | 0.0                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Contingency (25%, except well at 10%)   | 20.5  | 15.8   | 0.0   | 0.0                          | 0.0                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Pre 2006 IP   | 43.4  | 33.5   | 0.0   | 0.0                          | 0.0                                   |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Total   | 168.0   | 129.6  | 129.3   | 62.1                         | 47.9                                  |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Attachment 1: Approved GIP dated 07/03/2007.          |   |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Reserves/Resources                                    | The project is aligned with Group/SPDC strategic goals and priorities.<br>Recoverable volumes for HD/JK Oil development are presented in the table below:   |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   |   | <table><tr><th colspan="3">Recovery</th></tr><tr><th>Base</th><th>Low</th><th>High</th></tr><tr><td>JK Reservoirs</td><td>97</td><td>66</td><td>139</td></tr><tr><td>HD</td><td>97</td><td>46</td><td>162</td></tr><tr><td>Total HD &amp; JKDevelopment</td><td>194</td><td>112</td><td>301</td></tr></table> |  |   |                              | Recovery                              |             |                                      | Base   | Low   | High                         | JK Reservoirs                         | 97                 | 66   | 139  | HD   | 97   | 46   | 162                     | Total HD & JKDevelopment | 194  | 112  | 301 |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Recovery  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | Base  | Low   | High   |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | JK Reservoirs   | 97  | 66   | 139   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
|   | HD  | 97  | 46   | 162   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Total HD & JKDevelopment                              | 194   | 112   | 301  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Ref: HD/JK Joint Oil Field Development Plan – 09/2012 |   |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Production  | See the chart below for the base case production forecast.  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |
| Source and form of financing                          | This investment will continue to be financed with sole risk funding until the Shallow Water License is renewed and funding arrangement firmed up. Shell share expenditure will be met by SPDC’s own cash flow and existing shareholder facility.  |   |  |   |                              |                                       |             |                                      |  |   |                              |                                       |                    |      |      |      |      |      |                         |                          |      |      |     |     |  |      |      |     |     |     |  |      |     |      |     |     |          |     |     |     |     |     |      |      |     |      |      |      |   |     |     |      |      |     |   |     |     |     |      |      |              |     |     |     |     |     |                                       |      |      |     |     |     |             |      |      |     |     |     |       |       |       |       |      |      |



## Summary cash flow



## Summary economics

| Summary Economics (RV-RT13) | NPV7% (USD mln) | RTEP (%) | VIR7% |
|-----------------------------|-----------------|----------|-------|
| Pre-FID Base                | -7.1            | N/A      | N/A   |
| Pre-FID High Opex           | -8.9            | N/A      | N/A   |
| Full Project - Base Case    | 465.7           | 17       | 0.31  |

This summary is on “sole-risk” basis i.e. pre-FID cost at Shell Share of 77.14%. It therefore also excludes recovery of past “sole risk” cost.

## Section 1: The proposal (management summary)

### 1.1 Management Summary

The H-Block acreage comprises the HD, HA and HB fields in OML 77 and the JK field in OML 74 in Shallow offshore south of the Niger Delta. The HA and HB (NAG) development is in the Identify/Assess (Pre-DG2) Phase, while the HD and JK (oil) development is currently in Define Phase. The HD and JK fields have approximately 194 MMbbls of recoverable reserves. OMLs 74 and 77 are owned by the SPDC JV (NNPC 55%, SPDC Ltd. 30%, TEPNG 15% and NAOC 5%), however subject to the terms of a sole risk agreement between the venture partners, the present working interest in the blocks is as follows: SPDC 77.14%; TEPNG 10%; NAOC 12.86%, with SPDC as operator. This proposal seeks approval for US\$47.9mln Shell Share under sole risk to progress HD/JK to Final Investment Decision (FID) by November 2014 and HA/HB to Decision Gate 2 (DG2) by December 2014. This amount includes US\$7.7mln (Shell Share) spent in 2012 on HD/JK.

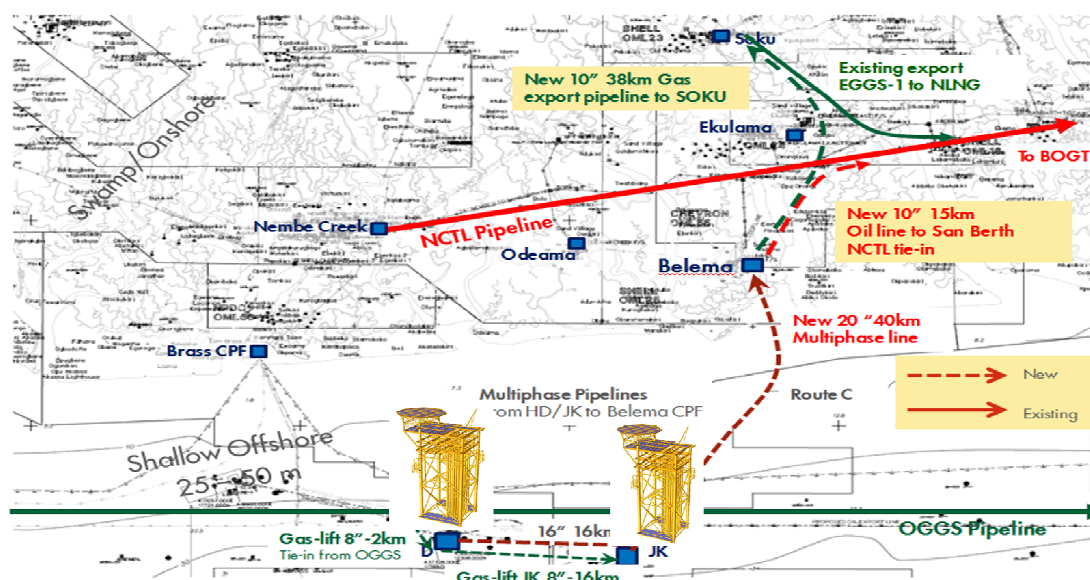
### 1.2 HD/JK Project Background

Front End Engineering Design (FEED) for HD/JK commenced in May 2006 but stalled in 2007 due to funding constraints and unfavorable project economics. An onshore processing concept received DG2 endorsement in May 2008 but was stopped in December 2008. In 2009, further studies on basis of refurbishment of used FPSO (Shell Anasuria) or leasing an existing FPSO did not yield favorable economics. In 2010, SPDC management kicked off a

concept review aimed at reducing Facilities CAPEX and Wells DRILLEX. The review has resulted in the current concept of using two Normally Unmanned Wellhead Platforms (WHP) producing via a multiphase pipeline to an onshore Central Processing Facility at Belema.

### 1.3 HD/JK Project Scope

- Two (2) unmanned Wellhead Platforms (JK Platform & HD Platform) to support the drilling and production of 27 wells (10 at HD & 17 at JK).
- Approx **74 km** of offshore pipelines comprising:
  - 16"x16km multiphase pipeline between HD & JK Platforms
  - 20"x40km 20" multiphase pipeline
  - 6"x18km Gaslift pipeline from OGGs through HD Platform to JK Platform
- New Central Processing facility (CPF) comprising 80,000bbl/d flowstation and AG handling facilities.
- Approx 53 km of swamp pipelines comprising:
  - 10" x 15 km swamp pipeline tie-in to a 30" header at San Berth manifold on the existing NCTL.
  - 10" x 38 Km gas pipeline from Belema to Soku Gas plant for export gas to NLNG via Soku.
- A field Logistics Base (FLB) capable of housing 120 persons at Belema – the cost of which will be partially borne by this project



### 1.4 Current Project Status

HD & JK Oil development is currently in the define phase. FEED commenced in October 2012 and is planned for completion in July 2013. Contracting Strategy for the Execution Phase has been approved by SPDC Major Tender Board (MTB) the Shell Group Procurement and Contracting Board (GPCB). The Nigerian Content Plan has also been approved by The Nigerian Content Development Monitoring Board (NCDMB).

All open switches at DG3 have been closed except for the renewal of the leases (OMLs 77 and 74) and, assuming that NPDC will endeavor to back-in to the development, a settlement of the past sole-risk costs in the leases, including an agreed funding arrangement for NNPC's share of the development costs.

HA/HB is a non Associated Gas (NAG) Development currently in the Identify/Assess phase (Pre-DG2).

Key milestones for HD/JK Development Project up to FID are:

| Activity                        | Schedule               |                       |                |
|---------------------------------|------------------------|-----------------------|----------------|
|                                 | Team Target milestones | BP12 (P50) milestones | P90 milestones |
| DG3 (Achieved)                  | 29/03/12               | 29/09/12              | 29/03/13       |
| Complete FEED                   | 01/07/13               | 01/11/13              | 01/05/14       |
| Complete Sand-filling of Belema | 10/10/13               | 10/04/14              | 10/10/14       |
| VAR 4                           | 11/10/13               | 11/04/14              | 11/10/14       |
| FID                             | 19/05/14               | 19/11/14              | 19/05/15       |

The team target above is based on renewal of Shallow water license before end August 2013 and resolution of NNPC's likely participation for the project execution by Quarter 1, 2014.

## Section 2: Value Proposition and financial context

This project is the only SPDC major oil growth project in the short to medium term. The immediate development of this field helps to support the current application for renewal of the Shallow Water Licenses by government, and is coveted to ensure maximum recovery during the effective lease renewal period; hence this GIP aims to progress work to FID (as fast as practicable) in anticipation of meeting these conditions.

