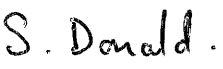




Design No. 3977A Licensing Drawings

Modification No. M843

Title	Modification of Design No. 3977A Licensing Drawings	Number	M843
		Issue	Issue A
		File Reference	M843-A-3977A.docx
Compiled	 S Donald	Checked	 S H Bryson
Approved	 S H Bryson	Date	19/12/13
Croft Associates Ltd, F4 Culham Science Centre, Culham, Abingdon, Oxon, OX14 3GY UK Tel 01865 407740			

Drawing No	Revised Issue	Title and Summary of Changes	Reason for Change
1C-5940	E	<p><u>Cover Sheet for Safkeg HS Design No 3977A</u> Issue raised from D to E</p> <p>1C-5940 raised in issue from D to E 0C-5941 raised in issue from C to D 1C-5944 raised in issue from B to C 1C-5945 raised in issue from B to C 1C-5946 raised in issue from C to D</p>	The drawing list has been updated to reflect the latest issues of the drawings.
0C-5941	D	<p><u>Safkeg HS Design No 3977A</u> Issue raised from C to D</p> <p>CV o-rings & grooves altered pictorially in-line with 1C-5944 & 1C-5945.</p>	See 1C-5944 & 1C-5945 below.
1C-5944	C	<p><u>Containment Vessel Design No 3978</u> Issue raised from B to C</p> <p>Ref figure 1: $\phi 119.5 \pm 1.14$ was $\phi 124.5 \pm 1.14$</p> <p>Ref item 5 material: "Fluoroelastomer (base material Viton GLT) hardness 75 ± 5 IRHD (or shore A) to ASTM D1415 (or ASTM D2240) o-ring dimensions in accordance with BS 4518 ref. no. 1195-30" was "EPM/EPDM to ASTM D2000 M3 BA 810 A14 B13 F17 Z1 where Z1 stands for hardness of 75 ± 5 IRHD (or shore A) o-ring dimensions in accordance with BS 4518 ref. no. 1245-30".</p> <p>Ref item 6 material: "Fluoroelastomer (base material Viton GLT) hardness 75 ± 5 IRHD (or shore A) to ASTM D1415 (or ASTM D2240)" was "EPM/EPDM to ASTM D2000 M3 BA 810 A14 B13 F17 Z1 where Z1 stands for hardness of 75 ± 5 IRHD (or shore A)".</p> <p>Ref item 7 material: "Fluoroelastomer (base material Viton GLT)" was "EPM/EPDM".</p> <p>CV o-ring grooves altered pictorially in-line with 1C-5945.</p>	<p>The inside diameter of the containment seal has been reduced to the next standard size because of the reduction in diameter of the inner o-ring groove (See 1C-5945 below). Note both the containment seal & test seal are now stretched approximately 2% diametrically into their grooves.</p> <p>The current EPM/EPDM o-rings failed the test requirements (ref 1C- 5944 issue B note 4a).</p> <p>As above.</p> <p>For consistency.</p> <p>See 1C-5945 below.</p>

Drawing No	Revised Issue	Title and Summary of Changes	Reason for Change
		<p>Note 5 removed.</p> <p>Old note 4 removed.</p> <p>Old note 6 renumber as new note 4.</p>	<p>This note is no longer required due to the removal of the o-ring line call outs.</p> <p>The tests specified in this note are no longer required now that the o-ring material has been changed to Viton GLT (operating temperature -40°C to +204°C).</p> <p>Tidiness.</p>
1C-5945	C	<p><u>Containment Vessel Lid</u> Issue raised from B to C</p> <p>Ref o-ring grooves: 2.9±0.1 was 2.675±0.1 55° was 66° 125±0.5 was 127.5±0.5 145±0.5 was 142.5±0.5</p> <p>Ref note 5: "7 ft-lb" was "10 ft-lb".</p>	<p>The area of the two o-ring grooves has been increased in order to accommodate expansion of the new Viton GLT o-rings due to worst case temperature during hyperthetical accident conditions (Viton GLT has a greater coefficient of thermal expansion than EPM/EPDM). The outer groove has been moved outwards 1.25mm radially & the inner groove has been moved inwards 1.25mm radially. This has been done because the increased width of the grooves means that there is a risk of the grooves breaking through into the ø1.5mm hole (due to worst case tolerance build up during manufacturing).</p> <p>The supplier of the Depleted Uranium items (Manufacturing Sciences Corporation) has carried out numerous trials & has advised that the minimum Charpy V-notch test requirement of 10 ft-lb can't be met (however 7 ft-lb is achievable).</p>
1C-5946	D	<p><u>Containment Vessel Body</u> Issue raised from C to D</p> <p>Ref note 4: "7 ft-lb" was "10 ft-lb".</p>	<p>The supplier of the Depleted Uranium items (Manufacturing Sciences Corporation) has carried out numerous trials & has advised that the minimum Charpy V-notch test requirement of 10 ft-lb can't be met (however 7 ft-lb is achievable).</p>