What is claimed is:

1. A method, comprising:

receiving, from a base station via a cell served by a first satellite, information comprising assistance information for a satellite switch from the first satellite to a second satellite for the cell, wherein the information is received before a stop time indicating when the first satellite will stop serving a user equipment via the cell, and wherein the assistance information comprises one or more time offsets relative to timing of the cell served by the first satellite for finding one or more synchronization signal blocks, SSBs; and

performing the satellite switch from the first satellite to the second satellite using at least the assistance information to find the one or more SSBs for the cell served by the second satellite,

wherein the cell served by the first satellite has a same physical cell identity, PCI, as the cell served by the second satellite.

2. A user equipment, comprising:

one or more processors; and

one or more memories storing instructions that, when executed by the one or more processors, cause the user equipment to perform:

receiving, from a base station via a cell served by a first satellite, information comprising assistance information for a satellite switch from the first satellite to a second satellite for the cell, wherein the information is received before a stop time indicating when the first satellite will stop serving the user equipment via the cell, and wherein the assistance information comprises one or more time offsets relative to timing of the cell served by the first satellite for finding one or more synchronization signal blocks, SSBs; and

performing the satellite switch from the first satellite to the second satellite using at least the assistance information to find the one or more SSBs for the cell served by the second satellite,

wherein the cell served by the first satellite has a same physical cell identity, PCI, as the cell served by the second satellite.

3. The user equipment of claim 2, wherein the cell is served by the first satellite before the satellite switch and served by the second satellite after the satellite switch.

4. The user equipment according to claim 2 or 3, wherein:

performing the satellite switch uses at least the one or more time offsets to find the one or more SSBs for the cell served by the second satellite.

5. The user equipment according to any of claims 2 to 4, wherein:

the assistance information comprises a frequency offset of one or more SSBs to use for detection, measurement, and evaluation of the one or more SSBs of the cell served by the second satellite; and

performing the satellite switch uses at least the frequency offset to find the one or more SSBs for the cell served by the second satellite.

6. The user equipment according to claim 5, wherein:

the assistance information comprises an additional value of a frequency offset, wherein a first frequency offset is an offset to a first subcarrier of one or more SSBs used by the cell served by the first satellite, and the additional value of the frequency offset is from the first frequency offset to a first subcarrier of the one or more SSBs to use for synchronization for the cell served by the second satellite; and

performing the satellite switch uses at least the first frequency offset and the additional value to find the one or more SSBs for the synchronization for the cell served by the second satellite.

7. The user equipment according to any one of claims 2 to 6, wherein:

the assistance information comprises a different set of locations in time and frequency for the one or more SSBs that is provided corresponding to the cell served by the second satellite, wherein the different set of locations is different from a set of locations in time and frequency for one or more SSBs corresponding to the cell served by the first satellite; and

performing the satellite switch uses at least the different set of locations to find the one or more SSBs for the cell served by the second satellite.

8. The user equipment according to any of claims 2 to 7, wherein:

the assistance information comprises a time interval for the user equipment to perform a search for a re-synchronization attempt to the cell served by the second satellite; and

performing the satellite switch uses at least the time interval to find the one or more SSBs for the cell served by the second satellite.

9. The user equipment according to any of claims 2 to 8, wherein:

the assistance information comprises ephemeris information corresponding to the second satellite to apply when attempting a re-synchronization to the cell served by the second satellite; and

performing the satellite switch uses at least the ephemeris information to find the one or more SSBs for the cell served by the second satellite.

10. The user equipment according to any of claims 2 to 9, wherein the one or more SSBs comprise corresponding one or more synchronization signal blocks comprising both search signals and physical broadcast channels.

11. The user equipment according to any of claims 2 to 10, wherein both the cell served by the first satellite and the cell served by the second satellite cover a same geographical area.

12. The user equipment according to any of claims 2 to 11, wherein the satellite switch comprises a soft satellite switch where there is overlapping satellite coverage at least at a switching time.

13. A method, comprising:

sending, to a user equipment connected using a cell served by a first satellite, information comprising assistance information for a satellite switch from the first satellite to a second satellite for the cell, wherein the information is sent before a stop time indicating when the first satellite will stop serving the user equipment via the cell, and wherein the assistance information comprises one or more time offsets relative to timing of the cell served by the first satellite for finding one or more synchronization signal blocks, SSBs, for the cell served by the second satellite; and

shutting down the cell served by the first satellite at a current location at the stop time, wherein the cell served by the first satellite has a same physical cell identity, PCI, as the cell served by the second satellite.

14. A base station, comprising:

one or more processors; and

one or more memories storing instructions that, when executed by the one or more processors, cause the base station to perform:

sending, to a user equipment connected using a cell served by a first satellite, information comprising assistance information for a satellite switch from the first satellite to a second satellite for the cell, wherein the information is sent before a stop time indicating when the first satellite will stop serving the user equipment via the cell, and wherein the assistance information comprises one or more time offsets relative to timing of the cell served by the first satellite for finding one or more synchronization signal blocks, SSBs, for the cell served by the second satellite; and

shutting down the cell served by the first satellite at a current location at the stop time,

wherein the cell served by the first satellite has a same physical cell identity, PCI, as the cell served by the second satellite.

15. The base station of claim 14, wherein the cell is served by the first satellite before the satellite switch and served by the second satellite after the satellite switch.

16. The base station according to claim 14 or 15, wherein the base station is further caused to perform: before the shutting down, sending one or more SSBs in the cell served by the second satellite according to the assistance information for the satellite switch.

17. The base station according to any one of claims 14 to 16, wherein the base station is further caused to perform: before the shutting down, communicating with an other base station so the other base station sends one or more SSBs according to the assistance information for the satellite switch.

18. The base station according to any of claims 14 to 17, wherein the one or more SSBs comprise corresponding one or more synchronization signal blocks comprising both search signals and physical broadcast channels.

19. The base station according to any of claims 14 to 18, wherein both the cell served by the first satellite and the cell served by the second satellite cover a same geographical area.

20. The base station according to any of claims 14 to 19, wherein the satellite switch comprises a soft satellite switch where there is overlapping satellite coverage at least at a switching time.

21. A computer-readable storage medium bearing instructions that, when executed by a user equipment, cause the user equipment to perform the method according to claim 1.

22. A computer-readable storage medium bearing instructions that, when executed by a base station, cause the base station to perform the method according to claim 13.