This Pre-FID Investment Proposal is

- To harness/commercialise discovered oil resources in the JK and HD fields in an expedient manner, using existing SPDC assets as much as possible.
- Fill the gap in the SPDC medium and long term oil production.

### Summary Economics

The entire cost of \$62.05mln (100% JV) is treated as Opex. Details of economics results (at Shell Share of 77.14%) are shown in Table 2 below. The following sensitivities were carried out on the **pre-FID base** case to show the impact of the various scenarios on the value of the project.

- High Opex.
- 1.5% cost markup due to Benchmark Verified and Approved (BVA) issues with NNPC.

Further analysis was carried out to ascertain the value of the project's full scope when the project takes FID using the LE cost estimate and the production forecast. The following sensitivities were also carried out on the **full project scope** to show their impact on the project value.

- High and low CAPEX.
- High and Low Production
- One year Production delay
- Project with ring fence (i.e. project without tax incentives).
- 1.5% cost markup provision due to dispute by NNPC on Benchmark Verified and Approved (BVA) issues.

Based on the economic evaluation, the project VIR (PSV-RT) as at the moment is 0.31 compared with the 0.40 hurdle required at FID but further work is being done to improve the project economics during this Define Phase. The Value Engineering Workshop recently concluded in March 2013 has identified potential capex savings that is being worked in the FEED and if realized, would improve the overall project economics.

**Table 2: HD and JK Pre-FID Economic Grid (Shell Share)**

| PV Reference Date: 1/7/2013        | NPV (S/\$ \$ mln) |      | VIR | RTEP | UTC (RT \$/boe) |    | Payout-Time (RT) | Maximum Exposure (RT- AT) |
|------------------------------------|-------------------|------|-----|------|-----------------|----|------------------|---------------------------|
| Cash flow forward from: 1/1/2013   | 0%                | 7%   | 7%  | %    | 0%              | 7% | (yyyy)           | \$mln (yyyy)              |
| <b>Base Case</b>                   |                   |      |     |      |                 |    |                  |                           |
| RV-RT (\$90/bbl RT13) *            | -7.2              | -7.1 | NA  | NA   | NA              | NA | NA               | 7.2(2014)                 |
| <b>Sensitivities (using RV)</b>    |                   |      |     |      |                 |    |                  |                           |
| High Opex (+25%)                   |                   | -8.9 | NA  |      |                 |    | NA               | 9.0( 2014)                |
| 1.5% cost markup due to BVA issues |                   | -9.6 | NA  |      |                 |    |                  |                           |

\* SV and HV same as RV

**Table 3: H and J Block Pre-FID Key Project Parameters (Shell Share)**

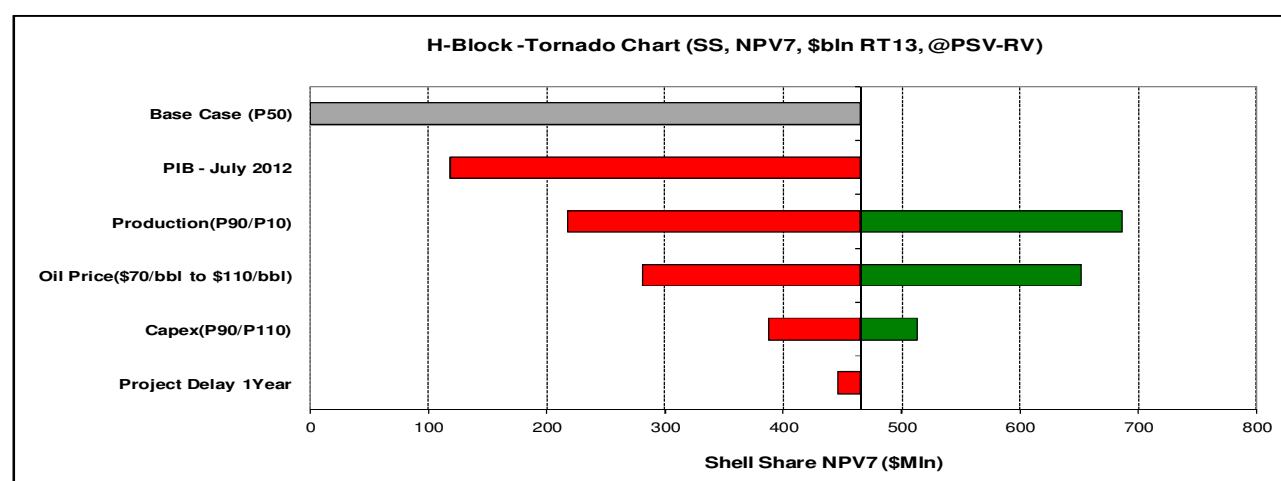
| Parameter                     | Unit     | BP12 Provision | Low | Mid  | High | Comments   |
|-------------------------------|----------|----------------|-----|------|------|--|
| Capex (MOD)                   | US\$ mln |                |     |      |      |  |
| Opex (MOD)_Project            | US\$ mln | 34.0           | NA  | 47.9 | 59.9 | PB12 provision was for 2 years (2013 - 2014) and 100% Shell equity, whereas, Pre-FID is for 3 yrs (2012 -2014) |
| Production Volume             | mln boe  |                |     |      |      |  |
| Start Up Date                 | mm/yy    |                |     |      |      |  |
| Production in first 12 months | mln boe  |                |     |      |      |  |

**Table 4: H and J Block Full Project Scope Economic Grid (Shell Share)**

| PV Reference Date: 1/7/2013        | NPV (\$/S \$ mln) |       | VIR  | RTEP | UTC (RT \$/boe) |      | Payout-Time (RT) | Maximum Exposure (RT- AT) |
|------------------------------------|-------------------|-------|------|------|-----------------|------|------------------|---------------------------|
| Cash flow forward from: 1/1/2013   | 0%                | 7%    | 7%   | %    | 0%              | 7%   | (yyyy)           | \$mln (yyyy)              |
| <b>Base Case</b>                   |                   |       |      |      |                 |      |                  |                           |
| SV-RT (\$70/bbl RT13)              | 950.1             | 280.7 | 0.18 |      |                 |      |                  |                           |
| RV-RT (\$90/bbl RT13)              | 1,342.2           | 465.7 | 0.31 | 17   | 18.7            | 24.4 | 2021             | 1015.8 (2017)             |
| HV-RT (\$110/bbl RT13)             | 1734.9            | 651.5 | 0.43 |      |                 |      |                  |                           |
| <b>Sensitivities (using RV)</b>    |                   |       |      |      |                 |      |                  |                           |
| High CAPEX (+25%)                  |                   | 387.6 | 0.20 |      |                 |      | 2021             | 1266.3 (2017)             |
| Low CAPEX (-15%)                   |                   | 512.6 | 0.40 |      |                 |      | 2021             | 865.5 (2017)              |
| High Reserves (P10)                |                   | 686.9 | 0.45 |      |                 |      | 2021             | 1015.8 (2017)             |
| Low Reserves (P90)                 |                   | 217.6 | 0.14 |      |                 |      | 2021             | 1015.8 (2017)             |
| 1-Yr Production Schedule Delay     |                   | 446.1 | 0.29 |      |                 |      | 2021             | 1015.8 (2017)             |
| Project with Ring Fencing          |                   | 264.1 | 0.17 |      |                 |      | 2021             | 1745.0 (2018)             |
| PIB July 2012 - Base               |                   | 118.0 | 0.08 |      |                 |      |                  |                           |
| 1.5% cost markup due to BVA issues |                   | 376.2 | 0.18 |      |                 |      |                  |                           |

**Table 5: H and J Block Full Scope Key Project Parameters (Shell Share)**

| Parameter                     | Unit     | BP12 Provision | Low     | Mid     | High    | Comments  |
|-------------------------------|----------|----------------|---------|---------|---------|---|
| Capex (MOD)                   | US\$ mln | 2,218.3        | 1,885.6 | 2,218.3 | 2,772.9 | BP12 Capex profile  |
| Opex (MOD)_Project            | US\$ mln | 547.4          | 1,318.7 | 1,318.7 | 1,318.7 | Generic Opex was used in BP12, whereas ABCM Opex was used for this evaluation including Pre-FID cost) |
| Production Volume             | mln boe  | 160.5          | 114.8   | 169.4   | 300.6   |   |
| Start Up Date                 | mm/yy    | Jun-19         | Jun-20  | Jun-19  | Jun-19  | Project does not envisage OSD acceleration  |
| Production in first 12 months | mln boe  | 8.9            | 7.5     | 9.0     | 10.7    |   |



Chat 1: Full Scope Tornado Plot

***Economics Assumptions*****Pre-FID Investment**

- Pre-FID evaluation is treated as a cost only.
- Pre-FID Cost treated as Opex.
- NDDC levy 3% of total expenditure.

### Full Project Scope

- Oil PSVs of \$70/bbl @SV-RT13, \$90/bbl @RV-RT13 (Base) and \$110/bbl @HV-RT13 with appropriate Bonny offset applied.
- 2013 NLNG PSV was used. GHV of 1100 BTU/Scf used.
- Oil was taxed under PPT (PPT tax rate of 85%).
- Gas was taxed under CITA with AGFA incentives.
- ABCM Opex used. Abandonment cost is estimated at 10% of total project RT CAPEX.
- NDDC levy of 3% total expenditure. Education tax of 2% assessable profit.
- 2.5% of the MOD CAPEX assumed as SCD.
- Gas flare fee of \$3.5/Mscf was applied and is not tax deductible

### PIB Assumptions

- Nigeria Hydrocarbon Tax for onshore of 50%
- Company Income Tax of 30%
- Capital allowance for NHT over 5 years of 4x20% plus 1x19% at On-stream date
- Petroleum Host Community Fund contribution of 10% of Investors profit

## **Section 3: Risks & opportunities (TECOP)**

### **Risks**

#### Subsurface Uncertainties (I):

- HD subsurface technical definition risks.
- Compartmentalization in HD field: Current subsurface data in HD indicates a number of potentially sealing faults which could increase the number of isolated compartments within the reservoirs.

