

February 8, 2012

VIA EDGAR AND FEDERAL EXPRESS

United States Securities and Exchange Commission
Division of Corporate Finance
100 F Street, NE
Washington, DC 20549-3561
Attention: Amanda Ravitz, Assistant Director

Re: Sunshine Heart, Inc. Registration Statement on Form 10 (File No. 001-35312) (the "Registration Statement")

Ladies and Gentlemen:

On behalf of Sunshine Heart, Inc. (the "Company"), we are transmitting Amendment No. 4 to the Registration Statement (the "Amendment") in a clean version and two copies of the Amendment in a version marked to show changes from Amendment No. 3 to the Registration Statement.

In response to verbal comments to the Registration Statement received from the Commission's staff (the "Staff") on February 7, 2012, the Company revised pages 33 and 34 of the Amendment to clarify that the periods to which the narrative disclosure applies is the applicable calendar year. As indicated in footnote 2 to the Summary Compensation Table, the Company historically has awarded incentive compensation to its named executive officers based on their performance during calendar years, rather than the Company's fiscal years, which historically ended on June 30. The Amendment clarifies the narrative disclosure relating to the Summary Compensation Table by specifying "calendar year" prior to each year referenced in the discussion.

The Company also confirms to the Staff that each portion marked "intentionally omitted" in Exhibit 10.17 to the Registration Statement is marked as such in the agreement executed by the Company and the other party thereto. All portions of the agreement that the Company omitted from its filing with the Commission pursuant to a request for confidential treatment but that are included in the original agreement are marked with a "****" as indicated in Exhibit 10.17 filed with the Commission.

The Company acknowledges that (i) the Company is responsible for the adequacy and accuracy of the disclosure in the filing, (ii) Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the filing; and (iii) the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please do not hesitate to call me at 612-766-8134 if you have any questions or comments regarding the foregoing or if we can be of service in facilitating your review of this filing.

Sincerely,

/s/ Matthew R. Kuhn

Matthew R. Kuhn

Enclosures

cc: Alicia Lam, Staff Attorney, Securities and Exchange Commission (w encl.)
Daniel Morris, Special Counsel, Securities and Exchange Commission (w/out encl.)
David Rosa, Chief Executive Officer, Sunshine Heart, Inc. (by e-mail; w/out encl.)
Jeffrey Mathiesen, Chief Financial Officer, Sunshine, Inc. (by e-mail; w/out encl.)