Geophysical Research Abstracts,
Vol. 10, EGU2008-A-10494, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-10494
EGU General Assembly 2008
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The PECOS mission of small space weather satellites to provide the required observations for the post DMSP era

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The launch of the final Defense Meteorological Satellite Program (DMSP) satellite is scheduled for 2012. A set of sensors similar to those presently flown on DMSP were initially scheduled to be flown on the National Polar-orbiting Operational Environmental Satellite System (NPOESS). However, due to budget constraints, the space environment sensor suite (SESS) will not be flown on NPOESS. The Air Force Research Laboratory, in collaboration with other AF agencies, is developing plans for new missions to fulfill future space environmental monitoring requirements and ensure the continuation of the DMSP objectives. The Polar and Equatorial Comm/nav Outage Satellites (PECOS) mission calls for a series of small LEO satellites. Current plans include small satellites on three sets of orbits: (i) PECOS-High, a high-altitude ($\sim$ 800 km) sun-synchronous polar-orbiter, similar to DMSP; (ii) PECOS-Low, a low-altitude polar-orbiter, which would measure thermospheric parameters; and (iii) PECOS-Equator in a low-inclination low altitude orbit, which will be the follow-on to the Communication/Navigation Outage Forecasting System. Each satellite would carry a suite of instruments to provide forecast and specification of ionospheric and thermospheric parameters that affect communication, navigation, surveillance, and satellite drag. We present an overview of the proposed PECOS mission and instrumentation. We elicit feedback from the space weather community, as well as

suggestions for leverages and collaborations.