#### *Mitigation:*

- Building of Base, Low and High dynamic realisations using Base, Low and High structural interpretations.
- Inclusion of HD appraisal and pilot holes in the project scope.
- Enhance the subsurface image with Full Pre-stack depth migration of the 3D seismic. The new data will be used to update the subsurface image and well plan.

#### Slugging in 40km multi-phase pipeline (I):

Flowing hydrocarbon through long distance pipeline will experience frictional loss and heat loss to ambient along pipeline and could lead to unavoidable non-stable operation such as slugging flow. Large slug could form as result of improper operation of ramp-up activities. Severe slugging could also occur during piping if pigging activities are not properly managed

#### *Mitigation:*

- Detailed flow assurance engineering during the FEED using site-specific data. Recommendations from study will be implemented in the design.

#### NCTL Oil theft (E,C,P)

Stabilised liquid from this project will be exported via NCTL. Continued bunkering of this line is a major concern.

#### *Mitigation:*

- Stealing of oil in NCTL is an ongoing challenge. Joint efforts are ongoing between FGN and IOC's to seek and implement mitigation measures. The alternative Concept of handling H-Block oil production with an FPSO Concept was fully evaluated at the Select phase but found to be very uneconomic (VIR < 0.2) and not supported by NNPC.

#### HSSE & Social Risks (P, E)

The project is located in the swamp of the Nigeria Delta; community interfaces, HSE and security issues are particularly significant in these areas, highlighted by cases of hostage taking, armed attacks and sabotage.

#### *Mitigation:*

- Considering that this IP is for design and execution planning, all HSSE risks in the project will be adequately addressed in the design and execution planning through use of all applicable HEMP studies and completion of all mandatory HSSE deliverables in the design. A security Philosophy that guides the design has also been developed and approved by the Security team for implementation. The execution strategy will maximise offsite fabrication and limit site activities to hook-up works. To minimise site construction risks, the design will maximise offsite fabrication and limit site activities to hook-up works. All Community interfaces will be managed through the Global Memorandum of Understanding (GMOU). An allowance

will be made in the Post-FID GIP for funding of social investment programmes (including a community interdependency power supply project).

#### Nigerian Content Development (NCD) Act Implementation (E, C, P)

The requirement to comply with the Nigerian Content Development (NCD) Act could result in project cost and schedule overrun due to limited in-country material manufacturing capacity and capability.

##### *Mitigation:*

- A detailed NCD compliance Plan has been approved by the Nigerian Content Development Monitoring Board (NCDMB).

#### Nigerian National Petroleum Corporation (NNPC) back-in and funding challenge (E,C):

NNPC have in the past expressed an interest in backing into this development for up to its 55% SPDC JV share in accordance with the terms of the SPDC JOA and Sole Risk Guiding Principles, which provide for a back-in penalty of 200% in addition to past cost reimbursement. This would further burden NNPC's funding ability, and in any case render participation in H-Block uneconomic. In the past NNPC has voiced that SPDC has claimed tax offset (PPT @ 85%) for all past cost, pointing towards an 'after-tax' settlement. NNPC have leverage because their endorsement will be needed to sell H-Block associated gas under the SPDC JV – NLNG contract. The expected outcome of a negotiated re-entry of NNPC will be a back in settlement agreement of NAPIMS approved past costs (possibly net-of-tax) and a back-in penalty significantly lower than the 200% prescribed in the JOA. The post-FID funding of NNPC's share will potentially require SPDC Ltd to disproportionately fund NNPC share of the spend. In such a situation, SPDC does not continue to indemnify NNPC, including for work carried out under the sole risk agreement. The settlement of past sole risk costs and the forward NNPC funding solution will likely be part of one and the same agreement.

#### Delayed renewal of Shallow Water License (C, P):

The Shallow Water License (SWL) for H-Block is currently being renegotiated for renewal. Non-renewal of these licenses on time and or unfavorable terms will delay Department of Petroleum Resources (DPR) approval of the Field Development Plan (FDP) and Federal Ministry of Environment (FMEnv) approval of Environmental Impact Assessment (EIA) with resultant delays to Final Investment Decision (FID) and first oil date.

##### *Mitigation:*

- SPDC is currently engaging DPR and the Petroleum Ministry to negotiate the commercial lease renewal terms. A separate GIP is in place for this. Current project schedule assumes this will complete by end 2013.

### ***Key Opportunities***

#### Provision of electricity to communities (P)

The interdependency strategy of the project will minimise restiveness of the host community and minimise unscheduled deferment of production from the entire Belema node (i.e. H-Block & existing Belema production).

### ***Section 4: Carbon management***

The only source of HC emission is via leak of HC from normal operation e.g. leaks from flanges. However the right level of tightening will be applied to flanges to ensure that this does not occur. Also, flaring shall not be routine, as surge vessel gas will be collected. The design will minimize the volume of gas required for purging and for the pilot flare. All liquid emissions shall be routed to a closed drain header and pumped back into the export system, to avoid contact with the environment.

### ***Section 5: Corporate structure, and governance***

This project is being executed by P&T under 'sole risk' status, where the economic interests are NNPC (0%), Shell (77.14%), Total (10%) and NAOOC (12.86%). The assumption is that the SPDC JV equity interest will apply post FID following the backing in of NNPC and the transition from sole risk to Joint Operations on these leases.

### ***Section 6: Functional Support and consistency with Group and Business Standards***

This proposal complies with Group Business Principles, policies and standards. Full functional support covering Sustainable Community Development (SCD) is provided for in the full project scope. Additionally, there will be a focus on Nigerian Content Development (NCD) as already indicated above. Functional support for this proposal is provided by the Finance, Supply Chain Management, Legal, Treasury and Tax functions.

### ***Section 7: Project management, monitoring and review***

This is one of the PTP Operated Projects under the General Manager, Nigeria. The Project Assurance Plan is compliant with the Opportunity Realization Plan (ORP). FID is planned for November 2014.



**Section 8: Budget provision**

The HD & JK Oil Development is in SPDC's BP12 with a 2013 budget US\$27.5 mln (100%).

**Section 9: Group financial reporting impact**

There are no unusual accounting issues related to this GIP. Expenditure related to the project will be accounted for in line with Group Policy. The financial impact of this proposal on Shell Group Financials is as indicated below:

| \$ Million                | 2012 | 2013 | 2014 | 2015 | 2016 | Post 2016 |
|---------------------------|------|------|------|------|------|-----------|
| <b>Total Commitment</b>   | 7.7  | 28.2 | 12.0 |      |      |           |
| <b>Cash Flow</b>          |      |      |      |      |      |           |
| SCD Expenditure           |      |      |      |      |      |           |
| Pre-FID Expenditure       | 7.7  | 28.2 | 12.0 |      |      |           |
| Capital Expenditure       |      |      |      |      |      |           |
| Operating Expenditure     | 0.2  | 0.8  | 0.4  |      |      |           |
| Cash flow From Operations | -1.6 | -5.3 | 0.1  | -0.5 |      |           |
| Cash Surplus/(Deficit)    | -1.6 | -5.3 | 0.1  | -0.5 |      |           |
| <b>Profit and Loss</b>    |      |      |      |      |      |           |
| NIBIAT +/-                | -1.2 | -4.3 | -1.8 |      |      |           |
| Balance Sheet             |      |      |      |      |      |           |
| Avg Capital Employed      | 5.2  | 15.9 | 25.5 | 34.8 | 45.0 | 275.0     |

**Section 10: Disclosure**

Material disclosures, if any, will be done in line with the Group and SPDC Disclosure policies and guidelines.

**Section 11: Financing**

This investment will initially be financed by funds provided by JV Sole Risk partners.. Shell Share of required expenditure will be met by SPDC's own cash flow. Back in terms for NNPC will be separately negotiated. Should negotiations lead to a request for disproportionate financing of NNPC or other partners, this will be subject to a separate approval

**Section 12: Taxation**

The incremental value and cost generated by this funding request will be taxed together with SPDC total income in accordance with applicable fiscal regime.

**Section 13: Key Parameters**

This proposal covers Pre-FID activities as follows (Shell Share, Sole Risk):

- US\$ 11.9 mln Project Management (HD/JK)
- US\$ 4.2mln Subsurface Support
- US\$ 2.6 mln Pre-FEED (HD/JK)
- US\$ 11.0 mln FEED (HD/JK)
- US\$ 8.2mln Permits & Consents, Data Acquisition Surveys, Land Acquisition, Belema FLB site Sandfilling (HD/JK)
- US\$ 10.0 mln DG2 studies on HA/HB to DG2
- Sole risk Financing will be met through SPDC Ltd own resources. Back in terms for NNPC will be separately negotiated. Should negotiations lead to a request for disproportionate financing of NNPC or other partners, this will be subject to a separate approval

**Section 14: Signatures**

This Proposal is hereby submitted for approval.

