Characterization of DSN Service Agreement (DSA)

1. Service Agreement General Information

Parameter	Type/Units	Comments
Mission Name	String	The name of the mission being supported
Effectivity	String/date	When agreement goes into effect, when it expires
Signatures	Strings	Owner, approver, mission representative, commitments manager, DSN manager, and reviewer signatures (typically chief DSN engineer)
Change log	Table	Track various revisions/updates
Conventions list	Table	List of typographical conventions and their meaning
TOC, LOT	Tables	Table of Contents, List of Tables
Reference Documents	Table	Document Numbers and Titles; things like references to polices and practices, detailed DSN telecom data/information
Reference Websites	Table	Links to on-line tools to assist in development of the DSA; e.g, aperture cost calculator

2. Mission General Information

Parameter	Type/Units	Comments
Sponsor	Check list	NASA mission vs non-NASA US Govt mission vs other agency mission, etc.
Frequency Authorization	Free text and/or maybe table	Who will obtain frequency license, or key parameters of licenses already obtained (stations, frequency, time period)
Launch Information	Time/date string(s), free text	Date and/or contingency launch dates, launch vehicle, launch location
Mission Objective	Free text	Description of what the mission is to achieve, along with any explanatory graphics, drawings.
Mission Phases	Table with milestones and dates	Phases in NASA understood Phase A – Phase E terminology; Listing of key/critical events; end of primary mission date; potential for mission extension, key review dates (there are many checks/reviews along the way)

3. DSN Standard Services to be Provided

Parameter	Type/Units	Comments
DSN Standard Services	Table with all of the services and yes/no check boxes	There are several families of services listed – Command, Telemetry, Tracking, Calibration and Modeling, Radio Science, Radio Astronomy/VLBI, Radar, Engineering Support, as well as "Functions" of Ground Comms Interface, and Service Managment
Notes on Standard Services	A table indexed by DSN Service catalog section numbers (but not always the case)	Any notes specific as to the usage or scenario for the services; e.g., open loop recording will accompany closed loop receiver for key time periods

4. Engineering Support, Custom Services and Associated Costs

Parameter	Type/Units	Comments
Mission Costs	A table listing various items such as arranging cross support services for non-DSN assets, new or improved capabilities that the mission has agreed to fund, compatibility testing, etc.	Not all DSA have the cost listed, but they do have a column for "Requested Support"
Additional Notes on Mission costs	A table indexed by "Area" indicated any additional considerations	E.g., in cross support environment, the DSN might "broker" telemetry service on behalf of the mission

5. Estimate of Antenna Usage

Parameter	Type/Units	Comments
Mission Tracking and Support Profile	A table indexed by mission activity/phase	Provides number of and typical duration of tracking passes for the mission phase/activity; e.g., Three 8-hour tracks per week, DDOR measurements every 3 days, etc.
Notes on Tracking and Support Profile	A table listing any notes needed with regard to the various support phases	

Estimated Antenna Usage	A table with columns for each year of support that has Antenna usage in hours, and aperture fee	

6. Appendix – Acronyms and Abbreviations

7. Appendix – Reference and Miscellaneous Material

Parameter	Type/Units	Comments
Key Spacecraft Parameters	A table list key forward and return carrier parameters	E.g., frequency, wave form, subcarrier frequency, coding scheme(s), data rates, coherent turn-around ratio(s), polarization(s),EIRP value(s),
Notes on spacecraft parameters	A table with any additional notes	

8. Appendix – Details on Mission Costs

Typically tables that breakdown the services and costs an a per year basis

9. Appendix – Details on Mission Loading Profile and estimate Aperture usages

Typically, a spreadsheet type table that indicates, by year, various amounts of time that the mission will require for DSN overhead (parameterizing/calibrating prior to each tracking pass), along with actual tracking time and total hours of time for the various categories of DSN activities.