46. "Primary Pulmonary Hypertension" ("PPH") is defined as either or both of the following:

a. For a diagnosis based on examinations and clinical findings prior to death:

(1) (a) Mean pulmonary artery pressure by cardiac catheterization of $\geq$ 25 mm Hg at rest or $\geq$ 30 mm Hg with exercise with a normal pulmonary artery wedge pressure $\leq$ 15 mm Hg[9]; or

(b) A peak systolic pulmonary artery pressure of $\geq$ 60 mm Hg at rest measured by Doppler echocardiogram utilizing standard procedures; or

(c) Administration of Flolan to the patient based on a diagnosis of PPH with cardiac catheterization not done due to increased risk in the face of severe right heart dysfunction; and

(2) Medical records which demonstrate that the following conditions have been excluded by the following results[10]:

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[9] *See* L. J. Rubin & S. Rich, 99 *Primary Pulmonary Hypertension* (1997) [hereinafter "Rubin & Rich"].

[10] *See* Eugene Braunwald, *Essential Atlas of Heart Diseases,* Current Med. For Atty's 10-9 (1997) [hereinafter "Braunwald II"].

(a) Echocardiogram demonstrating no primary cardiac disease including, but not limited to, shunts, valvular disease (other than tricuspid or pulmonary valvular insufficiency as a result of PPH or trivial, clinically insignificant left-sided valvular regurgitation), and congenital heart disease (other than patent foramen ovale); and

(b) Left ventricular dysfunction defined as LVEF < 40% defined by MUGA, Echocardiogram or cardiac catheterization; and

(c) Pulmonary function tests demonstrating the absence of obstructive lung disease (FEV_1/FVC > 50% of predicted) and the absence of greater than mild restrictive lung disease (total lung capacity > 60% of predicted at rest); and

(d) Perfusion lung scan ruling out pulmonary embolism; and

(e) If, but only if, the lung scan is indeterminate or high probability, a pulmonary angiogram or a high resolution angio computed tomography scan demonstrating absence of thromboembolic disease; and

(3) Conditions known to cause pulmonary hypertension[11,12,13] including connective tissue disease known to be causally related to pulmonary hypertension, toxin induced lung disease known to be causally related to pulmonary hypertension, portal hypertension, significant obstructive sleep apnea, interstitial fibrosis (such as silicosis, asbestosis, and granulomatous disease) defined as greater than mild patchy interstitial lung disease, and familial causes, have been ruled out by a Board-Certified Cardiologist or Board-Certified Pulmonologist as the cause of the person's pulmonary hypertension.

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[11] *See* Rubin & Rich, *supra* note 9.

[12] *See* Braunwald I, *supra* note 1 at 796-798.

[13] Stuart Rich, *Executive Summary from the Symposium on Primary Pulmonary Hypertension, Evian, France, co-sponsored by the World Health Organization, September 6-10, 1998.*<http://www.who.int/ncd/cvd/pph.html.>

-OR-

b. For a diagnosis made after the individual's death:

(1) Autopsy demonstrating histopathologic changes in the lung consistent with primary pulmonary hypertension and no evidence of congenital heart disease (other than a patent foramen ovale) with left-to-right shunt, such as ventricular septal defect as documented by a Board-Certified Pathologist; and

(2) Medical records which show no evidence of alternative causes as described above for living persons.

This definition of PPH ("the PPH Definition") is intended solely for the purpose of describing claims excluded from the definition of Settled Claims and for purposes of Section VII.B.4 and 5, below. The Parties agree that the PPH Definition includes but is broader than the rare and serious medical condition suffered by the individuals described in L. Abenhaim, *et al., Appetite-Suppressant Drugs and the Risk of Primary Pulmonary Hypertension, International Primary Pulmonary Hypertension Study Group,* 335(9), New England Journal of Medicine, 609-16 (1996) (the "IPPHS study"). The subjects in that study exhibited significantly elevated pulmonary artery pressures with an average systolic pulmonary artery pressure of 88 mm Hg and average mean pulmonary artery pressure of 57 mm Hg. Two-thirds of the IPPHS patients demonstrated NYHA Class III or IV symptoms. While the IPPHS subjects would fall within the PPH Definition, the definition also includes persons with a milder, less serious medical condition.