**Supported by:**

.....  
Chris Streng (SIEP-FUI)  
Date .../... /...

For shareholder approval:

.....  
Andrew Brown ( RDS-ECAB)  
Date .../... /....

**Initiator:**

.....  
Toyin Olagunju (PTP/O/N)  
Date .../.../.....



Previously Approved  
GIP.pdf



## Previously Approved Group Investment Proposal

### Summary Information

|   |  |             |                 |
|---|--|-------------|-----------------|
| Business unit and company                         | Shell Petroleum Development Company of Nigeria Ltd ("SPDC")  |             |                 |
| Group equity interest                             | 100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV ("SPDC JV") with a 30% interest.   |             |                 |
| Other shareholders / partners                     | The other partners in SPDC JV are NNPC (55%), TotalFinaElf(10%), and NAOC(5%). H-Block project is operated under "sole risk" status, where the economic interests are NNPC (0%), Shell (77.14%), TotalFinaElf (10%) and NAOC (12.86%).   |             |                 |
| Business or Function                              | Exploration and Production   |             |                 |
| Amount  | US\$129.6 million Shell share, MOD, 50/50 of which US\$96.1 million is requested for approval in this proposal and US\$33.5 million has been approved in previous proposals.   |             |                 |
| Project   | H and J Blocks Pre-FID.  |             |                 |
| Main commitments (Shell share, 77.14% MOD, 50/50) | Project Management   | US\$        | 20.4 mln        |
|   | Appraisal Well (HA-006)  | US\$        | 28.2 mln        |
|   | Procure primary steel for wellhead Jacket  | US\$        | 13.6 mln        |
|   | Concept Selection & Subsurface Studies   | US\$        | 7.8 mln         |
|   | FEED   | US\$        | 9.5 mln         |
|   | Geotechnical Surveys & ESHIA studies   | US\$        | 0.5 mln         |
|   | Bonny tie-in   | US\$        | 0.3 mln         |
|   | Contingency (25%, except well at 10%)  | US\$        | 15.8 mln        |
|   | <b>Total this proposal (Jan 2007 –mid 2008 pre-FID)</b>  | <b>US\$</b> | <b>96.1 mln</b> |
|   | Previous proposals   | US\$        | 33.5 mln        |
|   | Total project to date  | US\$        | 129.6 mln       |
| Source and form of financing                      | This investment will be financed with sole risk JV Partners funding until NNPC re-entry is finalized (Q2 '07). Shell share will be met by SPDC's own cash flow and existing shareholder facility. Sole risk JV partners' approval has been requested and is expected by the end of Q1 '07.   |             |                 |
| Summary cash flow (post FID project lifecycle).   | <p style="text-align: center;"><b>H Block Oil and Gas Projects Cashflow</b><br/>(Shell Share 30%, PSV RV - RT July 2007)</p> <p>Legend:</p> <ul style="list-style-type: none"> <li>Annual Cashflow H-Block (\$ mln) - 0% (Blue bars)</li> <li>Capex RT (Light blue bars)</li> <li>Cumulative Cashflow (\$ mln) - 7% (Red line with diamonds)</li> <li>Cumulative Cashflow (\$ mln) - 0% (Black line with triangles)</li> </ul> |             |                 |

|                               |   |  |                 |      |     |    |                     |
|-------------------------------|---|--|-----------------|------|-----|----|---------------------|
| Summary of upstream economics | Assuming no follow up development after this funding, the economic indicators shown in the table below apply. This pre-FID funding will lead to a project (HD, HA, JK & HB) with an upstream only NPV of \$214 mln and a VIR of 0.28 on lifecycle basis (Shell share) at RV-RT07 (\$40/bbl RT 2007) under regular JV funding (i.e. no PFA). |  |                 |      |     |    |                     |
|                               | PV Reference Date: 1/7/2006   |  | NPV (S/S \$mln) |      | VIR |    | AT Maximum Exposure |
|                               | Cash flow forward from: 1/7/2007  |  | 0%              | 7%   | 0%  | 7% | US\$mln (yyyy)      |
|                               | H-Block pre-FID cost only   |  |                 |      |     |    |                     |
|                               | RV-RT (\$40/bbl RT07)   |  | -7.2            | -6.9 |     |    | 65.6 In 2007        |

## Section 1: The proposal (management summary)

### 1.1 Management Summary

H-Block is an upstream project that will play a crucial role in future gas supply to both NLNG and OK LNG. A reprioritisation in the SPDC JV portfolio, driven by current security challenges, the urgency for a more realistic OK LNG Gas Supply Plan and required activity levels for lease renewal have accelerated the development of the H-Block project.

This IP requests approval for funding of US\$96.1 million (Shell share under sole risk conditions) to progress the project to FID in mid-2008<sup>1</sup>. The IP does not address the funding for OPL238 and HB maturation work, which will be part of a separate funding request.

This funding request still considers H-Block as sole risk operations for cash flow purposes. NNPC is anxious to reenter the project, but conclusion of discussions is required before we can request funding from them. It is anticipated that SPDC will recover US\$ 45.3 mln of this financing (47.14% of this funding request) when the reentry agreements are signed (Q2 2007), but waiting until that time is not an option given the current political timing pressures coming from the government for OK LNG. NNPC re-entry will return Shell equity to 30%, thus reducing Shell's share of the capex investment into the H-Block project from US\$2552 mln to US\$992.4 mln.

### 1.2 H-Block Project Background

The H-Block project currently comprises the development of HD, HA and HB fields in OML 77, and the JK field in OML 74. The development plan is summarized in *Attachment 1*. The project establishes a large oil and gas production hub in the strategically important shallow water (15 to 40 meters) area offshore (140 kbopd and 900 MMscf/d annual average rates). Gas from the H-Block will be initially sent to OK LNG. The development of future OK gas supply projects and NLNG T7 will allow portfolio optimization and could result in H-Block gas being redirected to NLNG T1-6 and T7 after initial production to OK LNG. This flexibility will mitigate against some security threats. Furthermore, if OK LNG does not progress, it is expected that NLNG T7 will accelerate and become the outlet for this gas.

### 1.3 Current Project Status

<sup>1</sup> External message is to be on par with OK LNG FID in Q4 2007

The base supply projects (HD, HA, and JK) are currently in the define phase (post DG3), whereas HB and OPL-238 are in the identify/assess phases (pre-DG2). In September 2006, the H-Block project held a reframing workshop, which led to the following decisions and changes to the project:

- maintain H-Block project as an integrated oil and gas development;
- increase gas-processing capacity of the H-Block Central Processing Platform (CPF) from 460 MMscf/d to 900 MMscf/d to offer greater materiality to LNG expansions, and enable early development and tie-back of a nearby discovery in OPL-238, to save some \$428 mln capex..
- mature near field (NFO) exploration opportunities to add some 670 MMboe scope for recovery (risked udSFR) to the already discovered 560 MMboe SFR being developed;
- pursue a design that allows condensate to be separated, measured and transported with the gas stream to allow its fiscal treatment as gas.

Increasing the gas processing facilities from 460 to 900 MMscf/d and capturing value from the condensate requires limited design changes and investments. Some \$300 mln (100% project) are needed to add an additional gas processing train and condensate dehydration facilities. Technical authorities in various disciplines, Global Technical partners and the project's Decision Executive have supported these changes. A full TECOP "mini-VAR3" review is planned for March '07 to provide a formal assurance on the changes, including redirecting the gas to OK LNG and to ensure the facilities are not over-designed. ITTs are planned for Q2 2007, FID by mid-2008 and 1<sup>st</sup> oil in Q3 2012, which may be close to midstream developments if it slips as expected.

#### 1.4 Previous proposals

In October 2005, a pre-FID investment proposal (IP) was approved for \$28.5 mln (Shell share) to carry the project through the concept definition to FID in August 2006 (excluding appraisal wells). A further proposal for a US\$5 mln increase was approved in October 2006. A move of the FEED to Nigeria, the changes in the gas supply destination and scope, and the need to order long lead materials for the wellhead jacket to minimize risks to schedule require additional funding.

#### 1.5 Justification for current proposal

| <u>Item</u>  | <u>Budget<sup>2</sup></u> | <u>Justification</u>   |
|--|---------------------------|--|
| Project Management, FEED, Subsurface and ESHIA Studies | \$47.6 mln                | To cover the costs of the project team until mid 2008, remaining well proposal work and subsurface studies, and the amendments to FEED to increase gas processing capacity to 900MMSCF/d   |
| HA Appraisal Well (HA-006) in 2007                     | \$31.1 mln                | Drill and test the first development well in HA in 2007 (instead of 2009) using a rig of opportunity currently available at a very attractive rate. The value of information (VOI) for HA-006 is \$54 mln. The well will be used: <ul style="list-style-type: none"> <li>(1) to collect fluid samples to determine fluid composition and PVT for material selection and facilities design. No gas samples exist.</li> <li>(2) to appraise fluid contacts to de-risk development wells;</li> <li>(3) to reduce uncertainties in reservoir continuity and heterogeneities; and</li> <li>(4) to test the well to provide proof of producibility and in-field analogue for reserve booking (24 MMboe in HA)</li> </ul> |

<sup>2</sup> shell share (77.14% Sole Risk) with contingencies included

|   |            |  |
|---|------------|--|
|   |            | after FID.   |
| Primary Steel for Wellhead Jackets and preparations for fabrication | \$17.4 mln | The request is to purchase only the steel, which is a long lead item (up to 12 months). The steel is ordered now so that it is delivered around FID to start fabrication of wellhead jackets immediately after FID. This allows fabrication and installations to be completed by mid-2009 when development drilling is expected to start. The timely installation allows safer and cheaper pre-drilling of the development wells for faster production ramp-up. In the event that H-Block project does not take FID, the steel purchased can be used on other SPDC/SNEPCO projects in Nigeria. |

## ***Section 2: Value proposition and strategic and financial context***

### ***2.1 Value proposition, strategic and business context***

#### ***Production and Reserves***

H-Block represents a new hub development opportunity that increases SPDC's production by 140,000 bopd and 900 MMScf/d. The gas processing capacity at H-Block hub has been increased to 900 MMscf/d from 460 MMscf/d to enable tie-in from OPL-238 (1.6 Tscf expectation SFR). The base and alternate production forecasts for the project are shown in *Attachment 1*.

