EESS Downlink Workshop
March 25-27, 2003
Orlando, FL

Workshop Purpose: To assess the 5-10 year horizon of EESS Downlink usage in regards to congestion/coordination. Discuss actions that can be taken in the near timeframe. Determine the context of this workshop in relation to other international activities (eg., SFCG IWG) on this subject. Determine the agenda and timeframe for a follow on (if necessary) to this workshop. To this end input on current and projected downlink operations is sought from Spacecraft users/operators, Ground station facility operators, International Space Agencies, and relevant technologists.

******Monday, March 24 from 5:00 – 7:00 Pre-Registration & Social Hour******

March 25, 2003
Day 1

7:30 - 8:30	**Registration & Continental Breakfast**	
8:30 - 8:45	Welcome: Purpose, Goals, Materials, Agenda	Chuck Wende/NASA
OVERVIEW		
8:45 - 9:10	Recap of Past X-Band Workshops Changes in Overall Band Usages Summary of Available Bands	Tom vonDeak/NASA
9:10 - 9:25	SFCG: Mission & Goals	Edoardo Marelli/ESA
9:25 - 9:40	SFCG Intersessional Working Group on EESS Downlinks	Jean-Luc Gerner/ESA
9:40 - 10:15	USA and International Processes (Rules and Regulations)	Edward Davison/NTIA John Martin/FCC
10:15 - 10:35	**Break**	
COORDINATION		
10:35 - 10:55	Operational Coordination Options and Issues	Chuck Wende/NASA
10:55 - 11:20	NOAA/NESDIS: Typical Spectrum Coordination via Time Share	Antonio Lavarello/NOAA
11:20 - 11:40	How Can EESS Prevent Interference to the DSN?	Farzin Manshadi/JPL
11:40 – 11:55	DSCS/EESS Coordination Considerations	Gary Chinault/DISA
11:55 - 12:15	Licensing of U.S. Commercial Remote Sensing Satellite Systems	David McGinnis/NOAA
12:15 - 12:20	Morning Recap – Questions?	Chuck Wende/NASA

12:20 - 1:50	**Lunch**	
AGENCY MISSIONS		
1:50 - 2:00	Introduction of Afternoon Session	Tom vonDeak/NASA
2:00 - 2:20	Present and Future CNES EESS Missions	Frederic Cornet/CNES
2:20 - 2:50	NASA Earth Science Missions	Chuck Wende/NASA
2:50 - 3:10	Future Weather Systems Coriolis: Usage at 8070 GHz, NPP: Planned Usage at 8212 GHz, NPOESS: Planned usage at 26.25 GHz	Chris Pate/NOAA IPO
3:10 - 3:30	Q&A for Previous Four Presentations	
3:30 - 3:50	**Break**	
3:50 - 4:05	DigitalGlobe Wideband Downlink Systems	Skip Cubbedge/Digital Globe
4:05 - 4:25	Rapideye Frequency Requirements	George Tcy/MDA
4:25 - 4:45	Resource 21	Robert Higgins/ Resource 21
4:45 – 5:05	GOES R Series Meteorological Satellites Planned Use of X-Band Frequencies	Peter Woolner/ MITRETEK
5:05 - 5:20	Q&A for Previous Four Presentations	
5:20 - 5:30	Closing Remarks	Tom vonDeak/NASA
6:30 - 8:30	**Reception/Social Hour**	

March 26, 2003
Day 2

7:30 - 8:30	**Continental Breakfast**	
GROUND STATIONS		
8:30 - 8:40	Introduction and Objectives	Bill Watson/NASA
8:40 - 9:05	NASA: Infrastructure Capabilities	Bill Watson/NASA
9:05 - 9:25	NPOESS: Communications Architecture Implementation/Meeting Data Latency Req. & Alaska/Svalbard	Chris Pate/NOAA
9:25 - 9:45	Universal Space Network: Global Network for Commercial Access	Joseph Rothenberg/ USN
9:45 - 10:00	Honeywell DataLynx Capabilities	Stefanie Gonzales/ Honeywell
10:00 - 10:20	Small Earth Station Facility	Rafael Fernandez-Sein/ U. of Puerto Rico
10:20 - 10:25	Closing	Bill Watson/NASA
10:25 - 10:45	**Break**	
OTHER FACTORS		
10:45 - 10:55	Introduction and Objectives	
10:55 – 11:15	USGS: Landsat 7 and International Cooperators	Quirk/USGS
11:15 – 11:35	Direct Broadcasting	Allen Lunsford/GSFC
11:35 - 12:05	Earth Science Morning and Evening Constellations	Angelita Kelly/GSFC
12:05 - 1:35	**Lunch**	
ANALYSIS		
1:35 - 1:45	Introduction and Objectives	
1:45 - 2:05	CNES Position Regarding the Use of X and Ka Band	Frederic Cornet/CNES
2:05 - 2:35	Fundamental Principles for Efficient Use of Orbit/Spectrum Resources	John Miller/ITT
2:35 - 2:55	Database of EESS X-Band Systems	Ralph Cager/ASRC
2:55 – 3:25	Filtering to Meet DSN Requirements at High Data Rates	Jim Gray/Gray Labs
3:25 - 3:45	**Break**	

3:45 – 4:05	Animation of In-Orbit EESS X-Band Systems	Ralph Cager/ASRC
4:05 – 4:35	Preliminary Results of the Effect of pfd Templates on Orbital Separation	John Miller/ITT
4:35 - 4:55	Ka-Band: Propagation Analysis for LEOs	Roberto Acosta/NASA
4:55 - 5:25	Interference Assessment and Congestion in the 8025-8400 MHz Band	Ted Berman/ITT
5:25 - 5:35	End of Day Discussion/Closing Remarks	

March 27, 2003
Day 3

8:00 - 9:00	**Continental Breakfast**	
MITIGATION TECHNIQUES		
9:00 - 9:15	Introduction & Objectives	
9:15 - 9:35	Modulation Techniques	Warren Martin/JPL
9:35 - 10:05	Coding, Modulation, and Cross Polarization Techniques at Data Rates Greater than 300 Mbs for X-Band	Jim Gray/Gray Labs
10:05 - 10:25	NASA: Wideband Downlink Technologies Development	Bernard Edwards/ GSFC
10:25 - 10:45	**Break**	
10:45 - 11:05	Bandwidth Limiting/New Standard	Jean-Luc Gerner/ ESA
11:05 - 11:25	Results of Discussions on Future Workshops	Dave Struba/NASA
11:25 - 12:00	Closing Discussion	Chuck Wende/NASA

END OF WORKSHOP