Based on discovered volumes alone, H-Block (excluding OPL-238) will add over 85 MMbbls of oil and 0.5 Tscf of gas to Shell's expectation resource volumes over time (168 MMBoe Shell share at 30% equity). With currently identified in-field exploration upsides, life cycle resource volumes recovered by the project could reach 1.2 bln Boe (100% project). A summary of the resource volumes for the project is shown in *Attachment 1*.

#### ***LNG Growth in Nigeria***

H-Block has become a key enabler for LNG growth for Shell in Nigeria. Gas supply plans for OK LNG were based on delivery of Cluster 2A (Nun River) and Southern Swamp NAG (SSNAG) in 2012-2013. Both of these projects, which are pre-DG3, are in the "security hot" delta area and have been delayed by a minimum of 2 years.

H-Block is finishing FEED, approaching FID and is located offshore. Based on security concerns and project maturity, it was decided that the OK LNG gas supply plan should be re-written to feature H-Block as start-up gas. H-Block will initially supply start-up gas to OK LNG and can be re-routed to NLNG for long-term supply to T1-6 and T7, pending portfolio optimization studies and security requirements. It is recognized, however, that H Block still remains within a security zone that is subject to attack. While Chevron was recently able to get a well down on a nearby block, indications of the threat level to H-Block will become more clear when the next well is drilling (immediately after this GIP is approved).

### ***2.2 Summary economics***

A pre-FID cost only economics evaluation was carried out using the amount requested for approval in this proposal to determine the maximum exposure (i.e. amount that could be lost if the project does not proceed beyond pre-FID). The result indicates an NPV7% of -US\$6.9 mln and a maximum exposure of US\$65.6 mln in 2007.

The table below presents key indicators for the upstream only economics for the H-Block project on a forward-looking basis, assuming regular JV funding (no PFA). The results as presented include tariff payments from OPL-238. The upstream results of the integrated H-Block and OPL-238 are presented in *Attachment 2*. The attachment also shows estimates from integrated upstream and midstream economics (G&P can privately provide more precise economics given they have now opened the bids)). Other key assumptions are:

- Shell Share is 30% (assumes Sole Risk has been terminated)
- Funding is assumed under regular JV cash call mechanism, which enjoys MOU returns, not PFA (sensitivities in Attachment 2).
- Production of 140 kbopd and 900 MMSCF/d of gas by utilizing HA, HD, JK and OPL238 with HB providing backfill in later years (see Base Case production forecast for 900 MMScf/day in *Attachment 1*);
- Base case assumes discovered SFR only (168 MMboe).
- MoU/AGFA with a taxpayer status; condensate taxed as gas.
- 100% AGFA relief is assumed for H-Block while NAGFRA is assumed for OPL-238 (agreed to with SEPA-EPF-G-TAX and the OK LNG Team). It is anticipated that OK LNG will obtain 25 to 50% AGFA, which Shell could apply to supply projects on a first come first serve basis, giving 100% to H-Block as starter supplier.
- Gas will be transferred to OK LNG (@0.97\$/MMbtu, PSV<sub>40</sub>).
- Condensate sold at 90% of market price;
- Gross Heating Value (GHV) of 1,100btu/scf
- 10% of capex included as abandonment cost, NDDC levy of 3% and Education tax of 2%
- SPDC Generic opex applied (oil and condensate variable opex - \$0.5/bbl, oil fixed opex – 4% of cum. oil capex, gas variable and fixed opex - \$0.3/boe and 2% of cum. gas capex respectively).
- OPL-238 pays tariff to H-Block (\$0.15/MMbtu for gas and \$0.81/bbl for condensate).

Table showing H Block Upstream Project Economics Summary (includes Tariff from OPL 238) under regular JV funding (not PFA, which will lower the returns, depending on ultimate terms)

| PV Reference Date: 1/7/2007                     | NPV (S/S \$mln) |           | VIR  | RTEP  | Payout Time (RT) | AT Maximum Exposure |
|---|-----------------|-----------|------|-------|------------------|---------------------|
| Cash flow forward from: 1/7/07                  | 0%              | 7%        | 7%   | %     | yyyy             | US\$mln (yyyy)      |
| <b>Base Case (Life-Cycle Economics)</b>         |                 |           |      |       |                  |                     |
| SV-RT (\$35/bbl RT07)                           | 351             | 121       | 0.16 | 16%   |                  |                     |
| RV-RT (\$40/bbl RT07)                           | 525             | 214       | 0.28 | 21%   | 2014             | 235 in 2011         |
| HV-RT (\$60/bbl RT07)                           | 946             | 433       | 0.57 | 30%   |                  |                     |
| UTC (RT \$/boe)                                 | 8.0             | 10.6      |      |       |                  |                     |
| BEP (RT \$/boe)                                 |                 |           |      |       |                  |                     |
| <b>Sensitivities (using RV-RT)</b>              |                 |           |      |       |                  |                     |
| High CAPEX (40%)                                |                 | 158       | 0.15 |       | 2015             | 329 in 2011         |
| 2 Year Delay (longer execution)                 |                 | 180       | 0.24 |       | 2015             | 238 in 2012         |
| Cost only (this pre-FID request)                |                 | -6.9      |      |       |                  | 65.6 in 2007        |
| <b>Key Project Parameter Data (Shell share)</b> |                 |           |      |       |                  |                     |
| Parameter                                       | Unit            | BP' 2006* | Low  | Mid** | High             | Comments            |
| CAPEX (MOD)                                     | US\$mln         | 2561      |      | 992.4 | 1389             | P50 Estimates       |
| Production volume                               | MMboe           | 432       |      | 168.1 |                  | Include HB (ARPR)   |
| Start Up Date                                   | mm/yyyy         | 2012      |      | 2012  |                  | 2012                |
| Production in first 12 months                   | Mmboe           | 50.4      |      | 19.6  |                  |                     |

\* Assumed Sole risk operations with Shell share at 77.14%

\*\* Assumes Sole risk is terminated and Shell share revert to 30%



These economics are based on internal SPDC gas transfer pricing guidelines (0.97\$/MMbtu), which are different from what the OK LNG Team is using (see table below). The OK LNG Team is using values based on expectations from the outcome of commercial negotiations.

#### Comparison of H-Block and OK LNG economic assumptions

|   | H-Block Assumptions | OK LNG Assumptions |
|---|---------------------|--------------------|
| Gas transportation fee: (US\$/MMbtu)                            | 0.35                | 0.3                |
| Condensate transportation fee (US\$/bbl)                        | 1.90                | 1.90               |
| Condensate handling fee (US\$/bbl)                              | 3.69                | 5.80               |
| Gas transfer price: (US\$/MMbtu), irrespective of fiscal regime | 0.97                | 1.45               |

The difference in transfer pricing assumptions results in additional value (US\$112 mln and 0.14 VIR), which is presently not allocated to the midstream or upstream. Using the OK LNG assumptions as in the table above will provide the following upstream economics for the H-Block project on lifecycle basis:

| PV Reference Date: 01/07/2007           | NPV (S/S \$ mln) |     | VIR  | RTEP % |                       |
|---|------------------|-----|------|--------|-----------------------|
| Cash flow forward from: 01/07/2007      | 0%               | 7%  | 7%   |        | Gas price, (\$/MMbtu) |
| <b>Base Case (Life-Cycle Economics)</b> |                  |     |      |        |                       |
| PSV 2007 - SV (\$35/bbl RT07)           | 549              | 214 | 0.28 | 20%    | 1.35                  |
| PSV 2007 - RV (\$40/bbl RT07)           | 746              | 316 | 0.42 | 25%    | 1.45                  |
| PSV 2007 - HV (\$60/bbl RT07)           | 1,155            | 530 | 0.70 | 33%    | 1.65                  |

### *Section 3: Risks, opportunities and alternatives*

#### 3.1 Risks and Mitigation Plans

| <u>Item</u>  | <u>Planned Mitigation</u>  |
|--|--|
| <b>License terms</b><br>In 2004, the Government withdrew the leases for OML 71, 74 (JK) and 77 (HA, HB & HD) for lack of visible activity. In settlement with the government, the lease withdrawals were rescinded in July 2005 and a lease extension offered to SPDC subject to accepting the less favourable 2005 PSC terms. | Extension of licenses under existing MOU terms made condition precedent (CP) for OK LNG project.   |
| <b>Competition on shallow offshore acreages.</b><br>Brass partners and other new players may be lobbying for the Shell Shallow Water licenses to be revoked and given to them (OML 71, 74, 77 combined with OPL 225, 238) given their underdeveloped enormous resources near Brass LNG, which is struggling for gas.           | Pursue normal project execution and exploration investments in the blocks to demonstrate our commitment to development. Normalize relations with NAPIMS and obtain their support for license terms under MOU/AGFA. |

|   |  |
|---|--|
| <p><b>Fiscal &amp; Commercial</b><br/>Inability to obtain both AGFA and condensate taxed as gas.</p>  | <p>Condensate taxed as gas is a condition precedent for OK LNG. The level of AGFA is currently being negotiated.</p> <p>AGFA is available for NLNG T1-6. H-Block remains a nominated NLNG T1-6 supplier. Value from condensate taxed as gas will be captured by NLNG for H-Block.</p>  |
| <p><b>NNPC back-in and funding challenge</b></p> <ul style="list-style-type: none"> <li>• NNPC may have difficulties funding its share of the costs when sole risk is terminated (equities revert back to 30% for Shell, 10% for Total, 5% for Agip and 55% for NNPC)</li> <li>• NNPC could attempt to overturn 'sunk' decisions leading delays and gridlocks.</li> </ul>   | <p>Resolve NNPC funding challenges through ongoing PFA discussions on SPDC JV projects funding.</p> <p>Project is ring-fenceable which may enable project financing in case structural solution falls through.</p> <p>Set appropriate conditions during the negotiations of the terms for NNPC's re-entry.</p>                               |
| <p><b>Nigerian content, project cost and schedule</b><br/>Regulators further increase local content demands leading to schedule delays (up to 2-4 years in extreme case).</p>   | <p>Received a waiver from NCD to build the integrated deck outside of Nigeria if necessary, which demonstrates this government's intent to enable this project to happen.</p>  |
| <p><b>Subsurface and ability to fill-up and sustain 900 MMscf/d</b></p> <ul style="list-style-type: none"> <li>• Government requiring development of oil rims in main gas reservoirs first before gas cap blow down could lead to 3-5 years delays of any NAG development.</li> <li>• Inability to fill-up 900 MMScf/d during 1<sup>st</sup> year of production due to OPL-238 delays (currently pre-DG2).</li> </ul> | <p>Develop oil rim reservoirs using SMART well technology and concurrent oil and gas development. Plans presented to DPR and verbal support received, but written support will be obtained. FDPs submitted.</p> <p>Mature HB field to be ready for a 2012 on stream date. Also mature in-field exploration opportunities to fill ullage.</p> |



|   |  |
|---|--|
| <p><b>Community disruption, Militancy &amp; Security</b><br/>Community issues during constructions and operations.</p>  | <ul style="list-style-type: none"> <li>• Engagement with “potentially impacted” 14 communities and addressing an outstanding legacy issues is ongoing, and a plan exists for going forward</li> <li>• Provide 2% of project budget for Sustainable Community Development Project / Program.</li> <li>• Liaise with Governments and security agencies to ensure protection.</li> <li>• Extensive community engagements have taken place for HA-006 well. A security plan is being put in place with contributions from SPDC, SNEPCo and regional security advisers.</li> <li>• The drilling operations will not commence until SPDC ERT support is provided.</li> </ul> |
| <p><b>HSSE</b><br/>Problems with theft from unmanned platforms, such as those planned for HA, JK and HB and harassment of operators travelling by boat to the facilities.</p> | <p>The FEED for H- and J- block platforms incorporate relevant learnings from EA and other facilities.</p>   |

### 3.2 Alternatives

A wide range of development, project execution and commercial solutions has been considered for the H-Block project during the concept selection studies and the recently concluded re-framing in September 2006. None of those options were found to offer an improvement over the currently proposed integrated oil and gas development concept.

The “do-nothing case” is not seen as a viable option for the shallow water acreage as (1) other competitors are aggressively coveting these blocks (e.g. Agip and Total would want these blocks for gas supply to Brass, NOCs) and (2) revocation is a realistic threat in case of slow progress or no development of the blocks.

### 3.3 Opportunities

The OK LNG project with its strong support by government offers the opportunity to obtain concessions and resolutions on key project issues such as (1) local content and NCD waivers, (2) license renewal under MOU/AGFA terms, and (3) condensate taxed as gas.

## ***Section 4: Corporate structure, and governance***

H-Block is being executed in SPDC under the Major Projects Director, who in turn reports to the EP Projects Director. Key pre-FID decisions from the project will be taken to the H-Block DRB, which is chaired by the Offshore Director and composed of other senior directors from SPDC, SNEPCO, Exploration, Gas & Power, and Finance. Post-FID, the normal PDAB control will be applied.

## ***Section 5: Functional Support and consistency with Group and Business Standards***

The Proposal has been developed in partnership with Global Technical Partners (EPT-S and EPT-P), from which it has full support. HSE and SCD project representatives participated in

the various reviews during the H Block project maturation processes. Their functional support for this IP has been requested and obtained. Similarly functional supports from Finance, Tax, and Economics were obtained.

There are no conflicts with the Shell Group Business Principles foreseen under this proposal.

### ***Section 6: Project management, monitoring and review***

The project passed VAR3 and DG3 in November 2004 for HD and HA fields; JK passed DG3 in March 2006. All high impact and high urgency items have been closed and the three fields are in Define phase. The recent re-framing introduced new elements and changes. Gas destination has also been changed recently to OK LNG. These elements were introduced with concurrence from Global Technical Partners and supported by the DRB, pending a full TECOP “mini-VAR3” review, which is planned for March 2007.

The plans for the appraisal well and its well proposal have been endorsed by subsurface discipline heads in EPT-S and SNEPCO. The well proposal has passed Well Delivery value challenge and progressing through the normal well delivery process.

### ***Section 7: Budget provision***

#### **7.1 Budget**

The 2006 firm Business Plan (BP’06) for SPDC contains a total of US\$86.9 mln in 2007 for H-Block. BP’07 plan will be submitted to cater for the US\$9.1 mln difference between the US\$86.9 mln and the US\$96.1 mln in this funding request. The budget has been presented to partners (including NNPC) with a formal request for approval, which is expected in Q1 2007.

#### **7.2 Expenditure Phasing**

The table below shows the breakdown and the phasing of the expenditures in this request.

| <b>Main commitments (Shell Share at 77.14%)</b> |                 | <b>2007</b> | <b>2008</b> | <b>Total Shell Share</b> |
|---|-----------------|-------------|-------------|--------------------------|
| Promect management                              | mln US\$        | 11.3        | 9.1         | 20.4                     |
| Appraisal Well (HA-006)                         | mln US\$        | 28.2        |             | 28.2                     |
| Primary stell forrWellhead Jacket               | mln US\$        | 2.2         | 11.5        | 13.6                     |
| Concept selection &Subsurface studies           | mln US\$        | 5.2         | 2.6         | 7.8                      |
| FEED  | mln US\$        | 8.3         | 1.2         | 9.5                      |
| Geotechnical Surveys & ESHIA studies            | mln US\$        | 0.4         |             | 0.5                      |
| Bonny Terminal tie-in                           | mln US\$        | 0.3         |             | 0.3                      |
| Contingency (@25%, except well @10%)            | mln US\$        | 9.7         | 6.1         | 15.8                     |
| <b>Total proposal (Jan’07 – Jun’08) pre-FID</b> | <b>mln US\$</b> | <b>65.6</b> | <b>30.4</b> | <b>96.1</b>              |

### ***Section 8: Group financial reporting impact***

The impact of this funding request on Group financial reporting is minimal for this IP, as a result of the applicable local tax rate. The incremental impact of this proposal on SPDC’s Financials is reflected in table II.1 in *Attachment 2*. The impact on the BP’06 base plan ROACE is also shown in table II.1.

### ***Section 9: Disclosure***

Disclosures, if required, will be done in line with existing Group and SPDC policies and guidelines.

### ***Section 10: Financing***

This investment will be financed by funds provided by JV Sole Risk partners in the SPDC venture until NNPC re-entry and return to normal SPDC venture arrangement. Shell share of the expenditure will be met by SPDC own cash flow.

### ***Section 11: Taxation***

The incremental value and cost generated by this funding request will be taxed together with SPDC total income in accordance with applicable fiscal regime.

### ***Section 12: Key Parameters***

The main commitments that this proposal will cover until FID in mid 2008 are as follows:


- US\$ 37.3 mln for project management and FEED,
- US\$ 10.3 mln to complete subsurface and environmental studies;
- US\$ 31.1 mln to drill one appraisal/development well in HA in 2007; and
- US\$ 17.4 mln to order long lead primary steel for wellhead jackets.

All are required to cover remaining pre-FID activities necessary to achieve FID in mid 2008, bringing the aggregate expenditure on pre-FID to US\$129.6 million.

### ***Section 13: Signatures***

This Proposal is submitted to EVP EP Finance for support and to the EP CEO for approval.

**Supported by:**



Simon Henry, EVP EP Finance  
Date: 28/02/2007

**For shareholder approval:**



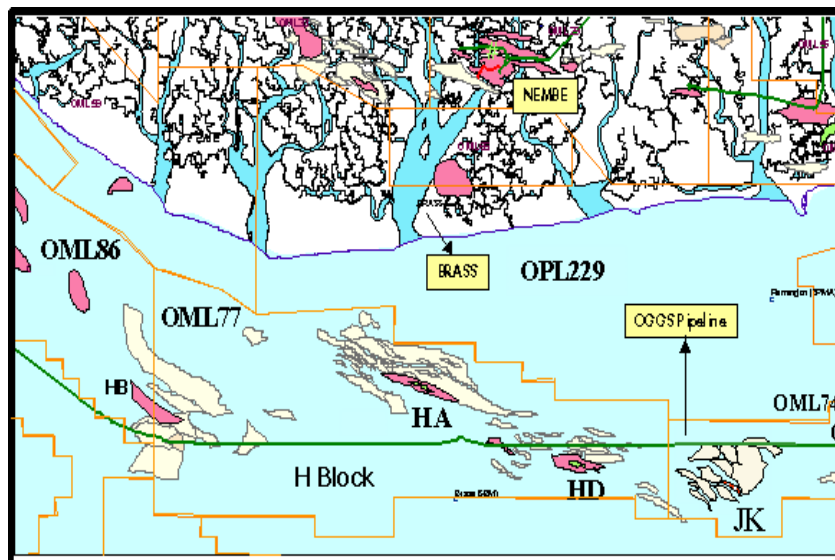
Malcolm Brinded, Executive Director EP  
Date: 7/3/2007

*Initiator:*      *Ann Pickard, REVP Africa*  
Date 14/02/2007

## Attachment 1: H-Block Project Background and Development Plan

### HA,HD, HB and JK fields Locations

SPDC's acreage OML 77 (also referred to as H Block) is located offshore, close to the Eastern Niger Delta coastline. The distance from the coastline varies from 5 km to 20 km at the eastern end. The H block extends over an area of some 962 km<sup>2</sup> with a water depth ranging from 15 to 40 meters. It contains the HD and HA fields and (most



of the) HB field; the JK field, where oil was discovered in September 2004, lies in the western part of the adjacent block OML 74. None of the fields in this area have been developed. To date there some 14 exploration and appraisal wells drilled in the three fields. None of the wells have been completed or production tested.

### Summary of H-Block development plan

#### Description

- 4 Fields Offshore Hub development:
  - HA, HD and HB in OML 77,
  - JK in OML 74
- approx 20 km from coastline
- Water Depth 15 to 40 meters

#### Development Plan:

- Hub platform at HD, Unmanned WHPs at HA & JK tied back to HD hub.
- Gas production tied into OGGs
- Oil to Bonny via a new 115 km 20" pipeline

#### Production Capacity:

(Annual Averages)

- Oil & Condensate 140 Mbbl/d
- Gas (NAG & AG) 900 MMscf/d
- Produced Water 55 Mbt

#### Development Well Count: 44 wells

- 7 in HA,
- 18 in HD,
- 10 in JK, and
- 9 in HB)

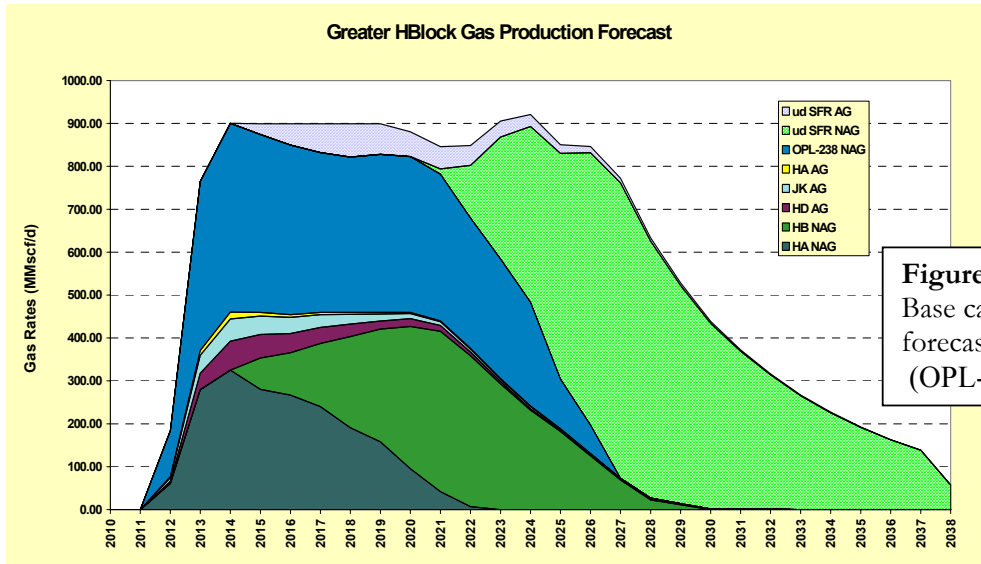
#### H-Block Project Scope



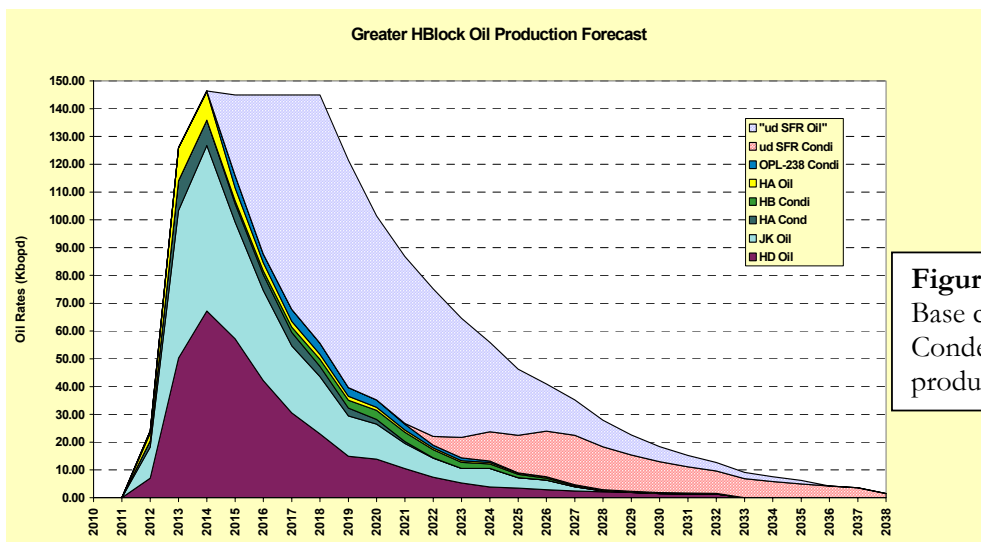
#### Resource Volumes

|                                  | Expectation SFR           |               |                |
|----------------------------------|---------------------------|---------------|----------------|
|                                  | Oil/Condensate<br>(MMstb) | Gas<br>(Bscf) | BOE<br>(MMBoe) |
| <b>Discovered Volumes</b>        |                           |               |                |
| HA                               | 34                        | 784           | 169            |
| HB                               | 10                        | 608           | 115            |
| HD                               | 127                       | 102           | 145            |
| JK-G                             | 113                       | 111           | 132            |
| Sub-Total                        | 284                       | 1605          | 560            |
| <b>Riskd Exploration Volumes</b> |                           |               |                |
| HA prospects                     | 138                       | 1472          | 392            |
| HD Prospects                     | 76                        | 245           | 118            |
| JK Prospects                     | 64                        | 542           | 157            |
| Sub-Total                        | 278                       | 2259          | 667            |
| <b>Total</b>                     | <b>562</b>                | <b>3864</b>   | <b>1228</b>    |

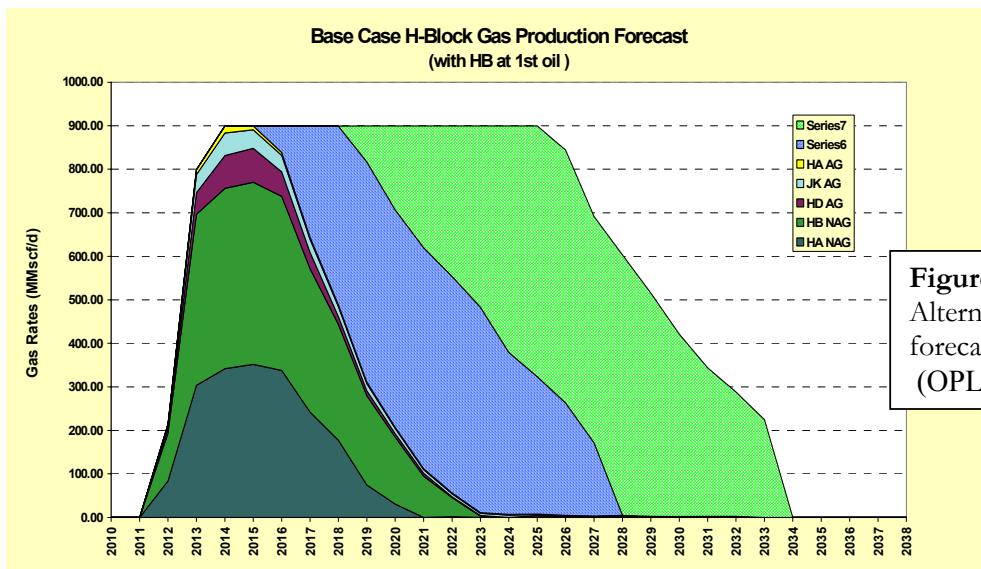
## H-Block Project Production Forecasts



**Figure 1.1:**  
Base case gas production  
forecast for 900 MMScf/day  
(OPL-238 at 1<sup>st</sup> oil)



**Figure 1.2:**  
Base case oil and  
Condensate  
production forecast



**Figure 1.3:**  
Alternate gas production  
forecast for 900 MMScf/day  
(OPL-238 delayed)

## Attachment 2: SPDC financial impact, upstream and integrated economics.

### SPDC Financial Impact

Table II.1: Impact of this request on SPDC financials and BP'06 ROACE

| US\$ mln (Base Case at PSV RV-RT \$40) | Prior Years | 2007   | 2008   | 2009   | 2010 | 2011 | Post 2011 |
|--|-------------|--------|--------|--------|------|------|-----------|
| Commitment phasing (capex)             | +0.0        | +0.0   | +0.0   | +0.0   | +0.0 | +0.0 | +0.0      |
| <b>Cash Flow</b>                       |             |        |        |        |      |      |           |
| Exploration Expenditure                | -           | -      | -      | -      | -    | -    | -         |
| Capital Expenditure                    | +0.0        | +0.0   | +0.0   | +0.0   | +0.0 | +0.0 | +0.0      |
| Cash Flow from Operation               | -5.9        | -14.4  | +0.4   | +4.2   | +0.0 | +0.0 | +0.0      |
| Cash Surplus/(Deficit)                 | -10.2       | -14.4  | +0.4   | +4.2   | +0.0 | +0.0 | +0.0      |
| <b>Profit and Loss</b>                 |             |        |        |        |      |      |           |
| NIBIAT (Gain/(Loss))                   | -5.9        | -9.6   | -4.5   | +0.0   | +0.0 | +0.0 | +0.0      |
| <b>Balance Sheet</b>                   |             |        |        |        |      |      |           |
| Capital Employed                       | +0.6        | +6.7   | +6.7   | +2.1   | +0.0 | +0.0 | +0.0      |
| ROACE (if material impact)             | +0.0%       | -0.42% | -0.15% | -0.01% | 0.0% | 0.0% | N/A       |

### Combined Upstream and integrated economics for H-Block and OPL-238

Table II.1 below shows forward looking lifecycle economic indicators for OPL-238 and H-Block combined with the same assumptions and base case described in section 2.2., not subject to PFA terms.

Table II.2: Upstream lifecycle economics for H-Block and OPL-238 combined

| PV Reference Date: 01/07/2007      | NPV (\$/S \$ mln) |     | VIR  | RTEP % | Payout-Time (RT) | Maximum Exposure (\$ mln) |         |
|------------------------------------|-------------------|-----|------|--------|------------------|---------------------------|---------|
| Cash flow forward from: 01/07/2007 | 0%                | 7%  | 7%   |        | yr               |                           |         |
| <b>Base Case</b>                   |                   |     |      |        |                  |                           |         |
| PSV 2007 - SV                      | 659               | 124 | 0.11 | 10%    |                  |                           |         |
| PSV 2007 - RV                      | 1,079             | 347 | 0.30 | 15%    | 2016             | 705                       | in 2011 |
| PSV 2007 - HV                      | 1,860             | 759 | 0.66 | 24%    |                  |                           |         |
| UTC (RT \$/bbl) - lifecycle        |                   |     |      |        |                  |                           |         |
| <b>Sensitivities (using RV-RT)</b> |                   |     |      |        |                  |                           |         |
| High Capex (Prob < 0.10)           |                   | 167 | 0.10 |        | 2017             | 989                       | in 2012 |
| 2 Year Delay                       |                   | 250 | 0.22 |        | 2017             | 737                       | in 2012 |
| Cost Only                          |                   |     |      |        |                  |                           |         |
| Life-Cycle Economics               |                   | 347 | 0.30 | 15%    |                  |                           |         |

Table II.2 below presents the economics for H-Block and OPL238. Because OK LNG economics are currently under strict confidentiality, the results of integrated economics are not shown, but can be shared separately. The range of VIR for the integrated economics is 0.30 to 0.95 for the following fiscal and supply assumptions considered:

- Three different supply scenarios:
  - all gas goes to OK LNG
  - gas to OK LNG for 2 years and subsequently diverted to NLNG T7
  - gas to OK LNG for 2 years and subsequently diverted to NLNG T1-T6
- Condensate being taxed as gas (CTG) or condensate taxed as oil (CTO)
- Fiscal regimes: AGFA or NAGFRA
- NLNG T1-6 have been granted AGFA status while T7 is likely to operate under NAGFRA.
- Upstream gas suppliers to OK LNG Train 1&2 have applied for AGFA.

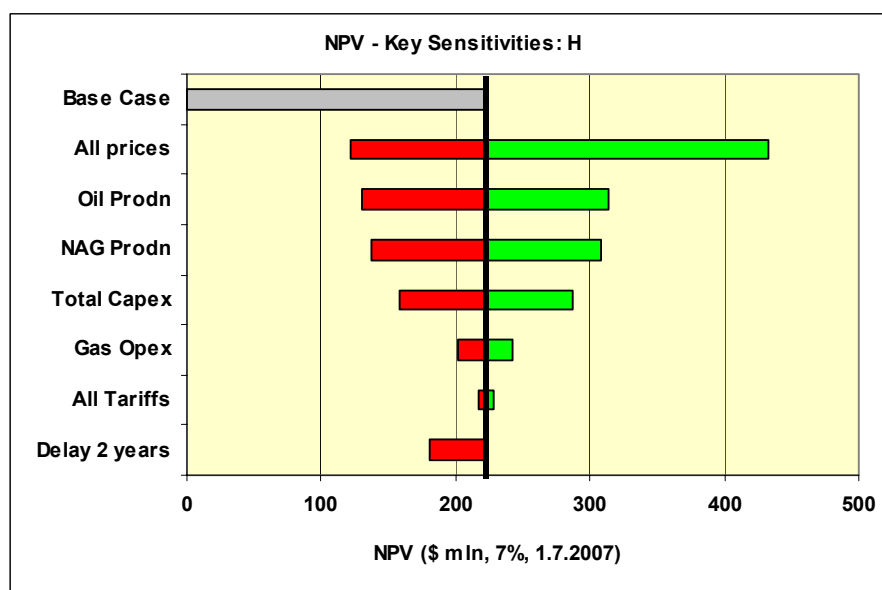
Table II.3: Integrated economics for H-Block and OPL-238 combined, operating under MOU and done with estimates on the midstream.

| OK LNG                |      | Upstream Economics |         |          |         |         |          | Integrated Economics <sup>1</sup> |     |                 |     |
|-----------------------|------|--------------------|---------|----------|---------|---------|----------|-----------------------------------|-----|-----------------|-----|
|                       |      | CTG                |         |          | CTO     |         |          | Midstream                         |     | H-Block+OPL-238 |     |
|                       |      | H-Block            | OPL-238 | Combined | H-Block | OPL-238 | Combined | NPV                               | VIR | NPV             | VIR |
|                       |      | Base               | 0.28    | 0.26     | 0.27    | 0.18    | -0.31    | 0.04                              |     |                 |     |
|                       | +SFR | 0.40               | 0.26    |          | 0.26    | -0.31   |          |                                   |     |                 |     |
| OK LNG →<br>NLNG T1-6 |      | Upstream Economics |         |          |         |         |          | Integrated Economics <sup>2</sup> |     |                 |     |
|                       |      | CTG                |         |          | CTO     |         |          | Midstream                         |     | H-Block+OPL-238 |     |
|                       |      | H-Block            | OPL-238 | Combined | H-Block | OPL-238 | Combined | NPV                               | VIR | NPV             | VIR |
|                       |      | Base               | 0.29    | 0.32     | 0.30    | 0.19    | -0.25    | 0.04                              |     |                 |     |
|                       | +SFR | 0.41               | 0.32    |          | 0.27    | -0.25   |          |                                   |     |                 |     |
| OK LNG →<br>NLNG T7   |      | Upstream Economics |         |          |         |         |          | Integrated Economics <sup>3</sup> |     |                 |     |
|                       |      | CTG                |         |          | CTO     |         |          | Midstream                         |     | H-Block+OPL-238 |     |
|                       |      | H-Block            | OPL-238 | Combined | H-Block | OPL-238 | Combined | NPV                               | VIR | NPV             | VIR |
|                       |      | Base               | 0.19    | 0.96     | 0.45    | 0.08    | 0.66     | 0.28                              |     |                 |     |
|                       | +SFR | 0.34               | 0.96    |          | 0.24    | 0.66    |          |                                   |     |                 |     |

1,2,3 Values are left blank due to confidentiality on OK economics.

#### Notes

- AGFA allows consolidation of gas expenditures against ongoing oil revenues and will subsequently tax gas profit at CITA rate (30%)
- NAGFRA ring-fences gas projects; capital expenditures consolidation is delayed until sufficient gas revenues are available. NAGFRA has a progressive tax regime from 20 to 75%.
- 100% AGFA assumed for OK LNG and NLNG T1-6 destination while NAGFRA is assumed for NLNG T7.
- The high VIR's for OPL-238 in the last table (OK LNG → NLNG T7) are modelling artefacts of the NAGFRA regime. Tariffs paid by OPL-238 to H-Block are costs to OPL-238 and keep the project's tax rate low and profit high.



|                                | low | mid | high |
|--------------------------------|-----|-----|------|
| All prices (US\$ RT07/bbl)     | 121 | 101 | 210  |
| Oil Production (MMbls)         | 130 | 92  | 92   |
| NAG Production (               | 137 | 86  | 86   |
| Total Capex                    | 158 | 65  | 64   |
| Gas Opex                       | 202 | 20  | 20   |
| All Tariffs                    | 216 | 6   | 6    |
| Delay 2 years (project delays) | 180 | 42  |      |